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Handbook of Labor Statistics

1936 Edition



Bulletin No. 616

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS



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Preface

THIS issue of the Handbook of Labor Statistics, dealing with the years 1931 to 1935, covers a period of great significance to American labor. During this period the importance of data dealing with labor matters was reflected in the vastly increased demand made upon the Bureau of Labor Statistics and similar agencies for information on wages, hours of labor, prices, cost of living, industrial relations, and other subjects coming within the field of the Bureau's activities. This demand has been in large part met by the various publications of the Bureau, particularly the Monthly Labor Review, which not only presents the results of the Bureau's original work but also seeks to follow the more significant studies made by other authoritative agencies. However, over a period of years the supply of many of these publications becomes exhausted. To provide in reference form the basic data accumulated over a period of time, this series of Handbooks was devised. The present volume is the fourth of the series. It brings together a digest of all of the material published by the Bureau since the issue of the 1931 Handbook insofar as such material seems to be of permanent value.

The preparation of this volume has involved the cooperation of practically all the division chiefs of the Bureau. The detailed work of planning, assembling, and editing has been done in the Editorial Division, under the immediate direction of Florence E. Parker, assisted by Grace F. Felker, Estelle Stewart, Anice L. Whitney, Mary T. Waggaman, and Margaret H. Schoenfeld.

ISADOR LUBIN, *Commissioner.*

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Introduction

THE present edition of the Handbook of Labor Statistics is the fourth to be prepared by the Bureau of Labor Statistics. The first, published in 1927 as Bulletin No. 439, brought into summarized form such of the earlier published material of the Bureau as seemed to be of permanent value. The 1929 edition (Bulletin No. 491) and the 1931 edition (Bulletin No. 541) contained similar summarizations for the intervening intervals of 2 years each. It was hoped to continue the Handbook as a regular biennial publication, but limitations upon the Bureau's printing funds made this impossible. The present 1936 edition, therefore, covers a 5-year period.

In these 5 years, much has happened of great significance to labor. With the lengthening of the depression, the condition of the American worker sank lower and lower, until in the early part of 1933 it seemed that all the gains of the preceding decades of struggle were to be lost and that possibly the whole economic structure of the country was to go down in collapse. Then the upturn came, and slowly but steadily industrial activity quickened, employment increased, pay rolls grew in size, and under the operation of the National Industrial Recovery Act and other recovery measures there occurred many new and extremely important developments of vital concern to labor. These changes and developments are pictured in records of the period, as summarized in this volume.

It is also of interest to note that the putting into effect of the recovery policies of the Government created a practical need for statistical reporting such as had not been experienced in the past. The framing of the various codes of fair competition required very complete information on employment, unemployment, wages, hours of labor, and other labor factors—more complete, in many cases, than was readily available. As a result, it came to be realized in a rather vivid manner that there was not in existence the necessary machinery for

currently gathering much of the desired information in the comprehensive manner that the new conditions demanded. This machinery has now been greatly expanded and improved, but very much still remains to be done before labor statistics in the United States are of a form, fullness, and timeliness to be of the greatest service.

On certain subjects the available data are satisfactory, or at least reasonably so; on other subjects of great importance the information at command is far from satisfactory. The Bureau of Labor Statistics, and also other similar agencies are conscious of these gaps, and are attempting, to the best of their ability, to reduce such gaps as regards both size and number.

The general form of this Handbook follows closely that observed in the preceding Handbooks. There are, of course, repetitions of subject titles, but there is no repetition of articles except in those cases where important later data have made revision necessary and desirable. Taken together, the four Handbooks constitute, it is believed, a useful abbreviation of most of the published work of the Bureau of Labor Statistics. The material presented in this volume and in the preceding editions of the Handbook represents in large part the original work of the Bureau of Labor Statistics, but this is by no means entirely the case, as the Bureau does not attempt to cover certain fields of interest to labor which are already adequately covered by other official agencies. It does attempt, however, in its Monthly Labor Review to follow such of the activities of other agencies, both official and nonofficial, as have a labor interest, and in the preparation of this volume it has drawn upon these sources.

APPRENTICESHIP

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

National Apprentice-Training Program

UNDER authority granted to the Secretary of Labor by Executive order, a Nation-wide apprentice-training program was formally inaugurated in June 1934, to operate through an extensive series of committees. This administrative machinery consists of: (1) Federal Committee on Apprentice Training; (2) State committees on apprentice training; and (3) trade advisory committees.

1. The Federal Committee on Apprentice Training is composed of representatives of the Department of Labor, the Office of Education of the Department of the Interior, and the National Recovery Administration. Its duties involve advising the Secretary of Labor in the exercise of powers necessary to promote the apprentice program and to secure the observance of the standards set forth in the regulations promulgated by the Secretary of Labor.

This committee has since its inception brought about the appointment of State committees on apprentice training in 43 States and the Territory of Hawaii, and has served these committees in a number of ways. For example, it has drafted a sample contract form, and, through its field representatives, has guided the State committees in their work of promoting apprentice training.

2. The State committee on apprentice training is composed of representatives of organized labor, organized employers, the State department of labor, the State board for vocational education, and the United States Employment Service.

On December 15, 1935, 43 State committees had been organized, and plans had been formulated and approved by the Secretary of Labor in 41 of these 43. The plans include provision for approval of apprentice contracts, observance of the minimum standards of apprentice training set up by the President and the Secretary of Labor, supervision of apprentices, and the granting of diplomas to apprentices upon completion of their training period.

3. Trade advisory committees are composed of representatives of employers and workers in the various occupations. Their purpose is to make recommendations and give guidance to the State committees on such important matters as the quota of apprentices to be allowed an individual employer, the length of the apprentice period, and the schedule of processes to be taught the apprentice.

The national apprentice-training program calls for written contracts, or indentures. These contracts vary in detail with the different types of occupation to be taught, but each must state specifically the kind of training to be given, the length of the apprenticeship, the hours to be devoted to general instruction and to training on the job, and the wages to be paid to trainees. Minimum standards approved by the Secretary of Labor constitute an essential part of the indenture agreement. These standards are: (1) An apprenticeship period of not less than 2,000 hours nor more than 10,000 hours. (2) Of these,

144 hours each year must be devoted to group instruction on general as well as technical subjects under the direction of public authorities. (3) Beginning wage must, ordinarily, be not less than 25 percent of the basic rate for journeymen in the locality, the wage to be increased periodically so that the average rate for apprentices for the entire period of the apprenticeship shall be not less than 50 percent of the journeymen's basic wage.

Apprenticeship in Wisconsin

WHILE the Industrial Commission of Wisconsin is maintaining its apprenticeship department and continuing its promotional work in the interest of adequate training for workers in the skilled trades, the Wisconsin apprentice system has suffered materially from the economic depression. In its report for the biennium 1932-34 the industrial commission says (p. 76):

When the world-wide depression started in 1929 it played havoc with apprenticeship, as might be expected. Previous to 1929 there were normally about 3,500 approved indentures in force at one time and 700 to 800 new indentures annually were not uncommon. On June 30, 1934, this number had dwindled from 3,500 to 1,223.

One of the strongest features of the Wisconsin system, so far as protection of the apprentice is concerned, is the obligation placed upon the employer to furnish continuous employment throughout the indenture term, and to pay for the time spent in school during the working day, as required by the Wisconsin apprenticeship law. In a period of depression and slack work this requirement could, of course, become sufficiently burdensome to account for the decreased enrollment reported by the State agency.

With the May 1932 issue of the Wisconsin Apprentice, the industrial commission suspended indefinitely the publication of the monthly paper devoted to the interest of the boys under indenture and to the development of the Wisconsin training program. In announcing the suspension of the Wisconsin Apprentice because of administrative changes and as an economy measure, the supervisor of apprenticeship said that the action should not be interpreted as indicating a lessened interest on the part of the State in its indentured apprentices.

The Wisconsin apprenticeship system, established in 1912 and reorganized in 1915, was designed to make it certain that every apprentice shall have a real chance to learn his chosen trade, and also that, in order that he may acquire the technical knowledge required, he shall be permitted to attend the public schools on the employer's time for a minimum of 400 hours during his apprenticeship. To accomplish this, the employer and the apprentice sign written agreements, setting forth the term of apprenticeship, the processes or branches of the trade to be taught, and the wages to be paid. These indentures are signed in triplicate, and one copy must be filed with the Wisconsin Industrial Commission in Madison. The apprentice is thenceforth subject to the supervision of the commission, which sees that the agreement is carried out or may, if need arises, allow it to be canceled. If the term of training is satisfactorily completed, the commission gives the learner a diploma certifying the fact. The vocational schools give courses helping prospective apprentices to

find their proper pursuit; and local advisory committees have been set up in various trades, consisting of several journeymen and an equal number of employers, to take immediate supervision of the admittance and training of learners.

In its official publication, Wisconsin Labor Statistics, for July 1932, the industrial commission gave some data as to the situation in the State from the early days of the system. The following table shows the number of apprenticeship contracts approved each year from 1912 to 1931, and also the number canceled, the number carried to completion, and the number as to the disposition of which no records exist. Employment conditions, as the official report points out, very directly affect the opportunity for apprenticeship training. The depression periods of 1921, 1924, 1927, and 1929-32 each recorded a very pronounced setback with regard to the number of new indentures issued.

APPRENTICESHIP INDENTURES IN WISCONSIN, 1912 TO 1931

Year	Number approved	Number canceled	Carried to completion	No record of disposition
Total.....	9, 231	3, 835	3, 406	468
1912.....	5	2	2	1
1913.....	15	8	7	-----
1914.....	21	9	12	-----
1915.....	188	103	80	5
1916.....	429	236	181	12
1917.....	515	277	221	17
1918.....	332	157	162	13
1919.....	350	186	145	19
1920.....	563	259	265	39
1921.....	421	225	151	45
1922.....	662	303	307	52
1923.....	798	357	384	57
1924.....	778	372	345	61
1925.....	821	372	384	64
1926.....	794	317	384	48
1927.....	679	226	235	25
1928.....	656	176	90	4
1929.....	755	189	47	3
1930.....	376	58	4	-----
1931.....	73	3	-----	-----

Proportion of Contracts Completed

For the period 1912 to 1926 the total number of contracts approved was 6,672, of which 3,030 were carried through to completion and 3,183 (or 48 percent) were canceled, while for 433 (6 percent) the disposition was unknown. In considering these proportions the duration of the apprenticeship term (in most cases 4 years) must be remembered. Also, it must be borne in mind that most of those entering apprenticeship are rather young to make a lasting decision affecting their whole future life.

An apprenticeship indenture may turn out to be an exploratory adventure in which the apprentice reaches the conclusion that his aptitudes, abilities, and interests are not suitable to the requirements of the trade undertaken by him. The period of the first 3 months of an apprenticeship term is generally considered as a try-out or probationary period. Experience shows that approximately one half of all cancellations of indentures are made within the first year of apprenticeship and that most of these occur within the 3 months' probationary period.

The proportion of indentures carried through to completion varies considerably in the different trades.

Of all apprenticeship-indenture contracts issued during the 15-year period, 1912 to 1926, the proportion of all contracts completed stands at 51 percent for the building trades, 45 percent for metal trades, 50 percent for the printing trades, 49 percent for the garment trades, 47 percent for the railroad trades, 34 percent for the automotive trades, and 39 percent for a group covering all other trades. Among the building trades the proportion of all contracts completed stands as follows: Bricklayer and mason, 60 percent; carpenter, 25 percent; electrician, 43 percent; painter and decorator, 50 percent; plasterer, 44 percent; plumber, 51 percent; sheet-metal worker, 64 percent.

Distribution of Apprenticeships by Industries

THE distribution of the completed contracts corresponded closely with that of the contracts approved, though the building and miscellaneous trades showed slightly less than their proportion of completions.

In considering the distribution of the apprentices, the report pointed out that the number of learners in a trade may greatly exceed the number of apprentices. Many young people enter a trade informally, picking it up as best they may. As to the marked differences in the number of apprentices in the various trade groups, several reasons were assigned.

Chief among them is the degree of interest the membership of a craft takes in the problem of apprenticeship. The metal-trades group has shown an active interest in trade training for more than 25 years, and in fact, was largely responsible for the enactment of Wisconsin's first apprenticeship law in 1911. As a result of this interest the metal trades have thus far indentured a total of 5,154 learners, as against 1,413 in the building trades.

The extent of organization of the workers in a trade may be mentioned as another reason why a trade makes a good or bad showing in the number of learners indentured. No matter how concerned leaders among journeymen or employers may be over the apprenticeship situation in their trades, they are powerless to effect a lasting remedy until the membership is better organized.

Low trade standards likewise can materially affect apprenticeship conditions. When a trade is overflowing with inefficient workmen, wages naturally are low and, since anyone with only a smattering of trade knowledge and experience seems able to find a place in the trade, there remains no incentive for a boy to bind himself to serve an apprenticeship covering a period of years.

Apprenticeship Plan in Oregon

THE Legislature of Oregon passed a law in 1931 (Acts of 1931, ch. 101) relating to the training of apprentices which is in most respects essentially the same plan as that of Wisconsin. A State apprenticeship commission was created by the act, consisting of the State superintendent of public instruction, the State labor commissioner, and a member of the State industrial accident commission designated by the Governor. This commission was given the duty, "jurisdiction and authority, to * * * make rules and regulations and such general and/or special orders as shall be necessary to carry out the intent and purpose" of the act.

No report of the operation of the act has so far been made public.

ARBITRATION AND CONCILIATION

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Labor Adjustment Agencies Under the N. I. R. A.

AS A RESULT of the National Industrial Recovery Act and related legislation the need developed for a far more comprehensive system for the adjustment of labor disputes than had previously existed. The first major step in this direction was the creation in August 1933 of the National Labor Board. This board continued as the principal national agency to deal with labor disputes until it was superseded in June 1934 by the National Labor Relations Board. In addition, from time to time provision was made for the creation of special labor boards of adjustment and policy making for particular industries or for particular problems—such as the National Steel Labor Relations Board, the Textile Labor Relations Board, the National Longshoremen's Labor Board, and the Petroleum Labor Policy Board.

In June 1934 the former United States Mediation Board, created in 1926 to handle railroad labor disputes, was superseded by a new board known as the "National Mediation Board", with a somewhat different scope of activity from that of the superseded Mediation Board.

The Conciliation Service of the United States Department of Labor had its work considerably expanded as a result of various developments under the N. R. A., but, in general, its activities continued to be primarily concerned with conciliation and not with arbitration or with the rendering of decisions regarding labor policies.

Much of the work of these national agencies was necessarily of a character which does not lend itself to statistical measurement or public record. A brief description of the principal agencies of the type referred to, and also, where available, a résumé of their activities, are given below.

National Labor Board, 1933

SHORTLY after the creation of the National Recovery Administration the Industrial and Labor Advisory Committees of that organization recommended the establishment of a National Labor Board. Such a board was created on August 5, 1933, and consisted of Senator Robert F. Wagner, chairman, Leo Wolman, Walter C. Teagle, William Green, John L. Lewis, Gerard Swope, and Louis E. Kirstein.

The powers and functions of this board were as follows:

1. To settle by mediation, conciliation, or arbitration all controversies between employers and employees which tend to impede the purposes of the National Industrial Recovery Act: *Provided, however,* That the Board may decline to take cognizance of controversies between employers and employees in any field of trade or industry where a means of settlement, provided by agreement, industrial code, or Federal law, has not been invoked.
2. To establish local or regional boards upon which employers and employees shall be equally represented, and to delegate thereto such powers and territorial jurisdiction as the National Labor Board may determine.
3. To review the determinations of the local or regional boards where the public interest so requires.
4. To make rules and regulations governing its procedure and the discharge of its functions.

Regional Labor Boards.—Up to March 3, 1934, 19 regional labor boards for the purpose of settling local controversies had been appointed by the National Labor Board in the following cities: Atlanta, Ga.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cleveland, Ohio; Detroit, Mich.; Indianapolis, Ind.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis-St. Paul, Minn.; Newark, N. J.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Antonio, Tex.; San Francisco, Calif.; and Seattle, Wash.

Activities

PRELIMINARY figures show that from the inception of the National Labor Board on August 5, 1933, to July 1, 1934, over 2,000,000 workers were directly affected by cases handled by the National Labor Board and its 19 regional boards established throughout the country and that, of the total number, 1,800,000 persons were either returned to work, kept at work, or had their disputes adjusted. Of 4,277 cases handled, 3,532, or 83 percent, were settled by the boards. Settlements effected by agreement represented approximately two-thirds of the settlements. Cases pending on July 1 numbered 416. The primary cause of complaint in 2,741 cases, or 64 percent of the total of 4,277 cases handled, was alleged violation of section 7 (a) of the National Industrial Recovery Act dealing with labor's right to collective bargaining.

National Labor Relations Board and Associated Boards

By EXECUTIVE order of June 29, 1934, the National Labor Relations Board was established in accordance with the authority vested in the President under title I of the National Industrial Recovery Act and under joint congressional resolution approved June 19, 1934. The Board took over the functions of the National Labor Board on July 9, 1934, when its membership, composed of Lloyd K. Garrison, chairman, Harry A. Millis, and Edwin S. Smith, took office. Francis Biddle later replaced Lloyd Garrison as chairman. The decisions of the National Labor Relations Board were not to be subject to Executive review, and its work was to be confined to disputes involving the right of labor to collective bargaining, the holding of elections for labor representation, voluntary arbitration, and investigation of complaints of discriminatory practices affecting labor. Decisions of the Board were to be transmitted to the President through the Secretary of Labor. This Board functioned for about 1 year, and was re-created by the National Labor Relations Act of July 1935. (See p. 18.)

Under the resolution referred to above, Congress left it to the discretion of the President to establish either a board or boards to handle disputes. Under this authority the President appointed three special boards, as follows:

The National Longshoremen's Labor Board was named on June 26, 1934, by Executive order. Its membership included Rt. Rev. Edward J. Hanna, chairman; O. K. Cushing, and Edward F. McGrady. The board was authorized to make investigations in connection with the longshoremen's strike on the Pacific coast. It was to cease to exist when, in the opinion of the President, it had completed its duties.

The National Steel Labor Relations Board was formed under Executive order of June 28, 1934, its membership comprising Chief Justice Walter P. Stacy, North Carolina Supreme Court, chairman; Admiral Henry A. Wiley, and James A. Mullenbach. The board was authorized to report to the President on labor relations, to mediate differences, to determine the fairness of collective bargaining, and to reach decisions by secret ballot.

The Textile Labor Relations Board, the appointment of which was recommended by the Board of Inquiry for the Cotton Textile Industry in its report to the President, was appointed in September 1934. Its powers and duties in the textile field were similar to those of the National Labor Relations Board and the National Steel Labor Relations Board in their respective fields. The Board was given authority to administer, in addition to section 7 (a) of the National Recovery Act, other labor provisions of the cotton, silk, and wool codes. The original membership of the Board consisted of Chief Justice Walter P. Stacy, Admiral Henry A. Wiley, and James A. Mullenbach.

Activities of National Labor Relations Board

DURING the period from July 9, 1934, to June 16, 1935, the National Labor Relations Board handed down 227 decisions. Several of the cases carried more than one complaint and some decisions were reaffirmations, supplements, or amendments to previous decisions.

One hundred and twenty of these decisions involved charges of discrimination or discharge due to union affiliation or activity. In 96 of these cases the companies were found to have violated section 7 (a) of the National Industrial Recovery Act, and in practically every instance were ordered to reinstate the employees who had been discharged, or who had struck as a result of the dispute, discharging those who had taken their places if necessary. In case the state of business was such that immediate reinstatement could not be effected, discharged workers were to be placed upon a preferential list and re-employed according to seniority as rapidly as conditions would allow. In a number of cases it was ruled that the company should reimburse employees for wages lost through their discriminatory discharge. Companies were ordered to cease all interference with the workers' right to organize and to notify all employees that they should be free from discrimination for any union activity.

Twenty-four cases were dismissed, as the complaints that discharges were made on account of union affiliation or activity were not adequately supported. In several cases the Board recommended that the companies demonstrate their good faith by reinstating, or placing upon a preferential list, the employees discharged or on strike.

In 21 cases the companies involved were charged with failure to bargain collectively with their employees. In 15 of the decisions the companies were found guilty of violation of section 7 (a) and were ordered to bargain collectively, upon request, with the duly chosen representatives of the employees. Any employees who had been discharged were ordered reinstated to their former positions with the same rights as previously enjoyed.

Six cases charging failure to bargain collectively were dismissed, the evidence being insufficient to sustain the complaints of the employees. In three of these cases the Board, while not convinced by

the evidence that the company had failed to bargain collectively, recommended that the companies demonstrate their good faith by reinstating the men who had gone on strike as a result of the controversy, displacing those workers hired to take the strikers' places if necessary.

Twenty-eight decisions ordered the companies to recognize the organization representing the majority of their employees for the purpose of collective bargaining, and to proceed immediately to bargain with such persons or organizations and endeavor to reach a collective agreement. The companies were instructed to remove all support of any nature from any other association or employee plan. Discharged employees or those on strike, were ordered reinstated, a preferential list being kept in cases in which it was not possible to reemploy the men immediately.

Seven cases requesting recognition were dismissed, the Board deciding that the units petitioning for recognition did not represent a majority of the employees, or did not constitute a proper bargaining unit.

Thirty-six elections were ordered to determine by what persons or organizations the employees desired to be represented in collective bargaining. Eight of these decisions were reaffirmations of previous orders for election, and four decisions amended election orders.

Nine petitions for elections were denied, the Board not deeming it in the public interest to hold elections in such cases.

In one case a petition to set aside the results of an election was denied.

Twelve decisions ruled that the companies had violated section 7 (a) by interfering with, restraining, and coercing their employees in self organization and in the designation of their representatives for collective bargaining, through requiring employees as a condition of employment to join any company union or refrain from joining any labor organization of their own choosing, locking out members who refused to join a company union, requiring employees to sign a contract by which it was agreed not to strike, refusing to take back employees discharged because of organizing other workers to strike, and discharging an employee for endeavoring to represent himself and other employees in the matter of a wage-rate discussion. Companies involved were ordered to reinstate discharged workers and strikers, to withdraw all support from any company union or any other employee association and cease soliciting membership in such organizations, and to notify employees that they would not be discriminated against in any of their activities for self-organization or other activities for the purposes of collective bargaining or other mutual aid or protection.

In one case the Board was called upon to determine which unit in a system represented the employees for collective bargaining. The Board did not pass upon a seniority question raised in this case, declaring such to be outside its jurisdiction.

Two awards were made granting slight increases in wages.

An award was made by the Board, acting as arbitrator, whereby, for the purpose of spreading work, the company was ordered to retain the present crew during any month when the production was sufficient to make it possible for the crew to obtain 20 hours of work a week. Reduction of force was only to be allowed in order to make 20 hours of work for those employees left.

By one award, a company was ordered to reinstate 5 employees, 2 of them with back pay; transfer 10 employees; place 5 on a preferential list to be reemployed according to seniority, and to observe the seniority rules. Two employees involved were not granted transfer.

National Longshoremen's Labor Board

A BRIEF summary of the three decisions rendered by the National Longshoremen's Labor Board in October 1934 are given below. (More extended summaries are given in the Monthly Labor Review of December 1934.)

Longshoremen—Portland, Seattle, San Francisco, and Los Angeles.—On October 12, 1934, the National Longshoremen's Board rendered a decision in the controversy between the International Longshoremen's Association, acting on behalf of various locals whose members perform longshore labor, on the one hand, and the Waterfront Employers of Seattle, Portland, and San Francisco, and the Marine Service Bureau of Los Angeles, on the other hand. Three issues were submitted to the Board, as follows: An increase in the basic wage rate from 85 cents to \$1 per hour; limitation of hours of work to 6 per day and 30 per week; hiring and dispatching through the International Longshoremen's Association halls, under the regulations established by a joint committee. The Board awarded a basic wage rate of not less than 95 cents per hour for straight time, and not less than \$1.40 per hour for overtime work; a 6-hour day and a 30-hour week; and ordered that the hiring of all longshoremen should be through halls maintained and operated jointly by the International Longshoremen's Association, Pacific coast district, and the respective employers' associations. The hiring and dispatching of all longshoremen were ordered to be done through one central hiring hall in each of the ports of Seattle, Portland, San Francisco, and Los Angeles, with such branch halls as the labor relations committee should decide.

Grain handlers—Portland, Oreg.; Seattle and Vancouver, Wash.—An award was made by the National Longshoremen's Board on October 17, 1934, in a dispute between the International Longshoremen's Association, acting on behalf of various locals whose members perform labor as grain handlers, and Kerr Gifford & Co., Inc., Northern Wharf & Warehouse Co., and Northwestern Dock and Elevator Co., employing grain handlers at Portland, Oreg.; Seattle and Vancouver, Wash. The issues submitted to the Board were basic rate of wages, hours of work, and hiring and dispatching. The Board awarded a wage rate of not less than 80 cents per hour for straight time, and not less than \$1.20 per hour for overtime work; a 6-hour day and a 30-hour week. The demand with respect to hiring was not made effective; the parties to the award were to make provision by agreement regarding methods of hiring.

Dock and terminal workers—Portland, Oreg.—This dispute was between the Pacific Coast District Local No. 38 of the International Longshoremen's Association, acting on behalf of its Portland local, whose members perform labor on docks or terminals, and the Interstate Terminals, Ltd.; Luckenbach Steamship Co., Inc.; Christenson Hammond Line; Oceanic Terminals; International Stevedoring Co.; McCormic Steamship Co.; and Supples Dock, Inc. On October 17, 1934, the National Longshoremen's Board awarded a wage rate of not less than 70 cents an hour for straight time and not less than

\$1.05 per hour for overtime work; a 6-hour day and a 30-hour week. The demand with respect to hiring was not made effective; the parties to the award were to make provision by agreement regarding methods of hiring.

National Steel Labor Relations Board

Forty-two cases were acted upon by the National Steel Labor Relations Board from its organization by Executive order of June 28, 1934, up to June 30, 1935. Upon the suspension of the N. R. A. codes the Attorney General on May 30, 1935, advised that all cases then pending in the Federal courts arising under the Recovery Act and Public Resolution No. 44 should be dismissed. This resulted in the temporary suspension of the activities of the Steel Board.

The Board's activities up to the end of June extended into many phases of labor relations in the iron and steel industry, including investigation, hearing, and determination of charges of interference, restraint, or coercion of employees in the exercise of their collective-bargaining rights under section 7 (a) of the National Industrial Recovery Act, and in article IV, section 1, of the iron and steel code, and discharge of employees in violation of their rights as defined therein. Settlements were brought about in mediation and conciliation of disputes and elections were held to choose representatives for purposes of collective bargaining, but the Board was not called upon to arbitrate in any case.

Textile Labor Relations Board

The Textile Labor Relations Board from its formation September 26, 1934, to the close of the year 1934 received more than 1,600 complaints involving 579 mills. As shown in the Board's first quarterly report, submitted to the President of the United States on January 4, 1935, all these complaints charged discrimination in putting employees back to work following the strike which lasted from September 1 to 24, 1934.

Fifty-two hearings involving complaints against 48 mills were held—19 before regional labor boards, 23 before field examiners, and 10 before the Textile Labor Relations Board.

The Board issued final decisions in six cases. In two of these cases the complaints were continued, with the consent of both parties involved, for the purpose of further negotiations looking to a complete adjustment. In one case an election was held under the supervision of the Textile Labor Relations Board, and the result of the election was certified to the employer and the employees. Another case was referred to the N. R. A. Compliance Division for removal of the Blue Eagle.

Automobile Labor Board

The Automobile Labor Board was appointed as part of the terms of settlement when the President settled a threatened strike in the automobile industry on March 25, 1934. The body took up its work on March 29 in Detroit, Mich., at a time when both employers and employees were apprehensive as to the immediate future of the industry. By the Executive order creating the Board, jurisdiction was limited

to the automobile-manufacturing industry, and to disputes in the automotive-parts industry in which both parties agreed to bring the case before the Board and abide by its decisions. Seniority rules, determining the order of lay-off and rehiring, were adopted by the Board on May 18, 1934, in pursuance of the strike settlement effected by the President, and on the basis of the Board's own knowledge of the conditions in the industry. The procedure followed by the Board was to settle existing strikes in the industry, dispose of claims of discrimination as quickly as possible, and obtain recognition of the employees' right to representatives of their own choosing for purposes of collective bargaining.

During the first 10 months of its operation the Automobile Labor Board settled 11 strikes (affecting some 30,000 workers directly or indirectly) in the automobile manufacturing industry and one in the automotive-parts industry; considered over 2,000 cases dealing with seniority rights of individuals or groups or claims of alleged discrimination; and participated in numerous conferences on the establishment and operation of collective bargaining.¹ In addition, 10 primary elections and 7 final elections were held, with a total of 75,268 votes cast for employee representation in collective bargaining with employers.

In all, from March 29, 1934, to February 5, 1935, 2,035 cases came to the Board for settlement from 21 cities in various sections of the country and from 54 different plants. The disposition of these cases was as follows:

Total number of cases-----	2, 035
Returning to work without a hearing-----	1, 061
Complaints withdrawn, dropped, or lapsed-----	550
Decisions issued by the Board-----	199
Decisions to be issued by the Board-----	12
Cases awaiting a hearing-----	13
Cases awaiting reply from complainant-----	139
Cases awaiting reply from company-----	61

After 10 months of activity and on the basis of its experience, the Board was of the opinion that "discrimination caused by union activity or union membership is not a problem of any magnitude at the present time and has not been for some time in the past."

Collective bargaining was stated to be the major issue to be dealt with, and the Board believed that employer-employee relationships had been improved during the year. Collective bargaining was viewed as a peaceful process, requiring patience and understanding. It was believed that employers and employees had made a good deal of progress in learning what their rights and duties were under the law and the orders of the Board and in adjusting their policy thereto.

Following the announcement of the Board on December 7, 1934, that elections would be held for choice of employee representatives throughout the industry, 10 primary and 7 final elections were held. Votes were cast in the 10 primaries by 90 percent of those eligible to vote and 94 percent of those working on the day of the election. The Board endeavored to secure freedom from coercion and complete secrecy. Up to February 5, 1935, primary elections had been held in 12 plants of different companies. A total of 53,771 votes were

¹ National Recovery Administration. Press release of Feb. 17, 1935. Report of the Activities of the Automobile Labor Board from Mar. 27, 1934, to Feb. 5, 1935.

cast of which 40,953 were unaffiliated, 5,440 were for employees' associations, and 5,410 were for the two principal union organizations, while the remainder were scattered among different organizations.

Petroleum Labor Policy Board

ESTABLISHMENT of a Labor Policy Board to advise the Secretary of the Interior, Harold L. Ickes, as Oil Administrator, on matters affecting workers in the oil industry was announced on November 24, 1933. As originally set up, the Board was bipartisan. However, because of the refusal of the representative chosen for labor to serve, a reorganization was effected on December 19, 1933, establishing an impartial board of three members. Based on oral instructions from the Administrator the Board formulated its duties and functions to include: (1) Advising the Administrator in determining policies affecting labor and in interpreting and applying code labor provisions; (2) acting on compliance cases and recommending appropriate enforcement measures; (3) investigating labor disputes and acting in mediation, conciliation, and arbitration cases (the latter only upon joint request of parties to a dispute); (4) handling cases arising under section 7 (a) dealing with collective bargaining, holding elections for employee representation, and related work; and (5) carrying out research in order to advise on labor policies and the effects of the code on employment, wages, and purchasing power.

Up to the time of the decision of the United States Supreme Court holding the code-making powers in the Recovery Act unconstitutional, the Board had acted on 2,862 out of 3,945 complaints filed alleging violations of the wages and hours provisions of the petroleum code; of those handled 1,458 were adjusted and in 922 no violation was found. Complaints under section 7 (a) numbered 77, of which 7 were withdrawn. No evidence of coercion was found in 22 cases, 35 were settled, and 13 remained unadjusted when the Board's work was brought to a close.

Since removal of the code work, the Board has undertaken a survey of the petroleum industry. New data on employment, pay rolls, hours of labor, and weekly earnings are to be collected and data already available in the studies of the Bureau of Labor Statistics analyzed.

National Labor Relations Act, 1935

PRESIDENT ROOSEVELT on July 5, 1935, signed an act designed to "diminish the causes of labor disputes burdening or obstructing interstate and foreign commerce." By virtue of this act the National Labor Relations Board was re-created, for the express purpose of settling labor disputes and guaranteeing the right of collective bargaining. In accomplishing the latter object the law declares certain activities of employers "unfair labor practices." Briefly, these practices are (1) to interfere with, restrain, or coerce employees in organization or collective bargaining; (2) to dominate or interfere with the formation or administration of any labor organization; (3) to encourage or discourage membership in any labor organization by discrimination in the matter of hiring, or period, term, or condition of employment; (4) to discharge or discriminate against an employee because of the filing of charges against an em-

ployer; and (5) to refuse to bargain collectively with representatives of the employees.

In preventing any person from engaging in an unfair labor practice, the Board has exclusive power under the act to issue a complaint upon such person, with the charges and a notice of hearing before the Board. The Board is granted the right to invoke the aid of the courts to compel compliance with its orders and may petition any circuit court of appeals of the United States for assistance in effecting its orders. On the other hand, any person aggrieved by a final order of the Board may obtain a review of such order in any circuit court of appeals. The Board is clothed also with investigatory powers, and any of its members has the power to issue subpoenas and require the attendance of witnesses. Violations of the authority of the Board are punishable by fine or imprisonment or both. The right to strike is preserved.

Like section 7 (a) of the National Industrial Recovery Act of June 16, 1933, the new National Labor Relations Act declares a similar purpose and object, in enacting the law, that "employees shall have the right to self-organization, to form, join, or assist labor organizations, to bargain collectively, through representatives of their own choosing, and to engage in concerted activities, for the purpose of collective bargaining or other mutual aid or protection."

Denial by employers of the right of collective bargaining of the employees, the legislative intent of the act declares, "leads to strikes and other forms of industrial strife and unrest." These in their nature have the "effect of burdening or obstructing" interstate and foreign commerce. By the enactment of such a law it has been the declared policy of the Government to eliminate the causes obstructing interstate commerce, "by encouraging the practice and procedure of collective bargaining."

At the time President Roosevelt signed the law he issued a statement relative to the purposes of the law, noting particularly that the National Labor Relations Board would be an independent quasi-judicial body. The President also stressed the fact that the Board "will not act as mediator or conciliator in labor disputes. The function of mediation", he said, "remains, under the act, the duty of the Secretary of Labor and of the Conciliation Service of the Department of Labor."

The President pointed out also that the judicial function and the mediation function "should not be confused", and that "compromise, the essence of mediation, has no place in the interpretation and enforcement of the law." The purpose of the act, the President said, should not be misinterpreted. While it may eventually eliminate one major cause of labor disputes, "it will not stop all labor disputes", the President said, and "it does not cover all industry and labor, but is applicable only when violation of the legal right of independent self-organization would burden or obstruct interstate commerce." Accepted by labor, capital, and the public in a cooperative spirit and "with a sense of sober responsibility", the new law, the President concluded, "should serve as an important step toward the achievement of just and peaceful labor relations in industry."

On August 23, 1935, the President named the following persons as members of the National Labor Relations Board as reconstituted under the 1935 act: J. Warren Madden, chairman; J. M. Carmody,

and Edwin S. Smith; their terms of office to be 5, 3, and 1 year, respectively.

United States Board of Mediation (Railroads), 1931 to 1934

THE Railway Labor Act of 1926 created a special board, known as the United States Board of Mediation, to handle disputes which the carriers and employees were unable to settle in conference. In cases where mediation failed, the law directed that the board should endeavor to induce the parties to submit their controversy to arbitration. The arbitration body in such cases should be composed of 3 or of 6 members, as determined by the parties, one-third of whom should represent the carriers, one-third should represent the employees, and one-third should be neutral. If the representatives of the carriers and employees failed to name the neutral member or members, it became the duty of the Board of Mediation to appoint them. If all measures for mediation and arbitration failed, the President was empowered to appoint a special emergency board to investigate the dispute and report its findings within 30 days. The board was superseded in July 1934 by the National Mediation Board.

The Board of Mediation dealt with two classes of disputes—cases involving rates of pay, rules, or working conditions submitted direct to the Board for mediation or arbitration; and grievances involving the application of rules or discipline, which were first submitted to an appropriate adjustment board but not settled by such board. The first class of disputes was referred to as "cases", while the second class was referred to as "grievance cases."

Activities

THE Board began operations in July 1926. Up to June 30, 1934, 967 cases had been submitted to the Board, and 876 of these cases had been disposed of. During the same period 1,715 grievance cases were submitted to the Board, 1,489 of which had been disposed of. For the 4 years ended June 30, 1934, the Board disposed of 430 cases involving rates of pay, rules, or working conditions, and 1,324 grievance cases.

The following table gives the number of cases of all kinds disposed of, by method of settlement, from July 1, 1930, to June 30, 1934:

NUMBER OF CASES DISPOSED OF, 1930-31 TO 1933-34, BY METHOD OF SETTLEMENT

Method of settlement	1930-31	1931-32	1932-33	1933-34	Total
<i>Cases</i>					
Total settlements.....	54	170	95	111	430
Mediation agreement.....	24	45	23	17	109
Arbitration agreement.....	4	4	3	9	20
Withdrawal through mediation.....	12	0	14	26	52
Withdrawal without mediation.....	8	69	9	0	86
Retired for refusal to arbitrate.....	0	47	0	50	97
Board action.....	6	5	46	9	66
<i>Grievance cases</i>					
Total settlements.....	248	234	344	498	1,324
Mediation agreement.....	74	94	107	64	339
Arbitration agreement.....	113	47	37	260	457
Withdrawal through mediation.....	58	0	90	77	225
Withdrawal without mediation.....	1	59	13	0	73
Board action.....	2	34	97	97	230

National Mediation Board (Railroads), 1934

THE National Mediation Board was created by Public Act No. 442, Seventy-third Congress (approved June 21, 1934), and superseded the United States Board of Mediation on July 21, 1934.

It is the purpose of the National Mediation Board to provide for the prompt disposition of disputes arising between the carriers and their employees. The Board is directed to carry out the following provisions of the act:

(1) To avoid any interruption to commerce or to the operation of any carrier engaged therein; (2) to forbid any limitation upon freedom of association among employees or any denial, as a condition of employment or otherwise, of the right of employees to join a labor organization; (3) to provide for the complete independence of carriers and of employees in the matter of self-organization to carry out the purposes of this act; (4) to provide for the prompt and orderly settlement of all disputes concerning rates of pay, rules, or working conditions; (5) to provide for the prompt and orderly settlement of all disputes growing out of grievances or out of the interpretation or application of agreements covering rates of pay, rules, or working conditions.

The National Mediation Board cooperates in the adjustment of disputes with the National Railroad Adjustment Board, also created by Public Act No. 442, which is composed of 18 representatives of the carriers and 18 representatives of employees.

Emergency Boards Under Railway Labor Act, 1930 to 1934

THE Federal Railway Labor Act of 1926 provided that an emergency board might be established by the President of the United States if a railroad labor dispute could not be settled in accordance with the other provisions of the law and if, in the judgment of the Board of Mediation, such dispute threatened "to interrupt interstate commerce to a degree such as to deprive any section of the country of essential transportation service." The decisions of this Board were not to be compulsory, but the act provided that after the creation of the board and for 30 days after its report had been made, "no change, except by agreement, shall be made by the parties to the controversy in the conditions out of which the dispute arose."

Brief summaries of the findings of eight emergency boards appointed from July 1, 1930, to the end of 1934, are given below. More extended summaries of these reports appeared in the *Monthly Labor Review*, as indicated, and the findings of earlier boards will be found in the former editions of the *Handbook of Labor Statistics*.

Delaware & Hudson Railroad.—An emergency board appointed on March 5, 1934, to investigate and adjust the dispute between the Delaware & Hudson Railroad and its engineers, firemen, and trainmen, made its report on March 31, 1934. During 1932 the carrier notified the representatives of its employees that it wished to introduce new agreements, establishing different rules and working conditions and changing the old hours and mileage basis of pay to a monthly rate. The employees agreed with the understanding that the agreements were to be in effect for 1 year, at the expiration of which either party might petition for negotiations for the revision of objectionable features, and that, failing a satisfactory adjustment, there would be a return to the old agreements. At the end of the trial

period the employees sought to return to the old agreements, but this was opposed by the carrier. The emergency board formulated the following plan of settlement: (1) That the parties would agree to go back to the old contracts on April 1, 1934; (2) that grievance cases and claim for back time of trainmen and the other matters listed in the strike ballot would be submitted to a committee of 4, 2 to be selected by the carrier and 2 by the brotherhoods representing the employees, each side to pay the cost of its representatives, and decision of a majority of the committee to be binding; (3) that should the committee for any reason fail to decide any of the cases, such undecided cases would be submitted to an umpire to be selected by the committee or to be appointed by the Railroad Board of Mediation in case the committee should not be able to agree upon an umpire. The decision of the umpire was to be final and binding. The carrier accepted the first point of the board's proposal, but refused to accede to its second and third recommendations. The carrier expressed its willingness to review, upon presentation through its regular prescribed channels, the seven major points or any of the listed cases in the strike ballot. In view of this expression of the carrier, and in order to afford the Brotherhood of Trainmen an opportunity to decide whether it wished to prosecute claims arising after the termination of the experimental period, August 1, 1933, under the old agreement or the new agreement, the remaining questions in difference between the parties were either withdrawn without prejudice or removed from further consideration of the emergency board. (Monthly Labor Review, May 1934.)

Denver & Rio Grande Western Railroad.—The emergency board appointed February 1, 1934, to investigate the dispute between the Denver & Rio Grande Western Railroad and its engineers, firemen, conductors, and trainmen, made its report on February 28, 1934. The strike vote of the employees grew out of an accumulation of grievances, 75 in number. Upon the suggestion of the board, the parties agreed to withdraw 17 cases and to let the matters involved therein remain in status quo until January 1, 1935. During the proceedings the parties agreed to the settlement of 13 other cases, leaving 45 cases to be decided by the board. The majority of these grievances were caused by a change in rules by the carrier without previous notice to the employees. In other cases the grievances had been referred to the Western Train Service Board of Adjustment, and its decisions had not been made effective by the carrier. In some cases the board found that the grievance had not been submitted for adjustment or mediation. The board in its report suggested that grievances should be submitted through the orderly processes prescribed by the agreements between the employees and the carrier and by the Railway Labor Act, and pointed out the need for cooperation between the carrier and the employees in adjusting grievances, concluding that the controversies could be settled as suggested in the report. (Monthly Labor Review, April 1934.)

Kansas City Southern Railway.—An emergency board to investigate the wage dispute between the Kansas City Southern Railway and its engineers, firemen, conductors, and trainmen, was appointed on June 12, 1933. The carrier and these employees were parties to the so-called "Chicago agreement" of January 31, 1932, which provided for a 10-percent deduction from the wages of the employees during

the year beginning February 1, 1932. On December 31, 1932, the agreement was extended to October 31, 1933, on most of the railroads. The Kansas City Southern Railway Co. was not a party to the extension agreement, but continued to make the 10 percent deduction under the terms of a mediation agreement entered into February 23, 1933. On April 5, 1933, the carrier served notice of cancelation, on May 15, 1933, of all contracts covering rates of pay, rules, and working conditions. On April 6, 1933, it declared its intention of placing in effect on May 16, 1933, new rates of pay, rules, and working conditions. Conferences and mediation were unsuccessful, and on June 6, 1933, the employees voted overwhelmingly to strike. On July 12, 1933, the emergency board reported its findings, pointing out the employees' belief that acceptance of the company's demands would mean "a complete breakdown of the many years of efforts of organized railroad labor and would be and become an opening wedge toward the ultimate breakdown of these conditions upon all the other railroads in this country." In deference to the wish of the President "for peace between labor and employer while the country is trying to regain prosperity", expressed in a letter to its president, the carrier postponed putting into effect the proposed new schedule until early in 1934, continuing in the meantime under the existing rates of pay, rules, and working conditions. (Monthly Labor Review, October 1933.)

Louisiana & Arkansas Railway.—The emergency board appointed April 16, 1931, to investigate a dispute between the Louisiana & Arkansas Railway and its shop-craft employees, reported its findings on May 5, 1931. The controversy began with a notice by the carrier to the shop-craft organizations, on September 15, 1930, of its desire "to abrogate and revise the present schedule covering rates of pay and working conditions of the shop-craft employees." On October 4, 1930, the employees requested the services of the United States Board of Mediation. The board assigned O. B. Colquitt and Edwin P. Morrow to straighten out the dispute, but the railroad officials refused to consider any settlement except on their own terms. On February 9, 1931, the carrier put into effect the proposed changes in wages, a new schedule of rules embodying the changes proposed at the meeting October 1, and also a number of additional changes, some of them very important, of which there had been no previous notice. This led to a strike vote by the employees and the creation of the emergency board.

The board in its report stated that the action of the carrier of February 9, 1931, in putting into force new rules and changes in working conditions, wholly without the notice required by the Railway Labor Act, was illegal under section 6; that the carrier should restore the standard rates of wages and rules governing working conditions prevailing on its line in September 1930; that if the carrier refused to restore former conditions it should submit to arbitration; that if the carrier refused to do one or the other, the board could not urge upon the craftsmen the duty of agreeing to the conditions imposed by the action of the carriers on February 9, 1931, as that would be equivalent to saying that one who obeys a particular law is at a disadvantage with respect to one who disregards it. The board further said, "If the opportunity is offered the carrier to mediate or arbitrate the controversy it should accept it; and if not presented it should seek it." (Monthly Labor Review, August 1931.)

Louisiana, Arkansas & Texas Railway Co. of Texas.—The findings and recommendations of the emergency board appointed July 26, 1933, to investigate the dispute between the Louisiana, Arkansas & Texas Railway Co. of Texas and its engineers, firemen, conductors, and trainmen, were reported August 26, 1933. On April 18, 1933, the carrier gave notice, effective May 20, 1933, of the cancelation of the agreement then in effect and of its intention to inaugurate new rates of pay, rules, and working conditions. The carrier refused to deal with the employees' organizations collectively and insisted upon dealing with each organization separately, contrary to the general custom of the road. After mediation had failed, arbitration was suggested. The employees agreed but the carrier declined, and immediately put into effect its proposed schedule of rates of pay, rules, and working conditions. By an overwhelming vote the employees decided to strike unless a suitable settlement was made. The pay of these employees had been reduced 15 percent on August 24, 1931. The board decided that the schedule of rates of pay, rules, and working conditions in effect prior to June 3, 1933, should be restored by the carrier. (Monthly Labor Review, October 1933.)

Louisiana & Arkansas, and Louisiana, Arkansas & Texas Railways.—On March 10, 1932, an emergency board was appointed to investigate several wage disputes between the Louisiana & Arkansas and the Louisiana, Arkansas & Texas Railways, and their employees. The report of the board on March 29, 1932, was briefly as follows: The wages of the colored brakemen of the Louisiana & Arkansas seniority district were substantially reduced by an agreement entered into October 15, 1930. On January 4, 1932, notice was given by the carrier that, effective February 5, 1932, the company would abrogate the agreement and reduce wage rates 10 percent. The 10-percent reduction was put into effect March 1, 1932, after unsuccessful efforts at mediation, and after arbitration had been refused by the carrier. The board found that the employees were thus left "without any contract with the carrier governing rates of pay, rules, and working conditions," and that "this runs counter to section 2 of the Railway Labor Act." The controversy of the shop-craft employees on the Louisiana & Arkansas Railway involved a reduction of wages and a revision of working rules put in effect February 9, 1931, and an additional 10-percent reduction as of March 1, 1932. The board directed the carrier to adjust the controversy or submit to arbitration. The engineers, firemen, conductors, and trainmen of the Louisiana & Arkansas and the Louisiana, Arkansas & Texas Railways were notified by the carriers on December 21, 1931, that a reduction of 15 percent (later changed to 10 percent) would go into effect on January 23, 1932. The rates had already been reduced 15 percent on August 24, 1931. The board, believing that the wages of the employees on this road should not be out of line with customary wages in similar lines of employment, suggested that at least the second reduction should be withdrawn. The wages of the flagmen employed on the Louisiana Railway & Navigation Co. seniority district of the Louisiana & Arkansas Railway were reduced at the time of the general notification from \$5.62 to \$3.84 per day, or nearly 32 percent. The board found that white flagmen on other lines in the same territory still received the standard wage of \$5.62 per day, subject to the 10-percent cut. A 10-percent reduction would place the wage of these

flagmen at \$5.06 per day, and the board recommended that this rate should be adopted. In the case of the colored train porters, brakemen, and switchmen of the Louisiana Railway & Navigation Co. seniority district, the carrier offered in evidence an agreement with these employees effective January 1, 1932, covering their rates of pay, which tended to show a voluntary settlement of their differences. (Monthly Labor Review, May 1932.)

Mobile & Ohio Railroad.—The emergency board appointed on November 25, 1933, to investigate the dispute between the Mobile & Ohio Railroad and certain of its employees, including train dispatchers, engineers, firemen, trainmen, maintenance-of-way employees, and shopmen, made its report on December 9, 1933. On June 22, 1932, the carrier served notice upon the Brotherhood of Maintenance of Way Employees of a deduction from their basic rates of pay. The dispute was referred to the United States Board of Mediation, but mediation failed. The carrier declined arbitration and served notice of election to cancel the Chicago agreement of January 31, 1932, so far as it concerned maintenance-of-way employees. A reduction in the basic rates was then ordered, unskilled laborers south of the Ohio River being reduced 4 cents an hour, and those north of the river 5 cents an hour; the 10-percent deduction under the Chicago agreement was continued. Considering the reduction in the basic rates and the further deduction of 10 percent by the Chicago agreement, the men north of the Ohio River received a reduction in wages amounting to 27.3 percent and those south of the river 37.5 percent; of the 575 section men and laborers affected, nearly 400 received a wage of only 15 cents an hour. On July 6, 1932, the carrier notified its employees engaged in transportation service of a second deduction of 10 percent, this being a deduction of 10 percent from the basic rates of the employees at the time the Chicago agreement was made and additional to the 10-percent deduction provided in that agreement. Various conferences between the management and the employees were without result.

A mediation agreement was accepted on September 12, 1932, effective from September 16, 1932, to February 1, 1933, in pursuance of which further negotiations were entered into in January 1933. These failed, and mediation was sought by the carrier and assented to by the employees. This mediation failed, and on November 25, 1933, the officers of the brotherhoods called a strike to go into effect December 1, 1933. The emergency board decided that the workers sustained their contention that the wage reduction was in violation of the Railway Labor Act, and that the men were entitled to a restoration of rates to the basis of the Chicago agreement of January 31, 1932. The board stated that it was for the carrier to devise the ways and means. Borrowing might be necessary, but whether aid should come from a private loan, from a subsidy, or from governmental agency, or through a merger or grouping of the road with some other system, was not important so far as the result was concerned. (Monthly Labor Review, March 1934.)

Southern Pacific Lines in Texas and Louisiana.—An emergency board was created November 23, 1933, to investigate a dispute between the Southern Pacific Lines in Texas and Louisiana and its engineers, firemen, conductors, and trainmen. The employees claimed that more than 300 grievances were pending, and that decisions of griev-

ances by adjustment boards were ignored by the company. When mediation failed, the employees proposed arbitration of all the disputes, but the company refused. A strike vote showed that a majority of the employees favored a strike on November 25, 1933. About 3,000 employees were involved. The emergency board, after a session of 8 days, induced the management and the four transportation brotherhoods to agree on a method for settling their controversy over working conditions. This agreement authorized the emergency board to take testimony on 3 points at issue; 5 were referred to the Southwestern Train Service Board for adjustment; 3 employees involved in discipline cases were to be reinstated without prejudice; and the remaining questions in dispute were to be submitted to arbitration. On December 16, 1933, the emergency board reported its findings on the three grievance cases upon which it heard testimony. No new or general principle was involved in these cases. (Monthly Labor Review, January 1934.)

Industrial Commission of Colorado

A LAW was passed in Colorado in 1915 which provided that all industrial disputes occurring in Colorado and involving four or more workers must be held in abeyance until the State industrial commission holds hearings and renders a decision. The Industrial Commission of Colorado was created to administer the act. The jurisdiction of the commission continues until after a final hearing and award or until a prior voluntary termination of the dispute. The law provides that "employers and employees shall give the industrial commission and the one to the other at least 30 days' prior written notice of an intended change affecting conditions of employment or with respect to wages or hours."

The industrial commission was given no compulsory powers and its decision is not binding unless both parties to the dispute have previously selected the commission as arbitrator.

Summaries of the decisions of the commission which come to the attention of the Bureau are carried in the Monthly Labor Review from time to time.

Conciliation Work of the United States Department of Labor

THE work of the Conciliation Service of the Department of Labor is that of mediation in labor disputes. It is the general policy of Conciliation Service to respond promptly at a request from either employers, employees, or from the public affected by an industrial dispute.

In many cases Federal commissioners assigned to a trade dispute have found local committees or agencies using their good offices in an effort to terminate the controversy. In such instances the commissioners of conciliation have cooperated with the local agencies.

Data supplied to the Bureau of Labor Statistics by the Conciliation Service show that during the fiscal year ending June 30, 1931, conciliators handled 582 cases of trade disputes, strikes, threatened strikes, and lockouts. These cases came from 37 States of the Union and involved 379,585 workers directly and indirectly. During the fiscal year ending June 30, 1932, 759 cases were handled by the conciliators. These cases came from 45 States and the District of Columbia and involved, directly and indirectly, 449,169 workers. During the fiscal year ending June 30, 1933, the conciliators handled 833 cases. These cases came from 47 States and the District of Columbia and involved, directly and indirectly, 476,919 workers. During the fiscal year ending June 30, 1934, the conciliators handled 1,140 cases. These cases came from 44 States, the District of Columbia, and Alaska, and involved 916,720 workers directly and indirectly. The 1,007 cases handled during the fiscal year ending June 30, 1935, came from 40 States, Alaska, and the District of Columbia, and involved 785,077 workers directly and indirectly.

The following table gives a summary of the number of cases handled, and their disposition, for each of the fiscal years, 1931 to 1935:

NUMBER AND DISPOSITION OF CASES HANDLED BY UNITED STATES CONCILIATION SERVICE, 1931-35

Cases—	1931	1932	1933	1934	1935
Total cases.....	582	759	833	1,140	1,007
Adjusted.....	385	640	774	885	749
Unable to adjust.....	52	55	24	72	76
Pending.....	82	15	18	-----	23
Unclassified.....	63	49	17	49	79
Referred to other agencies.....	-----	-----	-----	134	80

Board of Reference on Wage Dispute in Anthracite Industry, 1932-33

THE board of reference appointed November 3, 1932, in the wage controversy between the United Mine Workers of America and the anthracite operators was unable to agree on the question submitted to it as to the necessity for a 35-percent cut in the wages of the mine workers.

The wage agreement between the anthracite operators and the United Mine Workers of America entered into August 8, 1930, extended the provisions of the agreement of February 17, 1926, for the period beginning September 1, 1930, and ending April 1, 1936. Under the terms of this agreement it was provided that not oftener than once in any year either party might, in writing, propose modifications in the wage scales of the contract. The agreement provided also that where the parties failed to reach an adjustment in any issue in controversy, the matter should be referred to a board of two men.

The board shall be obligated, within 90 days after appointment, to arrive at a decision on all issues in controversy, and to that end shall formulate their own rules and methods of procedure and may enlarge the board to an odd number, in which event a majority vote shall be binding.

In August 1932, the operators proposed to modify the wage scales by a reduction of 35 percent. Conferences were held from September

6 to October 4, but no agreement was reached by the committees representing the miners and the operators. On November 3, 1932, Frank Morrison and George Rublee were appointed as members of the reference board.

The representatives of the operators and the United Mine Workers submitted briefs. The time of the board to report was extended from the limit of 90 days to not later than March 1, 1933. The members were unable to arrive at a decision, however, and made individual reports on March 1, 1933.

Mr. Morrison in his report made the following statement:

Economic recovery, as a matter of fact, depends upon the restoration of purchasing power to the 12 to 15 millions of American workers of all classes who are now without employment. When this is done, the demand for anthracite will be revived, old markets will be restored, and new markets acquired.

It is clear from the testimony submitted to the board, that freight rates and distributive costs absorb a large proportion of the price paid by wholesale and retail consumers of anthracite.

What is of fundamental importance to the future prosperity of the industry is the meeting of the operators and United Mine Workers in a spirit of complete cooperation for its permanent development. To this end I recommend that the procedure proposed by the United Mine Workers of America in their statement to the board of December 5, 1932, be adopted as follows:

1. The joining of the board, the operators, and the mine workers in a request to the Interstate Commerce Commission that it institute an emergency inquiry as to the reasonableness of the anthracite freight rates.
2. To utilize paragraph 5 of the present agreement dated August 8, 1930, which provides for a joint permanent committee of 12 men, equally divided between the operators and the mine workers, to work for improvement in the industry.

Mr. Rublee closed his report with the following paragraph:

Both parties to this proceeding are dependent on the industry and have a common interest in preserving it. The fact that the effort through the creation of this board to take a forward step in that common interest has ended in a deadlock does not relieve you of the necessity of finding a solution. You cannot suffer your industry to disintegrate. When you come together again in another effort, for that will surely happen, let me urge the mine workers to consider whether it would not be in their real interest to contribute a dollar a ton to the rescue of the industry, and let me as strongly urge the operators to do all in their power to enable them to assure the mine workers that their contribution will be multiplied several times and promptly passed on to the consumer. I believe that cooperation of this kind is indispensable for a solution of the industry.

CHILD LABOR

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Handbook of Labor Statistics: 1936 edition

Child Labor in the United States, 1933

IN 1921 the Federal Children's Bureau first began systematically to collect and analyze statistics of employment certificates issued to children going to work in various States and cities throughout the United States. Annual reports of the number of certificates issued are received by the Children's Bureau from a steadily increasing number of State and city issuing offices. Although not all children going to work receive certificates, either because the law does not require it or because they go to work illegally, and although reports are not received from all the certificating officers, the number reporting is large enough to indicate the trend in the numbers of children going to work, and the extent of their employment for the intercensal years.

With the passage of the National Industrial Recovery Act in June 1933 a new method of setting labor standards—among them child-labor standards—was introduced. Through the codes of fair competition adopted by agreement between employers and the National Recovery Administration and approved by the President, child-labor standards were set up, to be effective throughout an industry without regard to the State in which it was located.

The first code set up under the National Recovery Administration—that for the cotton-textile industry, effective July 17, 1933—prohibited the employment of children under 16. Other industries adopted codes with the same prohibition, and in September the President's Reemployment Agreement, applying to industries whose codes were still pending, extended widely the application of a 16-year minimum; however, this agreement permitted part-time employment of children 14 or over, but not in factory work and only outside of school hours, for not more than 3 hours a day. The end of 1933 found more than a hundred codes adopted, all setting up the standard of a 16-year minimum for full-time employment, and as a rule requiring the same wages and hours for minors as for adults.

These changes in industrial regulations, which raised child-labor standards in all except four States, had their most pronounced effect upon the very occupations in which employment certificates are generally required. Issuing officers and State labor officials gave widespread cooperation in the enforcement of these standards, both by refusing to issue employment certificates to children under 16 and by providing facilities for the issuance of age certificates to those of legal age as a protection to the employer.

Thus various conditions, of which unemployment was one, accentuated the downward trend in the number of employment certificates issued to children between 14 and 16 that has manifested itself during the past decade and that has been especially marked since 1929. The number of these children receiving first regular certificates and the rate of issuance per 10,000 children of these ages are shown in table 1 for 41 representative cities reporting every year from 1927 to 1933.

It is believed that these figures indicate the trend of child labor in urban districts, although they are not entirely comprehensive for several reasons. They are limited to children who go to work for the first time in industries for which certificates are required—that is, manufacturing, mechanical, and mercantile industries, and messenger service in most States, and domestic service in a few States and cities—and only rarely include children who go to work in street trades or agriculture. Obviously, also, the figures are affected by the degree of enforcement of the certificate law. It should be noted that the decrease in the number of certificates issued (table 1) is affected by the fact that for the past 4 years unemployment has reduced the work opportunities for children mainly in occupations for which certificates are usually required.

TABLE 1.—CHILDREN 14 AND 15 YEARS OF AGE RECEIVING FIRST REGULAR EMPLOYMENT CERTIFICATES AND RATE PER 10,000 OF THESE AGES IN 41 CITIES, 1927 TO 1933¹

Year	Children 14 and 15 years of age receiving certificates	
	Number	Rate per 10,000 children of these ages
1927	71,655	978
1928	67,199	868
1929	71,887	930
1930	49,082	619
1931	37,051	460
1932	27,556	338
1933	17,042	210

¹ Population according to 1930 census. Cities included are: Atlanta, Baltimore, Bridgeport, Buffalo, Chattanooga, Chicago, Denver, Detroit, Erie, Fort Wayne, Grand Rapids, Hartford, Indianapolis, Kansas City (Kans.), Knoxville, Los Angeles, Louisville, Lowell, Lynn, Milwaukee, Minneapolis, Nashville, New Haven, New York, Oakland, Omaha, Peoria, Philadelphia, Pittsburgh, Providence, Rochester (N. Y.), St. Paul, San Francisco, Scranton, Somerville (Mass.), South Bend, Springfield (Mass.), Washington (D. C.), Wichita, Wilmington (Del.), and Yonkers.

Number of Certificates Issued

Children 14 and 15 Years of Age

IN THE States and cities reporting to the Children's Bureau,¹ 35,480 children 14 and 15 years of age obtained first regular employment certificates and left school for work in 1933. In addition, such certificates were issued to 270 children in places where it was not possible to know whether the children were actually leaving school,² because there was no provision for a special kind of certificate for work during vacation and outside of school hours. In areas reporting for all 3 years the number of certificates issued in 1933 was 73 percent less than in 1929, and 31 percent less than in 1932. As has been pointed out, the downward trend in the number of children of these ages receiving certificates that manifested itself throughout the depression years received added impetus during the last half of 1933 from the wide-spread prohibition of employment of children under 16 under the N. R. A. Most of the industries for which employment certificates are required were affected either by codes of fair competition

¹ 18 States and the District of Columbia; 78 cities with 50,000 or more population in 16 other States.

² 1 State; 1 city in 1 other State.

under the National Recovery Administration or by the regulations of the President's Reemployment Agreement, under both of which full-time employment of children under 16 was prohibited. After they went into effect, therefore, the only work opportunities open to boys and girls of 14 and 15 in industries for which permits were required were as a rule in the comparatively few establishments not displaying the Blue Eagle or not yet covered by codes, and—in some localities—in domestic and personal work, frequently in the child's own home.

In spite of the curtailing effect of the codes and the President's Reemployment Agreement, there were actual increases in the number of children receiving certificates in 1933 as compared with 1932 in 6 States and 11 cities in other States. These increases, though in some localities quite small, totaled 1,544. In view of the fact that no upturn in business conditions was reported during the first few months of 1933 and comparatively few certificates were issued in these localities during the last 4 months, it would seem that even a short period of increase in business activity may be immediately reflected in an increase in child labor.

The drop between 1929 and 1933 was much more pronounced in some localities than in others. In areas reporting 50 or more certificates in 1929, 8 States and 28 cities in 11 other States showed a drop of 80 to 100 percent in the number of 14- and 15-year-old children. In the District of Columbia, 2 States (New York and North Carolina), in 6 cities (Lawrence, Lowell, Los Angeles, Wilmington, Pittsburgh, and Huntington), and in 5 other States, the drop was between 60 and 80 percent, whereas in 1 State (Connecticut) the drop was less than 50 percent. A few other localities had decreases, but in these the number of certificates issued in 1929 was very small.

Fourteen is the minimum age required by law for general employment in all the States that report the number of certificates issued, except Maine, Michigan, and Rhode Island, which have a 15-year minimum, and Ohio, which has a 16-year minimum.³

From the localities having a 14-year age minimum there was a report as to age for 33,416 children receiving first regular certificates. Of these 8,640 (26 percent) were 14 years of age when they started full-time employment. Because of conditions prevailing for the past several years, it might have been expected that 1933 would show a large decrease in the proportion of these younger children leaving school for work. However, 14-year-old children still constituted 23 percent of the 14- and 15-year-old children receiving certificates in 1933 as compared with 29 percent in 1929.

The proportion of children 14 years of age receiving employment certificates during the years for which the Children's Bureau has information has been smallest in States requiring completion of the eighth grade before children of this age are allowed to go to work. In States having this requirement only 20 percent of the children obtaining certificates in 1933 were 14 years of age, and in States having this requirement but permitting exemptions 21 percent of the children; whereas in the States with a lower educational standard, 40 percent of the children were 14 years of age. However, even among States with the same legal standard, the percentages vary, indicating that the demand for child labor and other factors also play a part in determining the age at which boys and girls go to work.

³ In 1933 Wisconsin passed a law raising the minimum age for employment during school hours to 16.

Minors 16 and 17 Years of Age

The issuance of certificates to boys and girls 16 years of age and over is a regular practice in about one-third of the States from which reports either for entire States or for certain cities were received. In these localities ⁴ 52,397 minors 16 and 17 years of age received certificates in 1933.

In the States and cities reporting for 1929, 1932, and 1933 the number of certificates issued to this age group decreased 47 percent in 1933 as compared with 1929, but increased 14 percent in 1933 over 1932. This increase may reflect greater opportunities for employment, due not only to accelerated industrial and commercial activity, but probably also to the exclusion of children 14 and 15 years of age during the last 4 months of the year from occupations formerly open to them. Jobs that lent themselves to the employment of minors under 18 had to draw nearly all their workers from the older age group during this period.

The change from 1932 to 1933 in the number of minors 16 and 17 years of age receiving certificates in the States reporting varied from a decrease of 24 percent in Oregon and 14 percent in Wisconsin to an increase of 13 percent in New York and 37 percent in Alabama; in the cities in other States increases of more than 100 percent were reported for 3 cities and 50 to 100 percent for 6 cities. Decreases were reported for a number of cities, in two of these amounting to more than 50 percent.

The number of minors 16 and 17 years of age receiving first regular employment certificates and the rate of issuance per 10,000 minors of these ages are shown in table 2 for 15 representative cities reporting each year from 1927 to 1933.

TABLE 2.—MINORS 16 AND 17 YEARS OF AGE RECEIVING FIRST REGULAR EMPLOYMENT CERTIFICATES AND RATE PER 10,000 OF THESE AGES IN 15 CITIES, 1927 TO 1933¹

Year	Minors 16 and 17 years of age receiving certificates	
	Number	Rate per 10,000 minors of these ages
1927.....	25,444	1,256
1928.....	26,646	1,289
1929.....	34,533	1,637
1930.....	25,106	1,168
1931.....	21,349	976
1932.....	18,518	833
1933.....	20,346	922

¹ Population according to 1930 census. Cities included are Buffalo, Columbus, Dayton, Grand Rapids, Milwaukee, New Orleans, New York, Niagara Falls, Rochester, Saginaw, San Francisco, Springfield (Ohio), Toledo, Yonkers, and Youngstown. Figures for Buffalo, Milwaukee, New York, Niagara Falls, Rochester, and Yonkers are for 16-year-old minors; law does not require certificates for minors 17 years of age.

⁴ 4 States and the District of Columbia; 51 cities in 8 other States.

Education of Children Going to Work

Children 14 and 15 Years of Age

OF THE 26,565 14- and 15-year-old children for whom last grade completed was reported in 1933, 66 percent had completed the eighth or a higher grade. In a number of States completion of the eighth grade is required by law before children 14 and 15 years of age can obtain a certificate for full-time work. In a few States it is required only for 14-year-old children, and in others neither 14- nor 15-year-old children are required to come up to this standard. Practically all the children receiving certificates in the States in which completion of the eighth grade is required for both 14- and 15-year-old children had gone this far in school, as compared with 52 percent of the children receiving certificates in the States having a lower standard for children of these ages. In the latter group of States 26 percent of the children receiving certificates had not gone beyond the sixth grade, and only 16 percent had completed one or more years of high school, whereas in the former group all the children had completed at least the sixth grade, and 44 percent had completed one or more years of high school. In the States and cities that reported grade completed for boys and girls separately, 70 percent of the girls receiving work certificates, as compared with 60 percent of the boys, had completed the eighth or a higher grade.

It is encouraging that each year since 1927 the percentage of children completing at least the eighth grade in a comparable group of States and cities has increased; it was 59 percent in 1927, 61 in 1928, 63 in 1929 and 1930, 65 in 1931, 67 in 1932, and 72 in 1933. This trend is no doubt due in part to the raising of legal standards and, at least in recent years, to lack of work opportunities, but it also reflects a tendency to keep children in school longer and in this way to prepare them better for their future work and for citizenship.

Minors 16 and 17 Years of Age

The 1933 reports show that, as would be expected, the percentage that had completed the eighth or a higher grade was larger in the 16- and 17-year-old group (81 percent) than in the 14- and 15-year-old group (66 percent).

Sex of Children Going to Work

IN THE group of States and cities reporting for the 6-year period 1927 to 1932 the percentage of boys among all children of 14 and 15 receiving employment certificates decreased from 57 in 1927 to 48 in 1932. This decrease continued in 1933, the percentage dropping to 41; this is probably due in part to the restrictions on the employment of minors during the last few months of that year in manufacturing and mechanical industries—an important field for boys—and the tendency for young girls to displace older workers in domestic service.

Among all the 16- and 17-year-old minors receiving employment certificates in 1933 for whom sex was reported, 50 percent were girls, as compared with 52 percent in 1932. In the localities reporting over the 7-year period, 1927 to 1933, there was also a decrease—50

percent to 47 percent. From 1927 to 1932 there was a trend from boys to girls in the older group similar to that in the younger group, but in 1933 this tendency was reversed. This shift may be due to a slightly greater increase during the last 4 months of 1933 in the opportunities for boys of 16 and 17 years than for girls of the same ages in occupations requiring employment certificates.

Occupations of Children on Going to Work

Children 14 and 15 Years of Age

AS HAS been pointed out, most of the industries in which certificates are required for employment of children under 16 were affected during a considerable part of 1933 by the minimum-age standards of the codes of fair competition or of the President's Reemployment Agreement. This fact accentuated the shift reported in recent years toward the miscellaneous types of employment that are often unregulated by State law—domestic service, street trades, certain types of messenger work and personal service, agriculture, etc. The probability is that this shift is even greater than is indicated by the figures, because in a large number of States employment certificates are not required for many of these miscellaneous kinds of work.

Of the 13,751 children 14 and 15 years of age for whom information concerning occupations was received in 1933, 29 percent were first employed in manufacturing and mechanical occupations, 13 percent in mercantile establishments, and the rest in other types of work, including public messenger and delivery service, office work, domestic and personal service, and miscellaneous jobs. A larger proportion of boys than of girls started to work in manufacturing and mechanical occupations (boys 33 percent, girls 27 percent) and in mercantile establishments (boys 24 percent, girls 6 percent).

In the group of States and cities reporting for 1929 and 1933 the number of children 14 and 15 years old entering manufacturing and mechanical occupations decreased 92 percent from 1929 to 1933 and the number entering mercantile occupations, office work, and messenger occupations decreased 89, 95, and 91 percent, respectively; on the other hand, there was only a 52-percent decrease in the number entering personal and domestic service.

In localities reporting occupations entered by children first going to work in 1932 and 1933 a smaller proportion of the 14- and 15-year-old children were certificated for employment in mercantile occupations, office work, and messenger work in 1933 than in 1932, and a much larger proportion in 1933 than in 1932 for employment in miscellaneous occupations including domestic and personal service. No significant change was observed in the percentage of children entering the manufacturing and mechanical industries, although in comparable localities 3 percent began work in manufacturing and mechanical industries during the last 4 months as compared with 31 percent during the entire year. In the last 4 months of the year only 15 percent went into the various types of industrial and commercial employment that in general were subject to the N. R. A. codes, as compared with 50 percent for the entire year. More than half the certificates issued after September 1 were for work in the child's own home.

Minors 16 and 17 Years of Age

Of the 26,943 minors 16 and 17 years of age for whom information concerning occupation was received, 30 percent were first employed in manufacturing and mechanical occupations, 17 percent entered mercantile establishments, and 53 percent went into other types of work, including public messenger and delivery service, office work, domestic and personal service, and miscellaneous jobs. As in the younger group, a larger proportion of boys than of girls began work in manufacturing and mechanical occupations (boys 31 percent, girls 29 percent) and in mercantile work (boys 21 percent, girls 14 percent). In the localities reporting for the 7-year period there was apparent a shift from manufacturing industries to domestic and personal service even greater among these older boys and girls than among the 14- and 15-year-old children.

In the localities reporting for the 2 years 1932 and 1933 the proportion entering manufacturing and mechanical industries increased significantly, whereas the proportion entering mercantile occupations, office work, and miscellaneous occupation groups (including domestic and personal service) correspondingly decreased. There was practically no change in the proportion entering messenger service.

Child Labor in the United States in 1934

REPORTS of first regular employment certificates issued to children in 1934, while the N. R. A. was still in effect, indicate that, due to the 16-year minimum of the codes, employment of children under 16 in industry and trade practically disappeared, notwithstanding a general rise in factory employment.

In the 19 States, the District of Columbia, and the 78 cities in 17 other States from which the Children's Bureau received reports in 1934, only 14,157 children 14 and 15 years of age obtained first regular employment certificates in that year, most of these children leaving school to go to work in domestic and personal service or other work not covered by the codes. Between 1932, before the N. R. A. was in effect, and 1934 there was a decrease of 72 percent in the employment certificates issued to children of these ages, and between 1929 and 1934 a decrease of approximately 90 percent for the localities reporting in both years.

There were 57,742 minors 16 and 17 years of age who received employment certificates in 1934 in the 4 States, the District of Columbia, and 55 cities in 9 other States reporting to the Bureau, in which the issuance of certificates to minors of these ages is a regular practice. In the States and cities reporting for 1929, 1932, and 1934, there was a decrease of 41 percent between 1929 and 1934 in the number of certificates issued to minors of this age group, but an increase of 27 percent between 1932 and 1934. This increase may reflect greater opportunities for employment, but undoubtedly it reflects also the fact that jobs which previously lent themselves to the employment of minors under 16 years of age were filled during 1934 by workers 16 years and over.

As regards schooling, a higher percentage of the 16- and 17-year-old group (83 percent) than of the 14- and 15-year-old group (74 percent) had completed the eighth or a higher grade.

Of the 6,735 children 14 and 15 years of age for whom information as to occupations was received in 1934, only 1 percent, in contrast with 29 percent in 1933, were first employed in manufacturing and mechanical occupations, 4 percent in mercantile establishments, and nearly all the rest in domestic and personal service. The boys and girls of 16 and 17 years, however, entered much the same types of work as in 1933, though the trend away from manufacturing and mechanical occupations and into miscellaneous work which was noted in the preceding years continued. In 1934, 21 percent entered manufacturing and mechanical work as compared with 34 percent in the preceding year, and 29 percent in 1932.

More detailed data as to child labor in 1934, which was received too late for inclusion in this edition of the Handbook, is published in the Monthly Labor Review for December 1935 (p. 1477).

Status of Child-Labor Amendment, 1935

DURING the 3 years 1933 to 1935 the movement to make Federal regulation of employment of children under 18 years of age possible by means of a constitutional amendment made important progress. This was due in large part to a desire to preserve as a permanent policy the child-labor prohibitions of the National Recovery Administration codes.

The child-labor amendment, which was submitted to the country in 1924, reads:

SECTION 1. The Congress shall have power to limit, regulate, and prohibit the labor of persons under 18 years of age.

SEC. 2. The power of the several States is unimpaired by this article except that the operation of State laws shall be suspended to the extent necessary to give effect to legislation enacted by Congress.

In the 3 years following the passage of the amendment by Congress, 5 States ratified it. Thereafter, with the exception of Colorado, which ratified in 1931, no State took favorable action upon the proposed amendment until 1933. Economic depression, the fact that in some cases children were obtaining work when adults could not, and the example and influence of the code prohibitions of child labor, all combined to stimulate anti-child-labor sentiment to such a degree that during 1933 ratification of the amendment was secured in 14 States. Some of these States had previously rejected the proposal, but later reversed their decisions. These 14 States were followed by 4 more in 1935. Hence the number of ratifications on June 30, 1935, was 24.

The States which have already ratified, and the year of ratification, are as follows:

Arkansas.....	1924	New Hampshire.....	1933
Arizona.....	1925	New Jersey.....	1933
California.....	1925	North Dakota.....	1933
Colorado.....	1931	Ohio.....	1933
Idaho.....	1935	Oklahoma.....	1933
Illinois.....	1933	Oregon.....	1933
Indiana.....	1935	Pennsylvania.....	1933
Iowa.....	1933	Utah.....	1935
Maine.....	1933	Washington.....	1933
Michigan.....	1933	West Virginia.....	1933
Minnesota.....	1933	Wisconsin.....	1925
Montana.....	1927	Wyoming.....	1935

White House Conference Report on Child Labor, 1932

THE White House Conference on Child Health and Protection, organized under the auspices of President Hoover, met in Washington in November 1930, with an attendance estimated at several thousand coming from all over the Union. The field covered was divided into four general sections—medical service, public health service and administration, education and training, and the whole question of the handicapped. Under the general subject of education and training a subcommittee on child labor was appointed, which published in 1932 a complete report of its findings with a series of recommendations which might serve as a guide to legislators and child-welfare workers everywhere in surveying the needs of the individual situations with which they must deal and in meeting them adequately. Four general phases of the subject were recognized: (1) Employment of children in nonagricultural occupations; (2) employment of children in agriculture; (3) hazardous occupations, industrial accidents, and workmen's compensation for injured minors; and (4) administrative problems with reference to laws affecting the employment of minors.

In the recommendations of the committee it was recognized that certain economic, social, and educational measures were needed in addition to adequate legislative restrictions and safeguards in order to protect young workers from the dangers of employment at too early an age or under adverse conditions. It was therefore urged that special attention be given to the solution of the problems of adult unemployment, farm economics, and a living wage, "since an income earned by the chief wage earner of the family sufficient to maintain a decent standard of living is basic to a normal solution of the problem of child labor as it is to other problems of child welfare." As numerous studies of working children have shown that for large proportions of young workers causes connected with school have furnished the chief motive for leaving school to go to work, especially for pupils of somewhat limited mental ability, it was urged that as a child-labor measure some content of education be found and provided for these children which will mean real development for them, since the early years of adolescence when they are likely to leave school for employment are the very years when they are most in need of guidance. In the field of legal regulation it was recommended that standards be set up for all kinds of gainful employment of children, but that special consideration be given to proper types of control in certain employments, such as industrial homework and street trades, now largely unregu-

lated. Specifically it was proposed that no child under 16 should be permitted to leave school for work; that school attendance be required for children up to 16 years of age; that higher age minima should be set for occupations physically or morally hazardous; that no minor under 18 should work more than 8 hours a day or 44 hours a week, or at night; and that all children under 18 should be required to obtain employment certificates before going to work and be required to have a certificate of physical fitness from a public physician. Special regulation of street work, with the consideration of a minimum age of 16 for newspaper selling, the prohibition of industrial homework, and the consistent application of provisions of the general child-labor law to canneries, work outside school hours, and work in theatrical exhibitions and moving pictures were recommended. It was also pointed out that among the child-labor problems are those involving interstate relations, as for example, the problem of the migrant worker, and that the general progress toward the goal of establishing adequate standards for the health and protection of all working children would be enormously facilitated by a national minimum standard.

Employment of Children in Agriculture

THIS section of the report pointed out that in several respects agriculture presented the most serious child-labor problem in the United States at that time. It involved more child workers than all other occupations together (61 percent of the total number of working children 10 to 16 years old); it included a large number of younger children (87 percent of all working children 10 to 14 years old); it employed thousands of children as migratory workers; it presented difficult problems of control and, even more than industrial work, it interfered seriously with school attendance. The development of agriculture into a large-scale industry had led to the employment of thousands of children, sometimes on their parents' farms but often among strangers or in migratory camps, under conditions almost as undesirable as any found in unregulated industrial employment. The difficulties which confronted attempts to curb child labor in agriculture were the popular view that farm work for children is healthful; the economic status of the general farming population; the sentiment against interfering with the parent's control over the child; the seasonal nature of the work; the administrative difficulties involved in enforcing legislation for children working in scattered rural districts, and to a considerable extent outside school hours; the limitations of State jurisdiction; and the local prejudice against furnishing school facilities for migratory children.

For all these reasons, approach to the regulation of employment was made by the committee through recommendations looking to the extension of more adequate school-attendance requirements and facilities to rural children and their efficient enforcement. Changes in rural educational organization and administration recommended by the subcommittee on rural schools, of the committee on the school child, of the White House Conference were endorsed.

It was insisted that rural children should be afforded educational opportunities equivalent to those afforded city children, that the age and attendance standards for schooling should be the same for both groups, and that districts should be responsible for the schooling of migratory children.

Hazardous Occupations, Industrial Accidents, and Workmen's Compensation

THIS section presented a summary and analysis of workmen's compensation laws as they affect minor workers, and also of legal regulations affecting the employment of minors in hazardous occupations, with a tabular summary of available statistics of accidents to minor workers.

The scarcity of information on industrial accidents to minors was pointed out and it was urged that the States develop a program for continuous study of all industrial injuries to minors under 18. It was also recommended that the employment of such children under 16 as may be permitted to work in a restricted list of occupations should be prohibited on or in connection with machinery of any kind, and that minors of 16 and 17 should be prohibited from employment on dangerous machinery not guarded at the point of operation, or in the operation of elevators, or in other occupations proved by accident records to be hazardous to them. Power should be given to State labor boards to determine what occupations are dangerous and to prohibit employment of minors therein. In regard to provisions relating especially to minors in workmen's compensation laws, it was urged that in all States not yet having such laws legislation be passed providing (1) that the employee's future earning capacity be considered as the basis for computing compensation to minors for permanent disability, and (2) that minors injured while illegally employed should be brought under the workmen's compensation law, and that, in addition, provision should be made for the payment of extra compensation in such cases.

Administration of Laws Affecting the Employment of Minors

ALTHOUGH one or another of the aspects of administration of child-labor laws had been treated in various studies and surveys, this report for the first time brought together in brief compass and in one place the accumulated experience, under different laws and in different places, in dealing with all the different phases of administration and enforcement. The necessary correlation between the issuance of employment certificates, the proper enforcement of school-attendance laws, and the inspection of establishments and imposition of penalties for violation, is clearly indicated. The report consisted in great part of a discussion and criticism of administrative procedure and methods possible under different types of law, illustrated by such examples of actual practice as could be found. The extent of the problem was shown by the unevenness of enforcement, which, the report pointed out, was so great that in many places one or another provision of the law was probably being violated for a majority of the children at work.

Administrative recommendations included adequate legal provisions as to employment-certificate issuance, including standards for evidence of age and proof of physical fitness; the enforcement of school attendance, with special attention to the problems of school attendance of children in rural districts and of the education of the so-called "migratory" child workers; methods of inspection adapted to good enforcement; provision of official personnel qualified by education, experience, and training, adequately compensated and appointed under the merit system, such personnel to be sufficient in number for

effective certificate issuance, school-attendance enforcement, and inspection; and supervision by State agencies in the development of effective administration of each of these activities.

Transient Boys in the United States, 1932

IN THE spring of 1932 the United States Children's Bureau undertook a survey of conditions relative to boys under 21 who had taken to the road, either seeking employment which they could not find in their own community, or simply driven forth by the want at home. Lack of time and means prevented a complete statistical study, but the survey brought to light some striking conditions.

The purpose of the survey was to secure as definite information as possible as to how many boys were leaving their own homes and wandering through the country, what local communities were doing to take care of them, whether local resources were adequate to the demand, and how the boys were actually faring. Material was sought through correspondence with chiefs of police and executives of community chests or councils of social agencies in 25 cities in different parts of the country, and through field visits to certain points in the South and Southwest.

One of the first points noted was the break-down of the approved method of handling transients, which had been carefully built up through the years preceding the depression. A cardinal point of that method was that each case should receive individual attention, that if the transient had a valid claim on any given community he should, if possible, be returned to that community, and that if he had no such claim or if for any reason he could not be returned, an effort should be made to secure for him a job or the training which would enable him to take a job, and to fit him, as far as possible, into the new environment. Under existing conditions this program had become in many instances impossible.

Communities do not have the funds to pay transportation to the place of established responsibility. Many communities lack even the resources necessary to maintain transients during the period required to make an investigation in a distant area. Hence there has been a wide-spread relapse into the vicious practice of "passing on", due to the sheer inadequacy of local resources. At the same time social agencies are confronted with a transient problem that transcends anything the country has yet known. The numbers of wandering families, unattached men and women, and boys and girls, vastly exceed those of former years. And the make-up of the groups has changed radically. The traditional single transient of earlier years was the seasonal laborer, the "knight of the road", commonly called the "hobo", and the occasional runaway boy or adventurous youth. Today young men and boys who would normally be at work or in school predominate.

Number of Young Transients

ONLY indications could be secured as to the number of such young transients. Local observers gave estimates which seemed to show that the problem was more serious than had been supposed.

Men and boys swarm on every freight in such numbers that the railroad police would be helpless to keep them off. Along the route of the Southern Pacific many small towns in Texas, New Mexico, and Arizona reported the daily passing of about 200 men and boys during the winter and spring. The Santa Fe at Albuquerque averaged 75 a day. From September 1, 1931, to April 30, 1932, the

Southern Pacific, with 9,130 miles of track, recorded 416,915 trespassers ejected. * * * In Kansas City, in May, the railroad men emphatically stated that a conservative estimate of the men and boys riding the freights through that city at that time was 1,500 per day. In general, the estimates as to what proportion of these freight riders are under 21 clustered in the neighborhood of 20 to 25 percent. This is borne out by the sample counts where ages were recorded.

Reports from shelters and other local agencies confirmed these estimates. The Volunteers of America in Phoenix, Ariz., fed and lodged 1,529 different boys under 21 during the 3½ months ending April 4, 1932. Yuma fed approximately 30,000 men and boys at its soup kitchen from November 1 to March 15, of whom at least one-fifth were estimated to have been under 21. At El Paso, Tex., during April and May, the Salvation Army reported feeding and lodging 9,551 men and boys, of whom 2,059 were under 21.

There was much testimony that these boys, who came from practically every State in the Union, represented, in the main, substantial American families. High-school students were not uncommon among them, and the class of professional wanderers was not conspicuous.

Social workers, police, and railroad men, who are in constant touch with these boys, assert their belief that the overwhelming majority of them are young men and boys who would normally be in school or at work; that they are "on the road" because there is nothing else to do—sometimes because sheer pride will not permit them to sit idle at home—sometimes because support for the whole family came from a relief agency and was wholly inadequate properly to feed the younger children; that they are, on the whole, not of the habitual hobo or criminal types.

Treatment Received

For the most part the communities through which they passed were too heavily burdened with the care of their own unemployed to be able to give these wanderers intelligent and effective aid.

The local agency charged with service to transients will usually give him lodging for one night and two meals. Then he must move on. In the urban centers the time limit is sometimes a little longer. But in the whole mass of evidence assembled the universality of the policy of keeping these wanderers moving stands out conspicuously. Shelter facilities range all the way from a basement jail devoid of sanitary arrangements or from permission to sleep in the sandhouse on railroad property, where the warmed sand lends some degree of comfort on a frosty night, up to a well-regulated lodging house, with beds equipped with fresh linen, and with bathing arrangements and a place to launder soiled clothing. In cities where conservation of resources is a primary consideration, the food given the transients has sunk to a dead level of monotony. Coffee, bread, beans, and an occasional vegetable stew constitute the menu at station after station. Occasionally persons with imagination and initiative have found ways to vary this diet at a little increase in cost. Riding freights and hitch-hiking are hard on clothes and shoes. Cities are now providing little help in this line to nonresidents. Medical care for those sick as a result of exposure or hardship is practically not to be had until the sufferer is in an obviously serious condition. Except in a very few of the larger cities no case work, even of the most rudimentary character, is attempted. In most places a simple form of registration, varying greatly from place to place, is all that is undertaken.

The effect of such conditions upon boys, many of them accustomed to decent standards of living, needed no elaboration, and the survey did not labor the point. Instead, it pointed out briefly the lines along which improvement was needed. Community action, both preventive and protective, was called for. The first object of the preventive program was to induce the boys to stay at home. Where work could not be found, more adequate relief was one measure indicated; others were plans for keeping up the morale of energetic boys in their enforced

idleness, such as diversifying and enlarging school curricula, instituting trade courses when possible, making all the school equipment for recreational and vocational training available for evening use by community groups, opening gymnasiums, athletic fields, and parks to wider use, and establishing special projects suitable to local circumstances. Along the lines of protective action each community should plan for more careful treatment of the youthful transients stranded within their bounds. Provision should be made for food and shelter of acceptable standards, for registration and interviewing, and for a training program for those who cannot be sent home and who should not be passed on. Not all cities could afford to undertake such a program, but some might, and each center of this kind would help to diminish the proportions of the problem.

Child Labor in the Sugar-Beet Fields

THE report (1934) of the committee appointed by the Secretary of Labor to study economic conditions in the sugar-beet industry brought together data on labor conditions and policies and production costs, which had been gathered by various agencies over a period of 14 years. Data on current wages were secured through the cooperation of county agents of the Extension Division of the United States Department of Agriculture in the sugar-beet growing areas.

Organization of the Industry

THE sugar-beet grower operates under contract for both his labor and his crop. The initial contract is with the sugar refiner, under which the refiner, or processor, agrees to take the crop and supervise its cultivation. Under the contracts of most of the larger processing companies, the grower receives half the proceeds from the sale of the sugar from his beets, less the selling expenses. The contract guarantees a minimum price for the crop.

The grower then makes contracts for the hand labor necessary to cultivate and harvest the crop, under which the laborers agree to do the hand work on a stipulated number of acres at a set price per acre. Bonuses are sometimes added if the production per acre is higher than a fixed amount.

Hand labor is required for three processes: Blocking and thinning in the spring; hoeing and weeding during the summer; and pulling and topping in the fall. The thinning process is done chiefly by children, who crawl on hands and knees from bunch to bunch throwing out the superfluous seedlings. This work is done under pressure and frequently for long hours per day, since it must be done at an early stage of the plant's development.

Labor Conditions

THE migratory contract laborers in the sugar-beet fields are usually foreigners. In Michigan many are north Europeans (Germans and Russians); in Colorado they are largely Latin Americans or Mexicans; while in California a fairly large proportion of Hawaiians, Filipinos, and Japanese are employed. Living conditions and standards are

those commonly found where agricultural laborers are housed in groups in or near the premises. The usual quarters of a family of beet workers consist of a tent, a shack, or an adobe house of 2 rooms, each 12 feet square. Surveys which have been made have found families averaging 6 persons, and occasionally as many as 12, living in these overcrowded and inadequate quarters, with scant attention being paid to sanitation or cleanliness.

The working season is from about the middle of April to the first of November as a rule. In the spring and fall, during the periods of greatest activity the workday is generally 10 to 12 and often 14 hours long.

Child labor has always been an outstanding feature of beet work. Rarely does an individual without a family undertake a contract. Children as young as 10 and 11 years of age work regularly in the beet fields, for the same hours as adults, and are kept out of school for this purpose. In a study made in 1920, 85 percent of the children were found to be working 9 to 14 hours a day in thinning, and 75 percent from 9 to 13 hours in pulling and topping.

Children of these families miss a great deal of time from school. In Colorado numbers leave school in the middle of April to do the thinning, and do not return until the middle of November, after the harvest is over.

In the summer of 1933, children under 16 numbered 14,743 out of a total of 110,354 contract workers employed on the 1933 crop.

Wages

COLORADO is the leading sugar-beet-growing State. In 1920, according to a Children's Bureau study, the average contract price to workers in the Colorado beet fields was \$33.71 an acre, the highest ever paid. One-third of the families studied received between \$800 and \$1,200 for their summer's work, 29.6 percent received less than \$800, and the median earnings for the season were \$1,002.55. The average rate per acre in 1924 was \$23.72; in 1933 it was \$12.37. Rates as low as \$8 an acre were reported in the 1933 survey made by county agents of the Department of Agriculture. Moreover, the low-wage condition of recent years has been aggravated by the difficulty which workers have had in collecting the amounts due them. The average rate per acre in 1933 for the country as a whole, based upon reports from the county agents covering approximately half the workers, was \$13.87. An average income of \$312 for the season was indicated in a brief survey by the National Child Labor Committee in 1933, substantiated by the reports from the county agents.

Employment of Children in Newspaper and Magazine Distributing

IN ORDER to provide a factual basis for determination of standards governing the employment of children in newspaper and periodical distribution, the Children's Bureau of the United States Department of Labor, in cooperation with the Research and Planning Division of the National Recovery Administration and upon the request of that

agency, made a rapid sample field survey of children under 16 years of age engaged in this work.⁵

The survey covered 4,210 children in 17 cities⁶ and was conducted with the advice of school authorities and of officials enforcing street-trade regulations, in order to cover neighborhoods in which children were known to be engaged in this work. In most of the schools selected, which included parochial as well as public schools, a canvass was made of all the children under 16 years of age engaged in newspaper or magazine distribution. In this way a representative sample of children in this type of street work was obtained. The schedule covered age at last birthday, and the number of hours worked and actual net earnings during the week preceding the interview. Because of important differences in conditions of work and employment policies between street work and route work, the study divided newsboys into sellers and carriers. Magazine work was not so divided, however, because no hard-and-fast lines could be drawn between delivering to regular customers and selling.

Neither the Newspaper Publishing Code nor the Graphic Arts Code set a minimum age for carriers, and only the Graphic Arts Code limited the age of sellers, which it placed at 14. The study was confined to children under 16, as that is the group to which child-labor regulations are usually applied. The codes limited night work for sellers but not for carriers, and while they stipulated that any work must be done outside school hours they set no actual limitation on total hours. Night work for sellers was prohibited between 7 p. m. and 7 a. m. from October 1 to March 31, and between 8 p. m. and 7 a. m. from April 1 to September 30.

Comparisons were made between conditions in 1934 and in 1922-26, as earlier and more extensive studies had been made by the Children's Bureau during those years in four of the cities covered in 1934. Comparing these two sets of data, the report found a striking tendency on the part of newspaper distributors to employ older children, while the practice of using very young children in magazine distribution had increased markedly.

Newspaper Sellers

NEWSPAPER sellers are younger than the carriers, and they work much later at night, although early morning hours are not usual. While the median age of sellers in the 1934 study was more than a year higher than that in the earlier studies, the average age of 1,259 sellers interviewed in 1934 was under 14 years. Sixteen percent were under 12, 4 percent being under 10.

The 1934 survey showed that a notable improvement in the matter of night selling had taken place in some places, although 54 percent of the children were reported as working until 7 p. m. or later in the evening on both school days and Saturday. Just one-fourth of the newsboys in all cities worked until 8 p. m. or later on school days, and 34 percent on Saturday; 80 of the total number of newspaper sellers

⁵ U. S. Department of Labor. Children's Bureau. Publication No. 227: Children Engaged in Newspaper and Magazine Selling and Delivering. Washington, 1935.

⁶ Atlanta, Ga.; Baltimore, Md.; Buffalo, N. Y.; Chicago, Ill.; Des Moines, Iowa; Detroit, Mich.; Fall River, Mass.; Los Angeles, Calif.; Louisville, Ky.; Memphis, Tenn.; New Haven, Conn.; Omaha, Nebr.; Paterson, N. J.; San Francisco, Calif.; Washington, D. C.; Wilkes-Barre, Pa.; and Youngstown, Ohio.

interviewed did not quit selling until 10 or after during the week, and on Saturday night 99 boys worked between 10 p. m. and midnight, and 49 until midnight or later.

Median weekly earnings and median weekly hours by age groups showed that the youngest boys worked the longest hours and earned the least.

	<i>Earnings</i>	<i>Hours</i>
All ages.....	\$1. 41	15. 6
Under 12 years.....	. 82	17. 8
12 and 13 years.....	1. 30	15. 4
14 and 15 years.....	1. 82	15. 4

Irrespective of age, 17 percent of the 1,208 boys reporting earnings earned less than 50 cents for the week studied, 36 percent earned less than \$1, two-thirds of them earned less than \$2, and only 7 percent earned \$4 or more.

While the survey was intended to cover mainly earnings and hours, much related material dealing with working conditions was obtained during the interviews with persons connected with various aspects of the study. Evidence gathered in that manner suggested that progress had been made since the days of the previous studies in eliminating some of the most unwholesome influences surrounding the newsboy in the course of his work.

Newspaper Carriers

NEWSPAPER carriers are subject to even less stringent regulations through street-trade laws and ordinances than are newspaper sellers, and the N. R. A. codes fixed no minimum age for this group. Nevertheless, the report stated that some newspapers had adopted the policy of taking on no carriers under 14, and a few, none under 16. The depression, also, had tended to raise the age of the carriers, because boys unable to find other work had kept their routes. Nearly everywhere the investigators found large numbers of high-school boys and some college students still serving papers. This general trend toward older carriers was reflected in the proportion of children under 12 (in the group under 16), which had dropped from 30 percent in the 1922-26 period to 6 percent in 1934. Sixty-one percent were 14 and 15 years of age as compared to 32 percent in the earlier studies.

Early morning deliveries on week days were reported by only 16 percent of the carriers, but among those who had morning routes, 44 out of 69 in one city started work before 4 a. m. and the remainder before 5 a. m. Of the boys who started delivery some time between 3 and 5 a. m., 14 were 13 years old and 10 were 12 years old.

The time consumed in the actual delivery of papers was, on the average, a little more than an hour a day. But, the report points out, the "little-merchant" system, which had become the employment policy of most newspaper publishers, influenced both hours and earnings. Time must be spent in soliciting new subscribers and holding those disposed to discontinue their subscriptions, in making collections, and in keeping records and accounts. As a result of the little-merchant system, the report says "the carrier boy is often considered the paper's chief agent in building up circulation", although it "often entails a task out of all proportion to the pay and to the matu-

city of a grade-school boy." Delivering took very few of the boys (6 percent) as much as 15 hours a week, but when the time spent in soliciting, collecting, and keeping records was included, it was found that 24 percent of the boys spent 15 hours or more a week, and 10 percent spent 20 hours or more a week.

Earnings were affected by the little-merchant system, because as a rule the boy bought the papers outright at wholesale rates and had to pay his bill weekly. He collected from his customers weekly, bi-weekly, or monthly, and was moreover responsible for the collection of bad debts without, in most cases, having the authority to suspend delivery to nonpaying subscribers. For the week scheduled, the median earnings for all the newspaper carriers included in the study were \$1.87. The distribution of weekly earnings was as follows:

	<i>Percent</i>
Total reported.....	100
Less than 50 cents.....	11
50 cents, less than \$1.....	16
\$1, less than \$2.....	26
\$2, less than \$3.....	21
\$3, less than \$4.....	13
\$4, less than \$5.....	7
\$5 or more.....	6

These earnings were frequently subject to deductions aside from inability to collect from subscribers. Fining systems were used by some circulation managers, by which fines were assessed for such matters as nondelivery, failure to attend a district meeting or coming in late, or for complaints against the boy by subscribers for any reason. Purchase of equipment was also required in some cities, and a common practice was to require that the boys buy and carry with them extra papers, which, the managers explained, were necessary to replace stolen, wet, or torn copies. The complaints of the boys against this practice, however, suggested that its primary purpose was to increase circulation.

Bonuses, contests, prizes, and the like were constantly held out to the carriers as incentives to enlarge their routes. One practice, according to the report, was particularly objected to by teachers, parents, and social agencies. This was the holding of rallies in the evening at which the district manager gave a "pep talk" and then sent the boys out in crews to canvass given neighborhoods.

Magazine Sellers and Carriers

CHILDREN engaged in magazine distribution were, as a group, younger than either newspaper sellers or carriers, 10 percent of those studied being under 10 years of age, 33 percent under 12, and 80 percent under 14. Both hours and earnings varied greatly. Hours were determined by the field covered—that is, whether the child delivered only to customers, canvassed houses and apartments in his own neighborhood, or sold in downtown areas, office buildings, restaurants, etc. Hours were longest in the latter case, and often extended into the night. The following information was given for a group of 315 children who sold only weekly publications:

Weekly earnings of—	Number of children	Range of weekly hours
Less than 10 cents.....	78	$\frac{1}{4}$ –21 $\frac{1}{2}$
10 cents, less than 20.....	92	$\frac{1}{4}$ –24 $\frac{1}{2}$
20 cents, less than 30.....	48	$\frac{1}{2}$ –17 $\frac{1}{2}$
30 cents, less than 40.....	39	$\frac{1}{2}$ –25 $\frac{3}{4}$
40 cents, less than 50.....	10	$\frac{1}{2}$ –23
50 cents, less than \$1.....	36	1–17 $\frac{1}{2}$
\$1 or more.....	12	3–20 $\frac{3}{4}$

Earnings represented commission on sales, which, for the 5-cent weeklies, was generally 1½ cents a copy and for monthly magazines, from 3 to 6 cents a copy. The chief incentive, however, was admitted by the distributors and the children to be the prizes rather than the small earnings. Some children, according to report, worked for prizes only, and some received no money at all unless they sold the stipulated number of copies. To illustrate, "an 8-year-old boy put in 21 hours, covering 6 days, and had no cash earnings. He had spent 2 weeks making the 24 sales required for earning a bag of marbles. He was about to begin working for money."

Industrial Accidents to Employed Minors in California in 1932⁷

EACH year minors in considerable numbers are injured in the course of their employment. When an injury to a minor results in permanent disability, he suffers a lifelong handicap which may affect him not only physically and financially, but psychologically. Efforts to protect minors against occupational hazards through improved child-labor legislation must be based on information concerning industrial hazards and the severity of injuries. The data following are based on records of accidents filed with the California Industrial Accident Commission, and information was obtained concerning minors under 18 years of age who were injured in the course of employment in California during the calendar year 1932—age, sex, occupation, cause of injury, nature and severity of injury, cost of medical care, and amount of compensation paid.

The California compensation law requires detailed reports of all accidents (including agricultural accidents) causing disability lasting beyond the day of injury, or requiring medical treatment other than first aid. California is one of the few States in which minors who sustain permanent injuries receive compensation based upon what they would probably have earned in the future had they not been injured, rather than upon their earnings at the time of their injury. Finally, California accident statistics show what happens to minors between 16 and 18 years in a State in which the child-labor law fails to protect this group from hazardous employment. Although the California child-labor law prohibits minors under 16 from employment in a fairly comprehensive list of dangerous occupations and processes, once a child is past 16 years of age, any occupation, no matter how dangerous, is open to him.

⁷ Summary of article by Marian Faas Stone in *Monthly Labor Review*, November 1934 (p. 1078). This study was made in consultation with the Industrial Division of the U. S. Children's Bureau.

Provisions of California Compensation Law

IF AN employee in California sustains "any injury or disease arising out of his employment", he is entitled to medical and surgical treatment and hospital care at the employer's expense up to an amount deemed reasonable by the industrial accident commission which administers the workmen's compensation act. If his disability lasts more than 7 days, he is entitled to compensation—65 percent of his average weekly wages (but not less than \$4.17 nor more than \$25 a week) for a period varying according to the nature and duration of the injury. In certain cases of permanent and severe disability the payments continue for life. No distinction is made by the law between injuries sustained by minors in the course of legal employment and those sustained in the course of illegal employment.

If injury to a minor results in a permanent disability—loss of fingers, toes, arms, or legs—or results in impairing the use of a member, compensation is based upon the degree to which his future earning power is impaired. "Average weekly earnings" in such cases are deemed to be the weekly sum that under ordinary circumstances the injured person would probably earn at the age of 21 in the occupation in which he was employed at the time of the injury or in any occupation to which he would reasonably have been promoted if he had not been injured. Although an injured minor is never fully compensated for his loss, the "probable future earnings" clause often results in doubling or tripling the amount he would otherwise have received.

Number, Age, and Sex of Injured Minors

THE total number of accidents reported to minors under 18 in 1932 was 618. All but 10 of these cases were closed by April 1, 1933, and it is the 608 closed cases that are considered in the report. Compensation was denied in six cases on grounds that the accident was non-industrial, and therefore outside the jurisdiction of the compensation law.

Of the 608 injuries to minors, 535 were sustained by boys and 73 by girls. Of these injuries, 76 percent occurred to young people 16 or 17 years of age, 15 percent to children 14 or 15, 7 percent to children 12 or 13, and 3 percent to children under 12. Four of the injured children were less than 10 years old; the youngest was a girl of 8 years.

The chief danger to girls seems to be in manufacturing industries, in which 63 percent of all the injuries to girls occurred, followed by domestic and personal service with 12 percent of the total and trade with 11 percent. As far as is known, none of the girls suffered permanent disability. Among the boys there were 6 deaths and 13 cases of permanent partial disability ranging from a 1-percent to a 37-percent disability.

Of the 504 temporary disabilities 48 percent lasted more than 1 week; 34 percent longer than 2 weeks; 19 percent longer than 4 weeks; and 6 percent 8 weeks or more. In 85 cases the degree or duration of disability was not reported.

In spite of the greater legal protection afforded to the boys and girls under 16 than to those of 16 and 17, accidents to minors under 16 were often more serious than those to the older ones. Four of the 6 deaths occurred in the younger group. The proportion disabled for more than

7 days was somewhat higher for those under 16 than for those over 16. Evidently there are still gaps in the measures designed to protect the younger group. The most serious permanent disabilities, however, occurred in the older group.

Causes of Accidents

THE most serious accidents, judged by the fatalities, permanent disabilities, duration of temporary disabilities, and amounts paid for medical service and for compensation, were attributed to the following causes: Vehicles, machines, "explosions, burns, etc.", handling objects, and falls of persons. Although fewer serious injuries resulted from hand tools, stepping on or striking against objects, falling objects, animals, and miscellaneous causes, a third of all the accidents reported as occurring to minors during the year were ascribed to these causes, and one of these accidents left a permanent partial disability.

Occupational Distribution of Injured Minors

THE five principal hazards enumerated occurred chiefly in the following occupations: Clerical, messenger, and delivery service, and transportation, manufacturing and mechanical industries, agriculture, and trade.

Clerical, messenger, and delivery service, and transportation.—Of the 169 accidents in the clerical, messenger, delivery, and transportation group, 70 happened to newspaper carriers, 47 to "outside" messengers, and 32 to boys working on trucks. Four newspaper carriers, all under 16 years of age, were killed, but were declared ineligible for death benefits. The reasons are worth noting, for they point to significant weaknesses in the compensation law. One case was barred under a clause in the law that exempts independent contractors, including persons engaged in selling or delivering newspapers and periodicals, when the title to such newspapers and periodicals has passed to the person so engaged. Three cases were declared ineligible on the ground that the minor left no dependents.

Four newsboys who received serious injuries in the course of their employment were declared ineligible for compensation on the ground that they were independent contractors, not employees.

Of all disabilities lasting 8 weeks or longer, about half (14 out of 31) occurred in the clerical, messenger, and delivery group, involving newspaper carriers, outside messengers, and truck helpers.

Of a total of 138 vehicular accidents reported, 65 happened to boys who were riding bicycles at the time of the accident. Three deaths resulted, and 10 temporary disabilities lasting more than 4 weeks. Twenty-eight of the 65 boys in bicycle accidents were under 16, and 40 were 16 or 17 years old. The five motorcycle accidents all happened to 17-year-old boys.

Manufacturing and mechanical industries.—In spite of sharply reduced employment in manufacturing and mechanical industries, the group still ranked second among the major occupational groups in the number of accidents occurring to minors in 1932.

It is significant that in the food-products industries—which in general have been affected relatively little by unemployment—about the same number of minors were injured in 1932 as in 1927. In 1932 food processing ranked as the most dangerous manufacturing industry

for minors in California, and most of these accidents occurred in canneries.

In 1932 four of the injuries in food industries left permanent partial disabilities. The most serious of these, rated as a 14¼-percent disability, happened to a 17-year-old apprentice in a bakery while he was cleaning a dough mixer in motion.

Most of the cases of occupational disease reported were forms of dermatitis caused by handling fruit or vegetables in the process of canning.

The most serious disability to any minor whose injury was reported in this study occurred to a printer's apprentice, aged 16. While operating a printing press the boy caught his right hand in the press, crushing the hand and rendering it almost useless.

Agriculture.—Agriculture, an important occupation in California, is one for which accident statistics are available in few States. In point of number of accidents, agriculture was in 1932 the third most dangerous industry; for boys alone it ranked second. In 1932 no permanent partial disabilities were reported in agriculture, but a large proportion of the minors who lost more than 8 weeks' working time were injured in agriculture, and there was one fatality—a 16-year-old boy fatally burned when the gasoline tank of a farm tractor exploded. This case was declared outside the jurisdiction of the compensation law and neither burial expense nor death benefit was allowed.

Agricultural hazards were varied, as is shown by the fact that among the principal causes of injury were handling objects and stepping on and striking against objects (44 cases), vehicles (19), falls of persons (16), animals (16), hand tools (15), "explosions, burns, etc." (7). Machines caused 4 accidents. Agriculture includes a large number of distinct occupations, and the reported accidents occurred in connection with such diverse activities as herding cattle, picking fruit, cultivating cotton, sawing wood, and felling trees.

Trade.—Ninety-two accidents, 15 percent of all those reported in 1932, occurred to minors employed in trade. Although mercantile establishments are commonly thought of as safe, it is a curious fact that the chief hazards in manufacturing also occur with marked frequency in trade. Handling objects, hand tools, stepping on or striking against objects, and machinery caused the most numerous and most serious accidents.

Public and professional, personal, and domestic service.—Although the accidents occurring in public and professional, personal, and domestic service for the most part caused disabilities of short duration, they were responsible for 1 fatality and for 2 permanent partial disabilities. Both of the permanent disabilities were due to gross negligence on the employer's part.

Cost of Accidents

THE total number of cases covered by this study for which expenditures for medical, surgical, and hospital care were reported was 493; the total expenditure was \$16,105.13, or \$32.66 per child. Accidents caused by machinery cost the most for treatment—\$51.71 per case. Next came accidents caused by vehicles, with an average expenditure of \$46.61 per case. It should be borne in mind, however,

that in a number of cases of serious accident caused by vehicles no compensation was paid, because it was held that they were not covered by the law. Accidents caused by hand tools and by falls also necessitated per-capita expenditures slightly above the average for accidents as a whole.

Fifty-two percent of all the reported injuries in employments covered by the law were compensable; that is, the disability lasted longer than 7 days. In the 222 cases for which the amounts paid in compensation were reported, a total of \$13,874.22 was paid, or \$62.50 per case. The largest amounts were paid in compensation for 31 injuries caused by machines—close to \$8,000, or more than half the total disability indemnities. Minors injured in accidents caused by vehicles received less in compensation, a total of \$2,000 distributed over 67 cases, but this is in part due to the fact that the law permitted many accidents to carriers to go uncompensated. "Explosions, burns, etc.", occasioned compensation payments totaling \$1,288 for 12 cases.

Accidents causing permanent partial disabilities, 8 of which were caused by machinery, involved the largest expenditures, as 5 of the fatal accidents, in which cases payments under the law would have been large, were declared ineligible for death benefit.

Minors Injured While Illegally Employed

As HAS been pointed out, no distinction is made by the California workmen's compensation act between injuries sustained by minors in the course of legal and of illegal employment. Fifteen boys under 16 years of age were injured while driving or cranking motor vehicles or delivering goods from them—employment which is prohibited by an order of the industrial commission under the child-labor law. Of these 15 boys, 5 were employed by farmers or ranchers, 7 by dairies, 2 by grocery stores, and 1 by a distributor of magazines. Five minors who were injured by machinery appear to have been illegally employed.

In addition, several accidents which appeared to involve illegal employment cannot be satisfactorily so classified, as the necessary facts are not fully established.

COOPERATIVE MOVEMENT

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Cooperative Movement in the United States in 1933

THE Bureau of Labor Statistics made its first statistical study of the cooperative movement in the United States in 1920. That study covered only the consumers' societies and the collective-buying activities of the farmers' marketing organizations. In each of the years 1925 and 1929 similar surveys were made, which covered not only distributive societies but also housing, credit, and workers' productive associations. A fourth study covered the operations in 1933.¹ Except where otherwise noted, the data below are taken from the 1933 study.

During the early part of the century a slight revival of interest in consumers' cooperation took place. This gradually increased in intensity, reaching its crest in the years of high prices during and immediately following the World War, when about two-fifths of the consumers' societies were formed. A large part of these were short-lived, however, due to inexperience and inability to meet the rapidly falling prices in 1920-21. During the general depression that followed, the societies generally experienced very difficult times.

At the time when the Bureau's last previous survey was made (covering the year 1929) the societies were just recovering from the losses sustained during the depression of 1921. Even in 1929, however, societies in the textile, mining, and railroad centers were reporting difficulties caused by unemployment of their members, with its accompanying loss of buying power. Discord over political questions, notably communism, was causing considerable trouble and resulting in loss of membership and business in some places; this came to a head in 1930, causing a schism in a number of societies and the formation of several new organizations by dissenting minority groups.

The reports received in connection with the latest survey showed the now familiar conditions of sudden and unexpected losses by both societies and their members from the bank failures of the depression period, the consequent unusual demands upon the societies for credit, the continuously increasing unemployment, and the loss of purchasing power of members due to short-time work or total unemployment, or to wage cuts. These conditions caused the failure of a considerable number of the societies. Nevertheless, the sounder and more stable societies survived, and these, it is worthy of note, were even able to effect substantial savings for their members. In spite of or perhaps because of the depression, which has necessitated recourse to any measures which promise a way out of present difficulties, many new societies have been formed.

¹ The results of the surveys were published as Bulletins Nos. 313, 437, 531, and 612.

In the distributive field, both retail and wholesale, the outstanding features of the past 4 years have been the emergence of the cooperative oil associations as one of the most important factors in the consumers' cooperative movement and the formation of National Cooperatives, Inc., a wholesale organization now dealing only in petroleum products but expected to develop into a national wholesale association for the whole consumers' movement.

The credit societies have continued to expand in both the legislative and organization fields.

While the cooperative productive enterprises continue to form a very small part of the cooperative movement as a whole, they have held their ground remarkably well during the depression.

Table 1 gives summary data for the various types of organizations included in the study.

TABLE 1.—OPERATIONS OF COOPERATIVE SOCIETIES IN 1933

Type of society	Total number of societies listed	Number of societies reporting	Number of members	Paid-in share capital	Reserves	Total resources
Consumers' societies:						
Local societies:						
Store societies.....	878	235	76,160	\$2,774,664	\$1,865,751	\$10,881,422
Distributive departments of marketing associations.....	176	35	6,500	635,826	240,728	1,224,170
Gasoline and oil associations.....	616	398	127,243	2,395,677	1,378,571	5,770,907
Bakeries.....	10	4	2,618	33,845	19,701	228,825
Creameries.....	3	1	3,950	845,700	143,525	1,188,477
Restaurants and boarding houses.....	20	8	4,752	92,233	214,262	324,350
Laundries.....	1	1	20	650	-----	836
Funeral associations.....	38	9	3,321	29,001	7,451	58,334
Publishing societies.....	7	1	419	43,750	11,660	207,466
Water-supply societies.....	17	2	308	14,800	(²)	19,631
Trucking associations.....	1	1	(³)	1,905	1,156	3,151
Insurance societies.....	9	7	100,395	-----	-----	-----
Housing societies.....	48	22	840	950,058	-----	2,940,470
Hospitals.....	1	1	1,602	81,000	-----	-----
Total, local societies.....	4,815	725	328,278	7,899,009	3,882,805	22,848,039
Wholesale societies handling--						
Household supplies.....	11	4	⁴ 636	560,132	146,326	1,207,169
Gasoline and motor oils.....	10	5	⁴ 288	141,353	226,456	725,128
Educational organizations:						
National.....	1	1	⁴ 1,498	-----	-----	-----
Regional.....	10	2	⁴ 26	-----	-----	-----
.....			⁴ 49	-----	-----	-----
Total, consumers' societies.....	4,847	737	4,328,304	8,600,494	4,255,587	24,780,336
Credit unions.....	2,016	1,772	359,646	22,457,861	2,372,711	35,496,668
Workers' productive societies.....	18	8	1,181	1,234,704	504,590	-----
Grand total.....	4,881	2,517	4,689,131	32,293,059	7,132,888	60,277,004

¹ Includes 1 electricity-supply society.

² 1 society reported a deficit of \$3,250.

³ 14 cooperative societies are members of this association.

⁴ Does not include 2 garages, 1 cleaning and dyeing society, and 4 social and recreational associations from which no reports were received.

⁵ Number of affiliated societies.

⁶ Individuals; does not include 2,471 societies affiliated to wholesales and educational bodies.

TABLE 1.—OPERATIONS OF COOPERATIVE SOCIETIES IN 1933—Continued

Type of society	Amount of business done, 1933	Net gain, 1933	Amount of interest paid on share capital, 1933	Amount returned in patronage refunds, 1933	Number of employees	Amount paid in wages, 1933
Consumers' societies:						
Local societies:						
Store societies.....	\$14, 372, 118	\$224, 167	\$46, 381	\$169, 701	71, 314	\$1, 232, 343
Distributive departments of marketing associations.....	2, 325, 434	37, 252	13, 698	4, 302	⁸ 139	121, 760
Gasoline and oil associations.....	21, 017, 855	1, 698, 977	91, 906	1, 054, 590	⁹ 1, 117	1, 047, 088
Bakeries.....	408, 366	¹⁰ 7, 967	-----	-----	116	161, 578
Creameries.....	1, 773, 582	¹⁰ 25, 601	-----	-----	385	675, 000
Restaurants and boarding houses.....	398, 942	7, 161	4, 016	1, 382	133	132, 693
Laundries.....	8, 005	¹⁰ 140	-----	-----	8	5, 959
Funeral associations.....	56, 276	2, 496	-----	-----	13	14, 185
Publishing societies.....	61, 742	¹⁰ 902	-----	-----	25	32, 850
Water-supply societies.....	6, 525	¹⁰ 603	1, 185	-----	(¹¹)	(¹¹)
Trucking associations.....	2, 463	1, 156	-----	-----	¹² 2	517
Insurance societies.....	¹³ 112, 144, 062	-----	-----	23, 782	76	115, 664
Housing societies.....	¹⁴ 344, 562	-----	-----	-----	72	44, 762
Hospitals.....	¹⁴ 14, 960	-----	-----	-----	-----	-----
Total, local societies.....	152, 934, 892	1, 935, 996	157, 186	1, 253, 757	3, 400	3, 584, 399
Wholesale societies handling—						
Household supplies.....	2, 787, 230	103, 429	18, 487	65, 096	101	132, 057
Gasoline and motor oils.....	5, 961, 496	63, 933	4, 265	43, 056	203	295, 246
Educational organizations:						
National.....	-----	-----	-----	-----	-----	-----
Regional.....	-----	-----	-----	-----	4	-----
Total, consumers' societies.....	161, 683, 618	2, 103, 358	179, 938	1, 361, 909	3, 708	4, 011, 702
Credit unions.....	¹⁵ 28, 217, 457	¹⁰ 66, 663	999, 293	-----	-----	-----
Workers' productive societies.....	3, 629, 470	¹⁰ 86, 938	-----	-----	1, 097	772, 073
Grand total.....	193, 530, 545	2, 256, 959	1, 179, 231	1, 361, 909	4, 805	4, 783, 775

⁷ Not including 29 part-time employees.⁸ Not including 2 part-time employees.⁹ Not including 5 part-time employees.¹⁰ Loss.¹¹ 4 part-time employees, paid \$1,400.¹² Not including 1 part-time employee.¹³ New insurance written.¹⁴ Total income for year.¹⁵ Loans made during year.

Consumers' Societies

Local Societies

TABLE 2 gives comparative data for each of the years in which the Bureau has made a general survey of the consumers' cooperative movement. As the remarkable development of the gasoline and oil associations since 1925 affects the averages decidedly, the table shows separately data for all types of societies (including the oil associations) and for retail store societies which form the other most important group of organizations.

Average membership per society has, as the table shows, shown a steady increase. A considerable rise is shown from 1929 to 1933. Whether this was due to the hard times of the past few years, impressing upon purchasers the need of making the family income stretch as far as possible, or to increased efforts by societies to bring in new members, the data at hand do not indicate. The store societies showed a particularly gratifying increase, the average membership increasing by one-third during the 4-year period.

Share capital per society shows a continuous fall since 1920 for all societies combined. That of the store societies, however, increased

somewhat from 1929 to 1933. A decline was also registered in share capital per member. For both groups of societies shown in the table average reserve funds increased during the period 1929-33, due possibly to the desire of the societies to insure the business stability of the organization in these uncertain times.

The business done in 1933 by the local consumers' societies aggregated \$40,431,308, nearly three-fourths of which was done by organizations in the North Central States. The store societies and the oil associations, being the two largest groups, naturally accounted for the greatest proportion of sales (about 88 percent of the total). While there were 5 societies each of which had sales of more than half a million dollars, nearly 60 percent of the organizations reporting had a business for the year amounting to less than \$50,000. During the 4-year period 1930-33, the local consumers' societies covered by the study had total sales of more than \$158,000,000. As might be expected during this depression period, average sales per society decreased each year, falling from \$109,000 in 1930 to \$60,000 in 1933.

Of 534 societies which reported the results of their trading operations for 1933, 449 had a gain of \$2,072,302, while 85 sustained a loss of \$136,306. Altogether there was thus a net saving of \$1,935,996, which represented 5.5 percent if figured on sales and 23.5 percent if figured on capital stock. The importance of the oil associations is shown by the fact that whereas their business formed 52 percent of the total consumers' cooperative business, their net earnings formed about 87 percent of the total earnings. In spite of the adverse business conditions the societies were able to effect, during the 4-year period, trading gains amounting to \$7,419,999; of this amount \$5,609,601 was accounted for by the oil associations.

Many societies paid no interest on share capital for 1933; 259, however, were able to do so, but of these 56 failed to report the amount paid in interest. The 203 societies reporting paid the sum of \$157,186. During the period 1930-33 interest paid on stock amounted to \$631,423.

Refunds on patronage—the outstanding feature of the consumers' cooperative movement—were paid on the 1933 business by 265 societies, in the sum of \$1,229,975. During the 4-year period \$4,438,619 was paid in this way.

Thus, as the figures show, during the worst depression that the present generation has known, when most investments have made little or no return, the cooperative societies have been able to save for their members, in interest and patronage rebates, more than 5 million dollars.

TABLE 2.—DEVELOPMENT OF CONSUMERS' COOPERATIVE SOCIETIES, 1920 TO 1933

Item	1920	All societies			Retail store societies		
		1925	1929	1933	1925	1929	1933
Number of societies reporting	1, 009	479	656	695	431	422	235
Membership:							
Total	260, 060	139, 301	204, 368	225, 441	119, 760	123, 317	76, 160
Average per society	269	310	336	389	293	303	407
Employees:							
Number	(3)	(3)	4, 046	3, 252	(3)	2, 222	1, 314
Average per society	(3)	(3)	7	7	-----	5	7
Share capital:							
Total	\$11, 290, 973	\$6, 499, 574	\$7, 987, 090	\$6, 867, 951	\$5, 255, 534	\$4, 653, 197	\$2, 774, 664
Average per society	\$17, 056	\$16, 455	\$13, 607	\$12, 352	\$14, 518	\$12, 149	\$12, 966
Average per member ¹	\$59	\$68	\$45	\$37	\$63	\$46	\$43
Reserve funds:							
Total	\$1, 614, 483	\$2, 407, 676	\$4, 324, 375	\$3, 882, 805	\$2, 168, 190	\$2, 875, 296	\$1, 865, 751
Average per society	\$5, 142	\$9, 442	\$7, 379	\$9, 956	\$9, 266	\$7, 261	\$12, 522
Amount of business:							
Total	\$80, 104, 935	\$49, 710, 788	\$64, 665, 369	\$40, 431, 308	\$40, 745, 610	\$37, 697, 560	\$14, 372, 118
Average per society	\$103, 751	\$100, 964	\$100, 725	\$60, 435	\$96, 647	\$90, 619	\$62, 760
Net earnings: ²							
Total	\$446, 824	\$1, 582, 100	\$2, 980, 481	\$1, 935, 996	\$1, 291, 309	\$1, 305, 671	\$224, 167
Average per society	\$2, 828	\$4, 753	\$5, 257	\$3, 625	\$4, 262	\$3, 637	\$1, 144
Rate (percent) computed on—							
Sales	(3)	(3)	3.0	5.5	4.0	3.8	1.7
Share capital	(3)	(3)	(3)	23.5	(3)	26.8	8.9
Interest paid on share capital:							
Amount	(3)	(3)	\$337, 587	\$157, 186	(3)	\$173, 217	\$46, 381
Average per society	(3)	(3)	\$895	\$774	(3)	\$568	\$760
Patronage refunds:							
Total	\$350, 354	\$753, 791	\$1, 408, 879	\$1, 229, 975	\$683, 726	\$693, 777	\$169, 701
Average per society	\$5, 092	\$4, 562	\$4, 943	\$4, 641	\$4, 440	\$4, 564	\$2, 926

¹ Based on societies which reported both capital and membership.

² After deducting losses of those societies which sustained a loss.

³ No data.

⁴ And 7 part-time employees.

⁵ And 41 part-time employees.

Housing societies.—Reports were received from 21 cooperative housing societies owning apartment buildings; of these 13 were in Brooklyn and 8 were in Manhattan and the Bronx. Details of operation of these societies are given in table 3.

TABLE 3.—SHAREHOLDERS, TENANTS, AND ASSETS OF COOPERATIVE APARTMENT SOCIETIES, END OF 1933

Item	Cooperative apartment buildings in—		Total
	Brooklyn	Manhattan and Bronx	
Number of shareholders (members)	331	295	626
Number of apartments occupied by—			
Members	229	255	484
Nonmembers	114	89	203
Paid-in share capital	\$400, 540	\$499, 518	\$900, 058
Value of apartment buildings:			
Original	\$1, 502, 220	\$1, 790, 531	\$3, 292, 751
Present	\$1, 072, 329	\$1, 557, 334	\$2, 629, 663
Total assets	\$763, 070	\$1, 456, 740	\$2, 219, 810

Insurance societies.—Reports were received from 7 insurance associations. Of these, 3 write fire insurance (1 on farm property only and 1 on furniture and houses), and 3 write life insurance (2 of these also write health and accident insurance). The seventh organization is Clusa Service, the insurance service of the consumers' cooperative societies federated in the Cooperative League; its function is "to buy

insurance from existing insurance carriers to the best advantage of the assured." The insurance so purchased includes employees' bonds, and fire, casualty, and life insurance, and annuities.

The statement below shows the salient data concerning these insurance societies for 1933:

Number of societies.....	7
Number of policyholders at end of year.....	100, 395
New insurance written in 1933.....	\$6, 007, 152
Total insurance in force at end of year.....	\$112, 144, 062
Premium income, 1933.....	\$803, 496
Claims paid, 1933.....	427, 803
Dividends returned to policyholders.....	\$23, 782
Number of employees.....	76
Amount paid in wages.....	\$115, 664

Central Consumers' Organizations

Federated cooperation is exemplified by two types of societies—the cooperative leagues, which are purely educational and propaganda bodies, and the cooperative wholesale societies, which are commercial organizations. Both types of organizations are owned and controlled by the constituent local cooperative societies. The wholesales are capital-stock associations whose shares are held by the member societies, but the leagues are nonstock organizations financed by dues paid by the locals.

The chief development of the past decade has been the formation of wholesale societies handling only petroleum products. The first of these was the Midland Cooperative Wholesale, formed (as the Minnesota Cooperative Oil Association) in 1927. Another significant step was the formation, in 1933, of National Cooperatives, Inc. Profiting from the experiences of 1919–21 and the disastrous failure of the wholesale organization started then with the idea of its becoming a Nation-wide wholesale, the new wholesale is proceeding cautiously, acting rather as jobber than as wholesaler, and doing joint buying of petroleum products, tires, etc., for the six district wholesales which are its members and backers.

Table 4 gives comparative data for 1929 and 1933. The striking feature of this table is the rapid development of the cooperative oil wholesales.

TABLE 4.—DEVELOPMENT OF COOPERATIVE WHOLESALE SOCIETIES, 1929 AND 1933

Item	Wholesale societies handling—			
	Household supplies		Gasoline and motor oils	
	1929	1933	1929	1933
Number of societies reporting.....	6	4	2	5
Number of affiliated societies.....	351	636	45	288
Number of retail branches.....	34	13		37
Number of unaffiliated customers.....	20	82	195	88
Share capital.....	\$483, 312	\$560, 132	(1)	\$141, 353
Reserve funds.....	\$135, 308	\$146, 326	(1)	\$226, 456
Amount of business.....	\$10, 371, 060	\$2, 787, 230	\$757, 274	\$5, 961, 496
Net gain.....	\$297, 111	\$103, 429	\$12, 720	\$63, 933
Amount returned in patronage refunds.....	\$225, 500	\$65, 096	(2)	\$43, 056
Interest paid on share capital.....	\$26, 864	\$18, 487	\$206	\$4, 265
Number of employees.....	132	101	5	203
Amount paid in wages.....	(1)	\$132, 057	(1)	\$295, 246

¹ No data.

² 1 society returned 15 percent of the gross profits, amount not reported.

Credit Societies

THESE credit societies, commonly called "credit unions" in the United States, are organizations of persons perhaps the majority of whom do not have and may never have had any banking connections. They are designed to fill the credit needs of workingmen and other small borrowers who can find few other sources of credit at moderate rates.

Cooperative credit societies have increased very greatly in number since 1925. On the other hand, a considerable number have gone out of existence since the Bureau's last general survey, covering the year 1929. To what extent these dissolutions were the result of the depression the data at hand do not show. The reports indicate, however, that some of the dissolutions were those of societies formed among the employees of firms which have failed since 1929.

However, notwithstanding that nearly 300 credit unions reported as having ceased operations since 1925, the number of organizations in business at the end of 1933 was five times that at the end of 1925, having risen from slightly over 400 to more than 2,000. Some 50 percent of these were started from 1931 to 1933.

The membership more than tripled in the same time, having increased from a little over 100,000 to nearly 360,000. Possibly due to the formation of the many new, small societies, the average size of society decreased, having fallen from 612 members in 1925 to 320 members in 1929 and to 215 members in 1933. More than two-fifths of the whole number reporting had fewer than 100 members.

While the average assets per society were small—less than \$5,000, in the case of more than 50 percent of the societies—4 associations were found whose assets were \$1,000,000 or more. The total resources of the societies reporting were \$35,496,668 at the end of 1933.

Table 5 shows the development of the cooperative credit movement in each of the years 1925, 1929, 1932, and 1933:

TABLE 5.—DEVELOPMENT OF CREDIT-UNION MOVEMENT IN SPECIFIED YEARS, 1925-33

Item	1925	1929	1932	1933
Total number of societies.....	419	974	1,612	2,016
Number reported for.....	176	838	1,472	1,772
Membership:				
Total.....	107,779	264,908	301,119	359,646
Average per society.....	612	320	216	215
Share capital:				
Amount.....	\$10,706,099	\$24,065,407	\$21,708,328	\$22,457,861
Average per member.....	\$99	\$92	\$70	\$62
Guaranty funds.....	(1)	\$2,079,450	\$2,110,815	\$2,372,711
Loans during year:				
Total amount.....	\$20,100,356	\$24,548,353	\$16,375,952	\$28,217,457
Average per society.....	\$116,187	\$58,310	\$16,475	\$22,811
Average per loan.....	\$381	\$350	\$156	\$138
Loans outstanding at end of year.....	\$13,390,423	\$30,811,582	\$24,826,291	\$26,391,683

¹ No data.

Workers' Productive Societies

WORKERS' productive enterprises, i. e., businesses owned and operated by the workers themselves, form an interesting though small part of the cooperative movement in the United States. Although this has seemed to be a diminishing phase of cooperation in this country, the rate of decrease has been much smaller during the depression years than might have been expected, there having been a net loss of only two societies since 1929.

Comparison with earlier years shows a gain in average numbers employed, in average share capital, and in average amount of sales. While business fell off very decidedly from 1929 to 1931 in most lines of cooperative production, the recovery registered from 1931 to 1933 was such as to raise the average sales in the latter year above the 1929 level. Reserves have decreased since 1929. Profits practically disappeared in 1933, only 3 of the 8 societies being able to show a gain on the year's operations.

It is the practice in the workers' productive societies to return to the shareholders the gains remaining after provision has been made for reserves, depreciation, etc. During the 3 years from 1930 to 1932, the societies reporting returned in these bonuses the sum of \$105,498. No bonus was paid by any of the societies in 1933.

Comparative data for 1925, 1929, and 1933 are given in table 6.

TABLE 6.—DEVELOPMENT OF WORKERS' PRODUCTIVE SOCIETIES IN 1925, 1929, AND 1933.

Item	1925	1929	1933
Total number of societies.....	39	20	18
Number of societies reporting.....	21	11	8
Shareholders:			
Number.....	2,438	1,405	1,181
Number employed.....	465	421	447
Nonshareholder employees.....	807	236	650
Share capital:			
Amount.....	\$1,025,509	\$808,230	\$1,234,704
Average per society.....	\$51,275	\$73,475	\$154,338
Surplus and reserves:			
Amount.....	\$653,590	\$800,139	\$504,590
Average per society.....	\$72,621	\$100,007	\$63,074
Business:			
Amount.....	\$4,573,329	\$3,847,666	\$3,629,470
Average per society.....	\$238,596	\$349,788	\$483,684
Profits:			
Amount.....	¹ \$229,458	¹ \$153,370	² \$86,988
Average per society.....	\$16,390	\$30,674	² \$17,388
Bonuses to shareholders:			
Amount.....	\$109,470	\$48,635	-----
Average per society.....	\$27,368	\$9,727	-----

¹ Net, after deducting losses.

² Loss.

Status of Cooperative Societies Under Industrial Codes

THREE orders were issued during the period of effectiveness of the N. R. A., designed to clarify certain points regarding the status of cooperative societies under the codes.

The first was an Executive order, issued October 24, 1933, which exempted all "bona fide and legitimate cooperative organizations"

from provisions in industrial codes which were intended to prohibit the payment of patronage refunds. The order read as follows:

In a number of codes of fair competition which have heretofore been approved or submitted for approval pursuant to title I of the National Industrial Recovery Act, approved June 16, 1933, there have been included provisions designed to limit or prohibit the payment or allowance of rebates, refunds, or unearned discounts, whether in the form of money or in any other form, and the extension to certain purchasers of services or privileges not extended to all purchasers under similar terms and conditions. Question has arisen as to whether provisions of such tenor do not preclude the payment of patronage dividends to members by bona fide and legitimate cooperative organizations, including farmers' cooperative associations, corporations, or societies, hereinafter designated farmers' cooperatives.

Pursuant to the authority vested in me by title I of the National Industrial Recovery Act, upon due consideration of the facts, and upon the report and recommendation of the Administrator,

I, Franklin D. Roosevelt, President of the United States, do hereby order that no provision in any code of fair competition, agreement, or license which has heretofore been or may hereafter be approved, prescribed, or issued pursuant to title I of the National Industrial Recovery Act, shall be so construed or applied as to prohibit the payment of patronage dividends in accordance with law to any member by any bona fide and legitimate cooperative organization, including any farmers' cooperative, duly organized under the laws of any State, Territory, or the District of Columbia, or of the United States, if such patronage dividends are paid out of actual earnings of such cooperative organization and are not paid at the time when such member makes a purchase from such cooperative organization.

In order to answer questions that arose concerning the scope and meaning of the order of October 24, 1933, the President on February 17, 1934, issued a second order ruling that no code should be so construed as to make it a violation of the code to sell to or through a bona fide cooperative organization or to sell through any intervening agency to such a cooperative association. The text of the order was as follows:

1. No provision in any code of fair competition, agreement, or license which has heretofore been or may hereafter be approved, prescribed, or issued pursuant to title I of the National Industrial Recovery Act, shall be construed or applied so as to make it a violation of any code of fair competition to sell to or through any bona fide and legitimate cooperative organization, including any farmers' cooperative, duly organized under the laws of any State, Territory, or the District of Columbia, or of the United States, or to sell through any intervening agency to such cooperative organization.

2. No such code of fair competition shall be construed or interpreted so as to prevent any such cooperative organization from being entitled to receive, and/or distribute to its members as patronage dividends or otherwise the proceeds or benefits directly or indirectly derived from any discount, commission, rebate, or dividend (a) ordinarily paid or allowed to other purchasers for purchases in wholesale or middleman quantities or (b) paid or allowed pursuant to the requirements or provisions of any code of fair competition to other purchasers for purchases in wholesale or middleman quantities.

3. The Administrator for Industrial Recovery is hereby authorized to determine, after such hearings and proceedings as he may deem necessary, whether, in any doubtful case, an organization is or is not a bona fide and legitimate cooperative organization entitled to the benefits and protection of this order.

The third order was an administrative order issued October 12, 1934, by the National Recovery Board. It provided that no code provision should be interpreted to prohibit payment of a brokerage commission to a bona fide cooperative association for services for which brokerage may properly be paid. The text of this administrative order was as follows:

Pursuant to Executive Order No. 6606-A, dated February 17, 1934, no provision of any code of fair competition heretofore or hereafter approved under [title I] of said act shall be so construed or applied as to make it a violation of any such code for any member of any industry to pay or allow a brokerage commission to any bona fide and legitimate cooperative organization performing services or engaged in functions for which other persons may properly be paid such a commission. In determining whether a cooperative organization is performing such services and functions no cognizance shall be taken of the fact that the said cooperative organization will distribute its actual earnings, whether acquired in the form of brokerage commissions or otherwise, to its members in the form of patronage dividends, notwithstanding also the fact that the members who in due course may receive a part of said brokerage commission as a patronage dividend may be the purchasers of the product or service with which the said commission was realized.

Condition of Labor Banks, June 30, 1935

THERE were four labor banks in operation on June 30, 1935, with combined deposits of \$17,262,281 and total resources amounting to \$19,692,385. Data for each of the banks are shown in the following table, supplied by Prof. J. Douglas Brown, of Princeton University:

TABLE 1.—CONDITION OF LABOR BANKS AS OF JUNE 30, 1935

Bank	Share capital	Surplus and undivided profits	Deposits	Total resources
Amalgamated Trust & Savings Bank, Chicago, Ill.....	\$200,000	\$63,635	\$4,225,094	\$4,779,391
Union National Bank, Newark, N. J.....	375,000	32,414	2,730,661	3,198,559
Amalgamated Bank of N. Y., New York, N. Y.....	650,000	23,970	5,807,859	6,547,224
Telegraphers' National Bank, St. Louis, Mo.....	500,000	156,924	4,498,667	5,167,211
Total.....	1,725,000	326,943	17,262,281	19,692,385

Table 2 shows the deposits and resources of the four banks since its formation. As the table shows, the peak of both deposits and resources was generally reached in 1929 or 1930. The Amalgamated Bank of Chicago had, however, by June 1935, surpassed its 1929 figures in both deposits and resources.

TABLE 2.—DEVELOPMENT OF SPECIFIED LABOR BANKS SINCE THEIR FORMATION

End of—	Deposits				Total resources			
	Amalgamated Banks		Union National Bank, Newark, N. J.	Telegraphers' National Bank, St. Louis, Mo.	Amalgamated Banks		Union National Bank, Newark, N. J.	Telegraphers' National Bank, St. Louis, Mo.
	New York	Chicago			New York	Chicago		
1922.....		\$991,411			\$2,664,913	\$1,291,411		
1923.....	\$2,294,044	1,948,853		\$3,075,564	4,279,456	2,498,616		\$3,916,061
1924.....	3,874,276	2,444,247		4,256,704	6,429,437	2,816,117		5,097,249
1925.....	5,795,808	2,536,116	\$1,262,233	5,558,530	8,642,113	2,951,637	\$1,648,365	6,428,847
1926.....	7,824,620	2,837,296	2,303,289	6,275,498	9,305,424	3,460,024	2,678,289	7,217,466
1927.....	8,449,885	3,077,356	3,383,154	6,585,574	13,128,004	3,363,215	3,803,678	7,749,265
1928.....	11,717,689	2,959,739	3,586,153	6,275,876	12,845,579	3,033,182	4,107,747	7,489,608
1929 ¹	11,673,794	3,329,833	3,565,601	6,341,251	13,315,804	3,756,361	4,017,884	7,563,956
1930 ²	11,349,764	2,526,650	3,674,030	6,659,455	12,845,579	3,033,182	4,325,401	7,701,328
1931 ³	7,849,888	2,313,945	3,740,404	6,473,062	9,364,798	2,723,810	4,406,597	7,420,366
1932.....	4,305,104	2,034,372	2,460,129	4,748,983	5,247,200	2,420,164	3,578,850	5,963,696
1933.....	4,832,884	2,357,331	2,298,216	5,850,074	4,506,616	2,759,379	3,406,891	6,980,469
1934.....	5,563,713	3,722,499	3,049,035	4,625,071	6,408,153	4,280,469	3,602,272	5,756,377
1935 ⁴	5,807,859	4,225,094	2,730,661	4,498,667	6,547,224	4,779,391	3,198,559	5,167,211

¹ Nov. 15.

² June 29.

³ June 30.

⁴ Jan. 13, 1934.

Table 3 shows the trend of the labor banking movement since 1920.

TABLE 3.—DEVELOPMENT OF LABOR BANKS IN THE UNITED STATES, 1920 TO 1933 ¹

Date	Number of banks	Share capital	Surplus and undivided profits	Deposits	Total resources
Dec. 31—					
1920.....	2	\$960,000	\$194,446	\$2,258,561	\$3,628,867
1921.....	4	1,280,000	255,869	9,970,961	12,782,173
1922.....	10	2,050,473	742,689	21,901,641	26,806,723
1923.....	18	4,222,230	1,853,022	43,324,820	51,496,524
1924.....	26	6,441,267	1,891,757	72,913,180	85,325,884
1925 ²	36	9,069,072	3,467,829	98,892,592	115,016,273
1926.....	35	8,914,508	3,837,377	108,743,550	126,533,542
1927.....	32	8,282,506	3,747,176	103,290,219	119,818,416
1928.....	27	7,537,500	3,821,205	98,784,369	116,307,256
June 30—					
1929.....	22	6,687,500	3,807,579	92,077,098	108,539,894
1930.....	14	4,112,500	3,105,338	59,817,392	68,955,855
1931.....	11	3,912,500	2,959,878	50,949,370	59,401,164
1932.....	7	2,537,500	906,896	22,662,514	28,564,797
1933 ³	4	1,725,000	436,421	15,338,505	18,653,355
1934.....	4	1,725,000	313,433	15,899,849	19,168,718
1935.....	4	1,725,000	326,943	17,262,281	19,692,385

¹ Data are from Princeton University, Industrial Relations Section, Report on Labor Banking Movement in the United States, Princeton, 1929, p. 277, and additional new material furnished by the university to the Bureau of Labor Statistics.

² Amalgamated Bank of Philadelphia not included.

³ Dec. 31.

Status of Building and Loan Associations, 1933 and 1934

DATA furnished to the Bureau of Labor Statistics by the United States Building and Loan League (Cincinnati) show that at the end of 1933 there were in the United States 10,727 building and loan associations with a combined membership of 9,224,105, and resources aggregating \$6,977,531,676. From 1932 to 1933 there was a decline of 270 societies, 890,687 members, and \$772,959,408 in assets.

The following table shows the number of associations and their membership and resources in 1933:

TABLE 1.—MEMBERSHIP AND ASSETS OF BUILDING AND LOAN ASSOCIATIONS IN 1933, BY STATES

State	Number of associations	Number of members	Total assets	State	Number of associations	Number of members	Total assets
Alabama.....	39	33,480	\$23,843,533	Nevada.....	5	2,281	\$1,246,345
Arizona.....	2	1,600	600,000	New Hampshire.....	29	16,152	13,761,730
Arkansas.....	55	30,213	25,794,298	New Jersey ¹	1,532	970,000	1,050,000,000
California.....	182	350,000	359,894,896	New Mexico.....	16	4,500	4,316,562
Colorado.....	52	50,000	35,340,471	New York.....	293	481,928	394,643,465
Connecticut.....	44	31,534	25,607,678	North Carolina.....	209	74,182	68,439,937
Delaware.....	43	19,430	15,257,369	North Dakota.....	22	22,251	12,054,641
District of Columbia.....	28	96,785	90,533,000	Ohio.....	737	1,968,129	895,028,774
Florida.....	59	10,370	13,129,227	Oklahoma.....	90	129,339	99,238,441
Georgia.....	40	18,443	6,891,548	Oregon.....	22	31,400	18,228,564
Hawaii.....	11	28,012	5,288,989	Pennsylvania.....	2,908	884,065	957,791,288
Idaho.....	14	9,550	6,272,313	Rhode Island.....	8	47,898	33,691,232
Illinois.....	889	782,300	394,648,000	South Carolina ¹	98	18,000	20,000,000
Indiana.....	380	341,700	246,333,779	South Dakota.....	20	9,650	5,844,910
Iowa.....	74	60,072	41,789,377	Tennessee.....	42	25,640	18,993,047
Kansas.....	150	155,152	106,960,685	Texas.....	139	137,700	100,393,588
Kentucky.....	164	170,300	110,937,465	Utah.....	21	34,000	23,029,669
Louisiana.....	99	166,241	143,656,771	Vermont.....	14	5,600	5,418,676
Maine.....	36	25,930	23,967,428	Virginia.....	89	59,100	53,652,977
Maryland ¹	1,000	283,000	185,000,000	Washington.....	66	200,000	61,510,158
Massachusetts.....	227	436,920	502,873,869	West Virginia.....	60	50,200	33,612,941
Michigan.....	65	185,267	142,693,028	Wisconsin.....	184	238,238	245,291,106
Minnesota.....	75	96,179	39,038,245	Wyoming.....	8	14,850	7,889,189
Mississippi.....	44	6,274	10,943,600				
Missouri.....	233	207,950	169,255,761	Total, 1933.....	10,727	9,224,105	6,977,531,676
Montana.....	27	25,800	15,026,454	Total, 1932.....	10,997	10,114,792	7,750,491,064
Nebraska.....	83	176,500	111,876,652				

¹ Figures estimated.

At the end of 1934 the number of associations fell to 10,353, the membership to 8,226,478, and the total assets to \$6,330,746,385. During the year, however, 567 associations were formed under the Federal Home Loan Bank Act; these had at the end of the year 143,732 members and assets of \$119,678,007. Thus, the number of both types of societies at the end of 1934 was 10,920, the membership was 8,370,210, and the total assets amounted to \$6,450,424,392.

The development of the movement since 1920 is shown in table 2:

TABLE 2.—STATUS OF BUILDING AND LOAN ASSOCIATIONS, 1920 TO 1934

Year	Number of associations	Membership	Total assets
1920.....	8, 633	4, 962, 919	\$2, 519, 914, 971
1921.....	9, 255	5, 809, 888	2, 890, 761, 621
1922.....	10, 009	6, 864, 144	3, 342, 530, 953
1923.....	10, 744	7, 202, 880	3, 942, 939, 880
1924.....	11, 844	8, 554, 352	4, 765, 937, 197
1925.....	12, 403	9, 886, 997	5, 509, 176, 154
1926.....	12, 626	10, 665, 705	6, 334, 103, 807
1927.....	12, 904	11, 336, 261	7, 178, 662, 451
1928.....	12, 666	11, 995, 905	8, 016, 034, 327
1929.....	12, 342	12, 111, 209	8, 695, 154, 220
1930 ¹	11, 777	12, 350, 928	8, 828, 611, 925
1931 ¹	11, 442	11, 338, 701	8, 417, 375, 605
1932 ¹	10, 997	10, 114, 792	7, 750, 491, 084
1933 ¹	10, 727	9, 224, 105	6, 977, 531, 676
1934 ²	10, 920	8, 370, 210	6, 450, 424, 392

¹ Figures include Hawaii.

² Figures include Hawaii and associations formed under Federal Home Loan Bank Act.

Wisconsin Act Providing for the Teaching of Cooperation

THE Wisconsin Legislature early in August 1935 passed an amendment to the statutes, requiring the giving of courses in agricultural and consumers' cooperation throughout the public-school system of Wisconsin, from the State university downward. Hereafter no certificates are to be granted for the teaching of courses in economics, the social studies, or agriculture unless the applicant's course of training has included the subject of cooperation.

The text of the act is as follows:

SECTION 1. Subsection (1) of section 40.22 of the statutes is amended to read: (40.22) (1) Reading, writing, spelling, English grammar and composition, geography, arithmetic, elements of agriculture and cooperative marketing, history and civil government of the United States and of Wisconsin, citizenship, and such other branches as the board may determine shall be taught in every common school. All instruction shall be in the English language, except that the board may cause any foreign language to be taught to such pupils as desire it, not to exceed 1 hour each day.

SEC. 2. Four new subsections are added to section 40.22 of the statutes to read:

(40.22) (11) *Cooperation*.—Every high school and vocational school shall prescribe adequate and essential instruction in cooperative marketing and consumers' cooperatives.

(12) *Teacher training*.—The governing boards of the university State teachers' colleges and county normal schools shall provide in their respective institutions adequate and essential instruction in cooperative marketing and consumers' cooperatives.

(13) *Text material.*—The State superintendent of public instruction and the dean of the college of agriculture at the State university shall cooperate in the preparation of outlines to be used by teachers in the courses offered under subsections (11) and (12) and they shall have power to request the assistance of any teacher or professor in any of the schools of the State in the preparation of such outlines. They may also make a recommended list of material now in pamphlets or books for guidance to teachers of these courses.

(14) *Teachers' certificates.*—In granting certificates for the teaching of the courses in economics, the social studies, and agriculture, adequate instruction in cooperative marketing and consumers' cooperatives shall be required.

SEC. 3. This act shall take effect September 1, 1935.

COOPERATIVE SELF-HELP MOVEMENT

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Cooperative Self-Help Among the Unemployed

THE so-called "self-help" movement is a development of the depression. It originated spontaneously from the initiative of the more self-reliant of the unemployed who wished to maintain themselves independently of relief. The first such group was the Unemployed Citizens' League formed in Seattle during the summer of 1931. The exchange of the members' labor for food (principally vegetables) was the primary activity of the organization at first. The news of the success of this group spread, and soon similar organizations sprang up in various sections of the United States, but especially in the Western and Pacific States.

Since that time many groups have been formed, some of which dissolved after a short time, others survived for longer periods, and many are still active.

Grants of Federal funds authorized by the Federal Emergency Relief Act of 1933 made possible in a number of cases extended activities of a productive nature. At the end of 1933 grants had been made to 29 associations with a combined membership of nearly 60,000. A year later (January 1935) the number of grant organizations in operation had risen to 162 but their membership was 15,733. At the end of October 1935 there were 215 groups under grant, having a membership of 14,614. No information is available regarding the number of members of nongrant self-help associations throughout the United States.¹

From August 1933 to October 31, 1935, aid had been extended to self-help organizations in 26 States, 2 Territories, and the District of Columbia. In addition, \$300,000 had been allotted to the Tennessee Valley Authority, to be used in assisting the formation of cooperative enterprises in the region of its activities. Altogether, grants made during the 27 months totaled \$3,157,613, of which \$1,636,594 had been expended or obligated on October 31, 1935. These funds were intended and have been used mainly for the purchase of productive equipment and raw materials. The value of such equipment and inventories on October 31, 1935, was \$1,129,866.

Up to October 31, 1935, the self-help groups which had received Federal assistance had supplied their members with goods and services amounting to \$3,164,887. During the first 10 months of 1935 members received goods and services valued at \$1,216,647, and had given their members employment aggregating 9,047,923 man-hours. Their activities are estimated to have saved the public nearly three-fourths of a million dollars from January to October 1935. It is calculated that this amount would have been required, in addition to the Federal grants, to furnish support to those members who would have had to resort to public relief. Altogether, it is estimated that the self-help groups have effected relief savings totaling \$2,278,287.

¹ In California, where the movement has been much more extensive than in other States, it was estimated that 40 percent of the self-help membership in May 1935 was in nongrant groups. (Kerr, Clark, and Taylor, Paul S.: *The Self-Help Cooperatives in California*. Berkeley, University of California Press, 1935.)

Nearly one-third of the organizations which have received Federal assistance and more than one-fourth of the members are in California. The next largest number of organizations and members is found in Utah. The number and percent of self-help groups under grant, and of their membership, at the end of October 1935, are shown in table 1.

TABLE 1.—NUMBER AND PERCENT OF SELF-HELP GROUPS UNDER GRANT, AND OF THEIR MEMBERSHIP, OCT. 31, 1935, BY STATES

State	Organiza-tions		Members		State	Organiza-tions		Members	
	Num-ber	Per-cent	Num-ber	Per-cent		Num-ber	Per-cent	Num-ber	Per-cent
Alabama.....	5	2.3	987	6.8	New York.....	1	0.5	117	0.8
California.....	78	36.3	4,380	30.0	North Carolina.....	1	.5	1,571	10.7
Colorado.....	9	4.2	290	2.0	Ohio.....	1	.5	20	.1
District of Columbia.....	3	1.4	261	1.8	Oregon.....	1	.5	13	.1
Florida.....	1	.5	61	.4	Pennsylvania.....	4	1.9	995	6.8
Idaho.....	28	13.0	1,247	8.5	Tennessee.....	3	1.4	304	2.1
Indiana.....	1	.5	108	.7	Utah.....	27	12.6	574	3.9
Iowa.....	3	1.4	233	1.6	Virginia.....	1	.5	675	4.6
Louisiana.....	2	.9	149	1.0	Washington.....	27	12.6	846	5.8
Michigan.....	8	3.7	338	2.3	West Virginia.....	2	.9	829	5.7
Missouri.....	7	3.3	515	3.5					
Nebraska.....	2	.9	101	.7	Total.....	215	100.0	14,614	100.0

The first Federal grant for self-help purposes was made August 11, 1933. From that time up to the close of 1935 a total of \$3,157,613 had been allocated for the use of these groups of unemployed. Table 2 shows the amount granted each month since August 1933.

TABLE 2.—GRANTS TO SELF-HELP COOPERATIVES BY MONTHS, AUGUST 1933 TO DECEMBER 1935

Year and month	Amount of grants	Year and month	Amount of grants
Total grants, August 1933 to December 1935.....	\$ 3,157,613	1934—September.....	\$96,688
1933—August.....	64,000	October.....	125,957
September.....	2,000	November.....	28,436
October.....	71,700	December.....	37,516
November.....	13,900	1935—January.....	59,207
December.....	111,744	February.....	45,122
1934—January.....	46,320	March.....	152,554
February.....	340,610	April.....	152,914
March.....	30,600	May.....	104,909
April.....	96,125	June.....	14,163
May.....	112,765	July.....	281,532
June.....	147,830	August.....	35,900
July.....	63,721	September.....	268,335
August.....	*155,961	October.....	483,485
		November.....	(*)
		December.....	(*)

* Includes \$16,420 (not shown in items) transferred from cattle-program fund in Colorado.

† Does not include \$42,118 granted for self-help in Texas in August 1934 but transferred to general relief fund in June 1935.

‡ No grants made.

California and Michigan are the two leading States as regards size of grants, the funds allotted to groups therein forming one-fifth and one-tenth, respectively, of the total grants. The total amounts granted up to the end of 1935, by States, and the amount which had been expended or obligated at the end of October are shown in table 3.

TABLE 3.—TOTAL FEDERAL GRANTS MADE TO SELF-HELP COOPERATIVES, AUGUST 1933 TO DEC. 31, 1935, AND TOTAL EXPENDED AND OBLIGATED TO OCT. 31, 1935

State	Federal grants, August 1933 to Dec. 31, 1935		
	Total amount	Percent	Expended and obligated to Oct. 31, 1935
Alabama.....	\$247,813	7.8	\$111,112
California.....	649,148	20.6	618,592
Colorado.....	176,541	5.6	133,998
District of Columbia.....	21,763	.7	1,047
Florida.....	23,682	.7	7,510
Idaho.....	241,865	7.7	141,081
Indiana.....	45,777	1.4	37,175
Iowa.....	21,065	.7	14,811
Kansas.....	7,538	.2	7,538
Louisiana.....	40,000	1.3	17,129
Michigan.....	339,397	10.7	148,076
Minnesota.....	61,400	1.9	58,989
Mississippi.....	8,178	.3	7,655
Missouri.....	196,300	6.2	13,291
Nebraska.....	11,150	.4	4,116
New Jersey.....	17,500	.6	10,543
New York.....	3,500	.1	(¹)
North Carolina.....	129,797	4.1	(²)
Ohio.....	88,577	2.8	69,773
Oregon.....	3,900	.1	2,890
Pennsylvania.....	34,073	1.1	23,454
Tennessee.....	64,638	2.0	18,141
Texas.....	(³)	.....	(³)
Utah.....	99,979	3.2	3,285
Virginia.....	95,685	3.0	68,226
Washington.....	158,723	5.0	80,306
West Virginia.....	43,425	1.4	37,856
Total.....	2,831,413	89.6	1,636,594
Puerto Rico.....	1,000	(⁴)	(³)
Virgin Islands.....	25,200	.8	(³)
T. V. A.....	300,000	9.5	(³)
Grand total.....	3,157,613	100.0	1,636,594

¹ Does not include funds made available by State.

² Reports incomplete.

³ Grant of \$42,118 made in August 1934, transferred to general relief funds in June 1935.

⁴ Less than 1/10 of 1 percent.

COST OF LIVING

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Changes in the Cost of Living in the United States

INDEX numbers showing changes in the cost of goods purchased by wage earners and lower-salaried workers have been published for a number of years by the Bureau of Labor Statistics.

These index numbers are constructed by pricing at each date the goods and services which were shown by a study covering 1917-19 to be most important in the family spending of wage earners and lower-salaried workers. At that time 12,096 families in 92 cities were interviewed in regard to their expenditures. The data were published in Bulletin No. 357: Cost of Living in the United States. From this material weights for individual items of food, clothing, fuel and light, house-furnishing goods, and miscellaneous items, and group weights for combining the separate indexes into an index of total cost of living were derived.

The food prices used in this compilation were drawn from retail-price quotations secured in 51 cities. These quotations were obtained from a representative number of grocers, meat dealers, bakers, and dairymen in each city. Fuel and light prices, including gas, electricity, coal, and other fuel and light items, were obtained by mail from regular correspondents. All other prices were secured in 32 cities by personal visits of representatives of the Bureau.

Prices of men's and boys' clothing were secured on 31 articles. The principal articles were suits, overcoats, hats, caps, overalls, shoes, rubbers, repair of shoes, underwear, and furnishings. Prices of women's and girls' clothing were taken on 37 articles, including coats, dresses, shoes, rubbers, repair of shoes, hosiery, underclothing, and yard goods used in making aprons.

The number of dwellings for which rents were secured varied from 400 in Mobile to 2,500 in New York City.

The 20 furniture and house-furnishing articles on which prices were obtained included living-room furniture, dining room and bedroom suites, rugs, linoleum, household linens, bedding, sewing machines, stoves, brooms, refrigerators, and kitchen tables.

The miscellaneous group of items included transportation costs, motion pictures, newspapers, medical and dental services, hospital care, spectacles, laundry, cleaning supplies, barber service, toilet articles and preparations, telephone rates for residential service, and tobacco products.

For each of the items included in the clothing, house-furnishing goods, and the miscellaneous groups, 4 quotations were secured in each city except in New York where 5 quotations were obtained. For items such as street-car fares, telephone rates, and newspapers, four quotations were not always possible.

Since 1919, when the indexes were first computed, certain changes in the list of goods priced have been made as a result of fundamental changes in consumer purchasing habits, but comparisons from one pricing period to another are based on the cost of goods of identical kind and quality.

These index numbers present changes in the cost of the goods and services purchased by families of wage earners and lower-salaried workers from time to time in the 32 cities surveyed. They cannot be used to measure differences in the cost of these goods from city to city. Insofar as possible the kind and quality of the goods priced in each city have been maintained constant throughout the period in which the Bureau has been gathering retail prices, but the quality of the goods priced varies from city to city with the purchasing habits of moderate-income families in these cities.

There are serious technical obstacles in the way of determining the cost of the same level of living from one part of the country to another. Differences in climate and custom make it difficult to determine what goods must be included in the budgets which would provide the same level of living in, for example, New Orleans and Boston. And even if such budgets had been agreed upon, the problem of pricing goods of identical quality in different communities would not have been solved. Most consumers' goods are not graded according to standard specifications, and even store buyers are frequently ignorant of the technical description of the goods they buy and sell.

The 1917-19 study still furnishes the most recent comprehensive data on consumption weights, and on that account these weights, used in the series of index numbers presented hereafter, still represent goods purchased by wage earners and lower-salaried workers at that period. A new study of family expenditures was begun in the latter part of 1934. This will provide weights reflecting present-day consumption more completely. Pending a basic change in consumption weights three methodological changes were incorporated in the indexes at the March 1935 pricing period and revisions were carried back to the base years.

These changes are as follows: (1) In the food-cost indexes (*a*) the application of revised weights to food prices from 1919 when prices for 42 foods first became available, and (*b*) the inclusion from January 1935 of a much larger number of foods than were used previously in the calculation of the food-cost indexes, (2) a change in the method of combining group indexes to obtain the index of the cost of all items in each city, and (3) the combination of the indexes for given cities into a composite index for the larger cities of the United States by means of weights representing the population of the metropolitan areas where retail prices are collected, and of adjacent metropolitan areas where prices are considered to move in a similar fashion.

Changes in the Cost of Living for the Country as a Whole, 1913-35

FROM the figures for the 32 cities a combined index number has been computed, and this combination is assumed to be fairly representative of the United States as a whole. The index number for the United States has been based on the year 1913, and all changes have been calculated on this basis.

Table 1 gives index numbers showing changes in the cost of living for the United States as a whole (32 cities combined) for the periods for which surveys have been made by the Bureau.

TABLE 1.—INDEXES OF COST OF GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS IN 32 LARGE CITIES OF THE UNITED STATES COMBINED, 1913 TO OCTOBER 1935

Date	Index numbers (1913=100)						
	All items	Food	Clothing	Rent	Fuel and light	House-furnish-ing goods	Miscel-laneous
Average, 1913.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
December 1914.....	102.7	105.0	101.0	100.0	101.0	104.0	103.0
December 1915.....	104.7	105.0	104.7	101.5	101.0	110.6	107.4
December 1916.....	116.6	126.0	120.0	102.3	108.4	127.8	113.3
December 1917.....	138.3	157.0	149.1	100.1	124.1	150.6	140.5
December 1918.....	166.9	187.3	213.4	105.3	146.0	205.0	163.3
June 1919.....	171.1	185.9	231.1	109.6	144.2	218.0	168.0
December 1919.....	191.4	200.4	286.3	119.0	153.1	257.8	185.4
June 1920.....	211.3	231.6	302.6	129.2	169.3	287.2	197.8
December 1920.....	195.6	183.3	271.1	142.5	182.0	278.3	205.8
May 1921.....	178.1	151.8	233.0	150.9	182.2	239.7	205.8
September 1921.....	177.2	161.7	201.3	151.9	181.6	216.3	204.4
December 1921.....	174.8	157.0	192.5	154.4	183.4	210.5	203.4
March 1922.....	168.8	143.1	183.8	154.1	178.1	199.1	200.1
June 1922.....	169.0	151.5	180.3	154.6	177.2	195.5	198.4
September 1922.....	168.0	147.9	178.2	154.9	166.6	195.8	197.9
December 1922.....	170.3	153.2	178.4	156.0	189.0	201.8	197.3
March 1923.....	170.0	149.9	181.0	156.8	187.7	211.0	197.5
June 1923.....	171.8	154.0	181.4	158.4	182.7	215.5	197.6
September 1923.....	174.5	159.4	182.9	159.9	184.8	215.7	198.6
December 1923.....	174.7	157.7	182.8	162.3	187.2	215.6	199.4
March 1924.....	172.5	151.9	182.2	163.2	185.0	214.0	198.9
June 1924.....	172.3	152.1	180.6	164.9	180.8	208.4	199.1
September 1924.....	172.9	154.1	178.7	165.1	183.1	206.7	199.1
December 1924.....	174.3	157.7	177.5	165.6	184.3	207.7	199.8
June 1925.....	176.7	165.1	176.9	165.1	181.4	205.2	201.1
December 1925.....	181.3	176.1	175.8	165.0	196.0	205.0	201.6
June 1926.....	178.7	172.6	174.2	163.5	185.2	200.9	201.5
December 1926.....	178.3	171.3	172.7	162.8	191.4	198.6	202.1
June 1927.....	177.7	172.2	171.0	161.1	184.8	195.8	202.8
December 1927.....	175.1	165.8	168.7	159.4	187.0	195.0	203.7
June 1928.....	172.9	162.4	168.4	157.2	181.6	191.0	203.6
December 1928.....	173.3	163.6	167.4	155.5	185.3	189.8	205.0
June 1929.....	172.8	164.3	166.6	153.5	180.2	189.1	205.4
December 1929.....	173.7	167.5	165.6	151.9	184.2	188.4	206.1
June 1930.....	170.3	160.4	164.3	149.8	178.1	186.1	206.8
December 1930.....	163.6	145.9	158.1	146.7	182.2	178.4	206.3
June 1931.....	153.9	127.7	149.7	142.1	174.2	166.2	205.0
December 1931.....	148.4	120.8	139.3	136.6	177.0	156.9	203.1
June 1932.....	138.9	107.2	131.9	127.8	165.0	143.4	200.2
December 1932.....	133.5	102.6	124.7	118.3	166.9	137.5	197.1
June 1933.....	129.8	102.8	122.8	108.7	157.8	137.8	192.3
December 1933.....	134.6	110.0	136.7	104.0	167.3	154.1	193.0
June 1934.....	136.5	116.1	139.8	102.1	162.9	157.2	192.7
November 15, 1934.....	137.8	119.1	139.7	102.0	165.4	158.3	192.9
March 15, 1935.....	140.4	126.3	139.9	101.8	165.9	159.4	193.1
July 15, 1935.....	140.2	127.1	139.6	102.1	157.8	159.8	192.8
October 15, 1935.....	140.7	127.1	140.1	103.1	163.0	161.4	192.6

Changes in Individual Cities

CHANGES in the cost of living as a whole are shown in tables 2 and 3 in the form of percentage changes, which have been calculated from the earliest base period for each city. The figures given are for December at least of each year through 1924, semiannually thereafter until November 1934, and for three periods in 1935. Studies in the 32 cities did not all begin in the same year. Therefore, the percentage changes shown in table 2 cover 19 cities and are computed from December 1914.

TABLE 2.—PERCENTAGE INCREASE¹ OVER DECEMBER 1914 IN COST OF GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS IN 19 LARGE CITIES

Date	New England		Middle Atlantic			East North Central	
	Boston, Mass.	Portland, Maine	Buffalo, N. Y.	New York, N. Y.	Philadelphia, Pa.	Chicago, Ill.	Cleveland, Ohio
December 1915	1.3	0.2	3.3	1.7	1.3	2.4	1.9
December 1916	14.5	12.6	20.7	14.0	13.6	16.4	16.6
December 1917	35.4	34.6	44.8	38.8	39.0	35.2	38.4
December 1918	64.7	67.0	74.9	69.4	67.4	63.4	66.2
June 1919	65.6	70.9	80.3	72.6	71.9	66.9	73.4
December 1919	85.0	88.1	96.6	94.7	89.3	89.5	93.7
June 1920	103.7	108.2	119.0	110.1	109.2	108.3	118.9
December 1920	91.6	90.2	98.4	97.0	95.5	89.0	107.5
May 1921	71.3	71.6	81.4	80.2	78.3	79.5	90.6
September 1921	71.0	71.3	80.4	79.5	75.6	77.9	86.1
December 1921	68.9	68.0	77.9	80.2	74.0	75.3	82.3
March 1922	61.0	61.9	73.3	72.0	69.8	69.4	72.9
June 1922	59.4	60.6	72.6	72.8	70.4	69.8	73.5
September 1922	60.3	61.6	73.5	72.0	66.3	69.8	71.5
December 1922	64.0	63.5	75.5	75.7	69.8	71.4	75.6
March 1923	63.0	64.7	75.2	74.2	70.2	71.8	76.8
June 1923	63.1	64.1	78.3	75.1	73.5	73.7	81.0
September 1923	67.6	65.9	82.1	77.5	75.4	76.8	83.6
December 1923	68.8	66.8	80.9	79.1	75.0	76.9	82.4
March 1924	64.4	64.4	78.3	75.3	73.3	76.0	80.7
June 1924	63.7	62.4	78.0	75.3	73.9	77.4	78.8
September 1924	66.1	63.6	79.0	75.7	73.5	78.1	80.8
December 1924	67.1	64.5	80.3	78.7	76.8	79.1	80.7
June 1925	66.4	64.9	84.3	78.5	80.8	82.3	84.7
December 1925	76.1	70.9	89.2	86.1	85.3	85.6	86.1
June 1926	71.3	68.9	89.1	81.0	84.4	83.2	86.3
December 1926	72.8	68.5	87.6	82.5	83.9	83.2	84.9
June 1927	70.2	68.3	86.9	81.0	81.7	82.7	85.2
December 1927	70.7	66.3	84.0	82.2	79.9	78.5	80.5
June 1928	66.2	63.8	83.7	78.2	77.8	76.2	80.1
December 1928	68.5	65.5	82.7	79.6	75.2	76.8	78.1
June 1929	66.3	65.1	83.2	78.9	74.6	76.2	79.1
December 1929	69.4	66.3	83.9	80.4	75.8	77.6	77.6
June 1930	64.9	63.0	81.4	75.6	71.8	74.1	77.7
December 1930	60.3	58.0	72.9	71.5	65.9	66.6	69.3
June 1931	49.3	50.6	62.8	62.0	57.8	56.6	58.4
December 1931	45.6	45.9	55.1	56.6	51.9	50.3	53.1
June 1932	34.5	38.2	48.8	49.6	41.4	37.3	46.2
December 1932	31.2	32.2	41.8	44.0	35.2	30.8	38.8
June 1933	28.0	30.2	38.6	38.8	31.9	26.0	36.5
December 1933	33.1	36.7	42.6	43.1	37.9	28.9	40.1
June 1934	35.8	38.4	45.0	45.4	40.6	29.5	42.8
November 15, 1934	36.9	39.8	44.5	46.0	40.1	30.9	43.0
March 15, 1935	38.4	40.2	47.5	48.6	41.5	35.7	47.6
July 15, 1935	38.1	41.1	48.3	47.6	41.5	35.3	47.7
October 15, 1935	38.5	40.7	47.5	48.2	42.3	35.5	47.9

Date	East North Central (con.)—Detroit, Mich.	South Atlantic				
		Baltimore, Md.	Jacksonville, Fla.	Norfolk, Va.	Savannah, Ga.	Washington, D. C.
December 1915	3.3	(²)	0.8	0.6	0.3	0.8
December 1916	20.7	16.1	11.6	12.5	12.0	12.3
December 1917	46.4	43.9	35.3	39.9	36.0	41.7
December 1918	75.0	75.4	65.9	70.1	68.5	64.5
June 1919	82.6	77.9	70.9	84.5	71.6	³ 62.3
December 1919	105.0	92.6	91.9	105.5	88.8	⁴ 75.5
June 1920	136.1	114.1	109.6	125.6	101.9	95.4
December 1920	118.3	95.0	96.8	108.5	90.6	79.0
May 1921	95.3	79.6	80.3	89.1	73.0	61.5
September 1921	90.0	79.3	75.5	86.3	68.9	63.9
December 1921	84.5	75.8	72.0	81.0	63.7	59.9
March 1922	78.1	71.9	66.0	74.7	56.4	55.3
June 1922	79.0	71.9	64.8	72.9	56.3	56.5
September 1922	78.4	70.1	62.7	70.8	55.5	54.6
December 1922	80.3	72.6	64.8	70.7	56.5	56.3
March 1923	82.2	73.1	64.5	70.9	56.3	55.5
June 1923	79.7	76.9	65.8	73.3	56.4	59.7
September 1923	88.6	78.5	68.1	75.0	56.6	60.8
December 1923	87.3	77.3	68.4	72.7	55.8	59.4
March 1924	86.0	75.8	66.8	71.8	54.5	57.4
June 1924	86.3	76.3	65.1	69.8	53.1	57.4
September 1924	84.4	75.3	67.5	70.3	53.7	57.4

¹ Figures in italics represent decrease. ² Change less than 0.05 percent. ³ April 1919. ⁴ November 1919.

TABLE 2.—PERCENTAGE INCREASE¹ OVER DECEMBER 1914 IN COST OF GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS IN 19 LARGE CITIES—Continued

Date	East North Central (con.)—Detroit, Mich.	South Atlantic				
		Baltimore, Md.	Jacksonville, Fla.	Norfolk, Va.	Savannah, Ga.	Washington, D. C.
December 1924.....	84.2	76.7	67.4	71.9	53.7	59.3
June 1925.....	83.1	80.7	68.6	72.9	55.9	61.6
December 1925.....	91.1	85.2	81.9	78.1	61.6	65.5
June 1926.....	88.8	83.4	83.8	75.4	59.6	64.6
December 1926.....	86.9	81.8	81.7	74.8	58.4	63.5
June 1927.....	87.3	81.1	76.7	76.4	57.6	60.2
December 1927.....	81.5	77.6	72.0	73.1	55.9	58.7
June 1928.....	79.1	77.5	66.5	71.8	54.6	55.9
December 1928.....	79.3	75.8	65.6	72.3	55.5	57.2
June 1929.....	80.8	76.9	63.9	72.0	54.3	57.9
December 1929.....	80.3	78.3	62.1	73.5	54.1	57.8
June 1930.....	76.1	76.6	58.6	70.4	51.1	55.3
December 1930.....	64.3	69.9	52.9	64.6	45.3	51.0
June 1931.....	53.3	61.0	44.1	54.8	39.1	42.8
December 1931.....	43.7	55.9	37.0	48.6	31.3	38.7
June 1932.....	33.2	46.7	28.6	40.1	23.3	30.8
December 1932.....	26.3	41.7	24.0	35.8	19.5	26.2
June 1933.....	22.2	37.8	20.2	30.9	16.3	24.6
December 1933.....	28.7	44.4	27.3	39.6	22.0	30.5
June 1934.....	33.1	45.5	29.2	42.3	22.9	32.4
November 15, 1934.....	33.9	47.0	30.2	43.0	23.8	33.9
March 15, 1935.....	38.2	48.8	31.3	44.7	24.7	36.0
July 15, 1935.....	39.7	49.8	32.6	44.0	25.1	36.5
October 15, 1935.....	41.3	50.3	33.0	45.1	26.5	37.7

Date	East South Central—Mobile, Ala.	West South Central—Houston, Tex.	Pacific			
			Los Angeles, Calif.	Portland, Oreg.	San Francisco, Calif.	Seattle, Wash.
December 1915.....	<i>0.2</i>	<i>0.3</i>	<i>1.9</i>	<i>3.7</i>	<i>0.9</i>	<i>1.0</i>
December 1916.....	12.1	13.9	7.0	3.8	7.5	6.4
December 1917.....	39.4	38.6	26.6	25.9	25.7	28.4
December 1918.....	68.9	66.9	54.6	59.2	52.9	67.5
June 1919.....	73.2	71.8	60.3	65.1	58.8	75.3
December 1919.....	91.7	94.4	82.0	81.5	76.0	98.4
June 1920.....	107.6	107.3	99.4	101.8	89.5	114.3
December 1920.....	92.6	98.4	93.8	79.3	73.7	95.2
May 1921.....	72.8	77.5	80.3	63.7	64.1	82.8
September 1921.....	70.7	73.9	78.4	62.7	62.7	77.8
December 1921.....	65.8	72.1	78.5	60.4	62.5	74.3
March 1922.....	59.0	67.1	76.6	56.6	58.5	71.0
June 1922.....	59.1	65.9	76.1	55.2	57.8	70.4
September 1922.....	58.7	65.4	75.2	57.2	56.7	69.3
December 1922.....	60.2	67.5	76.3	58.0	58.1	68.9
March 1923.....	59.7	65.4	75.5	57.1	56.1	64.3
June 1923.....	61.0	66.6	78.5	57.4	57.7	69.3
September 1923.....	63.0	67.8	80.0	58.8	60.2	70.8
December 1923.....	63.0	69.2	81.7	60.1	61.8	70.4
March 1924.....	60.6	66.7	80.7	58.2	58.0	68.9
June 1924.....	58.8	63.9	78.5	56.3	57.9	70.1
September 1924.....	62.1	65.8	79.4	57.2	58.7	69.2
December 1924.....	64.0	67.9	77.7	57.6	59.9	70.0
June 1925.....	65.5	69.4	80.0	59.0	63.4	74.3
December 1925.....	70.7	72.1	80.1	59.3	65.4	74.7
June 1926.....	69.2	67.6	73.3	57.3	61.8	72.5
December 1926.....	69.5	68.4	73.7	56.7	62.1	71.4
June 1927.....	68.9	65.1	74.7	56.6	62.4	73.1
December 1927.....	66.9	65.5	72.1	54.0	61.0	68.5
June 1928.....	65.3	62.4	67.9	51.4	59.4	67.7
December 1928.....	66.0	63.8	71.3	52.3	61.5	68.0
June 1929.....	64.6	63.5	69.6	50.4	60.3	69.0
December 1929.....	65.7	65.5	69.4	51.6	60.7	69.8
June 1930.....	62.8	61.3	65.2	50.4	57.4	68.5
December 1930.....	55.7	53.3	58.8	41.8	52.1	59.2
June 1931.....	44.9	44.4	48.6	35.2	43.7	54.1
December 1931.....	39.0	40.0	45.5	31.2	39.1	48.8
June 1932.....	28.9	27.9	36.2	22.4	31.9	39.7
December 1932.....	25.5	21.2	31.7	19.0	29.2	34.0
June 1933.....	22.0	20.2	26.0	15.0	25.9	33.2
December 1933.....	29.2	26.7	29.9	17.7	30.1	34.9
June 1934.....	29.0	27.2	29.1	19.4	31.2	35.6
November 15, 1934.....	32.0	31.5	32.9	22.7	34.3	37.3
March 15, 1935.....	34.0	33.1	35.1	24.7	34.9	40.1
July 15, 1935.....	33.2	31.4	34.5	24.7	33.4	40.3
October 15, 1935.....	33.9	33.3	34.8	25.4	34.5	40.2

¹ Figures in italics represent decrease.

Table 3 gives similar information for 13 cities for which reports were begun in December 1917. This date is therefore used as the base in computing the percentage changes.

TABLE 3.—PERCENTAGE INCREASE¹ OVER DECEMBER 1917 IN COST OF GOODS PURCHASED BY WAGE EARNERS AND SALARIED WORKERS IN 13 LARGE CITIES

Date	Middle Atlantic		East North Central		West North Central		
	Pitts- burgh, Pa.	Scranton, Pa.	Cincin- nati, Ohio	Indian- apolis, Ind.	Kansas City, Mo.	Minne- apolis, Minn.	St. Louis, Mo.
December 1918	19.5	22.8	16.9	18.8	19.1	15.4	16.6
June 1919	22.3	27.0	22.2	21.7	19.8	18.5	18.1
December 1919	35.7	38.3	35.3	36.9	37.8	32.9	34.0
June 1920	50.6	56.2	51.5	56.4	53.9	47.6	53.6
December 1920	39.5	40.6	35.4	37.8	40.2	38.2	36.7
May 1921	29.1	30.7	23.6	25.0	29.2	26.2	25.5
September 1921	26.3	29.5	21.2	25.2	26.5	25.1	25.5
December 1921	24.1	28.7	17.0	20.7	24.6	24.2	21.6
March 1922	19.6	23.8	14.5	17.6	18.1	20.5	18.5
June 1922	20.1	24.7	16.4	19.8	18.0	20.9	19.6
September 1922	19.6	22.2	14.6	19.2	16.7	18.1	18.0
December 1922	21.1	24.6	14.9	19.8	17.7	20.4	19.1
March 1923	21.1	24.9	16.2	21.0	17.9	20.6	19.6
June 1923	23.7	26.3	18.8	22.1	17.5	20.5	20.8
September 1923	24.5	27.8	19.4	24.4	18.5	20.7	22.8
December 1923	23.8	28.2	18.8	21.8	18.8	21.8	22.5
March 1924	22.6	26.5	19.2	21.0	17.6	21.1	22.0
June 1924	24.6	26.1	19.1	21.0	16.2	19.4	21.5
September 1924	25.1	27.3	19.1	22.3	15.9	18.3	21.8
December 1924	26.1	28.5	19.4	22.4	16.8	19.7	22.9
June 1925	28.7	31.3	25.8	24.1	18.6	20.1	26.2
December 1925	30.9	36.1	26.6	26.8	20.4	24.0	28.9
June 1926	29.6	33.7	27.1	25.1	19.6	23.6	28.4
December 1926	29.2	33.3	26.2	24.2	17.3	21.5	27.8
June 1927	29.0	32.9	28.4	25.6	17.3	21.9	28.3
December 1927	26.7	31.5	23.3	20.7	13.2	18.4	24.2
June 1928	25.1	30.6	24.0	20.3	13.3	18.7	23.4
December 1928	26.5	30.9	23.0	19.6	12.7	17.6	23.0
June 1929	26.1	30.3	24.7	19.6	12.5	18.0	24.1
December 1929	25.4	30.5	25.9	20.8	13.7	19.3	25.1
June 1930	23.4	27.1	24.3	19.3	12.0	18.1	22.6
December 1930	17.4	22.2	19.2	12.8	9.1	13.3	16.6
June 1931	10.7	14.0	11.9	4.8	4.7	8.0	9.0
December 1931	6.0	9.8	7.7	.4	.3	4.3	3.4
June 1932	1.5	2.8	.1	5.5	6.9	2.5	2.1
December 1932	4.8	.2	3.9	9.2	9.4	5.8	6.0
June 1933	8.4	2.6	5.6	10.4	11.1	10.1	7.5
December 1933	4.8	2.7	2.9	7.3	9.7	5.7	5.1
June 1934	2.8	3.8	1.5	5.5	3.3	4.6	3.1
November 15, 1934	2.7	3.6	.8	6.1	6.7	4.1	2.2
March 15, 1935	.9	5.2	2.6	3.1	5.3	2.1	.2
July 15, 1935	.9	5.5	1.3	3.3	6.4	1.8	.4
October 15, 1935	.4	6.3	1.9	2.9	5.6	2.1	(2)

¹ Figures in italics represent decrease.

² Change less than 0.05 percent.

TABLE 3.—PERCENTAGE INCREASE¹ OVER DECEMBER 1917 IN COST OF GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS IN 13 LARGE CITIES—Continued

Date	South Atlantic		East South Central		West South Central	Mountain
	Atlanta, Ga.	Richmond, Va.	Birmingham, Ala.	Memphis, Tenn.	New Orleans, La.	Denver, Colo.
December 1918	19.5	17.5	16.9	18.0	17.5	20.3
June 1919	24.6	20.7	20.7	23.1	19.3	26.2
December 1919	36.7	32.2	35.6	37.7	33.3	40.1
June 1920	51.5	48.5	48.8	52.5	42.7	55.6
December 1920	37.0	33.0	34.4	41.9	36.7	41.3
May 1921	24.7	20.6	23.7	28.3	26.0	31.3
September 1921	21.7	22.0	22.7	29.5	25.6	30.1
December 1921	18.2	19.6	17.8	26.7	24.7	28.0
March 1922	14.9	15.8	13.4	22.4	23.0	25.4
June 1922	15.3	16.4	13.4	22.5	21.5	24.1
September 1922	14.5	14.4	13.2	21.9	20.3	21.9
December 1922	14.1	15.2	14.1	21.5	20.2	23.5
March 1923	14.5	15.4	14.4	22.4	19.5	23.1
June 1923	15.5	17.4	16.3	23.4	20.2	24.5
September 1923	17.1	19.3	16.8	24.2	21.6	25.1
December 1923	15.3	18.3	17.3	24.1	22.1	25.3
March 1924	13.7	16.8	16.0	22.6	21.3	22.2
June 1924	13.8	15.6	14.6	21.3	19.2	22.2
September 1924	13.9	16.8	16.3	22.2	20.4	21.8
December 1924	14.1	17.4	17.5	22.7	22.3	23.7
June 1925	17.6	19.5	19.7	24.0	22.2	26.9
December 1925	20.4	24.2	22.1	26.5	24.2	27.1
June 1926	19.0	23.4	20.8	24.4	21.6	25.8
December 1926	16.9	21.3	19.9	23.4	22.8	24.4
June 1927	19.4	21.5	18.2	23.3	23.1	25.1
December 1927	13.6	17.6	17.3	19.8	21.5	19.7
June 1928	14.6	17.9	15.3	19.1	20.1	19.2
December 1928	14.3	16.2	14.4	19.6	21.1	19.6
June 1929	13.0	15.2	13.7	19.8	19.5	19.9
December 1929	12.8	16.3	12.8	19.3	20.3	20.1
June 1930	8.8	15.7	10.6	18.4	17.6	18.7
December 1930	4.1	10.2	4.8	12.7	12.6	13.2
June 1931	2.2	3.9	5.3	5.3	3.5	7.5
December 1931	7.6	1.0	9.7	1.3	2.7	3.0
June 1932	12.1	5.3	16.8	5.0	3.5	2.8
December 1932	16.7	10.3	19.6	8.9	5.6	6.2
June 1933	17.4	10.8	21.1	9.7	8.3	7.5
December 1933	13.6	5.9	17.7	6.1	3.8	5.5
June 1934	12.2	4.6	16.7	5.0	3.8	3.3
November 1934	10.7	3.7	13.9	2.7	1.5	1.9
March 1935	9.2	2.3	13.7	1.9	.3	.8
July 1935	9.3	2.6	13.1	3.1	.3	.8
October 1935	7.9	1.4	11.7	2.9	1.0	.5

¹ Figures in italics represent decrease.

The revised indexes of the cost of goods purchased by wage earners and lower-salaried workers are now constructed quarterly, for each of the 32 cities surveyed, and for these cities combined, using an average of the years 1923-25 as the base (100). The new base was chosen in order to make these indexes comparable with others frequently used in conjunction with the cost-of-living index (notably the Bureau's indexes of employment and pay rolls and the indexes of industrial production published by the Federal Reserve Board). The indexes for the 32 cities and for these cities combined as of October 15, 1935, on the 1923-25 base, are presented in table 4.

The new indexes on the 1923-25 base are comparable with the figures published in tables 5 and 6 of the Bureau of Labor Statistics pamphlet (serial no. R. 258), on Changes in Cost of Living, July 15, 1935, which show changes in costs from earlier dates. Persons desiring indexes on the earlier bases may secure them by writing to the Bureau of Labor Statistics.

TABLE 4.—INDEXES OF THE COST OF THE GOODS PURCHASED BY WAGE EARNERS AND LOWER-SALARIED WORKERS, OCTOBER 15, 1935

[Average 1923-25=100]

Region and city	All items	Food	Clothing	Rent	Fuel and light	House-furnish- ing goods	Miscella- neous
Average, 32 cities.....	80.7	80.2	78.0	63.3	88.0	77.0	96.6
New England:							
Boston.....	82.9	77.7	83.3	75.7	85.4	77.1	98.2
Portland, Maine.....	85.0	78.7	80.4	77.1	88.3	85.0	103.2
Middle Atlantic:							
Buffalo.....	81.6	79.0	75.9	64.9	101.0	79.5	98.5
New York.....	83.4	82.0	78.3	75.2	88.2	74.6	96.4
Philadelphia.....	80.9	81.5	73.6	65.3	83.0	76.3	95.9
Pittsburgh.....	79.6	78.9	76.2	60.7	89.3	75.5	96.8
Scranton.....	82.8	77.5	79.7	73.3	84.2	84.3	99.0
East North Central:							
Chicago.....	76.1	80.2	72.1	50.6	89.6	69.9	98.7
Cincinnati.....	84.5	83.8	76.5	72.9	92.8	83.0	96.9
Cleveland.....	81.5	78.9	79.6	58.9	99.6	74.0	102.2
Detroit.....	75.9	79.6	77.6	54.1	83.3	76.3	89.8
Indianapolis.....	79.1	78.3	74.7	57.2	88.5	80.8	93.0
West North Central:							
Kansas City.....	80.1	81.1	76.6	58.0	81.8	74.7	97.2
Minneapolis.....	81.3	83.2	76.8	63.6	91.0	79.3	95.1
St. Louis.....	81.2	83.2	78.2	55.1	86.5	83.1	100.3
South Atlantic:							
Atlanta.....	79.6	78.5	80.1	58.7	71.6	86.0	93.1
Baltimore.....	84.7	84.4	78.7	70.5	86.8	75.3	103.2
Jacksonville.....	78.9	78.4	78.7	54.9	88.1	79.1	90.2
Norfolk.....	84.1	80.2	84.4	62.7	83.1	81.1	103.3
Richmond.....	83.6	77.5	83.2	68.6	82.0	87.0	99.5
Savannah.....	81.2	81.8	81.3	58.7	81.9	81.7	95.7
Washington, D. C.....	86.3	84.9	76.9	84.8	86.0	80.0	97.3
East South Central:							
Birmingham.....	75.3	73.6	81.8	47.6	81.5	74.4	92.2
Memphis.....	78.7	76.9	83.3	54.5	82.2	84.0	94.3
Mobile.....	82.1	76.2	86.5	62.9	70.4	81.1	99.7
West South Central:							
Houston.....	79.4	77.4	74.1	65.3	73.9	80.5	94.7
New Orleans.....	81.4	82.9	75.5	70.5	76.5	82.5	90.1
Mountain: Denver	80.9	85.3	75.9	56.6	73.1	84.0	97.3
Pacific:							
Los Angeles.....	75.2	72.6	81.6	44.9	103.6	75.1	91.6
Portland, Oreg.....	79.3	76.6	77.8	53.4	83.7	77.6	98.2
San Francisco.....	84.0	80.9	86.4	69.6	84.4	78.9	98.0
Seattle.....	82.2	77.0	84.5	61.7	92.6	84.3	96.4

Changes in Cost of Living in the United States and Foreign Countries

THE trend of cost of living in the United States and certain foreign countries for June and December 1932, 1933, 1934, and March, July, and October 1935 is shown in the following table. In cases where data for October 1935 are not available, the latest information is given and the month noted. The number of countries included varies according to the available information.

A general index and index numbers for the individual groups of items are presented for all countries shown with the exception of Australia, Ireland, the Netherlands, Peru, South Africa, and Yugoslavia. Four countries publish a general index and an index number for food only.

Caution should be observed in the use of the figures because of differences in the base periods, in the number and kind of articles included, and the number of localities represented. There are also very radical differences in the method of the construction and calculation of the indexes.

INDEX NUMBERS OF COST OF LIVING FOR SPECIFIED PERIODS FOR THE UNITED STATES AND CERTAIN FOREIGN COUNTRIES

Country.....	United States	Australia (30 towns)	Austria, Vienna	Belgium	Canada	China, Shanghai	Czechoslovakia, Prague	Estonia, Tallinn
Commodities included.....	Food, clothing, fuel and light, rent, house-furnishing goods, miscellaneous (revised)	Food, clothing, rent, miscellaneous	Food, clothing, fuel and light, rent, sundries ¹	Food, clothing, fuel and light, rent, sundries	Food, clothing, fuel, rent, sundries	Food, clothing, fuel and light, rent, miscellaneous	Food, clothing, fuel and light, rent, sundries ¹	Food, clothing, fuel and light, rent, etc.
Computing agency..	Bureau of Labor Statistics	Bureau of Census and Statistics	Federal Statistical Bureau	Ministry of Labor and Social Welfare	Dominion Bureau of Statistics	National Tariff Commission	Office of Statistics	Bureau of Statistics
Base period.....	1913=100	1923-27=1,000	July 1914=100	1921=100	1926=100	1926=100	July 1914=100	1913=100
General:								
1932-June.....	138.9	835	109	179.7	81.0	121.3	103.6	95
December.....	133.5	811	107	187.9	79.5	108.0	103.8	89
1933-June.....	129.8	803	106	177.2	77.0	105.4	102.7	85
December.....	134.6	805	106	183.3	77.9	102.6	99.6	90
1934-June.....	136.5	818	105	168.5	78.0	98.5	84.7	88
December.....	137.8	820	105	174.5	78.9	110.4	82.7	85
1935-March.....	140.4	824	104	164.7	78.8	104.8	83.3	87
July.....	140.2	836	105	174.8	78.8	105.2	86.5	87
October.....	140.7		106	185.5	80.4	103.9	85.5	93
Food:								
1932-June.....	107.2	803	113	143.8	62.1	107.3	101.4	80
December.....	102.6	759	109	156.9	64.0	84.5	102.3	75
1933-June.....	102.8	759	106	143.4	62.2	84.1	98.8	74
December.....	110.0	769	104	153.6	66.6	79.8	92.7	79
1934-June.....	116.1	777	102	134.0	67.6	75.4	79.6	77
December.....	119.1	794	100	144.0	69.3	90.4	75.8	72
1935-March.....	126.3	795	98	130.8	69.5	85.7	76.7	76
July.....	127.1	812	102	143.8	69.3	90.3	83.5	76
October.....	127.1	827	103	159.5	72.4	86.3	81.4	83
Clothing:								
1932-June.....	131.9		162	236.1	71.9	98.3	100.5	141
December.....	124.7		162	231.9	69.2	92.0	96.1	136
1933-June.....	122.8		159	225.2	66.1	89.5	95.4	120
December.....	136.7		157	222.3	69.2	87.4	95.4	134
1934-June.....	139.8		157	215.9	70.1	83.4	81.0	129
December.....	139.7		157	212.0	71.0	82.7	82.1	129
1935-March.....	139.9		157	206.6	70.3	80.7	83.0	128
July.....	139.6		157	214.1	69.9	77.9	83.0	131
October.....	140.1		157	215.1	71.6	77.6	83.2	135
Fuel and light:								
1932-June.....	165.0		194	173.8	90.7	131.7	117.5	65
December.....	166.9		195	177.0	89.1	128.7	117.4	64
1933-June.....	167.8		195	164.9	87.7	115.9	114.7	67
December.....	167.3		112	161.7	87.3	114.4	114.7	60
1934-June.....	162.9		109	151.7	87.2	101.2	95.6	62
December.....	165.4		109	149.6	88.4	113.7	96.2	60
1935-March.....	168.9		109	149.8	88.7	123.3	96.2	54
July.....	157.8		109	155.0	84.7	101.8	93.7	56
October.....	163.0		109	154.1	86.5	116.3	94.7	65
Rent:								
1932-June.....	127.8		28	398.5	93.9	107.3	54.4	144
December.....	118.3		28	397.5	90.0	108.8	54.4	135
1933-June.....	108.7		28	394.8	84.0	109.8	54.9	120
December.....	104.0		28	393.1	80.4	110.2	54.9	114
1934-June.....	102.1		29	392.2	79.7	110.3	45.7	112
December.....	102.0		31	391.2	80.3	111.4	45.7	112
1935-March.....	101.8		31	389.8	80.3	111.4	45.7	112
July.....	102.1		31	391.6	81.4	111.4	45.7	112
October.....	103.1		31	392.0	82.6	111.0	45.7	116

¹ In schillings.

² Gold.

³ Quarter.

⁴ November.

INDEX NUMBERS OF COST OF LIVING FOR SPECIFIED PERIODS FOR THE UNITED STATES AND CERTAIN FOREIGN COUNTRIES—Continued

Country.....	Finland	France, Paris	Germany	Hungary	India, Bombay	Ireland	Italy, Milan	Nether- lands, Amster- dam
Commodities includ- ed.....	Food, clothing, fuel, rent, light, taxes, etc.	Food, clothing, fuel and rent, sun- dries	Food, clothing, fuel and light, rent, sun- dries	Food, clothing, fuel and light, rent	Food, clothing, fuel and light, rent	Food, clothing, fuel and light, rent, sun- dries	Food, clothing, fuel and light, rent, sun- dries	Food, all com- modities
Computing agency...	Ministry of Social Affairs	Commis- sion for study of cost of living	Federal Statisti- cal Bu- reau	Central Office of Statistics	Labor Industry	Depart- ment of Industry and Com- merce	Municip- al Admi- nistrat- ion	Bureau of Sta- tistics
Base period.....	January- June 1914= 100	January- June 1914= 100	1913-14= 100	1913= 100	July 1914= 100	July 1914= 100	January- June 1914=100	1911-13= 100
General:								
1932—June.....	1,003.4	3 535	120.5	98.9	107	3 159	471.7	140.9
December.....	1,021.1	3 516	118.2	94.8	110	3 155	468.0	140.2
1933—June.....	985.3	3 516	118.0	92.1	104	3 148	446.7	137.4
December.....	990.6	3 526	120.6	87.8	98	3 156	449.9	142.5
1934—June.....	965.8	3 522	120.5	90.4	95	3 149	419.3	139.9
December.....	1,001.2	3 504	122.2	88.2	99	3 157	423.8	138.8
1935—March.....	979.0	3 494	122.2	89.4	98	3 153	422.9	136.7
July.....	996.0	3 469	124.3	92.8	101	3 156	430.3	3 135.8
October.....	1,021.3	-----	122.8	93.0	103	3 162	-----	3 135.6
Food:								
1932—June.....	871.0	3 567	115.6	93.3	99	3 144	438.0	119.2
December.....	910.2	3 531	112.9	86.7	103	3 135	433.9	119.2
1933—June.....	881.7	3 532	113.7	84.4	95	3 126	402.9	116.5
December.....	881.2	3 548	117.8	74.3	88	3 140	408.9	128.3
1934—June.....	852.0	3 544	117.8	79.6	85	3 129	383.3	123.1
December.....	922.1	3 516	119.1	75.7	90	3 143	390.5	122.3
1935—March.....	884.6	3 494	118.8	78.2	89	3 136	389.8	118.3
July.....	908.9	3 466	122.9	84.7	93	3 140	397.4	3 117.6
October.....	947.1	-----	119.6	84.2	94	3 150	-----	3 117.2
Clothing:								
1932—June.....	979.1	3 499	112.0	111.2	115	-----	371.8	-----
December.....	978.2	3 499	107.3	109.1	116	-----	366.1	-----
1933—June.....	963.6	3 499	105.8	101.3	115	-----	347.7	-----
December.....	958.6	3 504	108.2	104.4	111	-----	347.6	-----
1934—June.....	958.0	3 504	109.8	101.7	111	-----	329.3	-----
December.....	957.7	3 490	116.1	101.7	114	-----	351.4	-----
1935—March.....	956.7	3 490	117.2	101.7	114	-----	351.4	-----
July.....	956.3	3 490	117.8	101.7	112	-----	352.5	-----
October.....	959.4	-----	118.4	103.6	112	-----	-----	-----
Fuel and light:								
1932—June.....	865.9	3 592	125.4	136.6	137	-----	403.6	-----
December.....	887.4	3 617	128.0	133.7	137	-----	394.4	-----
1933—June.....	878.1	3 585	125.1	128.8	136	-----	393.3	-----
December.....	897.1	3 613	128.0	133.7	136	-----	392.2	-----
1934—June.....	898.8	3 563	124.6	135.2	136	-----	382.2	-----
December.....	896.7	3 595	127.5	133.7	136	-----	388.5	-----
1935—March.....	922.3	3 592	127.6	133.1	136	-----	382.9	-----
July.....	913.4	3 533	124.6	132.7	136	-----	384.4	-----
October.....	938.6	-----	126.8	134.6	136	-----	-----	-----
Rent:								
1932—June.....	1,263.9	3 360	121.4	86.3	158	-----	445.1	-----
December.....	1,252.0	3 375	121.4	86.3	158	-----	490.5	-----
1933—June.....	1,132.1	3 375	121.3	86.3	158	-----	488.9	-----
December.....	1,132.1	3 375	121.3	86.3	158	-----	491.0	-----
1934—June.....	1,082.6	3 375	121.3	86.3	158	-----	431.9	-----
December.....	1,082.6	3 375	121.2	86.3	158	-----	431.7	-----
1935—March.....	1,082.6	3 400	121.2	86.3	158	-----	431.1	-----
July.....	1,101.2	3 363	121.2	86.3	158	-----	431.1	-----
October.....	1,101.2	-----	121.3	86.3	158	-----	-----	-----

3 Quarter.

4 For preceding month.

INDEX NUMBERS OF COST OF LIVING FOR SPECIFIED PERIODS FOR THE UNITED STATES AND CERTAIN FOREIGN COUNTRIES—Continued

Country.....	New Zealand	Norway	Peru, Lima	South Africa	Sweden	Switzerland	United Kingdom	Yugoslavia, Beograd
Commodities included.....	Food, clothing, fuel, light, rent, sundries	Food, clothing, fuel, light, rent, sundries	Food, clothing, rent, sundries	Food, fuel, light, rent, sundries	Food, clothing, fuel and light, rent, taxation, sundries	Food, clothing, fuel, light, rent, sundries	Food, clothing, fuel, light, rent, sundries	Food, clothing, fuel and light
Computing agency.....	Census and Statistics Office	Central Statistical Office	Office of Investigations	Office of Census and Statistics	Board of Social Welfare	Federal Labor Office	Ministry of Labor	National Bank
Base period.....	1928-30=1,000	July 1914=100	1913=100	1914=1,000	July 1914=100	June 1914=100	July 1914=100	1926=100
General:								
1932—June.....	* 839	149	152	1,179	* 157	138	142	75.1
December.....	* 806	148	150	1,146	* 156	134	143	74.3
1933—June.....	* 796	147	149	1,148	* 153	131	136	74.5
December.....	* 800	146	148	1,174	* 154	131	143	74.2
1934—June.....	* 812	148	151	1,164	* 153	129	138	70.9
December.....	* 811	149	150	1,157	* 155	129	144	69.4
1935—March.....	* 826	149	152	1,167	* 155	127	141	70.7
July.....	* 886	151	152	1,156	* 156	128	143	68.0
October.....	* 851	153	153	1,146	* 157	129	145	69.9
Food:								
1932—June.....	778	133	144	963	* 125	125	123	77.0
December.....	713	132	137	926	* 125	120	125	76.0
1933—June.....	723	130	138	889	* 119	116	114	75.3
December.....	751	129	140	1,050	* 123	117	126	73.5
1934—June.....	778	132	149	1,041	* 120	115	117	73.2
December.....	792	134	146	1,021	* 125	114	127	70.9
1935—March.....	819	135	148	1,024	* 124	112	122	72.6
July.....	826	140	147	1,019	* 129	115	126	71.0
October.....	875	142	147	998	* 131	117	128	72.5
Clothing:								
1932—June.....	* 826	144	159	-----	* 168	127	190	71.2
December.....	* 784	143	147	-----	* 167	122	188	70.5
1933—June.....	* 821	142	150	-----	* 163	117	185	77.1
December.....	* 823	143	150	-----	* 163	115	185	78.0
1934—June.....	* 833	144	158	-----	* 165	115	188	78.9
December.....	* 834	144	167	-----	* 167	115	188	74.8
1935—March.....	* 831	144	167	-----	* 168	115	188	73.7
July.....	* 829	143	170	-----	* 167	114	183	71.2
October.....	* 825	145	173	-----	* 167	112	185	70.7
Fuel and light:								
1932—June.....	* 978	146	-----	-----	* 149	121	170	81.1
December.....	* 954	142	-----	-----	* 144	121	173	78.7
1933—June.....	* 894	139	-----	-----	* 139	118	168	75.2
December.....	* 849	137	-----	-----	* 136	119	170	75.7
1934—June.....	* 856	136	-----	-----	* 136	116	168	73.4
December.....	* 835	138	-----	-----	* 136	116	170	73.7
1935—March.....	* 837	138	-----	-----	* 137	115	173	73.2
July.....	* 874	139	-----	-----	* 137	113	168	71.4
October.....	* 876	141	-----	-----	* 138	113	170	71.5
Rent:								
1932—June.....	* 816	172	155	-----	* 206	187	154	-----
December.....	* 795	172	155	-----	* 206	187	155	-----
1933—June.....	* 768	172	150	-----	* 202	184	156	-----
December.....	* 761	168	150	-----	* 202	184	156	-----
1934—June.....	* 758	168	146	-----	* 202	182	156	-----
December.....	* 761	166	146	-----	* 201	182	156	-----
1935—March.....	* 766	166	153	-----	* 201	182	156	-----
July.....	* 776	166	153	-----	* 198	180	158	-----
October.....	* 776	166	156	-----	* 198	180	158	-----

* Quarter.

Cost of Living of Federal Employees in Washington, D. C.

THE Economy Act of March 20, 1933 (H. R. 2820), directed the President of the United States to reduce salaries of Federal employees in accordance with the reduction in the cost of living until that reduction equaled 15 percent of basic salaries or salaries in effect when the act was passed. The act further empowered the President to restore salaries when changes in the cost of living warranted such action. The base period for the index of living costs to be calculated in connection with the administration of the act was specified as the 6 months ending June 30, 1928.

The section of the law providing for such an index number was as follows:

The President is authorized to investigate through established agencies of the Government the facts relating to the cost of living in the United States during the 6-month period ending June 30, 1928, to be known as the base period, and upon the basis of such facts and the application thereto of such principles as he may find proper, determine an index figure of the cost of living during such period. The President is further authorized to make a similar investigation and determination of an index figure of the cost of living during the 6-month period ending December 31, 1932, and each 6-month period thereafter.

It was decided to make an original investigation of the expenditures of only those Federal employees in Washington. This investigation would provide weights for indexes of the cost of living of the employees in that city, which could be used in connection with the index for the cost of living of wage earners for the entire United States in settling the salary question.

The computation of such an index number raised a number of questions. How did Federal employees spend their incomes in 1928? How did Federal employees spend if single? Did single men divide their disbursements in the same way as single women? It was reasonable to suppose that the disbursements of employees living as single individuals would be quite different from those of married employees, but there were no figures showing exactly what their disbursements were when there was a given income to be spent. There were no figures showing the effect upon disbursements when there were only two in the family and both were working outside the home, or when a woman was the sole support of one or more children. Other studies had shown the general effect of size of family and of amount of income on spending, but data on the combined effect of large families and small incomes and of smaller families and larger incomes among Federal employees living in Washington were lacking.

How Federal Employees Spent Their Incomes in the Year Ending June 30, 1933

ACCORDINGLY, in connection with the administration of this act, the Bureau of Labor Statistics with the cooperation of the Bureau of Home Economics of the Department of Agriculture undertook a study of the money disbursements of Federal employees living in Washington, D. C., in the fall of 1933.

Data on basic salary, living arrangements, and family composition of Federal employees were secured by means of a questionnaire circulated in all Government departments, and answers were received from 50,573 of the approximately 66,000 Federal employees working in Washington during the fall of 1933. After an analysis of the figures from this questionnaire, it was decided to investigate the disbursements of employees of the chief types of family organization and civil-service classifications within the important salary groups, selecting individual cases by lot from within these representative groups.

Employees living as single individuals and eating their meals at restaurants and boarding houses were chosen from among those with basic salaries from \$1,500 to \$2,000, and employees living in family groups were chosen from among families of 5 different types, 1 type with basic salaries from \$1,000 to \$1,500, 3 with basic salaries from \$1,500 to \$2,000, and 1 with basic salaries from \$3,000 to \$4,000.

Altogether, 489 Federal employees were included in the investigation—47 men and 76 women living as single individuals, and 276 men and 90 women living in family groups.

Complete figures on disbursements of all kinds for the year 1932-33, and more fragmentary data for 1927-28 were obtained from 366 Federal employees living in family groups and 123 employees living as single individuals. Further material on expenditures for certain specified items in the first 6 months of 1928 was collected from a larger number of employees.

The following table presents the average disbursements of these employees and their families in the year ending June 30, 1933, based on 459 schedules from the following groups: 47 men and 76 women, living as single individuals, with basic salaries of \$1,500 to \$2,000, from all civil-service groups; and the families of 105 employees in the custodial service, with basic salaries from \$1,000 to \$1,500; a total of 127 employees in the clerical-administrative-fiscal service, with basic salaries from \$1,500 to \$2,000, representing three family types; and 104 families of employees in the professional service with basic salaries from \$3,000 to \$4,000.

AVERAGE DISBURSEMENTS, DURING THE YEAR ENDING JUNE 30, 1933, OF FEDERAL EMPLOYEES LIVING AS SINGLE INDIVIDUALS, AND FAMILIES OF FEDERAL EMPLOYEES IN WASHINGTON, D. C.

Item	Single individuals: All branches of the civil service		Federal employees and their families: Employees in the—				
	Men	Women	Custodial service ¹	Clerical-administrative-fiscal service			Professional service ⁴
				Type 1 ²	Type 2 ³	Type 3 ⁴	
Number of Federal employees.....	47	76	108	44	26	84	104
Number of families.....			105	44	26	57	104
Average size of family, in persons.....			5.25	3.14	2.69	2.00	3.30

¹ Families consisting of husband and wife and children under 16 years of age and sometimes others, with 1 or more contributors to money income.

² Families consisting of husband and wife only, of husband and wife and children under 16 years of age, and sometimes others, with husband only contributor to money income.

³ Families consisting of a woman Federal employee and a dependent child or children under 16 years of age of whom she was sole support.

⁴ Families consisting of husband and wife only, both contributing to money income.

AVERAGE DISBURSEMENTS, DURING THE YEAR ENDING JUNE 30, 1933, OF FEDERAL EMPLOYEES LIVING AS SINGLE INDIVIDUALS, AND FAMILIES OF FEDERAL EMPLOYEES IN WASHINGTON, D. C.—Continued

Amount

Item	Single individuals: All branches of the civil service		Federal employees and their families: Employees in the—				
	Men	Women	Custodial service	Clerical-administrative-fiscal service			Professional service
				Type 1	Type 2	Type 3	
Total expenditures and savings.....	\$1,779	\$1,752	\$1,567	\$1,797	\$1,743	\$3,535	\$3,378
Current expenditures:							
Food.....	440	392	442	409	431	617	666
Clothing.....	147	196	156	143	186	334	288
Housing.....	250	254	360	447	438	557	594
Household operation.....	95	50	172	181	165	278	358
Furnishings and equipment.....	8	19	40	46	42	135	131
Transportation.....	124	103	69	107	82	309	266
Personal care.....	29	33	26	27	31	67	45
Medical care.....	62	59	64	62	83	126	167
Recreation.....	171	59	60	66	47	153	137
Formal education.....	30	8	7	9	18	20	18
Vocation.....	2	2	1	(⁵)	1	9	8
Community welfare.....	47	72	14	18	11	78	65
Gifts and contributions to persons outside the family.....	125	243	20	39	34	283	114
Miscellaneous items.....	22	35	16	6	10	53	18
Savings:							
Life insurance.....	64	57	44	63	83	163	208
Retirement fund.....	61	61	50	60	59	95	114
Other savings and investments.....	104	109	26	114	22	258	181

Percent

	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total expenditures and savings.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Current expenditures:							
Food.....	24.8	22.3	28.2	22.7	24.6	17.4	19.7
Clothing.....	8.3	11.2	10.0	8.0	10.7	9.4	8.5
Housing.....	14.1	14.5	22.9	24.9	25.0	15.8	17.6
Household operation.....	5.3	2.8	11.0	10.1	9.5	7.9	10.6
Furnishings and equipment.....	.3	1.1	2.6	2.6	2.4	3.8	3.9
Transportation.....	7.0	5.9	4.4	5.9	4.7	8.7	7.9
Personal care.....	1.6	1.9	1.7	1.5	1.8	1.9	1.3
Medical care.....	3.5	3.4	4.1	3.5	4.8	3.6	4.9
Recreation.....	9.6	3.3	3.8	3.7	2.7	4.3	4.1
Formal education.....	1.7	.5	.4	.5	1.0	.6	.5
Vocation.....	.1	.1	(⁶)	(⁶)	.1	.3	.2
Community welfare.....	2.6	4.1	.9	1.0	.6	2.2	1.9
Gifts and contributions to persons outside the family.....	7.0	13.9	1.3	2.2	2.0	8.0	3.4
Miscellaneous items.....	1.2	2.0	1.0	.3	.6	1.5	.5
Savings:							
Life insurance.....	3.6	3.3	2.8	3.5	4.8	4.6	6.2
Retirement fund.....	3.4	3.5	3.2	3.3	3.4	2.7	3.4
Other savings and investments.....	5.9	6.2	1.7	6.3	1.3	7.3	5.4

⁵ Less than 50 cents.

⁶ Less than 0.05 percent.

Preliminary reports of the study appeared in the Monthly Labor Review for March and July 1934.

Adjustment of Federal Employees' Salaries to the Cost of Living

ON THE basis of the study made in Washington, D. C., index numbers were computed for major categories of expenditure, with the first 6 months of 1928 as a base.

These index numbers for families of three categories of Federal employees and for Federal employees living as single individuals are shown for December 1933 and June 1934, and for all employees for March 1933, December 1933, and June 1934, in the following table. The indexes for March 1933 for the separate groups of Federal employees were published in the Monthly Labor Review for July 1934, and for June 1934 in the August 1934 Monthly Labor Review.

INDEXES OF THE COST OF GOODS PURCHASED BY FEDERAL EMPLOYEES FOR MARCH 1933, DECEMBER 1933, AND JUNE 1934

[First 6 months of 1928=100]

Commodity group	Employees living in family groups						Employees living as single individuals		All employees		
	Custodial employees with basic salaries less than \$2,500 ¹		Other employees with basic salaries less than \$2,500 ²		Employees with basic salaries of \$2,500 and over ³		December 1933 ⁴	June 1934	March 1933	December 1933 ⁴	June 1934
	December 1933 ⁴	June 1934	December 1933 ⁴	June 1934	December 1933 ⁴	June 1934					
All commodity groups.....	82.8	83.9	84.8	86.5	84.9	86.3	88.0	88.8	82.7	85.2	86.5
Food.....	69.6	72.4	71.6	75.5	70.6	72.7	82.4	83.1	70.9	72.8	75.5
Clothing.....	85.3	87.5	83.1	85.0	83.8	85.5	82.4	83.7	67.1	83.4	85.1
Housing.....	88.3	87.7	89.0	89.2	89.2	90.0	85.8	85.9	91.6	88.6	88.8
Household operation.....	88.5	86.1	88.0	86.5	86.5	85.1	95.2	94.9	87.2	87.9	86.5
Furnishings and equipment.....	87.3	91.2	87.3	91.2	87.2	91.3	87.9	92.7	71.3	87.3	91.3
Transportation.....	94.8	96.9	88.0	91.8	86.4	90.7	94.6	96.3	87.7	88.6	92.2
Personal care.....	93.1	86.6	87.8	84.2	89.7	86.5	86.9	85.3	89.9	88.5	85.2
Medical care.....	97.9	98.2	95.8	96.0	95.3	95.5	96.5	96.6	96.0	95.9	96.0
Recreation.....	94.4	97.4	91.7	93.8	90.3	93.3	93.7	95.7	91.4	91.9	94.3
Formal education.....	110.1	110.1	108.7	108.7	107.1	107.1	108.7	108.7	107.8	108.1	108.1
Life insurance.....	105.5	106.1	105.5	106.1	105.5	106.1	105.5	106.1	105.3	105.5	106.1
Retirement fund.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹ Average size of family 5.25 persons.

² Average size of family 2.56 persons.

³ Average size of family 3.30 persons.

⁴ Revised figures.

The all-employees' index is constructed by combining the indexes for employees living in family groups at different salary levels and for employees living as single individuals, weighted according to the distribution of Federal employees living in Washington, D. C., among these categories.

On the basis of the findings of this investigation, the 15 percent reduction of salary for Federal employees remained in effect until February 1934 when the reduction was decreased from 15 to 10 percent by act of Congress. In July 1934 Congress further cut the reduction from 10 to 5 percent, and in April 1935 full pay was restored.

New Study of Money Disbursements of Wage Earners and Lower-Salaried Clerical Workers

IN THE fall of 1934 the Bureau of Labor Statistics began a new study of the purchases of employed wage earners and lower-salaried clerical workers throughout the United States.

The first purpose of the general investigation was to provide a basis for revising and extending the Bureau's current indexes of the cost of goods purchased by wage earners and lower-salaried clerical workers. These indexes now represent changes in the cost of those commodities and services shown to be most important in the family expenditures of this group by a study covering 1917-19. A number of studies of consumer purchasing have been made since that time by various agencies, but they have not been sufficiently extensive or coordinated to provide the data needed either for revising the Bureau's cost-of-living indexes or for estimating present-day consumer demand.

Content of the Investigation

DETAILED information is being obtained on the amount and the regularity of the income of representative urban workers, on their purchases of goods, on other types of money disbursements (repayment of debts accumulated in previous years, investments in life insurance, and savings as such), the kinds of merchandising outlets at which they buy, the time of year at which they purchase specific goods, the kind of housing facilities they have, and the conditions under which they pay for purchased homes. From about one-quarter of the families interviewed records of food consumption are being secured in such form as will make it possible to evaluate the nutritional content of the food consumed in relation to the needs of the families studied.

Methods of the Investigation

THE data are secured by the "schedule method." Interviewers visit the workers and their families with carefully prepared schedules, and obtain detailed estimates of money income and outgo during the past year. This method has the advantage of being relatively inexpensive as compared with securing personal and household accounts from a representative sample of wage earners and lower-salaried clerical workers. It also provides more accurate information than either a mailed questionnaire or a shorter schedule filled out in a personal interview, which does not include enough information to make possible a balance of receipts and disbursements. The detailed data on food purchases and consumption are obtained by a weekly record kept for each family for four different seasons of the year. These accounts are being supervised by trained field workers who make daily visits to the families during the weeks when the records are kept.

Selection of Sample

IT is planned to study the expenditures of single individuals and of family groups in representative cities and towns of over 2,500 population throughout the United States, coordinating the information secured with similar data for farm and small-town groups, which the Bureau of Home Economics of the Department of Agri-

culture is obtaining. The number of communities to be studied will depend in part on the results shown by the data secured in the early stages of the investigation. These data are being analyzed to determine whether there are significant differences in the purchasing habits of wage-earner and lower-salaried clerical groups in cities of different size in the same general area, and in cities of approximately the same size but with different economic characteristics. The fragmentary data on purchasing habits now available do not make it possible to say how far data for one city of a given size and type in a given region may be used as representative of other cities in that region.

Priority is being given to the study of the consumption of family groups. In some cities data regarding expenditures of single individuals will also be secured.

The families being studied are chosen to represent a cross section of the employed wage earners and lower-salaried clerical workers. Although the Bureau recognizes the importance of data on purchases by higher-salaried clerical workers, professional persons, managers and officials, and those in business for themselves, the limited funds available have made it necessary to confine the project to the wage-earner and lower-salaried clerical groups.

It is important that the data which will be used as a basis for computing index numbers of the living costs of these groups should not reflect the distorted spending of families whose incomes have been abnormally low and irregular because of unemployment. The sample studied does not include families who received relief during the year covered, or families in which there has not been at least 1 earner who had a minimum of 3½ days' employment in each of 36 weeks during the year. Families with incomes under \$500 a year have also been omitted from the study.¹

Results of International Cost-of-Living Inquiry, 1930-31

THE results of an international cost-of-living inquiry carried on during 1930 and 1931 by the International Labor Office were presented in a report of that office entitled "International working-class living costs." This inquiry was originally undertaken by the International Labor Office at the request of the Ford Motor Co., which desired information regarding the extent to which cost of living varied in certain European cities, where it had established or contemplated establishing plants, in relation to the city of Detroit, in order that it might consider the possibility of fixing its minimum wage rates in its European factories at levels which would secure for the employees in such plants living standards equivalent to those of its Detroit employees.

The first step was to ascertain just how the Detroit employees lived. The United States Bureau of Labor Statistics undertook this part of the inquiry, and in the early part of 1930 made a survey covering a

¹ Since this article was written, late in 1935, another study of money disbursements has been undertaken by the Bureau of Labor Statistics as a Works Progress Administration project in cooperation with the National Resources Committee and the United States Department of Agriculture. In this investigation, data on family incomes and family purchases will be obtained from groups with very low incomes and with higher incomes up to \$10,000.

group of 100 families, in which the husband was employed by the Ford Motor Co. at, or approximately at, the minimum of \$7 per day established by that company, and during the preceding year had worked approximately 250 days. Each of these families consisted of a husband, wife, and two or three children. The 100 families were thus quite homogeneous both as regards composition and income. The average expenditure of these families was \$1,720 during the year 1929. A report giving the full results of this survey was published in the Monthly Labor Review for June 1930 and summarized in the 1931 Handbook (Bul. No. 541). This report showed how the total annual expenditure of \$1,720 was distributed, giving for each item of food, clothing, etc., the average amount of money spent and also, with a few unavoidable exceptions, the exact quantity of goods or services obtained for the money spent.

The next step was to ascertain what the Detroit standard of living, i. e., the quantities of goods and services consumed by the Detroit employees, would cost in the European cities. This phase of the inquiry was carried on by the International Labor Office, which enlisted the cooperation of the national statistical organizations in the several countries. Many difficulties were encountered. In general, however, there was involved only one problem of a seriously controversial character. This had to do with the question of substituting items, especially certain food items, for those in the Detroit budget in order to meet possible differences in national or racial habits of consumption. The difficulty was in determining whether existing differences in consumption habits were due to real differences in taste or merely to differences in income.

The International Labor Office, in the report giving the results of its European inquiries, stated that this problem of "consumption habits" was thoroughly examined, and that, while local standards were taken into account, this was done in such a way as to obviate the objection that such procedure would bias the results.

The results of the inquiry by the International Labor Office are shown in the accompanying table. In it the cost of living in Detroit is taken as the base or 100, and the relative cost of living in each of 14 European cities is shown as a percentage of the Detroit base. For certain cities no single figure could be agreed upon, and for these, minimum and maximum figures are given. Further, it is to be noted that while the inquiries in the various cities were necessarily made at various periods during 1930 and 1931, the attempt has been made to bring all the figures to a uniform time base (January 1931) by utilizing the available information as to changes in the cost of living in the several cities, including Detroit.

Because of the difficulties involved, the International Labor Office, in submitting the results of its inquiry, emphasized its limitations and the possibility of error.

RELATIVE COST OF LIVING IN DETROIT AND CERTAIN EUROPEAN CITIES,
JANUARY 1931¹

City	Index of cost of living	City	Index of cost of living	City	Index of cost of living
Detroit, Mich.....	100	Berlin, Germany.....	83-90	Rotterdam, Netherlands.....	65-68
Stockholm, Sweden.....	99-104	Helsinki, Finland.....	83	Antwerp, Belgium.....	61-65
Frankfort, Germany.....	85-93	Paris, France.....	80-87	Warsaw, Poland.....	67
Cork, Irish Free State.....	85	Marseilles, France.....	75-81	Istanbul, Turkey.....	65
Copenhagen, Denmark.....	83-91	Manchester, England.....	70-74	Barcelona, Spain.....	58

¹ The International Labor Office stated that the figures in this table were subject to revision.

Minimum Wage Rates of Ford Motor Co. in Detroit and in European Cities

BY THE time the results of the international cost-of-living inquiry became available in 1931 the economic depression in the United States and in most countries of Europe had become so acute that further thought of the practical application of the findings of the inquiry was indefinitely postponed. Nevertheless, considerable interest attaches to a comparison of the wage rates actually paid by the Ford Co. in European cities at that time, with the rates as they would have been if they had been fixed solely on the basis of relative cost of living. For the purpose of such comparison, the Ford Motor Co. furnished the Bureau of Labor Statistics with the actual hourly rates being paid on August 1, 1931, to unskilled labor in its European plants then in operation. The accompanying table shows these actual wage rates and also shows what the wage rates would have been in several foreign cities if established solely on the basis of relative living costs as computed in the report of the International Labor Office. To the extent that these computed living-cost relatives are accurate, the adjusted wage rates would have given the workers in each of the European cities the same general standard of living as that obtained by the Detroit employees who in August 1931 averaged 86 cents per hour, or \$6.88 per day of 8 hours. In the wage computations shown, conversions into United States currency were made on the basis of the par value of the various currencies, those being in general effect at the time (August 1931) to which this comparison relates.

Owing to changes in the plants of the Ford Co., the cities in which branches were established were not, in all cases, the same as those in which it was contemplated establishing branches at the time the cost-of-living inquiry was undertaken. For convenience of reference, however, the table was made to include all cities for which either cost-of-living data or wage rates, or both, were available.

COMPARATIVE COST OF LIVING AND WAGES PER DAY AND PER HOUR OF UN-SKILLED WORKERS IN FORD PLANTS IN SPECIFIED CITIES

City	Index of relative cost of living	Wage per hour		Wage per 8-hour day	
		Aug. 1, 1931	Adjusted to cost of living	Aug. 1, 1931	Adjusted to cost of living
Detroit.....	100	\$0.86	\$0.86	\$6.88	\$6.88
Antwerp.....	61-65	.26	.52-.56	2.08	4.16-4.48
Barcelona.....	58	.33	.50	2.64	4.00
Berlin.....	83-90		.71-.77		5.68-6.16
Cologne.....		.45		3.60	
Copenhagen.....	83-91	.69	.71-.78	5.52	5.68-6.24
Cork.....	85	.44	.73	3.52	5.84
Frankfort.....	85-93		.73-.80		5.84-6.40
Genoa.....		.27		2.16	
Helsinki.....	83	.38	.71	3.04	5.68
Istanbul.....	65	.32	.56	2.56	4.48
Manchester.....	70-74	.53	.60-.64	4.24	4.80-5.12
Marseilles.....	75-81		.65-.70		5.20-5.60
Paris ¹	80-87	.29	.69-.75	2.32	5.52-6.00
Rotterdam.....	65-68	.41	.56-.58	3.28	4.48-4.64
Stockholm.....	99-104	.43	.85-.89	3.44	6.80-7.12
Warsaw.....	67		.58		4.64

¹ The Ford Co. plant is located at Asnieres, near Paris.

Comparative Food Costs in Various Countries

A COMPARISON of the cost of certain important foodstuffs in various countries, prepared by the International Labor Office and based on official prices communicated by the competent statistical authorities in each country, was given in the International Labor Review for April 1933.

The accompanying table shows in terms of United States currency the relative cost in October 1932, in each of 21 countries, of an "international basket of provisions" consisting of 14 commodities for which the International Labor Office had information as to actual prices in all of the countries listed. The money cost and the index numbers in the table have been computed at the par value of the national currencies and also at the exchange rate. The fluctuating rates of exchange in 1932 render approximate all figures expressed in a common currency. The 14 items comprising the basket, and the weight of each (representing approximately the average amount consumed by an adult man per week) are as follows: Bread, 3.75 kilograms;¹ flour (wheaten), 0.80 kilogram; butter, 0.17 kilogram; beef, 0.45 kilogram; mutton, 0.10 kilogram; pork, 0.20 kilogram; bacon, 0.15 kilogram; potatoes, 2.02 kilograms; sugar, 0.45 kilogram; coffee (or tea), 0.07 kilogram; cheese, 0.09 kilogram; rice, 0.20 kilogram; milk, 2.40 liters;² and eggs, 3½ (number). The "basket" is believed by the International Labor Office to represent the approximate average proportions in which the various articles are consumed by the working classes in different countries.

¹ Kilogram = 2.2 pounds.

² Liter = 1.06 quarts.

COST OF A "FOOD BASKET" IN VARIOUS COUNTRIES, IN TERMS OF UNITED STATES CURRENCY, OCTOBER 1932

Country	Localities covered	Cost of the "food basket" in United States currency		Index numbers (United States=100)	
		At par	At exchange rate ¹	At par	At exchange rate
United States.....	51 towns.....	\$1.74	\$1.74	100	100
Austria.....	3 towns.....	1.52	² 1.28	87	74
Belgium.....	Brussels.....	1.06	³ 1.05	61	60
Canada.....	6 towns.....	1.53	1.40	88	80
Czechoslovakia.....	3 towns.....	1.23	1.23	71	71
Denmark.....	Copenhagen.....	1.34	.88	77	51
Estonia.....	2 towns.....	.71	.71	41	41
France.....	6 towns.....	1.56	³ 1.56	90	90
Germany.....	6 towns.....	1.33	1.33	76	76
Great Britain.....	7 towns.....	1.54	1.07	89	61
Hungary.....	Budapest.....	1.16	1.16	67	67
Irish Free State.....	3 towns.....	1.57	³ 1.09	90	63
Italy.....	6 towns.....	1.60	⁴ 1.55	92	89
Latvia.....	Riga.....	.92	.92	53	53
Netherlands.....	4 towns.....	1.23	1.23	71	71
Norway.....	Oslo.....	1.44	.92	83	53
Poland.....	4 towns.....	.75	.75	43	43
Portugal.....	Lisbon.....	.....	1.20	.....	69
Sweden.....	3 towns.....	1.72	1.13	99	65
Switzerland.....	4 towns.....	1.50	1.50	86	86
Yugoslavia.....	4 towns.....	1.02	⁵ .79	59	45

¹ In October 1932 except where otherwise noted.

² Based on Zurich exchange rate in November 1932.

³ Based on exchange rate in November 1932.

⁴ Based on exchange rate in July 1932.

⁵ Based on exchange rate in December 1932.

Standard of Living of Families in Amalgamated Housing Corporation Dwellings

A SURVEY of the standard of living among 400 families living in the Amalgamated Housing Corporation dwellings, covering the year 1930, was made by the State Board of Housing of New York.³ The persons studied were living under model housing conditions, had small incomes, a common cultural background, and a community interest arising out of the cooperative features of the dwelling project.

The data for the study were obtained by means of questionnaires filled out by experienced investigators and from records of the cooperative stores as to the quantity of food, etc., purchased by the apartment dwellers.

Composition and Characteristics of Families

THE average size of a family was 3.74 persons. Two-fifths of the families were composed of 3 persons or less, 36 percent of 4 persons, and 23 percent of 5 or more persons.

The 400 families had 686 children living at home. Sixty-eight percent of 677 of these children were 15 years of age and under.

The average age of 679 children was 12 years. Fifty percent of the fathers and 65 percent of the mothers were under 40 years old.

³New York. State Board of Housing. Report on the Standard of Living of 400 Families in a Model Housing Project, by Asher Achinstein. [New York], 1931.

The average age of the fathers was 41.4 years and of the mothers 38.4 years.

While 91.8 percent of the children were born in the United States, only 8.9 percent of the fathers and 11 percent of the mothers were native born. Three-fifths of the parents were Russian born, while 10 percent each were born in Austria and in Poland.

Thirty percent of the heads of families were garment workers, 10 percent were in professional services, 8 percent were building-trades workers, 8 percent were shopkeepers, jobbers, and other business men, and the remainder were in various occupations.

Time Lost, Earnings, and Income

THE amount of time lost by the chief wage earner on account of unemployment, part-time work, and disability is shown in table 1. The average loss of time during 1930 for 368 persons was 9.9 weeks.

TABLE 1.—NUMBER OF WEEKS LOST BY CHIEF WAGE EARNERS BECAUSE OF UNEMPLOYMENT, PART-TIME WORK, AND DISABILITY

Number of weeks idle	Full-time unemployment		Part-time unemployment		Disability	
	Number	Percent of all chief wage earners	Number	Percent of all chief wage earners	Number	Percent of all chief wage earners
All groups.....	148	40.2	98	26.6	19	5.2
Less than 5 weeks.....	18	4.9	6	1.6	10	2.7
5 to 9 weeks.....	32	8.7	23	6.2	5	1.4
10 to 14 weeks.....	48	13.0	28	7.6	2	.5
15 to 19 weeks.....	17	4.6	12	3.3	—	—
20 to 24 weeks.....	10	2.7	16	4.3	—	—
25 to 30 weeks.....	11	3.0	8	2.2	1	.3
30 weeks and over.....	12	3.3	5	1.4	1	.3

Practically one-fourth of the breadwinners earned less than \$40 per week when working full time and 85.1 percent earned under \$65 per week. The average estimated weekly earnings per full-time working week were \$52.88. The incomes of 39.3 percent of the chief breadwinners were under \$2,000 for the year and of 2 percent were \$5,000 and over.

When the total family income, including earnings of father, mother, and children, contributions of boarders, etc., in 390 families are considered, the number of families with an income of less than \$2,000 fell to 26.6 percent of the total and the number with \$5,000 and over rose to 3.3 percent. The average family income was \$2,621.31. The chief wage earner contributed 86.8 percent of the family income, the other 13.2 percent being derived from earnings of the rest of the family, contributions from boarders, etc.

Expenditures

Food constituted the largest single item of expense for all 400 families, being 33 percent of the total expenditure. The distribution of expenditures by major groups appears in table 2.

TABLE 2.—DISTRIBUTION OF EXPENDITURES BY MAJOR CLASSES

Item	Average expenses per family	Percent of total expenses
All items.....	\$2, 879. 69	100. 0
Food.....	949. 35	33. 0
Clothing.....	309. 38	10. 7
Rent.....	531. 53	18. 4
House operation.....	206. 24	7. 2
All others.....	883. 19	30. 7

An average of \$6.68 less per month was paid for rent by 381 families in the Amalgamated dwellings than in their previous dwellings.

A distribution of expenditures by major items and according to size of expenditures appears in table 3:

TABLE 3.—PERCENT OF TOTAL EXPENSES SPENT FOR MAJOR ITEMS, CLASSIFIED BY AMOUNT OF FAMILY EXPENDITURE

Family expenditure	Food	Clothing	Rent	House operation	All others	Total
Average.....	33. 0	10. 7	18. 4	7. 2	30. 7	100. 0
\$1,000 to \$1,499.....	34. 5	6. 2	33. 1	7. 7	18. 5	100. 0
\$1,500 to \$1,999.....	37. 7	7. 7	25. 7	7. 9	21. 0	100. 0
\$2,000 to \$2,499.....	37. 0	8. 9	22. 4	7. 0	24. 7	100. 0
\$2,500 to \$2,999.....	35. 8	9. 9	19. 2	6. 8	28. 3	100. 0
\$3,000 to \$3,499.....	32. 9	11. 3	16. 6	6. 6	32. 6	100. 0
\$3,500 to \$3,999.....	31. 2	11. 9	15. 9	7. 3	33. 7	100. 0
\$4,000 to \$4,499.....	30. 2	13. 7	14. 8	6. 7	34. 6	100. 0
\$4,500 to \$4,999.....	28. 6	14. 0	13. 1	6. 8	37. 5	100. 0
\$5,000 and over.....	25. 2	11. 7	12. 4	8. 1	42. 6	100. 0

Incomes and Expenditures of Street-Car Men's Families

THE budgets of 98 street-car men's families were studied by the Heller Committee for Research in Social Economics, of the University of California, for the purpose of ascertaining the "spending ways" of a group of semiskilled workers and their dependents.⁴ The incomes and expenditures of these 98 San Francisco (East Bay region) families for the year ending with June 1925 were secured through the cooperation of the Oakland division of the Amalgamated Association of Street and Electrical Railway Employees.

Street-car employees in general have the advantage of steady employment throughout the year. A majority of the men and their wives in the families studied were American born. Most of the foreigners were from English-speaking countries, and all of them had been in this country long enough to have families. The standard of living, therefore, the report declares, may be safely considered as American. The average man and wife in the group studied were between 30 and 40 years of age. The typical family included no adult dependents (other than the wife), no gainfully employed children, and no boarders or lodgers. The average man earned between

⁴ California, University of. Cost of Living Studies IV: Spending Ways of a Semiskilled Group. Berkeley, 1931. (Publication in Economics, vol. 5, no. 5.)

\$1,600 and \$1,800 per annum, the mean earnings for the group being \$1,658.25, as shown in table 1:

TABLE 1.—INCOME OF FAMILIES OF STREET-CAR MEN

Source of income	Number of families reporting	Average amount for families reporting		Average per family for group of 98	
		Mean	Median	Mean amount	Percent of total
Total income.....	98	\$1,886.26	\$1,789.55	\$1,886.26	100.00
Man's regular earnings.....	98	1,658.25	1,705.12	1,658.25	87.9
Other income.....	71	314.72	165.58	228.01	12.1
Man's supplementary earnings.....	14	93.17	22.80	13.31	.7
Wife's earnings.....	16	302.34	90.00	49.36	2.6
Children's earnings.....	14	172.71	51.00	24.67	1.3
Boarders and lodgers.....	22	295.54	280.50	66.35	3.5
Property.....	19	183.73	84.00	35.62	1.9
Money gifts.....	17	29.74	15.00	5.16	.3
Sick benefits.....	12	112.20	36.00	13.74	.8
Other.....	14	138.61	42.50	19.80	1.0

In 71 of the 98 families the regular earnings of the husband were increased by income from some other source, but these supplements were ordinarily not large. In the typical household the earnings of the husband constituted 90 percent or more of the total income, and the additional income from all sources was under \$200. Two-thirds of the wives earned nothing during the year, and 15 percent of the children made contributions to the family exchequer. Moreover, the additions made by two-thirds of these children were less than \$100 each per child. Only one family in five owned income-producing property, and the returns therefrom were generally small.

The average expenditures for the various items in the 98 family budgets are shown in table 2:

TABLE 2.—AVERAGE EXPENDITURE FOR SPECIFIED ITEMS OF FAMILY BUDGETS, JUNE 1924 TO JUNE 1925

Item of expenditure	Number of families reporting	Expenditure			
		Amount		Percent	
		Mean	Median	Mean	Median
Total expenditures.....	98	\$2,109.40	\$2,059.79	100.0	100.0
Food.....	98	789.80	780.00	38.0	38.0
Clothing.....	98	239.32	215.85	11.2	10.6
Shelter.....	98	373.19	337.60	17.9	17.6
House operation.....	98	145.35	136.65	7.0	6.7
Furniture and furnishings.....	96	75.87	50.05	3.6	2.4
Miscellaneous.....	98	487.42	426.68	22.4	21.1
Automobiles.....	29	188.73	88.00	8.0	4.5
Investment and savings.....	95	113.95	74.28	5.2	3.4
Medical care.....	93	91.56	67.00	4.3	3.2
Recreation.....	94	67.15	32.87	3.0	1.6
Dependents.....	6	67.00	58.00	3.0	2.4
Incidentals.....	98	56.86	33.85	2.6	1.8
Associations.....	98	32.88	26.10	1.6	1.2
Gifts.....	89	28.69	21.00	1.4	1.0
Tobacco.....	62	27.80	26.00	1.4	1.1
Education.....	91	25.20	13.00	1.2	.6
Church.....	55	11.80	10.40	.6	.5
Bicycles.....	4	8.66	9.75	.4	.4
Charity.....	83	2.29	1.00	.1	.1

The expenditures reported for the average family during the year exceeded the average income. In at least 40 percent of the households there was a deficit, met by recourse to savings or occasionally by borrowing.

The heaviest expense in budgets of wage earners with incomes similar to those of the street-car men is food. In these families it averaged 38 percent of the total expenditures and sometimes was more than 50 percent. Ninety percent of the families were found to be above standard on food allowances.

The average amount spent for clothing by these families was found to be less than the estimated necessary expenditures in 1925 for San Francisco families of various sizes living at a standard of health and comfort.

Housing conditions on the whole were good because of the suburban conditions of the East Bay region. Half of the families owned their homes; 70 percent of these were still paying off mortgages. All but one-sixth of the families lived in separate dwellings. Housing costs varied widely according to whether the family owned its house clear, was paying installments, or was renting. The most common rentals were between \$20 and \$30 a month.

Light and fuel averaged approximately \$6 per month. Expenditure for telephones was reported by only 34 families and a number of these shared with another family.

The entire burden of the housework was borne by the wives. In 40 families no laundry was given out in the 12 months covered, and only 15 of the 98 families paid laundry charges for the regular weekly heavy flat work of the household. Only 7 of the 98 families reported anything for service, the chief reliance in times of sickness being on relatives and neighbors.

The heavy proportion of the income spent for bare necessities brought down to about 22 percent of the income the amount available for the miscellaneous group of expenses. Only 26 families owned automobiles. The usual investments were a life-insurance policy of \$2,500 or less, savings of some kind, one share of company stock, union sickness insurance, or insurance in a mutual-benefit association which included premiums in the dues.

The average expense for medical care was between \$65 and \$100 a year—not enough to provide adequately for dental and preventive attention. The monthly expenditure of the average family on commercial amusement, ordinarily the movies, was from \$2 to \$3. Under their wage agreement the carmen were entitled to a vacation of 2 weeks without pay, but only 24 families could afford to go out of town. Every man, of course, paid his monthly union dues, which amounted to \$1.50. Membership in other organizations, principally mutual benefit associations, was reported by 59 families. Carfare and barbers' fees averaged respectively about \$1.50 and \$1 per month. The usual contribution to charity was \$1 a year, while the contributions to church, although constituting a slightly higher percentage of the family budget, were reported by fewer families. Only six stated that they made allowances to outside dependents, but the amounts were quite substantial.

The "average" street-car man's family, it was stated, had enough to eat and was comfortably housed.

Aside from the inability to make provision against old age and death, the outstanding hardship of these families, according to the report, was inadequate medical care. Their income and possibly their pride barred them from attending free clinics, but at least 50 percent of these families needed medical attention for which they were unable to raise the money.

Typical Family Budgets of Executive, Clerk, and Wage Earner in San Francisco, November 1934

THREE quantity and cost budgets for San Francisco, priced for November 1934, were given in a report of the Heller Committee for Research in Social Economics, of the University of California.⁵ These budgets were not household accounts but pictured, respectively, what the committee considered to be typical spending customs of a wage earner and his family, a clerk and his family, and an executive and his family.

The equable climate of San Francisco keeps down the fuel bill and eliminates the need for special winter and summer clothing. Domestic help, however, is considerably more expensive in that city than in other parts of the country.

The committee realized that the allowance in the budgets for investment was not sufficient to meet grave emergencies or provide for the retirement or death of the head of the family.

The allowance for medical care is undoubtedly low. The accepted consensus of opinion today agrees that it is impossible for the average family in any class adequately to provide against the larger emergencies of illness. In other words, it is admitted that the allowance given here cannot be expected to cover the occasional serious operation or the needs of the family with continuous doctor's bills. In case of an operation or a long illness, either drastic economies in the whole scale of living or debt are the only alternatives.

These budgets, it was explained, give a generalized scheme of expenditure for a wide income class and the variations in emphasis in spending are very real within each class. The committee believed, however, that the differences ironed out to approximately the type of spending herewith depicted.

Since 1929, in a period of shifting prices, the committee decided "to preserve the continuity of the index value of the budgets, i. e., has chosen to maintain a measure of the changing cost of living, at the expense of certain desirable revisions in the content of the budgets to bring the standard which they represent up to date."

⁵ California, University of. Heller Committee for Research in Social Economics. *Quantity and Cost Budgets*. Berkeley, February 1935. (Mimeographed.) For similar budgets for November 1933, see *Monthly Labor Review*, May 1934 (p. 1260).

TABLE 1.—FAMILY BUDGETS FOR EXECUTIVE, CLERK, AND WAGE EARNER, BASED ON PRICES IN SAN FRANCISCO, NOVEMBER 1934

Item	Executive		Clerk		Wage earner	
	Annual cost	Per-cent of total cost	Annual cost	Per-cent of total cost	Annual cost	Per-cent of total cost
Total cost ¹	\$5,590.88	100.0	\$2,033.41	100.0	\$1,544.16	100.0
Income tax ¹	49.86	.9	(?)	(?)	(?)	(?)
Food.....	835.24	15.0	599.43	29.5	496.76	32.2
Meals at home.....	682.24	12.2	491.43	24.2		
Husband's lunches.....	153.00	2.8	108.00	5.3		
Clothing and upkeep.....	705.94	12.6	360.24	17.7	226.56	14.7
Man.....	198.66	3.5	99.77	4.9	63.06	4.1
Replacements.....	179.32	3.2	92.92	4.6	59.60	3.9
Upkeep.....	19.34	.3	6.85	.3	3.46	.2
Wife.....	329.49	5.9	119.09	5.9	61.26	4.0
Replacements.....	322.90	5.8	115.99	5.7	58.82	3.8
Upkeep.....	6.59	.1	3.10	.2	2.44	.2
Boy of 11.....	89.68	1.6	57.65	2.8	83.05	2.8
Replacements.....	83.88	1.5	53.53	2.6	38.81	2.5
Upkeep.....	5.80	.1	4.12	.2	4.24	.3
Girl of 5.....	88.11	1.6	44.54	2.2	32.30	2.1
Boy of 2.....			39.19	1.9	26.89	1.7
Shelter.....	1,741.16	31.1	568.26	27.9	449.68	29.1
Housing.....	929.51	16.6	330.00	16.2	270.00	17.5
House operation.....	569.82	10.2	154.56	7.6	123.90	8.0
Light and fuel.....	180.88	3.2	88.84	4.4	78.40	5.1
Service.....	217.88	3.9				
Other.....	171.06	3.1	65.72	3.2	45.50	2.9
Furniture and furnishings.....	241.83	4.3	83.70	4.1	55.78	3.6
Miscellaneous.....	2,258.68	40.4	505.48	24.9	371.16	24.0
Care of person.....	89.35	1.6	47.15	2.3	39.27	2.5
Leisure-time activities.....	487.41	8.7	170.20	8.4	123.76	8.0
Automobile upkeep ²	444.79	8.0				
Carfare.....	40.00	.7	60.00	2.9	45.00	2.9
Investment.....	4 620.00	11.1				
Life insurance.....			130.00	6.4	65.00	4.2
Medical care ³	275.00	4.9	75.00	3.7	75.00	4.9
Association dues.....	36.00	.6				
Education.....	101.13	1.8	5.13	.3	5.13	.3
Church and charity.....	105.00	1.9	18.00	.9	18.00	1.2
Incidentals.....	60.00	1.1				

¹ Income tax figured on total of budget exclusive of State sales tax. Sales tax on executive's budget, 1 percent of total or \$56.24 per annum; on clerk's budget, 1.4 percent of total or \$28.72 per annum; on wage earner's budget, 1.4 percent of total or \$21.64 per annum.

² No income tax paid.

³ Does not include initial cost or depreciation.

⁴ This sum allows for a \$10,000 life insurance policy and small savings to meet emergencies, serious illnesses costing more than the amount allowed for medical care, and the purchase of a new car. The budget does not include adequate provision for the retirement or death of the breadwinner.

⁵ Routine care only. Cost of major operations and prolonged illness must come from savings or from economies elsewhere.

Percentage increases in above budgets, 1933-34, are shown in table 2.

TABLE 2.—PERCENTAGE INCREASES IN BUDGETS OF EXECUTIVE, CLERK, AND WAGE EARNER, 1933-34 ¹

Item	Percentage change in budgets of—		
	Executive	Clerk ²	Wage earner
Total cost.....	+2.5	+3.5	+3.2
Income tax.....	-20.5		
Food.....	+5.4	+6.0	+7.4
Clothing and upkeep.....	+1.8	+4.4	+5.1
Shelter.....	+4.6	+3.3	+1.7
Miscellaneous.....	+7	+2	+1.1

¹ Including State sales tax.

² The budget published in 1933 by the committee was reduced \$36 as a result of an error in calculating rents. (See p. 27 of article under review.)

California Budget for Dependent Families, 1934

THE following budget for dependent families, based on prices for San Francisco as of November 1934, was prepared by the Heller Committee for Research in Social Economics:⁶

BUDGET FOR DEPENDENT FAMILIES, BASED ON PRICES AS OF NOVEMBER 1934¹

Item	Cost per month	Item	Cost per month
A. Required for all households:		C. Add per person to cover all expenses except rent and general household expenses—Continued.	
Electricity, fuel, minimum cleaning supplies, etc.	\$7.32	Woman (housewife)	\$14.04
B. Add rent for—		Boy 16 to 20 (employed) ²	26.57
Family of 3	18.00	Girl 16 to 20 (employed) ²	25.82
Family of 4	18.00	Boy 14 to 15	18.89
Family of 5	22.50	Girl 14 to 15	16.63
Family of 6	22.50	Boy 9 to 13	13.65
Larger families (approximately)	As paid	Girl 9 to 13	13.50
C. Add per person to cover all expenses except rent and general household expenses:		Boy 6 to 8	11.07
Man employed	17.96	Girl 6 to 8	10.61
Man unemployed	13.36	Child 3 to 5	9.29
		Child 1 to 2	9.38

¹ Including sales tax.

² Using food allowance for children 16-18. Children of 19 and 20 require less food, but this is probably offset by the demand for more spending money.

The following example is given for computing a budget for a dependent family of 5—man (unemployed), wife, boy of 11, girl of 6, boy of 3:

A. General household expenses	\$7.32
B. Rent	22.50
C. Man (unemployed)	13.36
D. Wife	14.04
E. Boy of 11	13.65
F. Girl of 6	10.61
G. Boy of 3	9.29
Per month	90.77
Per year	1,089.24

Without the sales tax this annual budget would be \$16.68 less, or \$1,072.56.

Chicago Estimated Budget for a Self-Supporting Family, March 1932

THE following estimated minimum monthly budget for a self-supporting family consisting of father, mother, child of 13, child of 10, and child of 7 in Chicago is reproduced from the fourth revised (March 1932) edition of the Chicago Standard Budget for Dependent Families, prepared under the supervision of the division on family welfare of the Council of Social Agencies of Chicago:

⁶ California, University of. Heller Committee for Research in Social Economics. Quantity and Cost Budgets. Berkeley, February 1935. (Mimeographed.)

Food:	
Man.....	\$8. 70
Woman.....	6. 95
Child.....	8. 05
Child.....	6. 75
Child.....	5. 85
Total.....	36. 30
Plus extra allowance.....	2. 00
Total, food.....	38. 30
Clothing and toilet articles:	
Man.....	3. 75
Woman.....	3. 00
Child.....	3. 50
Child.....	3. 00
Child.....	2. 50
Total.....	15. 75
Fuel: Average for the year, computed from schedule (two stoves, gas and electricity used).....	10. 50
Household supplies and furnishings.....	5. 50
Car fare: For wage earner and two trips per week by housewife (70 fares at 3 for 20 cents).....	4. 67
Care of health: Doctor, dentist, drugs.....	7. 00
Savings and insurance.....	10. 00
Education: School expenses, newspapers, magazines, books, etc.....	3. 00
Recreation: Picture shows, car fare to parks, etc.....	4. 00
Organization and church dues.....	3. 00
Incidental and emergency expenses: Moving, accidents, loss of wages by illness and change of position, etc.....	4. 00
Total (without rent).....	105. 72

The expense of suitable housing must be added to this estimate. Five rooms at least will be needed for a family of this description, as three bedrooms will be necessary.

This estimate is based on the assumption that the father of the family is the only wage earner. If the mother also leaves her home for outside work the expenses will be increased, as she will have additional needs for clothing and car fare. Other items, especially food and clothing, will also be higher if the mother is not devoting her full time to the management and work of the household.

A small amount over the estimated minimum for food will be required, it is stated, if the purchaser lacks knowledge of food values in proportion to their cost. The allowance for clothing is based on the assumption that the housewife is able to do mending and plain sewing. The amount estimated for household supplies and furnishings "covers only the upkeep of a household equipment that is complete."

Cost of Living of Wage-Earning Women in Richmond, Va.⁷

DATA concerning the cost of living of wage-earning women in Richmond, Va., were collected in the early summer of 1931 by the School of Social Service of William and Mary College. Budgets were secured for 71 girls (all of whom were at least 75 percent self-supporting), covering their income and expenditures for the year ending March 31, 1931. The United States Bureau of Labor Statistics assisted with advice and by inspection of the budgets, and

⁷ See Monthly Labor Review, October 1932 (p. 972), for a more detailed report of this study.

compiled the report. Although this investigation was limited in scope, and is incomplete in some respects, it is believed that the results were fairly representative of living conditions among working women.

Characteristics of Workers

Age and conjugal condition.—Sixty-nine percent of the woman workers canvassed were in the 20-to-30-year age group, the average for all being 24 years. The ages of the 47 clerical workers ranged from 17 to 45 years and averaged 25 years, and those of the factory workers ranged from 17 to 35 and averaged 22 years. The age of the women living at home averaged 23 years and that of the women living away from home 26 years. One of the workers was a widow, 2 were married but not living with their husbands, and 68 were single women.

Length of time in city and in industry.—Eighteen women had lived in Richmond less than 5 years, 16 from 5 to 10 years, 18 from 10 to 20 years, and 19 from 20 to 29 years, the average number of years for the 47 clerical workers being 12.5 years, for the 24 factory workers 11.7 years, and for all the women 12.2 years. Thirty-five women were living at home and 36 were living away from home.

For 36 women the number of years spent in industry was less than 5 years, for 25 women from 5 to 10 years, and for 10 women from 10 to 22 years, the average for the 47 clerical workers being 6 years, for the 24 factory workers 4.6 years, and for all women 5.6 years.

Education.—All of the 71 women reported grade-school education, averaging 7.1 years. Sixty-five had an average of 3.3 years in high school and 17 an average of 2.2 years in college, there being 40 who were high-school graduates and 4 who were college graduates. Twenty-four women averaged 1 year at business day school and four women had business training, averaging 2.3 years, in night school.

Degree of self-support.—No woman was included unless she was at least 75 percent self-supporting. Assistance from their families when employed as well as when unemployed was received by 26, or 37 percent, divided equally between clerical and factory workers. Of these women 14 lived at home and 12 away from home.

For the 13 clerical workers this assistance had an average value of \$72 for the year and for the 13 factory workers \$34, while for all 26 women it was \$53. The average earnings, as distinguished from total income, of the 13 clerical workers receiving family assistance were \$884, and of the 13 factory workers, \$660.

Earnings and Income

THE earnings of the 47 clerical workers ranged from \$480 to \$1,560 and averaged \$1,082, while the total income from all sources ranged from \$520 to \$1,659 and averaged \$1,145. For the 24 factory workers the earnings ranged from \$420 to \$1,230 and averaged \$667, while the income ranged from \$441 to \$1,267 and averaged \$705. Considering all 71 woman workers, the earnings averaged \$942 and the income \$996, the earnings being 94.5 percent of the income. In only two instances was a secondary line of work undertaken by the

women. One clerical worker earned \$180 as a singer, and a factory worker earned \$30 as an operator in a beauty parlor during evenings.

Table 1 shows the average earnings and the average income for the 71 wage-earning women in Richmond.

TABLE 1.—AVERAGE YEARLY EARNINGS AND INCOME OF WAGE-EARNING WOMEN IN RICHMOND, VA., BY INCOME GROUPS

Income group	Number of workers			Weeks worked			Earnings		
	Clerical	Factory	Total	Clerical workers	Factory workers	Total	Clerical workers	Factory workers	Total
All incomes.....	47	24	71	50.2	46.3	48.9	\$1,082.03	\$666.87	\$941.69
Under \$600.....	3	8	11	49.3	45.0	46.2	515.00	492.25	498.45
\$600 and under \$800.....	5	10	15	46.4	45.5	45.8	682.20	669.03	673.42
\$800 and under \$1,000.....	9	5	14	50.3	49.5	50.0	870.89	829.31	856.04
\$1,000 and under \$1,200.....	9	9	18	51.1	48.0	51.1	1,035.78	1,230.00	1,035.78
\$1,200 and under \$1,400.....	8	1	9	51.8	48.0	51.3	1,250.93	1,230.00	1,248.60
\$1,400 and under \$1,700.....	13	13	26	50.3	48.0	50.3	1,440.92	1,440.92	1,440.92

Income group	Income from other sources			Total income		
	Clerical workers	Factory workers	Total	Clerical workers	Factory workers	Total
All incomes.....	\$63.43	\$37.91	\$54.80	\$1,145.46	\$704.78	\$996.49
Under \$600.....	36.17	23.08	26.65	551.17	515.33	525.10
\$600 and under \$800.....	59.75	42.85	48.48	741.95	711.88	721.90
\$800 and under \$1,000.....	53.36	51.93	52.85	924.25	881.24	908.89
\$1,000 and under \$1,200.....	61.90	37.00	61.90	1,097.68	1,230.00	1,097.68
\$1,200 and under \$1,400.....	39.89	37.00	39.56	1,290.82	1,267.00	1,288.17
\$1,400 and under \$1,700.....	93.64	37.00	93.64	1,534.56	1,440.92	1,534.56

Time Lost During Year

A TOTAL of 1,265.5 days of lost time during the year was reported by the 71 women studied, 21 clerical workers reporting an average of 23.1 days and 20 factory workers an average of 39 days. The averages for all the clerical and all the factory workers were 10.3 and 32.5, respectively. The greatest proportion of lost time for both clerical and factory workers was from unemployment—36.4 percent for clerical workers and 73.5 percent for factory workers—the period of unemployment ranging from 12 to 54 days for clerical employees and from 22 to 72 days for factory employees. Twenty-four factory and forty-two clerical workers reported no change of position during the year. One clerical worker, however, had 7 different positions, two had 3, and two had 2 positions.

Vacations without pay, ranging from 6 to 12 days for clerical workers and from 5½ to 48 days for factory workers, accounted for 24.5 and 15.3 percent, respectively, of the lost time.

Table 2 shows the number and percent of days lost for all workers, by causes.

TABLE 2.—NUMBER AND PERCENT OF DAYS LOST PER YEAR BY WOMAN WORKERS IN RICHMOND, VA., BY CAUSES

Cause	Days lost by clerical workers		Days lost by factory workers		Days lost by all workers	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
Total causes.....	486	100.0	779½	100.0	1,265½	100.0
Unemployment.....	177	36.4	573	73.5	750	59.3
Vacation without pay.....	119	24.5	119½	15.3	238½	18.8
Illness.....	108	22.2	76	9.7	184	14.5
Other.....	82	16.9	11	1.4	93	7.3

Expenditures

PRIMARY expenses, consisting of board, room, food, fuel, light, and laundry, formed 42.2 percent of the total expenditures for all workers. The amount expended for these items by the factory workers (\$313.59) was lower than that expended by the clerical workers (\$459.73), but formed a larger percentage of the total expenditures of the factory employees. The same was true of clothing, next in importance. Primary expenses and clothing absorbed 70.6 percent of the total expenditures.

There was only a small difference in the amounts expended for health in the two groups, the average for all the women being \$28.24, or 2.9 percent of the expenditures. For recreation and amusement both the amount and percentage of total expenditures were higher for the clerical group and averaged 4.7 percent of the total expenditures for all workers.

The clerical workers spent more than four times as much for education and advancement as the factory workers, the percent of yearly expenditures being 2.9 higher. For all women the average amount was \$38.72, or 4.0 percent of the yearly expenditures.

A comparison of the six major items of expenditure for these working women during the year is presented in table 3.

TABLE 3.—AVERAGE AMOUNT AND PERCENT OF SPECIFIED ITEMS OF YEARLY EXPENDITURE OF WORKING WOMEN IN RICHMOND, VA., BY OCCUPATIONAL GROUP

Item of expenditure	Clerical workers (47)—average income, \$1,145.46		Factory workers (24)—average income, \$704.78		Total workers (71)—average income, \$996.49	
	Average yearly expense	Percent of yearly expense	Average yearly expense	Percent of yearly expense	Average yearly expense	Percent of yearly expense
Total expenditures.....	\$1,109.58	100.0	\$700.58	100.0	\$971.33	100.0
Primary expenses ¹	459.73	41.4	313.59	44.8	410.33	42.2
Clothing.....	306.16	27.6	216.41	30.9	275.83	28.4
Health.....	28.96	2.6	26.83	3.8	28.24	2.9
Recreation and amusement.....	57.22	5.2	23.11	3.3	45.69	4.7
Education and advancement.....	51.98	4.7	12.75	1.8	38.72	4.0
Miscellaneous.....	205.53	18.5	107.88	15.4	172.52	17.8

¹ Board, room, food, fuel, light, and laundry.

For the group with an income under \$600, 52.1 percent of all expenditures was for primary expenses, while for the highest income group, \$1,400 and under \$1,700, 38.3 percent of their expenditures were for primary expenses. For all incomes, clothing absorbed 28.4 percent of the total expenditures, varying as between the income groups from 24.8 percent to 31.7 percent.

The expense for health for the different income groups varied from \$14.01 to \$37.71. The cost of recreation and amusement tended to increase with advanced income, but the percent of expenditures for these purposes varied around 5 for most of the income groups. The expenditure for education and advancement increased in amount and also in percent of expenditures as the incomes advanced, the amount for all groups averaging 4 percent of the total expenditures. Miscellaneous expenditures rose as the income increased.

A summary of expenditures by income groups is presented in table 4.

TABLE 4.—AVERAGE AMOUNT AND PERCENT OF YEARLY EXPENSES OF WAGE-EARNING WOMEN IN RICHMOND, VA., SPENT FOR PRINCIPAL ITEMS OF COST OF LIVING, BY INCOME GROUPS

Income group	Number of women	Average expenditures for—					
		Primary expenses	Clothing	Health	Recreation and amusement	Education and advancement	Miscellaneous
All incomes.....	71	\$410. 33	\$275. 83	\$28. 24	\$45. 69	\$38. 72	\$172. 52
Under \$600.....	11	285. 96	152. 71	30. 25	12. 34	6. 84	61. 16
\$600 and under \$800.....	15	301. 26	229. 69	30. 01	35. 88	12. 59	116. 50
\$800 and under \$1,000.....	14	380. 57	269. 42	27. 46	43. 12	21. 37	177. 25
\$1,000 and under \$1,200.....	9	483. 49	286. 94	24. 57	39. 79	41. 31	195. 61
\$1,200 and under \$1,400.....	9	535. 00	312. 39	14. 01	60. 64	79. 87	256. 53
\$1,400 and under \$1,700.....	13	536. 52	407. 14	37. 71	81. 97	84. 25	252. 15
		Percent of total expenditures					
All incomes.....	71	42. 2	28. 4	2. 9	4. 7	4. 0	17. 8
Under \$600.....	11	52. 1	27. 8	5. 5	2. 3	1. 3	11. 1
\$600 and under \$800.....	15	41. 5	31. 7	4. 1	4. 9	1. 7	16. 1
\$800 and under \$1,000.....	14	41. 4	29. 3	3. 0	4. 7	2. 3	19. 3
\$1,000 and under \$1,200.....	9	45. 1	26. 8	2. 3	3. 7	3. 9	18. 3
\$1,200 and under \$1,400.....	9	42. 5	24. 8	1. 1	4. 8	6. 4	20. 4
\$1,400 and under \$1,700.....	13	38. 3	29. 1	2. 7	5. 9	6. 0	18. 0

Thirteen women lived on their income but saved nothing, while 23 women had living expenses above their income and ended the year with an average deficit of \$70.79. There were 35 women who lived on less than their income and were able to save an average of \$97.57 each. Considering the 71 woman workers the average surplus was only \$48.10.

EMPLOYMENT SERVICES

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Organization of United States Employment Service

THE present United States Employment Service was created as a bureau of the Department of Labor under Public Act No. 30 passed at the special session of the Seventy-third Congress, commonly known as the "Wagner-Peyser Act." The new service replaced a previously existing Federal employment service of the same name, which operated offices throughout the country independently of the State employment services.

Under the present law the United States Employment Service is charged with the duty of promoting and developing a national system of employment offices for men, women, and juniors "who are legally qualified to engage in gainful occupations"; to maintain a veterans' bureau; a farm placement service; and a public employment service for the District of Columbia; and to assist in establishing public employment offices in the several States and political subdivisions thereof in which there shall be located a veterans' employment service. The Federal agency is charged also with the duty to "assist in coordinating the public employment offices throughout the country and in increasing their usefulness by developing and prescribing minimum standards of efficiency, assisting them in meeting problems peculiar to their localities, promoting uniformity in their administrative and statistical procedure, furnishing and publishing information as to opportunities for employment and other information of value in the operation of the system, and maintaining a system for clearing labor between the several States."

The law provides for the appointment of a Federal advisory council. This board is composed of representatives of employers and employees and the public for the purpose of formulating policies and the determining of problems relating to employment. An organization of similar State advisory councils is required for the various affiliated State employment services.

The original appropriation for the United States Employment Service provided \$1,500,000 for the fiscal year ending June 30, 1934, and \$4,000,000 for each fiscal year thereafter, up to and including the fiscal year ending June 30, 1938. Thereafter the amount of the appropriation is to be determined by Congress, as may be deemed necessary.

Funds appropriated for the Employment Service must be used in accordance with the terms of the act to promote the establishment and maintenance of a national system of public employment offices. Seventy-five percent of the amount authorized by the Wagner-Peyser Act is to be apportioned by the Director among the several States in the proportion which their population bears to the total population of the United States. No payment shall be made to any State until an equal amount has been appropriated and made available for that year by the State. Provision was made, however, for the apportionment

of money to the close of the fiscal year 1935 to States which have no State system of public employment offices and to States which have established employment offices but have failed to establish a cooperative system.

Affiliated State Employment Services

STATES desiring to receive benefits under the act must accept the provisions of the National act and designate a State agency with the necessary powers to enable it to fulfill the basic requirements of the law and to meet the operating standards of the United States Employment Service. Detailed plans must be submitted to the Director and full reports of operations and expenses rendered.

On June 30, 1935, at the end of the second year of operation, 25 States and the District of Columbia, which maintains a public employment service, were affiliated with the United States Employment Service. A total of 184 operating offices were operated on that date with personnel of 1,451, not including temporary or suboffices and auxiliary personnel carried from relief funds. In addition a headquarters administrative office is maintained in each State. While the territory embraced by the States and the District of Columbia whose employment services are affiliated with the United States Employment Service constitutes 52.1 percent of the total area of the country and contains 65.3 percent of the total population, in general only the larger urban centers within those States are directly served by offices of the State services. As a result, 46,391,357 people, 37.8 percent of the total population of the country, have direct access to offices of the State employment services, but only 9.8 percent of the country's area is served by these offices. In all States save one, where the coverage of the State service is complete, areas not served by the State employment service are served by offices of the National Reemployment Service. On June 30, 1935, 2,369,999 persons were actively seeking employment through the affiliated State employment services.

The 25 States operating employment services affiliated with the United States Employment Service on June 30, 1935, are listed below:

Arizona	Massachusetts	Oklahoma
California	Minnesota	Oregon
Colorado	Missouri	Pennsylvania
Connecticut	Nevada	Virginia
Idaho	New Hampshire	West Virginia
Illinois	New Jersey	Wisconsin
Indiana	New Mexico	Wyoming
Iowa	New York	
Louisiana	Ohio	

National Reemployment Service

THE National Reemployment Service is an emergency agency of the United States Employment Service, which was established under authority of Public Act No. 30, Seventy-third Congress, approved June 6, 1933. Originally, the National Reemployment Service was set up as a result of regulations and rules promulgated by the Special Board for Public Works (June 22, 1933) to meet the needs

for "agencies designated by the United States Employment Service", to supply lists of workers eligible under Public Act 67, Seventy-third Congress, approved June 16, 1933 (title II, sec. 206, subsec. 4).

The Service continues to function as a placement agency under title II of the National Industrial Recovery Act, and the rules and regulations of the Public Works Administration governing the procurement of labor on projects prosecuted by or under the direction of that Administration. The Service also functions under the terms of the Emergency Relief Appropriation Act of 1935 (Public Res. No. 11, 74th Cong.), approved April 8, 1935, and Executive Order No. 7060, dated June 5, 1935.

The National Reemployment Service is operated under the direction of the United States Employment Service, through directors in the States, and through district offices (each covering several counties), and through temporary branch offices within these districts. Its headquarters are in the Department of Labor at Washington, D. C.

On June 30, 1935, the National Reemployment Service was operating 501 district offices and 1,268 branch offices. This plan of operation will be maintained under the new Works Progress Administration program; however, the organization is kept flexible so as to permit of ready contraction or expansion as the situation warrants.

Section II of Executive Order No. 7060 "Prescribing Rules and Regulations Relating to Procedure for Employment of Workers under the Emergency Relief Appropriation Act of 1935", dated June 5, 1935, provides as follows:

Persons shall be eligible for employment on projects who (a) are registered with the employment offices designated by the United States Employment Service in accordance with the administrative order issued May 22, 1935, by the Federal Emergency Relief Administrator and (b) were receiving public relief in May 1935: *Provided, however,* That as the various occupational classes in such group are exhausted through employment, other persons who (1) become eligible for public relief subsequent to May 1935, and (2) are certified to the Works Progress Administration and the United States Employment Service by the State emergency relief administrations, may be added to the list of those eligible for such employment.

The National Reemployment Service functions, as regards the Works Progress Administration, in accordance with this section of the above-mentioned Executive order in States and in areas served by that agency. State employment services affiliated with the United States Employment Service are designated for such functions in the areas which they serve.

The National Reemployment Service continues to serve the Federal Emergency Administration of Public Works, the Bureau of Public Roads, other public works agencies, and private employers.

Operations of the United States Employment Service

July 1, 1933, to June 30, 1934

A DETAILED record of the first year's activities of the United States Employment Service under its present organization is given in a report issued in 1934 under the title "Twelve and a Half Million Registered for Work." The following account briefly sum-

marizes the more important developments of the year. Major operating totals, for the year by States, appear in the table on page 124.

The 12 months' activity during the fiscal year July 1, 1933-June 30, 1934 fell into three definite periods—pre-C. W. A., C. W. A., and post-C. W. A.

During the 4 months of the pre-C. W. A. period, applications for employment rose from 106,123 in July to 795,773 in October. In all, 1,990,355 persons registered with the Service during its first 4 months of operation. Placements during the period numbered 404,947, of which 325,608 were of men and 79,339 were of women.

The Civil Works program began in mid-November and in the next 2½ months nearly 9,000,000 persons registered for work: 2,351,026 in November, 4,719,421 in December, and 1,892,147 in January. By the end of January nearly 11,000,000 persons had applied for jobs and during the next 2 months, the total was raised to 11,720,913 individual registrations. These applicants were not only registered but were interviewed and classified on the basis of their experience and training. All persons were classified occupationally and selected for referral to openings on the basis of this classification.

Placements during the period of C. W. A. activity, which terminated except for scattered projects on March 31, 1934, reached a total of 5,041,583 in number, the great mass of which were on C. W. A. projects. Placements included 4,696,301 men and 345,282 women. During this period of large-scale C. W. A. activity the Employment Service reached its greatest size, in December 1933 employing a staff of 18,538 persons and operating 3,446 offices including the units of both the National Reemployment Service and the affiliated State employment services.

Following the termination of the C. W. A. program the field organization of the Employment Service was reduced in line with its decreased volume of activity in many areas, and efforts were increasingly turned toward securing the placement of persons in private employment, although large numbers of placements on P. W. A. projects continued to be made. During this period the volume of new registrations was lighter than during C. W. A. activity. The 914,061 applications received during the 3 months, April through June, brought the total for the first year's operations to 12,634,974, more than 10 percent of the Nation's population. This is one of the greatest mass registrations of persons for a particular purpose ever made. On June 30, 1934, 7,627,375 of these registered persons were actively seeking employment through the Service.

At the end of June 1934, the total personnel of the Service had been reduced to 5,496 persons and the number of offices to 829. Operating on a district rather than a county basis the organization continued to make available employment facilities to all but remote communities despite its reduced size. State employment services operated 181 offices and the National Reemployment Service, 648. Placements during the 3 months, April through June, numbered 1,504,993, of which 1,347,250 were men and 157,743 were women.

In the course of the 12 months ended June 30, 1934, the Employment Service made a total of 6,951,523 placements. Of these placements 4,123,925 were on Civil Works Administration projects, 1,403,358 were on public works and public roads projects, 1,305,873 were in

private employment, and 118,367 were in governmental service, either local, State, or Federal. Men were placed in 6,369,159 jobs and women in 582,364.

July 1, 1934, to June 30, 1935

. DEVELOPMENT of its vast organization into a closely-knit, integrated Nation-wide employment exchange system was the principal aim of the United States Employment Service during its second year of operation. In line with this objective, offices of the Service were further brought into the district plan of organization, standards of personnel and technique improved, research projects carried forward, and the Service more closely tied in with the regular economic life of the Nation.

The Employment Service during the second year continued to fulfill its function as placement agency for Public Works Administration projects. Offices were maintained at all points necessary to provide the labor supply for these projects; the normal district plan of the Service being modified to the extent necessary to serve directly every project. Primary emphasis, however, was placed upon building up the permanent place of the Service in the industrial community. An extensive program of field visits was carried on to acquaint employers with the functions of the Service and every effort made to improve private employer relations. The results of this program should become increasingly evident in future years.

In May 1935 the Employment Service was assigned the responsibility of registering and occupationally classifying all employable persons on relief so that they would have opportunity to be placed in private employment. Under the plan of the Works Program authorized under the Relief Act of 1935, all original referrals for assignment on projects are to be made through the Employment Service. The physical organization of the Service will be expanded to meet this requirement during the life of the program. While registration of relief clients not previously in the files did not get under way until June, over 660,000 new registrations were received during that month, the highest total since January 1934, during the Civil Works Administration period.

During the 12 months ended June 30, 1935, offices of the Service registered and classified 4,115,779 new individual applicants, bringing the total registration for the 2 years to 16,750,753. During the year 2,781,375 placements were made. On June 30, 1935, there were 6,720,423 persons actively seeking employment through the Service. Major operating totals for the year are given in the table on page 124.

On the basis of tabulations covering operations through April, it is estimated that the year's placements contained 1,500,000 placements in public works of all kinds, 1,111,000 in private employment, and the balance of the placements in governmental service. Placements in public works include employment in construction and repair work conducted by State and local governmental units, and by private contractors on such work, as well as on Public Works Administration projects. Placements in private industry were made in all types of jobs, ranging from common labor to highly skilled and professional and technical positions.

In all placements, the established policy that no referrals are made to openings where strikes are in progress without notice of the strike

to the applicant, and that no person is called in for such referral, was followed.

A brief description of some of the activities carried in the development of improved standards and techniques follows.

Junior Placement Service

THE Wagner-Peyser Act charges the United States Employment Service with the duty of promoting and developing a national system of employment offices for men, women, and juniors. Although the organization of services for juniors has progressed slowly, recognition has been given to the problem. Mr. W. Frank Persons, Director of the United States Employment Service, in the "Foreword" of the May issue of the *Employment Service News*, calls attention to the importance of specialized services for junior applicants and to the pressing nature of the problem at the present time. This foreword reads:

Securing appropriate employment for juniors requires superior skill and a high degree of social consciousness on the part of the employment office personnel. This is true both because of the extremely formative nature of early working experiences and because the problem has acquired unforeseen proportions within the past few years.

Whether the schools or the public employment offices are to assume the major responsibility for the placement of young people must be determined by practical considerations in each community. In either case, success depends upon the fullest cooperation between these agencies. The schools must give the employment service the benefit of their previous experience with the applicants, and the employment service must help the schools in matters of technique and organization.

While at present (July 1935) only the most general estimate can be made, it is probable that between 2,000,000 and 3,000,000 people, 18 to 24 years of age, inclusive, are neither at school nor employed. During each month 25,000 to 30,000 people under 21 years of age register for placement at State and National Reemployment Service offices. The majority of them go through the regular registration procedure—are interviewed by an interviewer in one of the divisions of the employment office and classified on the basis of their past experience, which in most cases is very limited, or on the basis of some specific training which they have had. Many of them are classified as recent graduates without experience. Because of inexperience, these young applicants must frequently be passed over in referring persons to openings which come to the employment offices. In the 4 months, December 1934 to March 1935, although applicants under 21 years of age comprised 15.6 percent of the total of new applicants, only 10.8 percent of the total placements were of persons in this age group.

It has long been recognized that beginning workers profit by guidance at the time of placement and by assistance in making the transition from school to employment. In a number of localities excellent services for junior applicants have been established. New York State, prior to its affiliation with the United States Employment Service, was operating a well-developed service for young people, and upon affiliation the Junior Service participated in the advantages of the cooperative arrangement. Through an agreement of affiliation between the Pennsylvania State Employment Service and the Board of Public Education of Philadelphia, the Junior Employment Service

of Philadelphia has been able to increase its scope and its usefulness. Likewise Junior Employment Services of Los Angeles, Calif., and St. Paul, Minn., organized by the board of education, have become affiliated with their respective State employment services. A Junior Counseling Service has been organized in the District of Columbia Public Employment Center to give guidance to all applicants under 21 years of age. A number of other States are formulating plans for the establishment of Junior Services or for the affiliation of existing school placement services with the State.

Clearance

THE Wagner-Peyser Act among other requirements specifies that provision be made for "maintaining a system for clearing labor between the several States." The United States Employment Service has approached the problem primarily from the standpoint of securing qualified applicants for existing unfilled openings when qualified applicants are unavailable within the locality where the order originates.

Information about unfilled openings is reported by successive stages to cooperating employment offices in such increasingly wider areas as may be necessary to develop the desired applicants. Offices nearest the place of employment are given first opportunity to submit information about their applicants, but, if necessary, every office in a State, group of States, or the country as a whole, may be requested to cooperate in the search for suitable applicants.

Under present economic conditions, with an over-supply of workers registered in most occupational categories, it might be assumed that a system designed to assure greater mobility of the labor market would be of little value. However, early in the Public Works Administration program it developed that most communities from time to time suffered from shortages of certain types of skilled workers. The present clearance system which is now being developed to serve both Government projects and private industry is an outgrowth of the experience gained in transferring workers required on Public Works projects.

Veterans' Placement Service

ON JULY 1, 1934, the Veterans' Placement Service of the United States Employment Service was operating to serve the employment interests of veterans in every State in the country. At that time a veterans' placement representative had been appointed to supervise placements of veterans in 39 of the 48 States, and in the District of Columbia. During the year ended June 30, 1935, additional appointments were made in all the remaining States.

Preliminary reports show that during the fiscal year ended June 30, 1935, 232,183 veterans registered with offices of the United States Employment Service for the first time and over 369,031 placements were made. These figures are reflected in the reduction of the active file of unemployed veterans to a total of 443,372 on June 30, 1935. During the fiscal year of 1934, 853,852 veterans were placed in employment, a large number of whom were employed under the Civil Works program. During the fiscal year 1935 there was a gradual tapering off of projects sponsored by the Public Works Administra-

tion, on which veterans are entitled to legal preference, largely accounting for the reduction in the total number of veteran placements. There was, however, a steady and gratifying increase in placements of veterans with private employers. Placements with private employers usually indicate employment of a more permanent nature.

Occupational Research Program

IF A PUBLIC employment office is to make placements which will render maximum service to both employers and employees, it must have accurate information regarding (1) the characteristics or qualifications that are found in those workers who are performing with maximum efficiency on each job, and (2) the characteristics or qualifications possessed by each applicant coming to the employment office for a job. The Division of Standards and Research of the United States Employment Service has therefore organized an Occupational Research Program, which is engaged in (1) analyzing jobs, and in (2) analyzing the qualifications of workers who are most efficient on various jobs.

While the results of these studies are being published for use in public employment offices, they will probably be very useful in the training and guidance of young workers and in the reclassification of occupations in terms of common human characteristics. The fifteen or twenty thousand job titles now in general use are in terms of the machine used, the product produced, and the industry served. Social planning of an intelligent sort would seem to require the availability of a much smaller number of titles referring to the characteristics of the workers, which is an ultimate objective of the present research program.

Use of Tests in Guidance and Counseling

IN CONNECTION with the Junior Counseling Division of the District of Columbia Public Employment Center, use is being made of certain objective tests of vocational ability and aptitude. This service to District of Columbia young people who do not have adequate work histories is under the close supervision of the Occupational Research Program of the United States Employment Service. The purpose of the work, in addition to its service to young people, is to evaluate existing techniques and to suggest and try out modifications of them. The District of Columbia Employment Center is, in these matters, serving as a laboratory for the entire service.

Statistical Program

ONE of the most comprehensive sources of detailed information concerning the unemployed population of the country is furnished by the statistics gathered by the United States Employment Service.

Succeeding a system of simple weekly reports of operating totals, used during the first year of operations, a comprehensive statistical program was instituted in July 1934 which, in addition to operating records, provides detailed information with respect to every person registered or placed. The program has been designed with a dual purpose: First, to provide accurate records of the work of Employment Service offices to serve as an administrative guide, and, secondly, to provide a comprehensive source of information concerning the charac-

teristics of the unemployed group throughout the country and an indication of some of the more important unemployment trends.

The daily reports of transactions indicate for each applicant or person placed, his occupational classification and the type of industry in which he was formerly employed or in which he is being placed, and such personal details as age, color, sex, length of unemployment (in the case of applicants), veteran status, relief status, and additional pertinent information as specially desired from time to time.

Beginning July 1, 1935, it is planned to add a report of starting wages and hours in the case of all placements to the list of regular monthly tables.

By means of mechanical tabulation of these standard reports, monthly Nation-wide summaries of the material are prepared regularly. These summaries provide valuable source material concerning such vexing problems as the extent of unemployment among youth, the much discussed "40-year deadline" of employment, displacement of men by women, average length of unemployment in various occupations, employment trends in various industries, and similar problems of general interest. The report of beginning wages and hours will offer one of the few sources of current information on prevailing wage rates and hours of labor.

Employment Service statistics, while not directly a report of total unemployment, provide the largest single detailed sample regularly available covering both relief recipients and nonrelief workers. Regular weekly summaries of the number of men and women registered for jobs in each county are available with a lag of but 5 days from the date of reporting. It is planned to secure at quarterly intervals during the fiscal year beginning July 1, 1935, a detailed analysis of this supply of workers, giving an occupational inventory of all available registered job seekers. With the classifications by sex, age, color, etc., reported for these workers, this labor inventory should provide a continuing representative sample census of unemployment.

The following tables are prepared regularly by mechanical tabulation, broken down geographically by States and by cities and districts within the States:

(a) For all new applicants:

1. Veteran status according to sex and color.
2. Length of unemployment in months, according to sex, color, and veteran status.
3. Age in years, according to sex, color, and veteran status.
4. Industrial background according to sex, color, and veteran status of the applicant.
5. Occupational background according to sex, color, and veteran status of the applicant.

(b) For all placements:

6. Veteran status according to sex and color.
7. Age according to sex, color, and veteran status.
8. Industry in which placement made, according to sex, color, and veteran status of the person placed.
9. Occupation in which placement made, according to sex, color, and veteran status of the person placed.

(c) For canceled openings.

10. Reason for cancelation.

Plans for amplification of regularly tabulated information commencing July 1, 1935, include the following:

1. Inclusion of a report of the number of persons on relief in tables 1 through 9, above.
2. Monthly reports of starting wage rates and hours of work, classified by occupations, for placements.
3. Detailed quarterly reports giving the sex, color, age, length of unemployment, relief status, color, industrial background, occupation, etc., of all persons actively seeking employment through the United States Employment Service. It is expected that renewals of inactive applications will bring the number of persons covered in this report to a total of approximately 10,000,000.

ACTIVITIES OF UNITED STATES EMPLOYMENT SERVICE

State	Year July 1, 1933, to June 30, 1934			Year July 1, 1934, to June 30, 1935 ¹		
	New applications	Placements	Active file as of June 30	New applications	Placements	Active file as of June 30
United States.....	12, 634, 974	6, 951, 523	7, 627, 375	4, 115, 779	2, 781, 375	6, 720, 423
Alabama.....	430, 949	193, 513	133, 563	76, 499	42, 662	110, 658
Arizona.....	65, 496	35, 972	27, 075	30, 284	19, 335	36, 202
Arkansas.....	319, 397	167, 407	43, 341	82, 806	60, 714	90, 967
California.....	615, 807	234, 231	470, 967	152, 383	131, 301	145, 481
Colorado.....	153, 290	74, 627	71, 691	40, 837	32, 891	73, 389
Connecticut.....	145, 021	65, 245	48, 991	62, 932	36, 654	51, 917
Delaware.....	15, 563	9, 360	15, 804	7, 928	10, 508	11, 763
Florida.....	183, 063	94, 786	133, 763	50, 859	56, 244	89, 368
Georgia.....	256, 859	58, 565	200, 471	109, 386	57, 314	226, 918
Idaho.....	43, 155	191, 273	42, 600	15, 440	25, 351	31, 417
Illinois.....	603, 668	221, 157	183, 584	227, 396	138, 866	207, 648
Indiana.....	347, 708	184, 687	230, 391	90, 543	57, 008	156, 781
Iowa.....	186, 427	130, 877	81, 468	55, 892	71, 491	83, 028
Kansas.....	165, 892	105, 427	149, 507	55, 674	60, 220	158, 896
Kentucky.....	253, 767	120, 423	264, 730	37, 812	31, 460	113, 584
Louisiana.....	189, 739	96, 364	150, 452	50, 550	26, 003	157, 367
Maine.....	65, 787	44, 722	24, 045	18, 331	12, 946	23, 641
Maryland.....	117, 637	66, 734	105, 377	50, 666	30, 254	84, 695
Massachusetts.....	401, 375	165, 756	318, 007	98, 136	52, 250	214, 210
Michigan.....	292, 652	126, 356	329, 087	77, 203	48, 508	129, 763
Minnesota.....	422, 125	233, 441	188, 401	95, 979	135, 816	88, 576
Mississippi.....	366, 482	177, 051	114, 896	37, 053	50, 309	103, 272
Missouri.....	323, 945	246, 699	216, 959	159, 559	97, 271	213, 020
Montana.....	51, 633	63, 751	51, 921	18, 543	53, 798	31, 884
Nebraska.....	135, 607	121, 969	67, 208	35, 740	60, 601	73, 740
Nevada.....	26, 410	20, 953	9, 631	11, 277	12, 160	5, 365
New Hampshire.....	49, 547	36, 998	19, 462	16, 784	24, 340	24, 973
New Jersey.....	351, 855	120, 083	121, 315	172, 158	46, 347	238, 366
New Mexico.....	57, 044	34, 493	39, 016	15, 877	18, 971	35, 651
New York.....	702, 615	257, 247	878, 482	451, 121	155, 988	754, 584
North Carolina.....	215, 664	121, 108	92, 130	79, 329	74, 622	97, 813
North Dakota.....	113, 616	134, 361	37, 507	19, 696	26, 011	31, 807
Ohio.....	709, 992	274, 667	314, 717	242, 241	129, 776	249, 947
Oklahoma.....	450, 365	275, 645	228, 132	40, 866	47, 944	71, 697
Oregon.....	124, 540	78, 978	98, 215	28, 856	43, 218	83, 967
Pennsylvania.....	1, 050, 014	752, 430	900, 037	644, 699	221, 542	1, 148, 191
Rhode Island.....	56, 133	10, 069	50, 488	16, 569	10, 333	43, 900
South Carolina.....	249, 534	93, 602	146, 821	47, 665	59, 878	133, 262
South Dakota.....	116, 991	83, 651	103, 192	18, 818	34, 319	61, 262
Tennessee.....	304, 988	113, 754	166, 327	69, 026	32, 201	214, 398
Texas.....	584, 801	435, 255	175, 806	184, 101	151, 476	257, 453
Utah.....	88, 070	62, 200	31, 893	15, 455	31, 293	35, 112
Vermont.....	31, 354	34, 418	14, 955	10, 241	11, 254	14, 910
Virginia.....	281, 623	204, 791	126, 893	59, 249	62, 077	102, 820
Washington.....	227, 594	128, 478	164, 729	37, 958	45, 003	160, 539
West Virginia.....	169, 495	94, 107	108, 692	51, 329	33, 023	118, 668
Wisconsin.....	434, 209	302, 783	82, 116	95, 928	75, 853	77, 108
Wyoming.....	35, 883	25, 827	13, 684	9, 818	13, 939	10, 611
District of Columbia.....	68, 793	25, 232	38, 856	38, 295	20, 032	45, 634

¹ Preliminary report; subject to revision.

Regulation of Fee-Charging Employment Agencies

MOST States have legislated to regulate fee-charging employment agencies. Commonly such statutes require bonding and licensing, and attempt to eliminate certain undesirable practices such as fee splitting, collusion between agent and employer, and the misrepresentation of working conditions to applicants seeking employment. In *Braze v. Michigan* (1916), 241 U. S. 340, the Supreme Court held that an act providing for the licensing, bonding, and regulation of employment agencies was a valid exercise of police power by the State. Subsequently, in *Adams v. Tanner* (1917), 244 U. S. 592, the court passed upon a statute which forbade employment agents from receiving fees from workers for whom they found employment. The statute did not, however, prohibit the collection of fees from employers. The court held that the statute, in forbidding the collection of fees from persons desiring to work, destroyed defendant's occupation as agent for workers seeking employment, and therefore violated the due-process clause of the fourteenth amendment. Finally, in a third case, *Ribnik v. McBride* (1928), 277 U. S. 350, it was held that inasmuch as the fee-charging agency was not a business affecting the public interest, any attempt to limit the fees charged was unconstitutional as seriously infringing upon freedom of contract.



Cost of Placements by Public Employment Offices

California

DURING the biennium which closed June 30, 1932, the Division of State Free Employment Agencies of California spent \$203,437, according to the report of the State department of industrial relations for that period. Within these 2 years the number of jobs filled was 191,424, the average cost per placement being \$1.06, which was considerably higher than for any of the 5 previous bienniums, the figures for which are: 1920-22, 54 cents; 1922-24, 36 cents; 1924-26, 46 cents; 1926-28, 54 cents; and 1928-30, 61 cents. This rise in cost in the biennial period 1930-32 is attributed to the severe industrial depression. When there is a great dearth of jobs the number of placements naturally falls, and yet "the organization that was built up during good times must be retained, prepared to meet the demand for jobs when employment conditions change for the better."

It is estimated, however, in the report that if the 191,424 jobs secured free of charge through the State employment offices had been obtained through private employment agencies the cost to clients would have been \$853,751.04, on the basis that the average cost to workers per placement through such private offices was \$4.46 in the biennium 1930-32.

Wisconsin

THE total expenditures by State and local governments in support of the 10 public employment offices of Wisconsin for 4 annual periods are given in the accompanying table from the biennial report of the industrial commission of that State for 1930-32.

EMPLOYMENT SERVICES

EXPENDITURES BY STATE AND LOCAL GOVERNMENTS ON ACCOUNT OF PUBLIC
EMPLOYMENT OFFICES IN WISCONSIN, 1928-31

Year	Expenditures by--			Number of persons placed	Average cost per person placed
	State gov- ernment	Local gov- ernments	Total		
1928.....	\$42,549.40	\$15,149.17	\$57,698.57	100,316	\$0.58
1929.....	41,432.85	16,648.62	58,081.47	101,183	.57
1930.....	42,638.60	16,129.06	58,767.66	52,021	1.13
1931.....	41,703.61	18,104.14	59,807.75	40,660	1.47

**EMPLOYMENT STATISTICS AND
CONDITIONS**

**U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition**

Trend of Employment and Pay Rolls in the United States

Available Statistics on Employment

MONTHLY statistics regarding trend of employment and pay rolls for the United States are compiled by Federal agencies for the following employment groups:

1. Private employment:

(a) *Manufacturing industries*.—Data compiled by the Bureau of Labor Statistics for 90 industries; indexes, with a decreasing number of industries, run back to 1919.

(b) *Trade, public-utility, mining, and service industries*.—Data compiled by the Bureau of Labor Statistics for 16 industrial groups: Anthracite mining; bituminous-coal mining; metalliferous mining; quarrying and nonmetallic mining; crude-petroleum producing; telephone and telegraph; electric light and power and manufactured gas; electric railroad and motor-bus operation and maintenance; wholesale trade; retail trade; hotels; laundries; dyeing and cleaning; banks; brokerage; and insurance. Indexes for these groups, where available, begin with 1929.

(c) *Building construction*.—Data compiled by the Bureau of Labor Statistics since 1931.

(d) *Steam railroads*.—Data on employment compiled by the Interstate Commerce Commission and published by the Bureau of Labor Statistics.

2. Public employment:

(a) *Federal service*.—Data as to the executive departments of the United States Government tabulated by the Bureau of Labor Statistics from reports furnished by the United States Civil Service Commission.

(b) *Employment created by Public Works Administration fund*.—Data tabulated from reports secured by the Bureau of Labor Statistics from the agencies administering the Federal public-works funds or direct from the contractors.

(c) *Emergency-work program*.—Data secured by the Bureau of Labor Statistics from the Federal Emergency Relief Administration.

(d) *Emergency conservation work*.—Data secured by the Bureau of Labor Statistics from the Director of Emergency Conservation Work.

(e) *Public roads (other than those financed from public works funds)*.—Data compiled by the Bureau of Public Roads of the Department of Agriculture.

(f) *Reconstruction Finance Corporation construction projects*.—Data compiled by Bureau of Labor Statistics from reports secured direct from contractors.

(g) *Construction projects financed from regular governmental appropriations*.—Data compiled by Bureau of Labor Statistics from reports secured direct from contractors or Government agency.

Current statistics concerning changes in employment in various States or city localities are also collected and published monthly by State, university, or banking organizations as follows: Arkansas, California, Delaware, Illinois, Iowa, Kansas, Indiana, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York, Ohio, Oregon, Oklahoma, Pennsylvania, Rhode Island, Wisconsin, Federal Reserve Bank of Philadelphia, Federal Reserve Bank of San Francisco, and University of Texas. With the exception of the States of Iowa, Minnesota, Ohio, Oklahoma, Oregon, and Rhode Island, the above cooperate with the Federal Bureau in collecting employment and relevant data.

Coverage and Methods of Compiling

For steam railroads and the public-employment groups, the coverage is complete; that is, all the employees in the groups are covered in the reports. In the other industrial employment groups it is impracticable for the Bureau of Labor Statistics to secure reports from all establishments. The selection of the sample and the methods of collecting and compiling the data are, therefore, matters of considerable interest. Briefly stated, the practice of the Bureau on these points is as follows:

The basic material concerning employment and pay rolls in manufacturing industries and in the 17 nonmanufacturing groups is obtained from reports furnished by representative establishments in all sections of the country. The Federal Bureau is assisted in the collection of these data by 13 cooperating agencies, most of which are State departments of labor.

Questionnaires are mailed to each establishment on the 15th of each month requesting information as to the pay-roll period ending nearest the 15th day of the month. The questionnaire asks for an enumeration of the concern's principal products or the kind of business in which it is engaged, the dates covered by the pay period reported, the amount of pay roll, the total number of persons who worked any part of the period, and the total man-hours worked by the employees reported. Also, for purposes of verification, a request is made for the reason for any marked increase or decrease in total pay roll or number of employees, and for a statement concerning any change made in rates of wages. Each report is inspected upon its arrival; and if the pay-roll total is for a period longer than 1 week, the equivalent pay roll for 1 week is computed. Where necessary, reports are returned to the senders for correction or amendment.

The Bureau's aim has been to secure a coverage of approximately 50 percent of the employees in manufacturing industries in each State, as recorded by the Census of Manufactures, thereby maintaining the geographical distribution of employees in the several industries on an equitable basis.

Although equal coverage and distribution by States has also been the aim in nonmanufacturing industries, this has not as yet been achieved due to the difficulties encountered in contacting smaller concerns, as in retail trade, for instance.

In selecting establishments to represent each industry, care has been exercised to secure in each geographic division a number of both large and small establishments, and if there are two or more branches of an industry, the same care has been exercised to maintain the ratio of representation from each branch.

The number of employees, the pay-roll total, and the man-hours worked for each establishment are entered on an office record card which has space for the 12 months of each of 3 years. Punched cards are prepared from these record cards, and employment, pay-roll, and man-hour totals for all reporting establishments in each industry for both the current month and the month immediately preceding are secured. From these totals, percentages of change over the month interval are obtained, and from these percentage changes the index of the current month for each industry is built up from the index of the preceding month.

Percentages of change over the year interval are computed from the indexes of the current month and the same month of the preceding year.

Changes in per-capita earnings are computed and tabulated by industries, comparisons being made between the current month and the preceding month and between the current month and the corresponding month of the preceding year; wage changes also are brought together and tabulated by industries.

Tabulations are also prepared showing changes in average hours worked per week and average hourly earnings.

Index numbers of employment and pay-roll totals are published for each of the 90 manufacturing industries, for each of the 14 major groups and 2 subgroups of manufacturing industries, for combinations of these groups into durable and nondurable goods divisions, and for all manufacturing industries combined, together with indexes for each of the nonmanufacturing groups surveyed other than banks, brokerage, insurance, and building construction.

Private Employment

Trend of Employment in Manufacturing Industries

THE Bureau of Labor Statistics' survey of factory employment and pay rolls covered 24,649 establishments in 90 manufacturing industries in April 1935. These establishments employed in that month 3,889,488 wage earners, whose combined weekly earnings totaled \$82,358,206. The reporting establishments employed slightly more than 50 percent of all factory wage earners.

In the early part of 1934 a revision was made in the methods of weighting the index numbers for manufacturing industries. The series of general indexes previously published had been computed on a varying number of industries which had been expanded as additional funds became available to carry on this portion of the Bureau's work.

This series of index numbers, when compared with biennial census trends, showed a pronounced bias over an extended period of time. To eliminate this bias, the indexes were adjusted to conform to the trend shown in biennial census reports. Such adjustment makes allowance for new establishments coming into the industry or old establishments dropping out over the period for which census data are available, and the adjusted indexes show the trend in each industry and for all manufacturing as a whole rather than the trend in representative establishments.

Another reason for revising the general indexes of employment and pay roll was to improve the method of constructing the general indexes. The index numbers of total factory employment and pay

rolls had been computed previously by weighting each of the manufacturing industries by the number of employees or amount of annual earnings paid in the year 1925. The revised series of general indexes is computed by weighting the 14 group indexes, which in turn were obtained by weighting each of the separate industries within the group.

At the time the weighting system was revised, it was also decided to shift the index base from the 12-month average 1926 as 100 to the average for the 3-year period, 1923-25. The broad base was selected as preferable to the single-year base, not only because the broad base minimizes any unusual condition which would greatly affect the relative position of any industry on a single-year base, but also places the Bureau's indexes on a base similar to other indexes of employment, pay rolls, and production constructed by a number of official and private organizations.

Table 1 shows the general indexes of employment and pay rolls in manufacturing industries, adjusted to conform with biennial census reports through 1931, for each of the months from January 1919 to December 1935, and yearly averages from 1919 to 1935.

TABLE 1.—GENERAL INDEXES OF EMPLOYMENT AND PAY ROLLS IN MANUFACTURING INDUSTRIES, BY MONTHS—JANUARY 1919 TO DECEMBER 1935

[3-year average 1923-25=100]

<i>Employment</i>													
Month and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1919	105.3	102.0	102.4	102.5	103.1	104.3	106.9	109.7	111.7	111.3	112.6	114.4	107.2
1920	114.9	113.7	116.0	114.5	112.0	111.1	108.5	108.8	107.5	103.7	97.4	89.7	108.2
1921	81.0	82.6	83.2	82.1	81.9	81.0	79.8	81.2	83.4	84.1	84.2	83.3	82.3
1922	82.5	84.6	85.9	85.8	87.9	89.8	88.2	91.4	94.5	97.0	99.0	100.5	90.6
1923	100.7	102.5	104.6	105.0	105.3	106.0	104.9	105.2	105.7	104.5	103.2	101.4	104.1
1924	100.2	101.5	101.7	99.9	96.8	93.8	91.0	92.1	94.4	95.3	94.8	96.1	96.5
1925	96.3	98.1	98.8	98.7	98.1	98.0	97.8	99.5	101.5	102.2	101.8	101.5	99.4
1926	100.5	101.5	102.1	101.4	100.4	100.3	99.4	101.4	103.4	103.1	101.4	100.0	101.2
1927	98.2	99.7	100.2	99.6	99.1	99.1	98.1	99.3	100.5	99.6	97.4	96.1	98.9
1928	95.0	96.5	97.6	97.1	97.0	97.8	97.7	100.1	102.2	102.6	101.7	101.2	98.9
1929	100.8	102.9	104.1	105.3	105.3	105.6	106.1	107.9	109.0	107.7	103.6	99.8	104.8
1930	97.3	97.4	96.9	96.3	94.8	92.9	89.5	88.8	89.6	87.7	84.6	82.3	91.5
1931	79.6	80.3	80.7	80.7	80.1	78.4	77.0	77.1	77.4	74.4	71.8	71.0	77.4
1932	68.7	69.5	68.4	66.1	63.4	61.2	58.9	60.1	63.3	64.4	63.4	62.1	64.1
1933	60.2	61.1	58.8	59.9	62.6	66.9	71.5	76.4	80.0	79.6	76.3	74.5	69.0
1934	73.4	77.8	80.9	82.4	82.5	81.1	78.8	79.6	75.9	78.4	76.9	78.1	78.8
1935	78.8	81.4	82.5	82.6	81.2	79.7	79.7	82.0	83.7	85.3	85.0	84.6	82.2

<i>Pay rolls</i>													
Month and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1919	85.3	89.6	90.0	89.2	90.0	92.0	94.8	99.9	104.7	102.2	106.7	114.0	97.4
1920	117.2	115.5	123.7	120.9	122.4	124.2	119.3	121.6	119.8	115.8	107.0	98.0	117.1
1921	82.8	81.3	81.7	79.0	77.3	75.4	71.7	73.9	73.4	72.6	71.7	73.3	76.2
1922	69.6	72.4	74.9	73.8	77.2	80.5	78.5	83.0	87.0	89.5	93.4	95.7	81.3
1923	94.6	97.9	102.5	103.8	107.3	107.5	103.3	103.8	104.3	106.6	104.5	102.9	103.3
1924	98.8	104.1	104.1	101.8	97.5	92.4	85.7	89.3	92.5	95.1	93.7	97.6	96.1
1925	95.4	100.8	102.4	100.0	100.7	98.7	96.8	99.3	98.8	104.6	104.6	105.2	100.6
1926	100.9	105.0	106.5	104.4	103.1	103.3	99.0	103.4	104.4	107.6	104.1	103.5	103.8
1927	98.4	104.4	105.7	104.5	104.0	102.4	98.5	101.9	101.4	102.1	98.5	99.5	101.8
1928	96.0	101.2	102.5	100.5	101.3	101.7	99.0	103.3	104.7	108.2	105.0	105.6	102.4
1929	102.3	109.3	111.6	112.6	112.9	111.2	107.2	112.0	112.9	112.4	104.1	100.7	109.1
1930	95.9	98.8	98.8	97.7	95.4	92.3	84.3	83.3	84.1	82.2	76.8	75.2	88.7
1931	70.0	74.3	75.6	74.4	73.4	69.7	66.2	65.9	63.4	61.3	58.1	57.6	67.5
1932	53.5	54.6	53.1	49.5	46.8	43.4	39.8	40.6	42.9	44.7	42.9	41.5	46.1
1933	39.5	40.2	37.1	38.8	42.7	47.2	50.8	56.8	59.1	59.4	55.5	54.5	48.5
1934	54.0	60.6	64.7	67.3	67.1	64.9	60.5	62.2	58.0	61.0	59.5	63.2	61.9
1935	64.3	69.1	70.8	70.8	68.5	66.4	65.4	69.7	72.2	75.0	74.5	76.6	70.3

Indexes of Employment and Pay Rolls, by Industries, 1929-34

IN table 2 are shown the average yearly indexes of employment and pay rolls from 1929 to 1934, for each of the 14 major manufacturing groups, the 2 subgroups, and the 90 separate manufacturing industries included in the Bureau's survey.

TABLE 2.—AVERAGE YEARLY INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, 1929-34

[3-year average (1923-25) = 100]

Industries	1929		1930		1931		1932		1933		1934	
	Em- p- loy- ment	Pay roll	Em- p- loy- ment	Pay roll	Em- p- loy- ment	Pay roll	Em- p- loy- ment	Pay roll	Em- p- loy- ment	Pay roll	Em- p- loy- ment	Pay roll
Iron and steel and their products, not including machinery.	102.6	107.8	89.2	85.7	69.7	55.0	53.3	29.1	58.6	36.2	69.0	49.0
Blast furnaces, steel works, and rolling mills.....	103.2	109.6	90.3	87.7	68.4	53.6	51.5	24.8	58.5	35.4	69.7	49.2
Bolts, nuts, washers, and rivets.....	114.0	122.0	(1)	(1)	74.2	56.2	60.8	33.8	71.0	42.1	78.1	54.3
Cast-iron pipe.....	87.8	85.2	80.4	75.3	71.5	55.1	45.5	24.2	39.2	19.7	51.1	27.8
Cutlery (not including silver and plated cutlery) and edge tools.....	89.5	87.5	(1)	(1)	74.2	60.4	67.6	46.8	65.1	42.8	77.6	55.4
Forgings, iron and steel.....	87.8	97.8	(1)	(1)	41.9	32.5	35.8	19.9	40.8	25.0	54.6	39.4
Hardware.....	101.7	106.9	88.6	81.6	70.3	58.9	55.1	35.5	55.8	36.1	62.7	47.0
Plumbers' supplies.....	92.5	87.2	(1)	(1)	65.1	48.0	51.1	27.6	58.2	31.1	58.4	32.6
Steam and hot-water heating apparatus and steam fittings.....	91.6	92.4	78.3	69.0	67.1	46.3	46.5	24.7	49.5	26.4	47.6	29.9
Stoves.....	99.3	98.8	83.1	74.3	69.4	53.4	57.3	35.0	68.7	43.9	87.2	60.1
Structural and ornamental metalwork.....	111.2	112.8	98.9	94.2	76.0	61.5	50.8	31.1	46.1	26.3	56.8	38.9
Tin cans and other tinware.....	104.3	113.6	(1)	(1)	83.7	83.3	73.8	67.3	78.7	70.6	90.7	84.4
Tools (not including edge tools, machine tools, files, and saws).....	107.6	117.8	(1)	(1)	60.4	51.1	46.5	32.2	48.9	34.7	59.8	49.9
Wirework.....	124.2	129.3	(1)	(1)	95.6	80.6	90.3	61.9	103.3	75.7	124.4	101.0
Machinery, not including transportation equipment.	125.9	134.2	104.6	102.2	78.3	63.9	56.3	36.1	58.9	37.9	77.7	57.2
Agricultural implements.....	147.9	160.0	110.7	106.9	62.3	51.9	39.2	32.4	44.5	37.7	75.1	77.7
Cash registers, adding machines, and calculating machines.....	120.8	137.3	(1)	(1)	87.3	69.1	75.4	50.6	79.5	56.4	102.0	79.4
Electrical machinery, apparatus, and supplies.....	127.3	134.4	107.1	109.3	80.9	68.7	56.8	37.1	51.3	33.6	63.9	47.7
Engines, turbines, tractors, and water-wheels.....	125.3	138.9	106.1	107.2	68.1	54.0	42.4	24.0	44.8	25.7	60.7	45.7
Foundry and machine-shop products.....	111.3	117.9	94.2	89.0	69.7	55.4	50.4	31.1	52.6	32.8	68.0	49.6
Machine tools.....	167.2	187.6	126.0	121.9	74.7	61.5	40.5	27.5	41.7	28.7	69.0	53.4
Radios and phonographs.....	204.5	202.9	141.0	139.8	124.4	96.5	100.0	62.7	151.4	85.4	203.5	116.5
Textile machinery and parts.....	88.1	96.7	71.2	66.0	61.3	54.3	48.7	35.4	61.1	47.0	69.1	54.4
Typewriters and parts.....	121.1	130.1	(1)	(1)	77.8	60.0	58.7	35.2	62.7	42.4	94.4	81.1
Transportation equipment.	103.5	105.4	80.2	70.2	66.3	52.3	56.0	40.7	54.2	39.5	82.9	68.6
Aircraft.....	525.2	501.5	(1)	(1)	353.1	354.8	253.7	251.0	298.5	269.5	332.5	288.2
Automobiles.....	111.3	111.6	80.3	65.7	71.0	53.4	60.8	42.3	59.8	42.8	93.2	76.1
Cars, electric and steam railroad.....	63.1	63.1	54.7	53.2	29.6	25.4	26.3	23.5	25.4	20.5	43.4	40.8
Locomotives.....	56.8	58.3	52.3	51.5	28.0	18.1	19.4	8.9	15.6	5.8	31.1	13.7
Shipbuilding.....	101.3	109.7	107.3	113.5	83.0	76.8	66.0	52.5	55.4	38.9	70.2	54.9

1 Data not available.

TABLE 2.—AVERAGE YEARLY INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, 1929-34—Continued

[3-year average (1923-25)=100]

Industries	1929		1930		1931		1932		1933		1934	
	Em- ploy- ment	Pay roll	Em- ploy- ment	Pay roll	Em- ploy- ment	Pay roll	Em- ploy- ment	Pay roll	Em- ploy- ment	Pay roll	Em- ploy- ment	Pay roll
Railroad repair shops..	82.0	90.4	73.4	76.1	64.1	61.7	53.4	42.7	52.0	41.7	55.5	48.1
Electric railroad.....	87.8	97.2	85.8	93.0	79.3	80.2	71.7	64.3	66.3	55.1	66.0	58.0
Steam railroad.....	82.2	89.8	72.4	74.8	62.9	60.4	52.0	41.2	50.9	40.8	54.7	47.5
Nonferrous metals and their products.....	111.4	116.4	(1)	(1)	74.0	63.1	58.1	39.1	62.0	41.5	74.3	56.0
Aluminum manufac- tures.....	138.4	150.0	(1)	(1)	90.2	81.3	64.3	42.1	71.8	50.9	71.2	54.4
Brass, bronze, and copper products....	121.5	128.3	96.6	88.7	74.9	60.3	57.8	35.8	64.1	41.3	74.6	53.9
Clocks and watches and time-recording devices.....	98.2	102.2	(1)	(1)	74.3	62.2	54.5	35.4	51.7	34.4	70.1	55.7
Jewelry.....	111.4	113.3	(1)	(1)	74.1	65.6	57.6	43.5	55.5	39.6	67.5	52.2
Lighting equipment.	104.2	110.6	(1)	(1)	65.3	60.4	49.5	38.8	51.4	38.7	64.4	51.9
Silverware and plated ware.....	92.6	96.5	(1)	(1)	65.3	54.3	54.3	37.2	55.6	36.2	68.9	50.3
Smelting and refin- ing—copper, lead, and zinc.....	91.3	99.4	(1)	(1)	54.4	45.9	45.3	27.3	50.7	29.2	68.1	42.1
Stamped and enam- eled ware.....	120.5	125.6	106.3	104.9	85.4	76.8	69.8	49.0	76.5	52.3	86.6	72.9
Lumber and allied products.....	95.4	97.4	76.1	72.6	56.3	46.6	41.1	25.1	44.2	26.4	48.7	32.7
Furniture.....	111.9	114.0	89.0	80.7	73.7	59.2	57.8	34.8	61.7	36.3	63.0	41.9
Lumber:												
Millwork.....	84.6	83.5	64.4	61.1	51.1	42.0	35.6	21.7	34.5	19.5	36.8	23.3
Sawmills.....	87.7	90.7	67.6	67.6	41.1	33.6	26.1	14.2	28.7	16.0	33.4	21.4
Turpentine and rosin.	126.0	98.2	(1)	(1)	88.6	47.5	71.9	32.7	83.6	36.3	97.2	50.1
Stone, clay, and glass products.....	93.8	93.7	80.2	76.9	63.7	53.9	44.6	29.1	45.0	27.6	52.8	35.5
Brick, tile, and terra cotta.....	91.5	84.7	72.2	62.2	50.2	35.2	29.6	14.0	27.0	12.0	29.7	16.0
Cement.....	90.3	92.9	84.6	83.4	65.8	56.9	44.9	27.7	41.1	22.2	49.3	30.6
Glass.....	96.7	100.9	83.8	82.9	71.5	66.5	58.9	45.9	69.8	52.9	89.8	71.8
Marble, granite, slate, and other products..	98.7	104.0	(1)	(1)	72.2	68.8	43.2	31.8	33.7	20.7	30.7	19.4
Pottery.....	94.7	91.4	82.9	74.1	72.3	56.4	57.0	35.1	60.2	35.8	69.0	44.7
Textiles and their products.....	104.8	105.2	92.9	85.6	87.2	75.1	76.7	53.5	87.9	61.2	91.2	71.2
Fabrics.....	99.2	99.4	86.0	79.4	80.3	70.2	71.9	50.9	86.2	62.2	89.5	70.9
Carpets and rugs.	96.2	90.1	74.2	59.7	67.5	54.3	52.0	32.2	60.6	42.6	66.7	50.1
Cotton goods.....	96.1	90.1	80.7	69.4	74.5	61.0	67.8	44.6	87.5	62.1	92.9	73.0
Cotton small wares.....	97.4	102.1	(1)	(1)	81.7	76.8	68.7	52.4	77.4	58.8	82.1	67.2
Dyeing and fin- ishing textiles.	121.8	124.8	112.0	108.7	103.3	101.2	89.3	72.3	94.8	73.6	106.2	84.2
Hats, fur-felt.....	105.3	112.3	(1)	(1)	89.6	82.5	71.7	57.6	77.5	65.8	80.1	74.3
Knit goods.....	112.5	129.8	102.9	108.6	96.0	92.2	94.1	75.5	102.2	81.4	107.6	98.6
Silk and rayon goods.....	103.8	105.6	95.1	87.2	86.9	74.8	68.7	46.4	75.5	51.8	75.4	60.0
Woolen and worst- ed goods.....	82.6	80.1	67.2	60.5	67.1	57.3	59.5	41.3	78.2	54.5	72.4	52.5
Wearing apparel.....	113.3	111.0	105.0	93.6	99.6	80.7	84.8	55.5	88.2	55.7	91.1	67.7
Clothing, men's.	103.2	95.8	91.4	74.7	84.9	62.8	74.4	42.3	80.3	47.3	84.0	57.9
Clothing, wom- an's.....	146.8	142.6	142.2	127.9	135.8	110.5	110.4	73.9	110.0	68.0	116.1	84.9
Corsets and allied garments.....	89.2	97.0	(1)	(1)	91.3	89.6	88.0	74.0	88.9	71.0	90.1	81.4
Men's furnish- ings.....	132.7	145.5	(1)	(1)	120.1	109.5	99.2	67.0	101.5	62.7	101.6	70.6
Millinery.....	101.3	104.0	91.3	88.6	83.7	79.2	78.3	65.2	75.9	57.9	70.4	60.6
Shirts and collars.	109.1	109.2	102.7	90.3	104.0	82.7	90.5	61.0	99.0	72.1	99.8	89.7
Leather and its manu- factures.....	98.5	99.0	91.2	82.3	84.3	72.1	79.0	58.1	83.3	62.9	87.8	73.9
Boots and shoes.....	96.7	95.6	90.2	78.3	85.3	70.2	81.7	58.5	83.9	61.5	87.0	71.7
Leather.....	91.1	92.8	84.6	83.0	76.9	72.5	69.1	56.0	81.3	66.8	91.1	80.2

1 Data not available.

TABLE 2.—AVERAGE YEARLY INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN MANUFACTURING INDUSTRIES, 1929-34—Continued

[3-year average (1923-25)=100]

Industries	1929		1930		1931		1932		1933		1934	
	Em- p- loy- ment	Pay roll										
Food and kindred products	112.8	113.9	109.4	108.9	97.4	83.0	86.4	74.2	94.4	76.2	106.5	92.4
Baking.....	123.6	125.3	121.5	123.7	112.6	109.0	101.2	88.6	101.2	82.7	113.2	95.5
Beverages.....	101.3	106.1	(1)	(1)	85.5	83.1	74.0	64.3	127.9	118.0	163.2	156.2
Butter.....	100.3	102.5	(1)	(1)	82.0	79.1	75.3	65.7	76.1	58.7	80.0	60.3
Canning and preserv- ing.....	134.6	129.4	138.8	126.7	106.1	91.5	74.8	64.9	90.3	75.5	101.8	99.6
Confectionery.....	101.7	103.7	92.1	93.3	82.0	77.5	74.2	59.9	79.7	59.5	80.0	68.5
Flour.....	80.6	85.7	73.9	78.7	68.1	66.7	65.1	55.9	67.7	53.9	76.5	63.4
Ice cream.....	96.0	102.7	89.0	93.0	76.0	76.9	64.5	58.4	62.9	48.6	71.4	56.4
Slaughtering and meat packing.....	96.7	101.5	92.1	96.3	84.1	82.2	79.8	65.2	87.6	67.7	103.7	90.5
Sugar, beet.....	91.2	90.3	(1)	(1)	75.8	68.1	76.7	56.2	102.6	73.7	84.7	61.0
Sugar refining, cane.....	94.3	91.4	92.3	89.7	80.3	79.6	74.2	68.7	78.6	67.0	86.4	70.1
Tobacco manufac- tures	83.9	81.8	78.3	72.7	72.1	60.1	64.0	47.3	59.7	42.5	62.6	47.1
Chewing and smok- ing tobacco and snuff.....	68.0	71.3	69.8	71.3	71.9	69.0	76.2	66.0	74.5	63.1	75.6	67.4
Cigars and cigarettes.....	86.0	83.1	79.4	72.9	72.1	58.9	62.5	45.0	57.9	39.9	60.9	44.6
Paper and printing	111.3	119.5	108.0	114.6	96.3	97.3	85.0	74.8	86.2	69.3	94.8	79.6
Boxes, paper.....	97.9	102.9	90.7	91.6	81.8	79.0	70.5	60.1	77.0	62.7	84.9	75.4
Paper and pulp.....	106.1	112.5	102.5	104.6	89.5	82.1	82.4	61.7	90.3	64.9	105.3	79.2
Printing and pub- lishing:												
Book and job....	113.1	118.7	110.9	115.6	100.7	99.1	85.8	73.4	79.4	62.5	85.7	72.0
Newspapers and periodicals.....	111.0	121.8	109.9	119.4	101.8	108.0	92.8	88.6	93.3	80.0	98.5	87.4
Chemicals and allied products	115.6	121.0	109.5	112.2	95.1	91.8	84.0	70.4	94.7	74.3	108.6	69.4
Chemicals.....	109.2	120.0	99.5	103.5	85.1	84.2	72.9	63.0	87.2	71.9	108.1	92.4
Cottonseed—oil, cake, and meal.....	109.0	118.9	(1)	(1)	84.5	88.5	89.7	79.0	87.2	74.2	83.4	76.2
Druggists' prepara- tions.....	116.4	124.4	108.2	116.3	103.2	105.3	90.3	82.4	90.7	81.0	101.1	92.1
Explosives.....	95.3	102.0	79.7	74.7	80.4	66.9	66.4	45.3	76.3	52.3	93.6	71.6
Fertilizers.....	113.4	108.3	111.0	104.2	78.8	73.4	62.4	49.6	82.5	55.8	106.4	79.3
Paints and varnishes.....	122.3	129.6	(1)	(1)	94.4	90.3	82.2	66.8	85.7	64.3	100.3	79.0
Petroleum refining.....	124.4	129.2	124.9	130.4	106.2	105.8	96.1	85.4	99.8	83.1	111.1	94.3
Rayon and allied products.....	244.4	220.2	242.2	214.1	241.9	188.4	217.0	140.4	281.9	178.8	307.6	215.4
Soap.....	88.6	96.7	(1)	(1)	87.4	90.2	83.3	75.0	89.8	73.3	100.4	87.2
Rubber products	111.0	115.1	85.9	84.7	73.9	62.5	65.4	44.9	73.9	50.2	82.9	63.7
Rubber boots and shoes.....	102.1	105.6	82.0	77.4	63.2	48.6	52.5	37.7	50.9	42.5	54.0	48.8
Rubber goods, other than boots, shoes, tires, and inner tubes.....	120.3	126.4	(1)	(1)	102.3	89.9	94.1	70.0	112.2	79.5	122.4	94.3
Rubber tires and inner tubes.....	110.0	113.2	79.0	79.3	64.9	56.2	57.1	37.7	64.7	41.7	75.2	56.4

1 Data not available.

Trend of Employment in Trade, Public Utility, Mining, and Service Industries

IN TABLE 1 is shown the "sample" covered by the Bureau of Labor Statistics in its survey of nonmanufacturing industries in April 1935, other than building construction, which is discussed in a separate section (see p. 140). The coverage in several of these nonmanufacturing industries, particularly wholesale and retail trade, is not as comprehensive as is desired. A special Civil Works Administration project carried out in the early part of 1934 for the purpose of increasing the list of establishments reporting to the Bureau resulted in a marked increase in the number of reporting firms in the whole-

sale and retail trade groups. Additional reports were also added to a number of other industries, improving the sample previously surveyed.

TABLE 1.—EMPLOYMENT AND PAY ROLLS IN NONMANUFACTURING INDUSTRIES, APRIL 1935

Industrial group	Number of establishments reporting	Number of employees on pay roll April 1935	Amount of pay roll (1 week) April 1935
All nonmanufacturing industries.....	96,601	2,626,759	\$61,374,909
Coal mining:			
Anthracite.....	160	73,070	2,019,392
Bituminous.....	1,459	237,894	3,705,401
Metalliferous mining.....	259	30,470	683,059
Quarrying and nonmetallic mining.....	1,127	30,549	491,284
Crude-petroleum producing.....	301	30,314	887,220
Public utilities:			
Telephone and telegraph.....	9,760	259,747	7,220,591
Electric light and power and manufactured gas.....	2,760	242,729	7,376,154
Electric-railroad and motor-bus operation and maintenance.....	479	134,711	3,794,636
Trade:			
Wholesale.....	16,820	296,015	7,984,039
Retail:			
General merchandising.....	54,543	879,495	17,808,710
Other than general merchandising.....	3,558	380,363	6,677,254
Hotels (cash payments only) ¹	50,985	499,132	11,131,456
Laundries.....	2,416	143,834	1,962,181
Dyeing and cleaning.....	1,339	73,613	1,143,289
Banks.....	726	17,767	334,162
Brokerage.....	2,962	95,294	3,027,434
Insurance.....	364	10,246	353,958
Other.....	1,126	71,011	2,583,399

¹ The additional value of room, board, and tips cannot be computed.

Index numbers of employment and pay-roll totals for 15 non-manufacturing industries are presented in table 2. These index numbers show the variation in employment and pay rolls by months, from January 1929 to December 1935, in all nonmanufacturing industries except the laundry and dyeing and cleaning industries, for which information over the entire period is not available. The Bureau has secured data concerning employment and pay rolls for the index base year 1929 from establishments in these industries, and has computed index numbers for those months for which data are available from the Bureau's files. These indexes are shown in this tabulation.

The Bureau formerly presented indexes of employment and pay rolls for the banks, brokerage, insurance, and real-estate group, but this was discontinued in March 1934. Fluctuations in employment in the banking industry, due to the closing of many banks throughout the country, were not adequately reflected in these indexes, and the sample surveyed in the real-estate industry was not sufficiently comprehensive for the purpose intended. The survey of employment in real estate was dropped entirely in February 1935.

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR NONMANUFACTURING INDUSTRIES, JANUARY 1929 TO DECEMBER 1935

[12-month average, 1929=100]

Month	Anthracite mining													
	Employment							Pay rolls						
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935
January	105.7	102.1	90.6	76.2	52.5	64.1	62.9	100.7	105.8	89.3	61.5	43.2	73.2	57.5
February	106.0	106.9	89.5	71.2	58.7	63.2	64.4	122.1	121.5	101.9	57.3	56.8	65.8	64.3
March	98.0	82.6	82.0	73.7	54.6	67.5	51.4	90.8	78.5	71.3	61.2	48.8	82.4	38.9
April	100.7	84.1	85.2	70.1	51.6	58.2	52.6	88.3	75.0	75.2	72.0	37.4	51.7	49.9
May	103.7	93.8	80.3	66.9	43.2	63.8	53.5	99.0	98.8	76.1	58.0	30.0	64.0	49.5
June	92.9	90.8	76.1	53.0	39.5	57.5	56.8	80.7	94.3	66.7	37.4	34.3	53.3	66.0
July	83.2	91.6	65.1	44.5	43.8	53.6	49.4	64.7	84.0	53.7	34.5	38.2	42.3	37.5
August	91.1	80.2	67.3	49.2	47.7	49.5	38.7	78.4	78.8	56.4	41.4	46.6	39.7	28.3
September	101.9	93.8	80.0	55.8	56.8	56.9	46.0	103.8	91.6	64.9	47.0	60.7	47.0	38.2
October	106.1	99.0	86.8	63.9	56.9	58.5	58.8	133.9	117.2	91.1	66.7	61.6	48.3	55.9
November	104.0	97.2	83.5	62.7	61.0	60.7	46.6	100.5	98.0	79.5	51.0	47.8	51.2	28.4
December	107.1	99.1	79.8	62.3	54.5	61.6	57.3	137.2	100.0	78.4	56.2	44.3	52.3	55.4
Average	100.0	93.4	80.5	62.5	51.7	59.6	53.2	100.0	95.3	75.4	53.7	45.8	55.9	47.5
	Bituminous-coal mining													
January	106.4	102.5	93.9	80.8	69.8	75.8	80.0	106.1	101.4	73.3	47.0	36.1	51.3	59.6
February	107.7	102.4	91.5	77.4	69.3	76.1	81.1	116.6	102.1	68.3	47.0	37.2	54.6	66.1
March	106.8	98.6	88.8	75.2	67.6	77.8	81.6	108.6	86.4	65.2	46.8	30.7	58.9	67.5
April	100.2	94.4	85.9	65.5	63.7	72.2	74.3	89.2	81.7	58.6	33.9	26.6	51.4	45.0
May	96.6	90.4	82.4	62.6	61.2	76.7	75.3	91.9	77.5	54.4	30.7	26.9	54.4	49.1
June	94.7	88.4	78.4	60.5	61.3	76.7	77.9	90.0	75.6	52.4	27.3	29.2	55.1	64.7
July	94.1	88.0	76.4	58.6	63.2	77.0	70.0	85.6	68.9	50.4	24.4	33.6	49.7	35.9
August	95.7	89.2	77.0	59.4	68.6	77.1	73.4	92.8	71.1	50.6	26.4	43.3	50.4	45.8
September	97.2	90.5	80.4	62.4	71.8	78.2	77.1	98.6	74.9	53.6	30.2	44.1	51.4	60.1
October	98.8	91.8	81.3	67.0	68.0	79.3	74.3	106.8	79.4	56.2	37.8	44.1	57.6	69.8
November	101.0	92.5	81.1	69.4	74.8	79.8	76.1	106.0	79.1	54.6	38.0	50.7	58.3	65.5
December	101.4	92.5	81.2	70.0	75.4	79.7	79.1	108.2	77.7	52.3	37.7	50.8	57.0	69.5
Average	100.0	93.4	83.2	67.4	67.9	77.2	76.7	100.0	81.3	57.5	35.6	37.8	54.2	58.2
	Metalliferous mining													
January	93.1	95.7	68.3	49.3	32.4	39.6	44.3	88.0	92.7	55.0	29.7	18.1	25.4	30.1
February	94.6	92.3	65.3	46.9	31.5	40.3	44.3	91.8	92.5	54.6	27.8	17.8	28.0	29.9
March	97.0	90.9	63.5	45.0	30.0	39.8	45.0	99.1	90.8	52.8	26.5	17.4	25.9	30.9
April	100.6	89.3	63.9	43.3	29.4	41.7	46.0	104.6	88.3	51.4	25.0	16.4	27.2	31.8
May	100.8	87.5	62.4	38.3	30.0	40.8	44.4	104.6	85.6	49.3	23.8	17.0	25.6	31.4
June	103.8	84.6	60.0	32.2	31.5	41.9	46.0	105.6	81.6	46.1	20.1	18.3	26.7	31.5
July	101.5	80.5	56.2	29.5	33.0	39.9	45.2	99.0	71.9	41.3	16.9	19.0	25.1	31.1
August	103.2	79.5	55.8	28.6	36.8	42.7	46.3	100.1	71.0	40.2	16.5	21.9	27.0	33.4
September	102.1	78.1	55.5	29.3	38.9	42.3	48.9	102.0	69.9	40.0	17.0	23.9	25.9	35.4
October	101.9	77.2	53.8	30.5	40.7	43.3	51.6	103.1	68.6	37.4	18.0	25.9	28.2	38.7
November	103.0	72.8	52.8	31.9	40.6	43.2	52.6	102.2	63.4	35.1	18.7	25.6	28.5	39.6
December	98.5	70.1	51.2	33.3	40.6	44.4	53.5	99.7	59.9	34.3	18.7	26.2	29.4	43.2
Average	100.0	83.2	59.1	36.5	34.6	41.6	47.3	100.0	78.0	44.8	21.6	20.6	26.7	33.9
	Quarrying and nonmetallic mining													
January	91.6	79.6	64.4	48.9	35.1	39.7	36.9	85.9	71.9	50.4	30.2	18.1	21.3	20.8
February	91.9	79.8	66.6	47.4	34.8	38.8	37.3	88.9	73.5	54.4	28.6	17.4	21.0	22.2
March	96.0	83.0	70.0	46.0	35.1	42.0	40.5	95.0	80.0	58.2	28.7	18.8	24.1	24.9
April	99.6	87.4	76.1	48.6	39.3	48.7	45.3	100.5	85.4	62.6	30.0	20.2	29.9	28.9
May	104.1	90.8	75.0	50.6	43.4	54.3	49.5	107.1	90.2	62.3	32.3	23.8	35.0	32.8
June	106.6	90.3	72.3	49.5	47.3	56.6	50.4	110.5	90.9	60.1	30.0	27.5	37.0	33.8
July	104.7	89.9	71.0	49.5	49.5	55.6	50.9	104.7	85.5	57.3	29.1	28.4	35.0	34.4
August	105.7	89.3	68.9	51.1	51.6	54.7	51.0	110.3	85.8	55.1	29.7	29.9	34.0	36.3
September	106.6	87.7	66.6	52.4	52.6	53.3	50.0	109.8	82.5	51.2	30.5	29.3	32.4	35.4
October	103.6	84.7	64.5	52.4	53.2	51.8	50.0	105.8	79.3	48.7	30.1	31.2	32.1	36.5
November	98.6	78.3	59.3	49.4	51.1	49.5	46.7	96.0	66.8	43.3	27.1	28.3	29.4	32.1
December	90.1	70.2	53.9	42.3	45.3	42.1	43.1	85.4	59.9	36.9	22.1	24.4	23.6	29.7
Average	100.0	84.3	67.4	49.0	44.9	48.9	46.0	100.0	79.3	53.4	29.1	24.7	29.6	30.6

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR NONMANUFACTURING INDUSTRIES, JANUARY 1929 TO DECEMBER 1935—Continued

[12-month average, 1929=100]

Month	Crude petroleum producing														
	Employment							Pay rolls							
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	
January	90.0	92.7	74.8	54.9	57.2	73.2	74.9	93.1	94.0	71.5	46.5	39.9	53.0	55.5	
February	90.4	90.8	73.2	54.4	57.0	72.4	74.2	99.0	88.6	70.0	46.9	41.7	50.5	54.9	
March	89.6	89.3	72.2	51.4	56.5	72.8	74.0	97.4	91.3	73.2	43.2	42.5	52.5	56.0	
April	97.6	86.8	69.8	54.9	56.8	74.0	74.9	96.7	86.6	66.3	44.5	40.1	53.4	56.7	
May	93.9	89.8	67.8	54.5	56.9	76.7	76.0	92.4	85.4	64.7	47.1	41.6	56.4	57.8	
June	104.1	90.2	65.0	54.2	58.0	80.0	76.7	99.4	87.1	62.7	44.8	40.6	56.9	59.2	
July	106.0	89.9	65.3	55.4	59.5	81.6	77.4	100.7	88.5	59.2	44.6	42.2	60.0	60.9	
August	113.2	87.7	62.4	57.4	60.8	82.7	76.3	104.7	86.0	56.3	42.9	42.5	61.2	58.9	
September	108.9	85.0	61.2	56.2	66.2	81.8	75.1	110.7	84.0	55.2	41.9	44.4	59.7	60.9	
October	107.9	85.2	60.4	56.8	70.6	79.5	74.7	100.1	82.6	54.4	42.5	50.1	60.8	57.9	
November	101.1	83.6	57.6	56.5	72.2	78.8	73.0	103.8	80.0	52.0	40.2	50.3	59.0	56.9	
December	97.0	77.4	58.2	57.2	75.0	78.7	72.2	102.1	77.2	54.9	41.7	53.2	59.5	59.9	
Average	100.0	87.4	65.7	55.3	62.2	77.7	75.0	100.0	85.9	61.7	44.1	44.1	56.9	57.9	
Month	Telephone and telegraph														
	Employment							Pay rolls							
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	
January	94.3	101.6	90.5	83.0	74.6	70.2	70.5	94.5	105.1	96.3	89.1	71.7	69.0	73.9	
February	95.3	100.2	89.2	82.0	73.9	69.8	70.0	93.0	101.9	94.8	89.6	71.9	67.9	72.9	
March	96.5	99.4	88.6	81.7	73.2	70.0	69.8	98.7	105.8	97.9	88.2	71.6	70.4	75.3	
April	97.8	98.9	88.1	81.2	72.3	70.2	69.7	98.3	103.4	95.0	83.4	67.8	68.8	73.1	
May	100.4	99.7	87.4	80.6	70.1	70.2	70.0	99.4	103.2	94.1	82.8	68.5	71.4	73.7	
June	101.5	99.8	86.9	79.9	69.2	70.4	70.2	100.0	103.4	95.0	82.1	66.6	71.3	74.4	
July	102.6	100.0	86.6	79.1	68.5	71.0	70.3	104.1	106.6	93.3	79.6	66.7	72.3	75.7	
August	103.7	98.8	85.9	78.1	68.1	71.0	70.5	101.8	102.5	92.3	79.1	66.1	74.0	75.5	
September	102.5	96.8	85.0	77.4	68.3	70.9	70.4	100.4	102.2	92.1	75.9	64.6	72.2	73.8	
October	101.9	94.5	84.1	76.2	68.7	70.3	70.0	105.1	100.9	91.6	75.7	67.0	74.9	74.9	
November	101.9	93.0	83.5	75.5	68.9	69.9	69.8	101.2	97.9	89.7	74.3	67.7	72.2	74.9	
December	101.8	91.6	83.1	74.8	69.4	69.7	69.6	103.9	101.3	92.7	73.5	67.7	73.2	75.6	
Average	100.0	97.9	86.6	79.1	70.4	70.3	70.1	100.0	102.9	93.7	81.1	68.2	71.5	74.5	
Month	Electric light and power and manufactured gas														
	Employment							Pay rolls							
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	
January	92.9	99.6	99.2	89.3	77.7	82.2	82.7	91.7	99.7	98.6	88.4	73.0	73.8	78.0	
February	92.6	98.8	97.8	87.2	77.4	81.2	82.2	91.8	100.4	99.7	86.0	71.6	74.4	78.3	
March	92.8	99.7	96.7	85.5	76.9	81.7	82.3	94.5	102.1	102.4	85.4	71.9	75.6	79.4	
April	95.9	100.7	97.1	84.8	76.9	82.4	82.6	95.5	102.6	97.6	82.4	69.4	76.8	79.0	
May	98.4	103.4	97.6	84.0	76.9	83.1	83.3	98.1	104.5	98.7	84.2	69.9	77.6	79.8	
June	100.7	104.6	97.2	83.2	77.3	84.0	83.9	100.4	107.8	98.3	80.5	69.9	77.8	79.8	
July	103.2	105.9	96.7	82.3	77.5	85.0	84.8	102.3	106.7	97.4	78.7	70.0	81.1	81.5	
August	105.4	106.4	95.9	81.5	78.1	85.6	86.8	103.8	106.6	96.2	76.7	70.9	79.9	82.8	
September	105.5	105.2	94.7	81.0	80.3	85.8	86.9	106.6	106.1	94.3	74.7	71.8	79.3	84.5	
October	105.7	104.8	92.7	79.9	82.2	85.8	87.4	106.0	105.6	93.2	74.4	76.2	80.6	84.4	
November	104.7	103.4	91.3	79.1	82.6	85.5	87.6	104.1	103.7	93.3	73.2	74.5	79.6	83.4	
December	102.5	103.2	90.3	78.4	81.8	83.6	86.8	105.8	106.3	91.2	73.2	74.4	78.3	86.0	
Average	100.0	103.0	95.6	83.0	78.8	83.8	84.8	100.0	104.3	96.7	79.8	72.0	77.9	81.4	
Month	Electric-railroad and motor-bus operation and maintenance ¹														
	Employment							Pay rolls							
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935	
January	99.7	97.1	86.9	79.5	70.6	70.5	71.2	98.7	97.8	85.6	75.4	60.9	59.2	62.9	
February	99.1	95.1	86.6	78.9	70.4	71.0	71.0	97.6	95.7	87.1	74.3	60.6	60.1	63.1	
March	97.0	94.4	86.4	77.6	69.8	71.7	71.3	98.0	95.4	88.1	73.6	59.4	62.2	63.4	
April	98.5	95.2	86.8	78.0	69.5	72.2	71.4	99.5	97.1	86.6	71.8	58.1	62.9	63.3	
May	100.4	95.2	85.9	76.9	69.1	72.6	71.6	101.0	96.0	85.1	72.2	58.2	63.0	63.6	
June	101.2	94.8	85.3	76.5	69.3	73.2	71.7	101.7	97.0	84.8	70.0	58.0	63.2	63.9	
July	102.2	95.3	85.6	75.6	69.4	73.1	71.5	101.9	95.6	83.3	66.4	57.4	63.8	63.4	
August	102.2	92.9	84.8	74.1	69.5	72.8	71.2	102.0	92.1	81.9	63.8	58.2	62.8	63.3	
September	101.4	91.8	84.0	73.5	69.7	72.5	71.0	101.5	90.5	81.2	62.5	57.8	62.4	64.0	
October	100.5	91.0	82.7	72.3	70.6	72.2	71.1	100.0	88.9	79.0	61.5	59.8	63.0	64.1	
November	99.4	89.3	81.5	71.8	71.0	71.8	71.1	98.4	87.7	79.7	61.7	59.4	61.8	63.8	
December	98.3	88.8	79.9	71.4	70.8	71.0	70.5	99.8	88.6	77.8	61.9	59.6	62.3	66.1	
Average	100.0	93.4	84.7	75.5	70.0	72.1	71.2	100.0	93.5	83.4	68.0	58.9	62.2	63.7	

¹ Not including electric-railroad car building and repairing; see pp. 133, 134, Transportation Equipment and Railroad Repair Shops groups in table 2.

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR NONMANUFACTURING INDUSTRIES, JANUARY 1929 TO DECEMBER 1935—Continued

[12-month average, 1929=100]														
Month	Wholesale trade													
	Employment						Pay rolls							
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935
January	97.7	100.0	88.9	80.7	73.6	80.6	84.2	96.7	99.9	86.3	71.8	58.3	60.3	63.9
February	96.9	98.4	87.6	79.7	72.4	81.2	84.6	96.4	98.1	87.1	70.1	55.1	61.0	64.6
March	97.3	97.6	85.7	78.6	71.3	81.8	84.0	98.5	99.4	87.7	68.8	53.5	62.0	65.2
April	97.9	97.1	86.7	77.6	71.5	82.1	83.2	97.8	97.5	83.7	66.3	52.4	63.1	64.8
May	99.0	96.6	86.3	76.6	72.2	82.8	82.5	99.0	96.9	83.2	67.1	53.8	62.6	64.6
June	99.2	96.2	86.3	75.6	73.9	82.3	82.1	98.6	98.1	82.5	63.5	53.7	63.8	64.6
July	100.4	95.7	85.9	75.2	75.1	82.2	82.1	100.5	95.4	81.6	61.9	55.6	63.8	64.6
August	101.3	94.6	85.6	74.9	77.9	82.5	82.7	100.0	92.9	80.3	60.3	57.2	62.7	64.8
September	101.9	94.4	85.1	75.6	80.3	83.5	83.7	103.3	92.8	79.5	60.1	58.7	63.6	67.2
October	102.9	92.7	84.2	76.2	81.7	84.3	85.7	102.7	92.0	77.9	60.3	62.4	64.5	68.8
November	102.9	92.1	83.1	76.0	81.6	85.1	86.4	101.9	90.0	77.6	60.1	60.5	64.2	68.9
December	102.6	91.5	82.6	75.4	81.5	85.0	86.8	104.7	90.2	75.6	59.3	60.9	64.8	68.6
Average	100.0	95.7	85.8	76.8	76.1	82.8	84.0	100.0	95.3	81.9	64.2	56.8	63.0	65.5
Total retail trade														
January	97.2	100.2	92.3	80.3	72.1	79.8	79.5	95.9	99.8	88.1	71.9	54.7	59.0	59.7
February	95.4	97.3	89.3	78.3	70.4	79.6	79.2	95.1	97.7	86.4	69.1	51.8	58.8	59.3
March	97.4	96.6	89.2	78.6	68.9	81.5	80.2	97.3	97.0	86.8	68.5	49.0	59.8	60.4
April	97.6	98.1	91.3	78.7	73.3	82.5	83.5	97.2	97.9	87.5	67.7	52.0	61.2	62.5
May	98.6	98.8	90.8	77.2	72.1	82.9	82.2	98.2	99.4	86.8	65.5	51.3	61.5	62.0
June	99.3	96.9	90.7	76.3	73.2	82.6	82.2	99.8	97.9	86.7	62.7	52.2	61.4	62.5
July	97.3	93.0	84.2	73.1	71.0	79.0	79.3	98.8	92.8	81.3	59.2	51.0	60.1	60.5
August	93.7	91.5	81.2	71.8	75.4	77.8	78.0	99.2	89.4	77.9	56.9	54.9	58.4	59.3
September	100.6	94.3	83.3	74.2	80.6	81.7	81.8	101.7	91.5	78.3	58.3	58.7	60.6	62.5
October	102.0	95.6	85.2	76.3	83.3	82.6	83.8	103.2	92.6	78.9	59.7	61.6	61.9	63.2
November	104.2	96.8	84.8	75.4	83.9	83.7	84.6	103.3	92.4	78.3	58.6	61.4	61.9	63.4
December	111.9	92.5	90.6	80.9	89.1	91.1	92.9	109.7	95.4	80.4	60.4	64.0	66.2	69.3
Average	100.0	96.8	87.7	76.8	76.1	82.1	82.3	100.0	95.3	83.1	63.2	55.2	60.9	62.1
Retail trade—General merchandising														
January	98.5	95.9	92.1	84.8	76.4	86.6	87.3	100.0	95.8	90.3	78.1	61.4	71.1	73.5
February	94.5	92.2	89.3	81.2	73.0	85.0	86.2	97.2	92.7	87.1	73.1	57.1	68.9	72.3
March	96.1	91.9	90.8	82.6	70.7	90.1	88.6	98.5	92.3	88.0	73.1	53.4	71.5	74.1
April	95.5	95.9	93.0	82.7	80.7	91.0	94.4	94.8	94.9	88.8	72.3	60.8	74.0	77.5
May	97.1	94.4	92.8	82.1	78.5	92.0	91.3	95.8	93.8	88.5	70.5	59.3	74.5	76.3
June	96.5	91.5	91.4	80.3	79.9	90.6	91.2	96.7	93.4	87.9	67.6	60.6	73.9	76.7
July	92.2	86.0	84.7	74.1	74.7	83.0	85.5	96.1	87.7	82.3	61.3	56.4	69.5	72.0
August	91.5	82.5	81.6	71.5	78.4	81.2	83.1	92.9	83.7	78.7	58.5	62.4	66.9	69.5
September	96.6	89.6	88.7	78.7	89.0	91.5	92.2	97.4	89.0	83.9	64.3	71.8	74.0	77.2
October	101.7	94.0	92.1	83.7	93.6	94.2	97.1	101.7	92.6	85.3	67.7	75.3	77.3	79.8
November	108.0	97.4	94.1	84.6	97.0	99.9	101.6	105.0	94.6	86.9	67.9	76.1	80.2	82.0
December	131.7	118.1	116.2	104.7	118.9	128.4	131.7	123.9	108.5	100.7	79.2	90.1	99.0	104.5
Average	100.0	94.1	92.2	82.6	84.2	92.8	94.2	100.0	93.3	87.4	69.5	65.4	75.1	78.0
Retail trade—Other than general merchandising														
January	96.9	101.3	92.4	79.1	71.0	78.0	77.4	95.1	100.6	87.7	70.6	53.3	56.5	56.9
February	95.6	98.7	89.3	77.6	69.7	78.2	77.3	94.7	98.7	86.2	68.3	50.7	56.7	56.6
March	97.7	97.8	88.8	77.5	68.4	79.3	78.0	97.1	98.0	86.5	67.5	48.1	57.4	57.6
April	98.1	98.7	90.9	77.6	71.3	80.3	80.7	97.8	97.8	87.2	66.7	50.2	58.5	59.4
May	99.0	100.0	90.3	75.9	70.4	80.5	79.8	98.7	100.6	86.5	64.5	49.7	58.8	59.0
June	100.0	98.3	90.5	75.2	71.5	80.5	79.8	100.5	98.8	86.4	61.7	50.5	58.8	59.5
July	98.7	94.8	84.1	72.8	70.0	77.9	77.7	99.4	93.8	81.1	58.8	49.9	58.2	58.1
August	100.6	93.8	81.1	71.9	74.6	76.9	76.7	100.5	96.6	77.7	56.6	53.4	56.6	57.2
September	101.6	95.5	81.9	73.0	78.4	79.1	79.1	102.6	92.0	77.2	57.1	56.0	57.8	59.4
October	102.1	96.0	83.4	74.3	80.6	79.5	80.3	103.5	92.6	77.6	58.1	58.8	58.7	59.8
November	103.2	96.7	82.3	73.0	80.4	79.4	80.1	103.0	92.0	76.5	56.7	58.3	58.1	59.6
December	106.7	98.4	83.9	74.6	81.3	81.3	82.7	106.8	92.7	76.2	56.5	58.6	59.4	62.0
Average	100.0	97.5	86.7	75.2	74.0	79.2	79.1	100.0	95.7	82.2	61.9	53.1	58.0	58.8

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR NONMANUFACTURING INDUSTRIES, JANUARY 1929 TO DECEMBER 1935—Continued

[12-month average, 1929=100]

Month	Year-round hotels													
	Employment							Pay rolls						
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935
January	97.8	99.7	90.5	78.8	68.8	76.4	80.3	98.7	99.8	87.8	70.5	52.2	57.2	62.2
February	99.5	101.1	90.4	78.6	68.6	78.9	81.1	101.4	102.7	89.0	69.5	52.1	60.9	63.5
March	100.2	99.9	90.2	78.5	67.2	80.4	80.8	102.4	102.5	88.6	68.1	49.8	62.2	63.9
April	99.9	98.5	90.0	77.9	67.2	81.5	81.1	100.6	99.2	86.0	66.1	48.4	62.7	63.6
May	99.9	98.2	88.9	76.2	68.2	81.8	81.6	100.1	98.8	85.1	64.2	49.1	62.9	63.7
June	100.1	97.3	87.0	74.0	69.5	81.9	81.3	99.2	97.7	82.2	61.0	49.4	62.9	63.5
July	99.7	96.3	85.7	72.0	69.6	80.4	80.3	99.1	95.9	79.9	57.5	49.4	61.5	62.1
August	100.5	95.2	84.2	70.7	70.4	80.0	80.7	97.8	94.1	77.5	54.9	49.6	60.2	62.0
September	101.5	94.6	84.2	70.8	72.4	80.0	81.1	99.2	93.1	77.1	54.9	51.5	61.0	63.1
October	101.2	94.6	83.5	71.4	73.0	80.9	81.6	101.0	93.4	76.7	55.8	53.4	62.7	64.3
November	101.2	92.2	81.5	70.6	72.3	80.6	81.5	100.9	91.4	74.5	54.9	52.7	62.4	64.8
December	98.4	90.1	79.5	69.4	73.9	80.0	80.8	99.7	89.1	72.6	53.9	54.9	62.2	64.2
Average	100.0	96.5	86.3	74.1	70.1	80.2	81.0	100.0	96.5	81.4	60.9	51.0	61.6	63.4
Month	Laundries													
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935
January			94.3	88.2	78.6	78.5	79.6			90.7	80.0	60.7	61.7	63.9
February			93.7	86.3	77.5	78.4	79.6			89.6	76.7	58.1	61.7	64.1
March			93.2	85.4	76.1	79.2	79.7			89.6	75.0	55.4	62.7	64.6
April			94.3	85.4	76.5	80.5	80.0			90.9	74.7	56.6	64.4	65.5
May			94.1	84.8	76.6	82.1	81.1			90.5	73.9	57.1	66.9	66.6
June			94.8	84.4	79.2	84.0	82.3			91.2	71.8	59.4	68.3	68.2
July			95.6	83.6	79.5	84.6	84.4			91.5	69.4	58.7	68.2	70.9
August			94.0	82.2	81.1	83.7	84.2			88.6	66.9	60.3	66.6	69.2
September			93.0	81.9	82.6	82.9	83.0			88.0	65.8	63.5	65.9	67.9
October			91.8	80.7	81.3	81.7	81.9			85.6	64.1	62.5	64.8	67.1
November			89.8	79.4	78.4	80.3	81.3			82.6	61.9	60.7	63.7	66.7
December			88.8	79.1	78.4	79.5	81.1			81.0	61.4	61.1	63.3	67.5
Average	100.0		93.1	83.5	78.8	81.3	81.5	100.0		88.3	70.1	59.5	64.9	66.8
Month	Dyeing and cleaning													
	1929	1930	1931	1932	1933	1934	1935	1929	1930	1931	1932	1933	1934	1935
January			82.1	75.8	67.4	68.1	70.3			73.7	62.4	44.2	46.8	50.4
February			80.7	74.4	65.6	68.1	69.6			71.2	59.0	40.2	46.3	49.8
March			81.3	74.4	65.8	72.4	72.5			71.7	58.5	38.9	51.7	53.5
April			88.4	76.9	74.9	79.9	79.9			81.9	62.5	51.7	60.8	61.9
May			89.3	78.0	75.7	84.3	80.9			82.1	63.8	51.0	65.1	61.7
June			91.4	78.6	79.1	84.9	83.6			84.5	62.4	53.7	64.1	65.7
July			91.1	76.1	76.6	80.5	81.7			81.8	56.9	50.0	58.9	61.5
August			86.4	73.4	76.8	78.6	79.4			75.9	53.4	50.0	56.7	58.2
September			88.0	76.9	81.9	80.0	82.1			78.3	57.9	57.1	59.0	65.1
October			87.0	76.0	81.6	80.3	80.4			77.2	55.8	57.4	59.1	61.1
November			83.2	72.0	76.1	75.8	76.3			70.8	49.6	52.5	53.9	55.4
December			78.4	69.5	70.5	72.4	73.4			64.4	45.9	47.3	51.1	52.9
Average	100.0		85.6	75.2	74.3	77.1	77.5	100.0		76.1	57.3	49.5	56.1	57.9

Trend of Employment in Building Construction

THE Bureau of Labor Statistics has compiled monthly reports on the trend of employment in the building-construction industry since 1931.

Monthly reports are received from approximately 11,000 firms, in 34 States and the District of Columbia, engaged in public and private building-construction projects not aided by public-works funds. Work on roads, bridges, docks, etc., is not included.

The firms are asked to report one pay period nearest the 15th of the current month, giving the total number of employees, the total number of man-hours worked, and the total amount of pay roll earned by these employees during the given pay period. For purposes of comparison, all data are reduced to a 1-week basis if not already so reported. The collection of man-hour data from establishments in this industry did not begin until January 1934.

No index has been published for the reason that the Bureau began this study on the monthly trend of employment in the building-construction industry in a year when operations were abnormally low.

The scope and character of the monthly survey of the building-construction industry are shown in the following report for April 1935:

EMPLOYMENT, PAY ROLLS, HOURS, AND EARNINGS IN THE BUILDING-CONSTRUCTION INDUSTRY, APRIL 1935

[Figures in italics are not compiled by the Bureau of Labor Statistics but are taken from reports issued by cooperating State bureaus]

Locality	Number of firms reporting	Employment		Pay rolls		Average weekly earnings		Average hours per week per man ¹		Average hourly earnings ¹	
		Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935
				<i>Dollars</i>		<i>Dollars</i>				<i>Cents</i>	
All localities.....	10,395	77,025	+11.0	1,771,815	+12.1	23.00	+1.0	28.4	+2.9	82.0	-1.1
Alabama: Birmingham.....	79	409	-11.7	7,327	-6.7	17.91	+5.6	27.8	-4	64.4	+4.0
California:											
Los Angeles.....	20	785	+3.7	16,645	+8.7	21.20	+4.7	29.7	-3	71.4	+5.2
San Francisco.....	26	827	+12.1	19,794	+15.6	23.93	+3.1	27.5	-2.5	87.1	+6.0
Oakland.....	20	644	+48.2	10,530	+74.6	19.03	+17.8	23.7	+12.9	30.5	+4.1
Other localities.....											
The State.....	66	2,156	+15.8	46,819	+21.9	21.72	+5.3	27.3	-4	79.5	+5.9
Colorado: Denver.....	185	595	+9.0	12,366	+10.8	20.78	+1.7	27.2	+8.8	76.2	-3.8
Connecticut:											
Bridgeport.....	119	413	+14.7	9,138	+8.0	22.13	-5.9	29.4	+3.5	75.2	-9.2
Hartford.....	248	792	+13.6	17,319	+12.9	21.87	-6	30.3	+3.4	71.7	-4.0
New Haven.....	142	655	+13.7	15,122	+11.2	23.09	-2.2	30.3	+3	76.4	-2.4
The State.....	509	1,860	+13.9	41,579	+11.2	22.35	-2.4	30.1	+2.4	74.1	-4.6
Delaware: Wilmington.....	97	1,054	+35.5	23,321	+46.8	22.13	+8.4	31.2	+9.9	71.0	-1.4
District of Columbia.....	412	3,819	+8.6	95,002	+10.2	24.88	+1.4	30.0	+5.3	82.9	-3.7
Florida:											
Jacksonville.....	39	175	+6.7	3,136	+8.3	17.92	+1.5	29.3	+4.3	61.2	-2.5
Miami.....	65	678	+8.1	13,645	+6	20.13	-6.9	28.2	-3.1	71.5	-3.9
The State.....	104	853	+7.8	16,781	+2.0	19.67	-5.4	28.4	-1.7	69.3	-3.9
Georgia: Atlanta.....	123	820	+6.9	14,141	+10.0	17.25	+2.9	27.7	-1.8	61.6	+3.4
Illinois:											
Chicago.....	127	1,257	+37.4	31,022	+35.8	24.68	-1.2	(2)	(2)	(2)	(2)
Other localities.....	103	3,137	+8.6	53,560	-12.2	17.07	-19.2	(2)	(2)	(2)	(2)
The State.....	230	4,394	+15.5	84,572	+9	19.25	-12.7	(2)	(2)	(2)	(2)

¹ Averages computed from reports furnished by 10,001 firms.

² Data not available.

EMPLOYMENT, PAY ROLLS, HOURS, AND EARNINGS IN THE BUILDING-
CONSTRUCTION INDUSTRY, APRIL 1935—Continued[Figures in italics are not compiled by the Bureau of Labor Statistics but are taken from reports issued
by cooperating State bureaus]

Locality	Number of firms reporting	Employment		Pay rolls		Average weekly earnings		Average hours per week per man ¹		Average hourly earnings ¹	
		Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935
Indiana:				<i>Dollars</i>		<i>Dollars</i>				<i>Cents</i>	
Evansville.....	58	305	+13.8	6,584	+42.0	21.59	+24.9	29.2	+25.9	74.8	-0.1
Fort Wayne.....	70	209	+5.0	4,314	+12.3	20.64	+6.9	25.7	+2.4	80.4	+4.6
Indianapolis.....	135	945	+5.1	21,956	+10.3	23.23	+5.0	29.7	+6.8	78.3	-1.6
South Bend.....	32	137	+24.5	2,898	+38.7	21.15	+11.3	28.7	+14.3	73.7	-2.5
The State.....	295	1,596	+8.1	35,752	+17.4	22.40	+8.5	29.0	+9.8	77.5	- .9
Iowa: Des Moines.....	81	432	+23.1	10,391	+33.9	24.05	+8.7	28.5	+4.4	84.9	+4.7
Kansas: Wichita.....	55	226	+6.1	4,579	+21.2	20.26	+14.2	27.5	+8.3	73.6	+5.4
Kentucky:											
Louisville.....	133	673	+8.2	13,591	+12.8	20.19	+4.2	29.2	+3.2	68.2	+1.0
Louisiana:											
New Orleans.....	116	888	+3.1	15,072	-2.9	16.97	-5.8	27.7	-2.8	61.4	-3.0
Maine: Portland.....	83	270	+35.7	5,401	+38.0	20.00	+1.7	26.5	+4.3	75.4	-2.7
Maryland:											
Baltimore.....	107	1,410	-7.1	27,484	+3.8	19.49	+11.7	27.7	+6.9	71.9	+4.7
Massachusetts: All localities.....	675	4,432	+11.7	105,567	+12.9	23.82	+1.0	28.9	+4.0	82.5	-2.7
Michigan:											
Detroit.....	471	4,210	+12.9	109,393	+5.4	25.98	-6.6	32.4	+3	80.0	-7.2
Flint.....	51	213	+70.4	3,804	+69.4	17.86	-6	26.3	+11.9	68.0	-11.1
Grand Rapids.....	103	368	+24.7	6,620	+23.6	17.99	-9	28.6	+1.8	63.0	-2.3
The State.....	625	4,791	+15.4	119,817	+7.5	25.01	-6.9	31.9	+3	78.4	-7.3
Minnesota:											
Duluth.....	50	184	-3.7	3,891	-2.0	21.15	+1.7	28.6	-2.4	74.3	+4.5
Minneapolis.....	190	907	+24.6	20,322	+35.9	22.41	+9.1	28.8	+6.7	77.7	+2.1
St. Paul.....	138	711	+7.9	16,136	+5.7	22.69	-2.0	28.3	-3.1	80.2	+1.6
The State.....	378	1,802	+14.2	40,349	+18.0	22.39	+3.3	28.6	+1.4	78.3	+1.6
Missouri:											
Kansas City ³	234	1,204	+3.1	30,372	+3.9	25.23	+8	28.9	+4.0	87.6	-3.0
St. Louis.....	531	2,513	+4.3	65,345	+6.4	26.00	+2.0	26.7	+5.1	97.4	-2.9
The State.....	765	3,717	+3.9	95,717	+5.6	25.75	+1.6	27.4	+4.6	94.1	-2.8
Nebraska: Omaha.....	157	997	+34.9	21,503	+34.2	21.57	-5	30.5	+2.0	70.4	-2.5
New York:											
New York City.....	532	9,766	+8.1	291,810	+8.1	29.88	(⁴)	27.8	(⁵)	107.5	(⁶)
Other localities.....	531	6,085	+16.0	137,548	+16.2	22.60	+1	26.7	-7	84.6	+7
The State.....	913	15,851	+11.0	429,358	+10.6	27.09	-4	27.4	(⁵)	98.9	-1
North Carolina:											
Charlotte.....	46	311	+12.7	5,255	+27.7	16.90	-13.3	28.5	+7.5	59.3	+5.5
Ohio:											
Akron.....	82	346	+35.2	7,882	+52.9	22.78	+13.1	27.6	+14.0	82.5	-1.1
Cincinnati ⁶	403	2,230	+28.9	55,030	+42.3	24.68	+10.4	29.8	+10.8	82.8	-2
Cleveland.....	610	2,252	+27.5	55,460	+26.3	24.63	-9	24.3	-1.6	101.4	+1.2
Dayton.....	142	461	+17.6	9,880	+18.7	21.43	+9	26.3	-4	81.4	+1.2
Youngstown.....	83	402	-1.7	10,463	+12.8	26.03	+14.8	26.3	+2.7	99.1	+12.1
The State.....	1,320	5,691	+25.0	138,715	+31.7	24.37	+5.3	27.0	+4.7	90.3	+4

¹ Averages computed from reports furnished by 10,001 firms.² Includes both Kansas City, Mo., and Kansas City, Kans.³ Less than 1/10 of 1 percent increase.⁴ No change.⁵ Includes Covington and Newport, Ky.

EMPLOYMENT, PAY ROLLS, HOURS, AND EARNINGS IN THE BUILDING-CONSTRUCTION INDUSTRY, APRIL 1935—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics but are taken from reports issued by cooperating State bureaus]

Locality	Number of firms reporting		Employment		Pay rolls		Average weekly earnings		Average hours per week per man ¹		Average hourly earnings ¹	
			Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935	Number April 1935	Percentage change from March 1935	Amount April 1935	Percentage change from March 1935
Oklahoma:					<i>Dollars</i>		<i>Dollars</i>					<i>Cents</i>
Oklahoma City.....	34	447	+8.0	8,984	+36.2	20.10	+26.2	27.2	+24.2	72.6	+1.3	
Tulsa.....	47	213	+10.4	4,193	+18.3	19.69	+7.2	28.2	+6.0	69.7	+3.1	
The State.....	131	660	+8.7	13,177	+30.0	19.97	+19.5	27.6	+17.9	71.6	+2.0	
Oregon: Portland.....	168	867	+1.2	20,350	+12.9	23.47	+11.5	27.6	+10.4	85.1	+9	
Pennsylvania: ⁷												
Erie area.....	81	221	+53.9	2,913	+48.7	13.18	+11.0	17.7	+22.9	71.7	-6	
Philadelphia area.....	549	2,722	+15.7	57,628	+21.6	21.77	+5.1	30.1	+6.4	72.1	+6	
Pittsburgh area.....	191	1,245	+8.5	30,261	+2.0	24.30	-4	27.0	-7.1	62.7	+2.1	
Reading area.....	40	226	+44.9	4,176	+51.2	13.48	+4.4	29.3	+10.2	63.2	+5.0	
Scranton area.....	89	134	+26.9	4,530	+69.4	23.53	+25.6	32.9	+13.3	72.7	+6.3	
Other areas.....	255	1,966	+10.3	33,519	+13.2	19.59	+2.1	30.1	+1.7	64.5	+6	
The State.....	885	6,564	+15.0	137,817	+16.3	21.00	+2.9	29.3	+4.3	72.9	(5)	
Rhode Island: Providence.....	233	1,279	+16.4	25,942	+20.1	20.28	+3.2	27.6	+2.6	73.1	+3	
Tennessee:												
Chattanooga.....	31	229	+10.1	2,962	+32.8	12.93	+20.5	23.0	+19.2	56.2	+1.1	
Knoxville.....	36	372	+26.5	5,608	+19.3	15.08	-5.7	24.9	+4.6	60.5	+9.8	
Memphis.....	72	336	+6.0	6,392	+22.4	19.02	+15.5	27.2	(5)	70.0	+15.3	
Nashville.....	77	549	+35.6	7,800	+31.9	14.21	-2.7	26.8	+13.6	53.1	-14.1	
The State.....	216	1,486	+21.4	22,762	+26.0	15.32	+3.8	25.8	+8.4	59.3	-4.2	
Texas:												
Dallas.....	188	835	-6.7	15,743	-5.0	18.85	+1.8	29.1	+1.7	65.3	+6	
El Paso.....	24	133	+8	2,260	+6.8	16.99	+6.0	24.8	+2.1	68.7	+4.1	
Houston.....	167	1,151	-3.2	22,785	-5.1	19.80	-1.9	28.6	+4	69.5	-2.5	
San Antonio.....	81	333	-12.8	5,543	+1.6	16.65	+16.6	29.4	+18.1	56.5	-1.4	
The State.....	460	2,452	-5.6	46,331	-3.8	18.90	+2.0	28.7	+3.2	66.1	-1.2	
Utah: Salt Lake City.....	67	223	+17.4	5,029	+20.3	22.55	+7.6	29.2	+7.7	77.1	-5	
Virginia:												
Norfolk - Ports - mouth.....	66	381	-5.7	6,800	+5	17.85	+6.6	27.0	+5.5	66.2	+1.2	
Richmond.....	117	781	+5.8	14,474	-4	18.53	-5.8	28.7	-7	64.5	-5.3	
The State.....	183	1,162	+1.8	21,274	-1	18.31	-1.8	28.1	+1.4	65.0	-3.3	
Washington:												
Seattle.....	147	646	+2.9	14,191	+9	21.97	-1.9	23.2	+4.0	94.7	-6.0	
Spokane.....	59	324	+62.1	8,174	+64.0	25.23	+7.8	28.8	+3.2	87.7	+4.2	
Tacoma.....	80	188	-20.0	3,841	-15.5	20.43	+5.6	23.2	+6.9	88.2	-1.0	
The State.....	286	1,158	+7.6	26,206	+11.0	22.63	+3.2	24.8	+6.9	91.4	-3.2	
West Virginia: Wheeling.....	54	201	+15.5	4,429	+48.8	22.03	+28.8	30.6	+20.9	71.9	+6.4	
Wisconsin: All localities.....	148	1,986	-7.0	38,039	-5.7	19.76	+1.3	30.4	+2.7	63.5	-2.0	

¹ Averages computed from reports furnished by 10,001 firms.² No change.⁷ Each separate area includes from 2 to 8 counties.

Trend of Employment on Steam Railroads

THE monthly trend of employment from January 1923 to December 1935 on class I railroads—that is, all roads having operating revenues of \$1,000,000 or over—is shown by index numbers published in the following table. These index numbers, constructed by the Interstate Commerce Commission, are based on the 3-year average, 1923–25, as 100.

INDEXES OF EMPLOYMENT ON CLASS I RAILROADS IN THE UNITED STATES, JANUARY 1923 TO DECEMBER 1935

[3-year average, 1923–25=100]

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
January.....	98.4	96.7	95.5	95.6	95.2	89.1	88.0	86.1	73.5	61.1	53.0	54.1	53.7
February.....	98.6	96.9	95.3	95.8	95.0	88.7	88.6	85.2	72.6	60.2	52.7	54.6	54.2
March.....	100.4	97.3	95.1	96.5	95.6	89.7	89.8	85.3	72.7	60.5	51.5	55.9	54.8
April.....	101.9	98.8	96.5	98.6	97.1	91.5	91.9	86.7	73.4	59.9	51.8	56.9	54.7
May.....	104.8	99.1	97.7	100.0	99.1	94.4	94.6	88.3	73.8	59.6	52.5	58.5	55.8
June.....	107.1	97.9	98.5	101.3	100.7	95.8	95.8	86.3	72.7	57.7	53.6	59.0	56.8
July.....	108.2	98.0	99.3	102.6	100.7	95.4	96.3	84.5	72.3	56.3	55.4	58.7	57.0
August.....	109.2	98.9	99.5	102.4	99.2	95.5	97.1	83.5	71.0	54.9	56.8	57.8	56.6
September.....	107.7	99.6	99.7	102.5	98.8	95.1	96.5	82.0	69.2	55.7	57.7	57.3	56.5
October.....	107.1	100.7	100.4	103.1	98.5	95.2	96.6	80.2	67.6	56.9	57.4	56.6	56.9
November.....	105.0	98.9	98.9	101.0	95.5	92.7	92.8	76.9	64.4	55.8	55.8	54.8	55.8
December.....	99.1	96.0	96.9	98.0	91.7	89.5	88.5	74.8	62.5	54.7	54.0	53.8	55.1
Average.....	104.0	98.2	97.8	99.8	97.3	92.7	93.1	83.3	70.6	57.8	54.4	56.5	55.7

¹ Preliminary.Public Employment ¹

Employment in the Federal Service

A MONTHLY summary of employment and pay rolls in the various branches of the United States Government from January 1934 to October 1935 is shown in the following table.

EMPLOYMENT AND PAY ROLLS FOR THE U. S. GOVERNMENT FROM JANUARY 1934 TO OCTOBER 1935

Month	Executive service		Military service		Judicial service		Legislative service		Total	
	Number of employees	Amount of pay roll	Number of employees	Amount of pay roll	Number of employees	Amount of pay roll	Number of employees	Amount of pay roll	Number of employees	Amount of pay roll
1934										
January.....	622,217	77,837,656	253,097	18,382,945	1,780	417,000	4,777	966,193	881,871	97,603,794
February....	625,882	83,920,879	253,599	19,365,135	1,742	430,843	4,784	1,020,303	886,007	104,737,660
March.....	639,244	85,293,397	254,634	18,240,513	1,854	443,505	4,799	1,022,308	900,531	105,000,223
April.....	660,166	85,717,306	255,211	18,454,878	1,904	432,401	4,797	1,020,924	922,078	105,625,509
May.....	676,090	90,417,107	254,982	18,397,551	1,913	442,896	4,794	1,035,106	937,779	110,292,660
June.....	675,592	92,356,363	255,227	18,739,952	1,881	439,170	4,810	1,039,198	937,510	112,574,683
July.....	687,324	95,988,326	256,350	19,587,571	1,750	434,736	4,645	1,073,348	960,069	117,083,981
August.....	692,288	99,325,903	256,625	19,689,866	1,690	439,014	4,655	1,072,406	955,268	120,512,189
September..	696,980	99,675,306	257,355	19,986,672	1,777	486,410	4,653	1,070,956	960,765	121,219,344
October.....	698,391	102,136,722	258,187	19,102,969	1,846	453,217	4,632	1,070,290	963,056	122,763,198
November....	689,938	101,552,860	260,300	20,945,771	1,885	451,653	4,630	1,070,881	956,753	124,021,165
December....	685,975	101,518,200	259,968	20,125,003	1,861	446,130	4,648	1,057,996	952,462	123,147,329
1935										
January.....	688,221	98,341,481	261,254	20,362,067	1,830	462,895	4,722	1,077,401	956,027	120,243,844
February....	695,020	98,935,699	260,478	20,102,126	1,812	452,717	4,735	1,080,686	962,045	120,571,228
March.....	699,617	100,984,938	258,650	19,977,791	1,831	454,664	4,759	1,086,807	964,857	122,504,200
April.....	710,456	106,744,129	256,491	19,898,971	1,859	475,804	4,830	1,153,325	973,636	128,272,229
May.....	712,592	107,751,801	254,340	21,462,144	1,879	474,736	4,877	1,160,191	973,688	130,848,872
June.....	718,236	109,300,324	258,410	21,364,278	1,854	449,217	4,871	1,154,868	983,371	132,268,687
July.....	731,551	111,272,210	261,007	20,689,446	1,766	473,044	5,014	1,181,349	999,398	133,616,049
August.....	771,464	115,998,516	269,459	20,846,275	1,732	470,939	5,147	1,204,204	1,047,802	138,519,934
September..	794,679	116,266,624	275,964	21,834,589	1,829	487,976	5,137	1,209,041	1,077,609	139,795,200
October....	811,974	119,867,437	281,654	21,893,635	1,885	494,927	5,120	1,210,304	1,100,633	143,466,303

¹ Data in this section are as of October 1935. Later information concerning public employment may be had in the Monthly Labor Review and in the Employment and Pay Rolls pamphlet.

Employment on Construction Projects Financed by Public Works Administration¹

THE Federal Emergency Administration of Public Works (P. W. A.) was established under title II of the National Industrial Recovery Act of June 16, 1933, and extended until June 30, 1937, by the Emergency Relief Appropriation Act of 1935.

• Construction projects financed by the Public Works Administration are divided into two classes: Federal projects and non-Federal projects. Federal construction projects are financed entirely by allotments made by the Public Works Administration to the various agencies and departments of the Federal Government. The work is performed either by commercial firms, which have been awarded contracts, or by day labor hired directly by the Federal agencies.

Non-Federal projects are financed by allotments made by the Public Works Administration. Most of the allotments have been made to the States and their political subdivisions, but occasionally allotments have been made to commercial firms. In financing projects for the States or their political subdivisions from funds appropriated under the National Industrial Recovery Act, the Public Works Administration makes a direct grant of not more than 30 percent of the total construction cost. When funds provided under the Emergency Relief Appropriation Act of 1935 are used to finance a non-Federal project, as much as 45 percent of the total cost may be furnished in the form of a grant. The remaining 55 percent or more of the cost is financed by the recipient. When circumstances justify such action, the Public Works Administration will provide the grantee with the additional funds by means of a loan. Allotments to commercial enterprises are made only as loans. All loans made by the Public Works Administration carry interest charges and have a definite date of maturity. Collateral posted with the Public Works Administration to secure loans may be offered for sale to the public. In this way a revolving fund is provided which enlarges the scope of the activities of the Public Works Administration.

Commercial loans have been made, for the most part, to railroads. Railroad work financed by loans made by the Public Works Administration falls under three headings: (1) Construction work in the form of electrification, laying of rails and ties, repairs to buildings, bridges, etc.; (2) building and repairing of locomotives and passenger and freight cars in shops operated by the railroads; and (3) locomotive and passenger- and freight-car building in commercial shops.

Table 1 shows employment, pay rolls, and man-hours worked on construction projects financed from Public Works funds, by months, from July 1933 to October 1935.

¹ Monthly figures referred to in this section are as of the 15th of the month.

TABLE 1.—EMPLOYMENT AND PAY ROLLS, JULY 1933 TO OCTOBER 1935, ON PROJECTS FINANCED FROM PUBLIC-WORKS FUNDS

[Subject to revision]

Year and month	Maximum number of wage earners ¹	Amount of pay rolls	Number of man-hours worked	Average earnings per hour	Value of material orders placed
July 1933 to October 1935, inclusive ²	-----	\$559,555,415	908,678,434	\$0.616	\$1,047,837,646
1933					
July	267	26,433	35,217	.751	(³)
August	4,719	131,937	206,990	.637	\$ 202,100
September	39,535	1,784,966	3,296,162	.542	1,623,537
October	146,747	6,353,835	12,029,751	.528	⁴ 23,351,150
November	255,512	11,552,547	21,759,245	.531	24,568,577
December	300,758	13,091,587	24,391,546	.537	25,702,750
1934					
January	298,069	12,646,241	23,409,908	.540	24,206,352
February	311,381	14,348,094	26,544,346	.541	25,269,537
March	307,274	14,113,247	25,501,446	.553	⁵ 69,766,559
April	382,220	18,785,405	32,937,649	.570	⁶ 68,526,223
May	506,056	25,942,387	46,052,698	.563	⁵ 50,468,427
June	610,752	33,808,429	59,873,309	.565	⁵ 60,797,939
July	644,729	34,845,461	60,736,768	.574	⁵ 53,377,997
August	629,907	36,480,027	61,925,300	.589	⁵ 54,192,443
September	575,655	32,758,795	53,427,096	.613	⁵ 50,878,000
October ¹	527,883	30,263,279	47,910,342	.632	⁵ 51,756,945
November ¹	503,985	30,664,356	49,004,023	.625	55,044,382
December ¹	410,236	23,655,422	36,238,781	.653	⁵ 45,766,286
1935					
January	304,723	18,462,677	27,478,022	.672	⁵ 30,746,857
February	273,273	16,896,475	25,144,558	.672	29,264,484
March	281,461	17,400,798	26,008,063	.669	27,276,566
April	333,045	20,939,741	31,387,712	.667	31,645,166
May	394,875	24,490,087	36,763,164	.667	⁵ 36,893,840
June	414,306	25,386,962	38,800,178	.654	⁵ 42,017,642
July	405,332	24,965,785	37,845,047	.660	41,936,424
August	394,509	25,292,656	37,133,989	.681	⁵ 46,954,714
September ⁶	344,520	22,772,317	32,473,773	.701	40,988,896
October ⁶	308,632	21,692,439	30,358,351	.715	34,608,853

¹ Maximum number employed during any 1 week of the month by each contractor and Government agency doing force-account work. Includes weekly average for public-roads projects.

² Orders placed during July and August 1933, except public-roads projects included in October 1933.

³ Includes orders for materials placed for naval vessels prior to October 1933.

⁴ Includes orders placed by railroads for new equipment.

⁵ Includes data for wage earners employed on projects under jurisdiction of P. W. A. which were financed from E. R. A. A. 1935 funds.

The amount of pay rolls and the value of material orders placed for projects financed from Public Works Administration funds from July 1933 to October 1935 is given, by type of project, in table 2.

TABLE 2.—PAY ROLLS AND VALUE OF MATERIAL ORDERS PLACED FOR PROJECTS FINANCED FROM P. W. A. FUNDS, JULY 1933 TO OCTOBER 1935, BY TYPE OF PROJECT

Type of project	Amount of pay rolls			Value of material orders placed		
	Federal	Non-Federal	Total	Federal	Non-Federal	Total
All projects	\$400,688,966	\$146,283,962	\$546,972,928	\$670,196,426	\$377,641,220	\$1,047,837,646
Building construction	32,976,662	54,895,035	87,871,697	62,168,361	119,074,474	181,242,835
Public roads ¹	170,429,088	-----	170,429,088	285,416,154	-----	285,416,154
River, harbor, and flood control	61,740,784	-----	61,740,784	102,113,881	-----	102,113,881
Streets and roads	14,978,507	17,145,093	32,123,605	11,287,833	26,351,010	37,638,843
Naval vessels	48,743,475	-----	48,743,475	78,239,600	-----	78,239,600
Reclamation	41,050,537	-----	41,050,537	79,625,738	-----	79,625,738
Forestry	10,109,495	-----	10,109,495	4,877,613	-----	4,877,613
Water and sewerage systems	1,460,187	37,045,151	38,505,338	2,272,995	72,693,336	74,966,331
Railroad construction	-----	19,310,211	19,310,211	-----	41,162,542	41,162,542
Railroad shop work	-----	14,703,833	14,703,833	-----	47,159,238	47,159,238
Miscellaneous	19,200,231	3,184,634	22,384,865	² 44,194,251	³ 71,200,620	⁴ 115,394,871

¹ Excludes pay rolls for railroad-car and locomotive shops.

² Includes orders placed for miscellaneous equipment items.

³ Includes orders placed by railroads for new equipment, \$60,522,801.

⁴ Includes orders placed for miscellaneous equipment items and by railroads for new equipment.

⁵ Estimated by the Bureau of Public Roads.

Employment on Construction Projects Financed by The Works Program ¹

WORK was started in July 1935 on construction projects financed by The Works Program. This program was inaugurated by the President in a series of Executive orders by authority of Public Resolution No. 11, approved April 8, 1935. Employment created by this program includes employment on Federal projects and employment on projects operated by the Works Progress Administration. Federal projects are those conducted by Federal agencies which have received allotments from The Works Program fund. Projects operated by the Works Progress Administration are those projects conducted under the supervision of the W. P. A.

Employment, pay rolls, and man-hours worked on projects financed from The Works Program from the beginning of the work in July 1935 to October 1935 are given in table 1.

TABLE 1.—EMPLOYMENT AND PAY ROLLS, JULY TO OCTOBER 1935, ON PROJECTS FINANCED BY THE WORKS PROGRAM ¹

[Subject to revision]

Month and year	Maximum number of wage-earners ²	Amount of pay rolls	Number of man-hours worked	Average earnings per hour	Value of material orders placed
Federal projects					
July to October 1935, inclusive.....	-----	\$11,490,625	24,880,439	\$0.462	\$15,643,864
July.....	5,131	276,839	603,318	.456	164,004
August.....	32,672	1,215,990	2,791,802	.436	1,684,347
September.....	78,524	3,754,773	7,815,795	.480	4,071,945
October.....	129,064	6,243,023	13,669,524	.457	9,723,568
Projects operated by Works Progress Administration					
August to October 1935, inclusive.....	-----	\$38,224,668	80,872,157	\$0.473	\$13,241,431
August.....	113,290	3,291,324	5,977,766	.551	3,202,136
September.....	259,315	11,728,579	24,517,735	.478	2,089,324
October.....	502,876	23,204,765	50,376,656	.461	7,949,971

¹ P. W. A. projects financed from E. R. A. A. 1935 funds are included in tables covering projects under the jurisdiction of the Public Works Administration.

² Maximum number employed during any 1 week of the month by each contractor and Government agency doing force-account work.

The types of projects financed by The Works Program and the employment at the site of construction are illustrated by table 2. This table gives a detailed record, by type of project, of employment, pay rolls, and man-hours worked on projects financed by The Works Program for the month of October 1935.

¹ Monthly figures referred to in this section are as of the 15th of the month, unless otherwise expressly stated.

TABLE 2.—EMPLOYMENT AND PAY ROLLS ON PROJECTS FINANCED BY THE WORKS PROGRAM, OCTOBER 1935¹

Type of project	Number of wage earners		Amount of pay rolls	Number of man-hours worked	Average earnings per hour	Value of material orders placed
	Maximum number employed †	Weekly average				
[Subject to revision]						
Federal projects						
All projects.....	129,064	119,609	\$6,243,023	13,669,524	\$0.457	\$9,723,668
Building construction.....	19,456	17,758	956,918	1,961,643	.490	1,120,958
Electrification.....	177	168	5,755	14,560	.395	52,864
Forestry.....	20,019	19,186	968,117	2,320,776	.417	(5)
Grade-crossing elimination.....	1,321	1,116	41,492	107,696	.385	107,996
Heavy engineering.....	62	52	1,768	2,662	.664	3,382
Plant, crop, and livestock conservation.....	20,989	19,141	959,094	2,676,319	.388	244,265
Professional, technical, and clerical.....	4,867	4,867	354,186	597,494	.593	95,597
Public roads.....	7,766	6,686	270,828	650,790	.416	294,297
Reclamation.....	20,717	20,495	768,043	1,476,968	.520	4,818,864
River, harbor, and flood control.....	22,404	19,861	1,416,827	2,608,199	.543	2,353,620
Streets and roads.....	6,181	5,631	280,061	721,871	.388	222,995
Water and sewerage.....	693	686	30,740	83,392	.369	23,691
Miscellaneous.....	4,415	3,962	189,194	457,148	.414	385,039
Projects operated by Works Progress Administration						
All projects.....	4,502,876	-----	\$23,204,765	50,376,656	\$0.461	\$7,949,971
Highway, road, and street.....	197,919	-----	7,137,911	18,452,613	.387	2,752,692
Public building.....	49,513	-----	3,259,655	5,564,860	.586	1,020,736
Housing.....	2,936	-----	216,346	346,110	.625	2,916
Recreational facilities †.....	101,174	-----	5,215,251	10,150,117	.514	2,141,870
Conservation.....	23,339	-----	681,257	1,937,914	.352	540,107
Publicly owned or operated utilities †.....	32,290	-----	1,517,580	3,312,919	.458	790,454
Rural electrification and electric utilities.....	501	-----	27,269	50,386	.541	4,689
Transportation.....	9,930	-----	438,498	1,008,125	.435	270,966
Professional, technical, and clerical.....	33,742	-----	2,762,853	4,169,580	.663	143,648
Sewing, canning, gardening, etc.....	8,692	-----	276,997	806,076	.344	49,632
Sanitation and health.....	31,602	-----	1,260,682	3,445,465	.366	47,488
Not elsewhere classified.....	12,180	-----	410,466	1,132,491	.362	184,773

¹ P. W. A. projects financed from E. R. A. A. 1935 funds are included in tables covering projects under the jurisdiction of the Public Works Administration.

² Maximum number employed during any 1 week of the month, by each contractor and Government agency doing force-account work.

³ Data not reported.

⁴ This total differs from the sum of individual items since 942 employees worked on more than 1 type of project.

⁵ Value of material orders placed during the month ending Oct. 31, 1935.

⁶ Exclusive of buildings.

⁷ Exclusive of electric utilities.

Employment on Construction Projects Financed from Regular Governmental Appropriations¹

THE following table presents a monthly record of employment data on construction projects financed from regular governmental appropriations from August 1934 to October 1935. The Bureau does not have statistics covering projects which were under way prior to August 1934.

¹ Monthly figures referred to in this section are as of the 15th of the month.

EMPLOYMENT ON CONSTRUCTION PROJECTS FINANCED FROM REGULAR GOVERNMENTAL APPROPRIATIONS, AUGUST 1934 TO OCTOBER 1935

Month	Number of wage earners	Amount of pay rolls	Number of man-hours worked	Average earnings per hour	Value of material orders placed
August 1934 to October 1935.....		\$22, 495, 544	35, 215, 977	\$0. 639	\$43, 861, 443
1934					
August.....	5, 601	329, 440	557, 747	.591	150, 506
September.....	9, 800	493, 363	773, 685	.638	842, 292
October.....	13, 593	699, 604	1, 103, 523	.625	982, 835
November.....	18, 211	1, 014, 945	1, 690, 488	.600	1, 334, 648
December.....	16, 276	859, 998	1, 468, 741	.586	1, 966, 441
1935					
January.....	12, 734	669, 199	1, 062, 118	.630	3, 163, 946
February.....	13, 106	704, 190	1, 102, 864	.639	1, 962, 087
March.....	14, 659	862, 886	1, 359, 043	.635	2, 709, 912
April.....	22, 270	1, 389, 583	2, 210, 893	.629	2, 562, 404
May.....	23, 057	1, 599, 937	2, 370, 925	.675	2, 704, 333
June.....	26, 191	1, 904, 454	2, 842, 470	.670	2, 960, 270
July.....	25, 788	1, 890, 209	2, 752, 801	.687	3, 079, 618
August.....	36, 491	2, 694, 822	4, 137, 008	.651	4, 459, 551
September.....	45, 592	3, 199, 785	5, 066, 873	.632	5, 801, 445
October.....	59, 091	4, 193, 129	6, 716, 798	.624	7, 181, 155

Employment on Construction Projects Financed by the Reconstruction Finance Corporation ¹

MONTHLY statistics of employment, pay rolls, and man-hours worked on projects financed by the Reconstruction Finance Corporation from April 1934 to October 1935 are given in the following table.

EMPLOYMENT AND PAY ROLLS ON PROJECTS FINANCED BY THE RECONSTRUCTION FINANCE CORPORATION, APRIL 1934 TO OCTOBER 1935

Month	Number of wage earners	Amount of pay rolls	Number of man-hours worked	Average earnings per hour	Value of material orders placed
April 1934 to October 1935.....		\$24, 548, 736	33, 799, 688	\$0. 726	\$45, 227, 263
1934					
April.....	18, 731	1, 516, 915	2, 308, 580	.657	2, 357, 408
May.....	19, 429	1, 649, 920	2, 358, 966	.699	2, 143, 864
June.....	19, 022	1, 676, 075	2, 314, 136	.724	2, 230, 065
July.....	17, 475	1, 612, 848	2, 141, 945	.753	2, 402, 174
August.....	17, 221	1, 697, 161	2, 282, 181	.744	2, 384, 887
September.....	16, 809	1, 637, 047	2, 203, 881	.743	2, 579, 969
October.....	17, 482	1, 596, 996	2, 181, 846	.732	2, 274, 174
November.....	16, 502	1, 621, 468	2, 233, 928	.726	2, 856, 371
December.....	14, 321	1, 337, 719	1, 859, 226	.720	2, 440, 620
1935					
January.....	11, 180	1, 054, 708	1, 484, 190	.711	3, 966, 718
February.....	10, 373	1, 048, 593	1, 457, 662	.710	5, 028, 547
March.....	9, 586	890, 333	1, 253, 493	.710	1, 072, 886
April.....	10, 300	1, 007, 424	1, 389, 072	.725	2, 517, 175
May.....	10, 506	1, 100, 977	1, 522, 959	.723	2, 287, 090
June.....	11, 901	1, 191, 336	1, 592, 744	.748	3, 998, 576
July.....	9, 581	1, 001, 653	1, 349, 064	.742	1, 495, 108
August.....	9, 415	1, 020, 208	1, 367, 071	.746	965, 174
September.....	9, 301	957, 846	1, 271, 475	.753	1, 016, 202
October.....	9, 192	952, 790	1, 269, 273	.751	1, 228, 928

¹ Monthly figures referred to in this section are as of the 15th of the month.

Employment on Public Roads

THE number of employees engaged in the construction and maintenance of public roads, Federal, non-Federal, and State, by months, from January 1933 to October 1935, is given in the following table.

NUMBER OF EMPLOYEES ENGAGED IN CONSTRUCTION AND MAINTENANCE OF ROADS UNDER JURISDICTION OF BUREAU OF PUBLIC ROADS, JANUARY 1933 TO OCTOBER 1935

Month	Number of employees							
	Federal				Non-Federal financed from P. W. A. funds ²	State		
	Financed from—					Total	New	Main- tenance
	Total	Regular govern- mental appropri- ations ¹	P. W. A. funds ²	The Works Program funds ²				
1933								
January	75,498	75,498			190,945	39,906	151,039	
February	78,215	78,215			177,041	36,352	140,689	
March	95,704	95,704			183,509	37,891	145,618	
April	122,256	122,256			177,626	40,560	137,066	
May	139,831	139,831			190,307	47,540	142,767	
June	152,276	152,276			207,329	54,388	152,941	
July	129,205	129,205			203,072	61,428	141,644	
August	111,211	107,193	4,018		218,602	60,365	158,237	
September	115,047	80,164	34,883		222,926	62,366	160,560	
October	154,016	57,079	96,937		230,013	53,711	171,302	
November	185,860	38,286	147,574		234,209	63,379	170,830	
December	174,358	21,519	152,839		187,673	46,810	140,863	
1934								
January	154,154	7,824	146,330		161,835	25,345	136,490	
February	156,814	2,649	154,165		149,276	22,311	126,965	
March	143,383	1,496	141,887		152,212	19,985	132,227	
April	184,201	2,232	181,969		670			
May	266,871	4,227	262,644		3,456	157,621	21,510	
June	328,093	4,822	323,271		5,101	194,532	27,161	
July	324,544	5,030	319,514		8,321	208,599	37,642	
August	284,180	3,933	280,247		10,679	213,930	45,478	
September	233,197	3,018	230,179		13,044	233,810	53,540	
October	195,409	2,911	192,498		14,683	250,271	61,885	
November	184,700	4,023	180,677		14,670	240,243	71,008	
December	135,825	3,157	132,668		16,346	225,657	66,106	
					11,276	176,599	41,919	
1935								
January	90,146	1,796	88,350		6,448	143,820	23,537	
February	77,696	1,229	76,467		3,561	140,149	17,940	
March	87,039	1,406	85,633		3,960	126,540	18,391	
April	114,980	1,961	113,019		8,083	159,677	24,193	
May	155,359	3,393	151,966		12,176	163,465	27,924	
June	180,778	4,788	175,990		12,485	169,076	30,823	
July	176,320	5,777	170,543		14,721	184,401	35,226	
August	162,340	8,645	153,695		16,416	204,090	40,130	
September	130,436	13,878	116,558	1,505	13,019	196,618	40,431	
October	122,984	28,775	87,946	6,263	12,676	187,714	40,390	

¹ Also included in table showing employment created by regular governmental appropriations from August 1934.

² Also included in tables showing employment created by each designated construction program financed from Federal funds.

Work Created by Material Orders Placed

A SUMMARY of the estimated man-months of employment created in fabricating materials under the various programs is shown in the following table.

The estimates are made only for labor required in the fabrication of material in the form in which it is to be used. No estimate is made of the labor required in producing the raw material or in transporting

it to the point of manufacture—for example, in manufacturing structural steel the only labor counted is that occurring in the fabricating mills. No estimate is made for the labor created in mining, smelting, and transporting the ore; nor for the labor in the blast furnaces, the open-hearth furnaces, or the blooming mills.

NUMBER OF MAN-MONTHS OF LABOR CREATED IN FABRICATION OF MATERIAL PURCHASED FROM FEDERAL FUNDS

Program	Number of man-months—		
	From beginning of program to—		Month ending Oct. 15, 1935
	Oct. 15, 1935	Sept. 15, 1935	
Total.....	3,792,117	3,595,407	196,710
Public Works Administration.....	3,424,326	3,311,160	113,166
Reconstruction Finance Corporation.....	¹ 136,065	¹ 131,817	4,248
Regular governmental.....	² 137,531	² 115,480	22,051
The Works Program:			
Federal construction.....	47,092	18,790	28,302
Federal professional, technical, and clerical.....	921	540	381
Operated by Works Progress Administration.....	46,182	17,620	28,562

¹ For period beginning Mar. 15, 1934.

² For period beginning July 1, 1934.

Emergency Conservation Work

EMERGENCY Conservation Work (familiarily known as Civilian Conservation Corps) was authorized by Congress on March 31, 1933. Employment and pay rolls in Emergency Conservation Work from May 1933 to October 1935 are given, by months, in the following table.

EMPLOYMENT AND PAY ROLLS IN EMERGENCY CONSERVATION WORK, MAY 1933 TO OCTOBER 1935

Month	Employees	Pay roll	Month	Employees	Pay roll
1933			1934		
May.....	191,380	\$6,388,760	August.....	385,340	\$16,364,048
June.....	283,500	9,876,780	September.....	335,788	15,023,183
July.....	316,109	11,482,262	October.....	391,894	16,939,922
August.....	307,100	11,604,401	November.....	387,329	16,622,374
September.....	242,968	9,759,628	December.....	350,028	15,415,071
October.....	294,861	12,311,033	1935		
November.....	344,273	14,554,695	January.....	398,692	16,757,883
December.....	321,701	12,951,042	February.....	373,850	16,320,803
1934			March.....	294,955	14,188,097
January.....	331,594	13,581,506	April.....	368,537	16,401,114
February.....	321,829	13,081,393	May.....	385,192	17,719,018
March.....	247,591	10,792,618	June.....	427,556	19,766,881
April.....	314,664	13,197,012	July.....	480,586	22,074,577
May.....	335,871	14,047,826	August.....	590,362	26,235,863
June.....	280,271	12,641,571	September.....	534,057	24,404,708
July.....	389,104	16,033,071	October.....	550,650	24,830,752

Emergency-Work Program

THE emergency-work program consists of projects authorized by the Federal Emergency Relief Administration after March 1934. In the latter part of 1935 this program of providing employment through relief-work projects was being rapidly curtailed as The Works Program got under way.

Employment and pay rolls on the emergency-work program, by months, from March 1934 to October 1935, are presented in the following table.

EMPLOYMENT AND PAY ROLLS FOR WORKERS ON EMERGENCY-WORK PROGRAM, MARCH 1934 TO OCTOBER 1935¹

Month	Number of employees	Amount of pay roll	Month	Number of employees	Amount of pay roll
1934			1935		
March.....	22, 934	\$842, 000	January.....	2, 472, 091	\$71, 683, 578
April.....	1, 089, 762	38, 416, 747	February.....	2, 459, 730	63, 621, 526
May.....	1, 362, 014	42, 669, 240	March.....	2, 402, 018	62, 865, 956
June.....	1, 504, 838	42, 423, 574	April.....	2, 308, 838	62, 344, 399
July.....	1, 725, 466	47, 352, 424	May.....	2, 228, 546	64, 559, 740
August.....	1, 924, 066	54, 914, 792	June.....	2, 021, 060	54, 382, 876
September.....	1, 950, 108	50, 288, 868	July.....	1, 928, 772	53, 136, 833
October.....	1, 996, 822	53, 901, 325	August.....	1, 411, 350	38, 977, 677
November.....	2, 159, 038	62, 833, 046	September.....	883, 968	21, 147, 711
December.....	2, 324, 894	62, 335, 691	October.....	644, 639	17, 630, 711

¹ Wage earners in this report represent the number that worked any part of month. These employees are allowed to work each month until a certain specified maximum amount is reached, and then they are relieved by other workers taken from the relief rolls.

Employment Created by Civil Works Administration

THE Public Works Administration, early in November 1933, made an allotment of \$400,000,000 to the Civil Works Administration to be expended for providing employment during the winter months. As can readily be seen, it takes some time for types of projects included under the regular Public Works Administration to get under way. Legal obstacles in many States had to be overcome, plans had to be drawn, and even after the starting of work, considerable time elapsed before any great number of men could be employed on any job. In order to bridge the gap between the awarding of the contract and maximum employment on public-works projects, the Civil Works Administration was created. The duty of this agency was to put people to work on new projects at once.

The greater part of the workers under the Civil Works Administration were taken from the relief rolls throughout the United States. These employees were engaged in repairing buildings and bridges, in street and road work, working on slum-clearance projects, landscaping, mosquito eradication, etc.

The following table shows the number of Civil-Works employees on the pay rolls and the amounts of pay rolls for weeks ending November 30 and December 28, 1933, and January 25, February 22, March 29, April 26, and May 31, 1934, by geographic divisions.

NUMBER OF EMPLOYEES AND AMOUNTS OF PAY ROLLS ON CIVIL WORKS PROJECTS NOV. 30 AND DEC. 28, 1933, AND JAN. 25, FEB. 22, MAR. 20, APR. 26, AND MAY 31, 1934

Geographic division	Week ending Nov. 30, 1933		Week ending Dec. 28, 1933		Week ending Jan. 25, 1934		Week ending Feb. 22, 1934	
	Employees	Pay roll						
United States.....	1,471,200	\$14,854,212	3,457,460	\$46,177,842	4,054,684	\$47,481,015	3,466,810	\$39,947,760
New England.....	63,601	687,377	154,062	2,116,321	240,226	3,052,837	212,008	2,593,778
Middle Atlantic.....	208,251	2,340,853	519,052	6,863,116	744,804	9,890,838	690,018	8,705,585
East North Central.....	313,059	3,844,417	877,857	13,987,171	837,308	11,837,407	713,014	10,014,841
West North Central.....	130,291	1,359,494	387,044	5,266,990	462,790	5,504,064	396,806	4,072,898
South Atlantic.....	219,822	1,916,840	451,008	4,755,065	556,067	5,288,764	468,568	4,474,609
East South Central.....	109,276	826,769	276,000	2,945,877	341,613	2,811,468	257,533	2,016,107
West South Central.....	299,731	2,695,361	431,064	4,427,763	494,110	4,023,100	394,466	3,687,761
Mountain.....	43,300	446,726	126,069	2,184,061	136,271	1,827,639	121,730	1,629,044
Pacific.....	83,859	706,385	235,304	3,638,478	241,560	3,244,898	212,668	2,788,637

Geographic division	Week ending Mar. 20, 1934		Week ending Apr. 26, 1934		Week ending May 31, 1934	
	Employees	Pay roll	Employees	Pay roll	Employees	Pay roll
United States.....	1,935,699	\$26,966,448	56,164	\$1,138,705	8,893	\$226,416
New England.....	139,445	2,000,017	4,901	87,336	596	15,610
Middle Atlantic.....	558,939	8,206,762	9,818	197,736	1,000	23,834
East North Central.....	442,617	6,896,610	9,325	229,070	3,470	94,289
West North Central.....	171,534	2,160,632	4,634	99,641	755	18,279
South Atlantic.....	168,264	1,914,362	11,460	210,922	910	22,537
East South Central.....	106,564	1,156,151	4,610	91,436	472	11,181
West South Central.....	173,035	1,834,779	4,265	76,091	628	13,187
Mountain.....	57,815	976,381	2,521	54,855	199	5,402
Pacific.....	117,696	1,770,753	4,630	91,612	363	22,087

Starting late in November, the Civil Works Administration, within 2 weeks time, had given employment to nearly 1,500,000 people. By the latter part of January the employment had grown to over 4,000,000. From that date the decrease was rapid until by May 31 less than 9,000 were on the pay rolls. By this time the Civil Works program was practically completed, the Emergency Work Relief program being then under way.

Employment and Earnings in Manufactures, 1899 to 1933

THE Census of Manufactures for 1933 permits of some interesting comparisons of employment, wages, etc., in manufacturing industries in the United States in that year with conditions in earlier census years. In the following table such comparison is made for each of the years for which a manufacturing census was taken from 1899 to 1933, for the principal items reported by the census, together with the estimated population in each of these years and certain figures derived from the basic data as given by the Census Bureau. The derived figures, computed by the Bureau of Labor Statistics, are those shown in column 4 (average annual earnings per wage earner), column 8 (value added per wage earner), column 10 (horsepower per

wage earner), column 11 (percent wages are of value added by manufacture), and column 13 (wage earners per 100,000 population).

The figures cited for average annual earnings (column 4) must be used with great caution, as noted by the Census Bureau:

The average number of wage earners is based on the numbers reported for the several months of the year. This average probably exceeds somewhat the number that would have been required for the work performed if all had been continuously employed throughout the year, because of the fact that manufacturers report the number employed on or about the 15th day of each month, as shown by the pay rolls, usually taking no account of the possibility that some or all of the wage earners may have been on part time or for some other reason may not actually have worked the entire month. Thus it becomes necessary to give equal weight to full-time and part-time wage earners in calculating the average, and therefore the average overstates somewhat the amount of full-time employment. For this reason the quotient obtained by dividing the amount of wages by the average number of wage earners cannot be accepted as representing the average wage received by full-time wage earners. In making comparisons between the figures for 1929 and those for 1931 [and 1933], the likelihood that the proportion of part-time employment was larger in the later than in the earlier year should be taken into account.

EMPLOYEES, EARNINGS, PRODUCTION, AND HORSEPOWER IN MANUFACTURING ESTABLISHMENTS IN THE UNITED STATES IN EACH OF THE CENSUS YEARS, 1899 TO 1933¹

Census year	Number of establishments	Wage earners (average number) ²	Wages for year	Average annual earnings per wage earner	Cost of material, containers, fuel, and purchased electricity ³	Value of products
	1	2	3	4	5	6
1899.....	207,514	4,712,763	\$2,008,361,119	\$426	\$6,575,851,491	\$11,406,926,701
1904.....	145,033	5,362,080	2,610,444,953	487	8,433,860,722	14,617,774,351
1909.....	175,142	6,472,616	3,427,037,884	529	12,064,573,089	20,449,588,023
1914.....	177,110	6,896,190	4,037,718,740	590	14,278,333,194	23,937,860,617
1919.....	214,383	9,000,059	10,461,786,869	1,162	37,232,702,390	62,041,795,316
1921.....	196,267	6,946,570	8,202,324,339	1,181	26,321,055,346	43,653,282,833
1923.....	196,309	8,778,156	11,008,297,726	1,254	34,705,697,749	60,556,998,200
1925.....	187,390	8,384,261	10,729,968,927	1,280	35,935,647,704	62,713,713,730
1927.....	191,866	8,349,765	10,848,802,532	1,299	35,133,136,889	62,713,347,289
1929.....	210,959	8,838,743	11,620,973,254	1,315	38,549,579,732	70,434,863,443
1931.....	174,136	6,511,647	7,225,587,464	1,110	21,420,124,017	41,333,108,998
1933.....	141,776	6,055,736	6,261,576,029	869	16,748,438,977	31,358,840,392
Index numbers						
1899.....	100.0	100.0	100.0	100.0	100.0	100.0
1904.....	69.9	113.8	130.0	114.3	128.3	128.1
1909.....	84.4	137.3	170.6	124.2	183.5	179.3
1914.....	85.3	146.3	202.5	138.5	217.1	210.3
1919.....	103.3	191.0	520.9	272.8	566.2	543.9
1921.....	94.6	147.4	408.4	277.2	385.1	382.7
1923.....	94.6	186.3	548.2	294.4	527.8	530.9
1925.....	90.3	177.9	534.3	300.5	546.5	549.8
1927.....	92.5	177.2	540.2	304.9	534.3	549.8
1929.....	101.7	187.5	578.6	308.7	586.2	617.5
1931.....	83.9	138.2	359.8	260.6	325.7	362.4
1933.....	68.3	128.5	262.0	204.0	254.7	274.9

¹ Figures for 1933 do not include data for "coffee and spices, roasting and grinding" and "peanuts, walnuts, and other nuts, processed or shelled" industries.

² Not including salaried officers and employees.

³ The aggregates for cost of materials and value of products include large but indeterminate amounts of duplication due to the use of the products of some industries as materials by others. This duplication occurs, as a rule, between different industries, and is not found to any great extent in individual industries.

EMPLOYEES, EARNINGS, PRODUCTION, AND HORSEPOWER IN MANUFACTURING ESTABLISHMENTS IN THE UNITED STATES IN EACH OF THE CENSUS YEARS, 1899 TO 1933—Continued.

Census year	Value added by manufacture	Value added per wage earner	Horsepower (rated capacity) of power equipment	Horsepower per wage earner	Per cent wages are of value added	Population (estimated)	Wage earners per 100,000 population
	7	8	9	10	11	12	13
1899.....	\$4,831,075,210	\$1,025	9,960,980	2.11	41.6	74,799,000	6,301
1904.....	6,178,913,629	1,152	13,296,394	2.48	42.3	82,601,000	6,491
1909.....	8,385,014,984	1,295	18,551,737	2.87	40.8	90,691,000	7,137
1914.....	9,709,527,423	1,408	22,290,899	3.23	41.9	97,928,000	7,042
1919.....	24,809,092,926	2,757	29,327,669	3.26	42.1	105,003,000	8,571
1921.....	18,332,227,487	2,639	(¹)	(¹)	44.8	108,208,000	6,420
1923.....	25,850,300,451	2,945	33,094,228	3.77	42.6	111,537,000	7,870
1925.....	26,778,068,026	3,194	35,772,628	4.27	40.1	114,867,000	7,299
1927.....	27,585,210,400	3,304	38,825,681	4.65	39.3	118,197,000	7,064
1929.....	31,885,283,711	3,607	42,931,061	4.86	38.5	121,526,000	7,273
1931.....	19,912,984,981	3,058	(¹)	(¹)	38.3	124,070,000	5,248
1933.....	14,610,401,415	2,413	(¹)	(¹)	36.0	125,693,000	4,818
Index numbers							
1899.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1904.....	127.9	112.4	133.5	117.5	101.7	110.4	103.0
1909.....	173.6	126.3	186.2	136.0	98.1	121.2	113.3
1914.....	201.0	137.4	223.8	153.1	100.7	130.9	111.8
1919.....	513.5	269.0	294.4	164.5	101.2	140.4	136.0
1921.....	379.5	257.5	-----	-----	107.7	144.7	101.9
1923.....	535.1	287.3	332.2	178.7	102.4	149.1	124.9
1925.....	554.3	311.6	359.1	202.4	96.4	153.6	115.8
1927.....	571.0	322.3	389.8	220.4	94.5	158.0	112.1
1929.....	660.0	351.9	431.0	230.3	87.7	162.5	115.4
1931.....	412.2	298.3	-----	-----	87.3	165.9	83.3
1933.....	302.4	235.4	-----	-----	86.5	168.0	76.5

¹ Data not obtained in census.

Fluctuations in Employment in Ohio, 1914 to 1934

OHIO has a law under which all employers in the State who regularly employ three or more persons make annual reports to the Department of Industrial Relations of Ohio. Information covered includes the number of persons classed as wage earners, clerical workers, and salespeople (not traveling) employed by them each month, and the total amount of money paid in salaries and wages. Reports are received from all mines and quarries, irrespective of the number of employees. The law applies to all industries and employments except interstate transportation and Government establishments.

Prior to 1924 this law covered only establishments employing five or more persons. Hence the material for the years 1914 to 1924 is not so inclusive as that collected since January 1, 1924. The workmen's compensation law of Ohio applied first to employers of five or more persons, but was amended in 1924 to include those employing three or more. Thus two avenues by which volume of employment in Ohio may be determined have been in continuous existence since 1914. Moreover, the list of establishments reporting volume of employment and pay rolls are carefully checked year by year with those carrying workmen's compensation insurance.

The detailed information made available because of this legal requirement in Ohio is undoubtedly the most comprehensive source material in the country for measuring the fluctuation of employment over a long series of years and for the entire geographic area of an industrial State. It also includes unusually extensive data on clerical workers and salespeople. It is in fact remarkably inclusive.

The Bureau of Labor Statistics has published articles and statistical compilations on fluctuations of employment as shown by the Ohio figures in Bulletin No. 553, *Fluctuation of Employment in Ohio, 1914 to 1929*, and in the *Monthly Labor Review*.¹ The following statistical presentation is based upon Bulletin No. 553 and subsequent data for 1930, 1931, 1932, 1933, and 1934.

The chief industries covered in table 1 are manufactures, construction, agriculture, mining and quarrying, service,² wholesale and retail trade, and transportation and public utilities. Employees within these industries are classified in three groups—wage earners; bookkeepers, stenographers, and office clerks; and salespeople (not traveling).

Table 1, covering all industries, gives for each of the occupational groups, for each sex and for both sexes combined, the number employed in the month of maximum and of minimum employment, in all establishments reporting for each year from 1914 to 1934.

¹ Issues of April 1930, March 1932, December 1933, February 1935, and January 1936.

² Service includes advertising, banks, barbers, bowling alleys and parks, garages, hospitals, hotels, laundries and dry cleaners, office buildings, professional, restaurants, schools and colleges, social agencies, theaters, and services not otherwise classified.

TABLE 1.—MAXIMUM AND MINIMUM EMPLOYMENT IN OHIO, 1914 TO 1934, IN ALL INDUSTRIES EXCEPT MINING AND QUARRYING, BY SEX AND GENERAL OCCUPATION GROUPS

Wage earners

Year	Number establishments reporting	Males				Females				Both sexes			
		Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
		Number	Month	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month
1914	15, 144	520, 377	March	456, 275	December	90, 968	February	82, 689	December	610, 869	March	538, 964	December
1915	19, 043	641, 942	December	487, 020	January	102, 400	December	91, 329	January	744, 342	December	578, 349	January
1916	21, 038	791, 732	November	652, 933	do	118, 728	November	102, 914	do	910, 460	November	755, 847	Do
1917	23, 108	841, 435	June	778, 608	do	127, 121	October	119, 996	May	963, 604	June	899, 575	Do
1918	24, 298	846, 087	August	772, 970	do	152, 513	November	123, 358	January	994, 475	August	896, 328	Do
1919	25, 064	848, 478	December	728, 824	February	150, 078	December	130, 044	May	998, 556	December	862, 701	February
1920	28, 533	905, 398	June	704, 389	December	151, 746	June	124, 916	December	1, 057, 144	June	829, 305	December
1921	24, 871	696, 858	January	574, 033	July	121, 451	November	113, 365	January	715, 816	November	688, 666	July
1922	25, 810	760, 159	December	548, 049	January	134, 750	December	114, 067	do	894, 909	December	662, 116	January
1923	27, 418	837, 221	June	743, 620	do	149, 655	June	136, 164	do	986, 876	June	879, 784	Do
1924	31, 715	789, 457	April	730, 615	July	148, 403	March	137, 779	July	937, 274	April	868, 394	July
1925	34, 605	837, 381	October	744, 327	January	160, 576	October	144, 391	January	997, 957	October	888, 718	January
1926	37, 159	875, 444	September	787, 792	do	168, 944	do	154, 712	do	1, 040, 932	September	942, 504	Do
1927	39, 635	836, 494	June	749, 785	December	172, 279	do	156, 733	do	1, 000, 737	June	913, 961	December
1928	40, 972	869, 270	September	725, 946	January	178, 214	do	157, 861	do	1, 045, 255	October	883, 807	January
1929	43, 160	916, 978	July	782, 529	December	191, 212	September	174, 078	do	1, 099, 890	July	958, 450	December
1930	44, 283	808, 416	May	662, 335	do	168, 570	April	152, 454	December	976, 911	May	814, 789	Do
1931	43, 168	655, 327	do	556, 108	do	151, 764	September	139, 669	do	806, 662	do	695, 777	Do
1932	40, 134	533, 129	January	483, 374	August	135, 547	April	122, 770	August	668, 089	February	606, 144	August
1933	38, 678	631, 662	September	446, 104	March	148, 453	October	118, 600	March	779, 943	September	564, 713	March
1934	39, 744	703, 398	June	584, 921	January	152, 631	May	134, 067	January	854, 680	June	718, 988	January

FLUCTUATIONS IN EMPLOYMENT IN OHIO

TABLE 1.—MAXIMUM AND MINIMUM EMPLOYMENT IN OHIO, 1914 TO 1934, IN ALL INDUSTRIES EXCEPT MINING AND QUARRYING, BY SEX AND GENERAL OCCUPATION GROUPS—Continued

Bookkeepers, stenographers, and office clerks

Year	Number establishments reporting	Males				Females				Both sexes			
		Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
		Number	Month	Number	Month	Number	Month	Number	Month	Number	Month	Number	Month
1914.....	15, 144	35, 521	August....	34, 581	November	24, 805	March....	23, 658	November	59, 555	March....	58, 239	November.
1915.....	19, 043	41, 127	December..	37, 274	February..	28, 930	December..	26, 642	January...	70, 057	December..	63, 926	January.
1916.....	21, 038	48, 856	..do.....	43, 096	January..2	35, 132	..do.....	31, 018	..do.....	83, 988	..do.....	74, 114	Do.
1917.....	23, 108	52, 764	August....	49, 668	..do.....	42, 121	..do.....	37, 453	..do.....	94, 137	November	87, 121	Do.
1918.....	24, 288	55, 512	June.....	52, 056	December..	54, 628	November	45, 299	..do.....	107, 030	August...	99, 427	Do.
1919.....	25, 064	64, 169	December..	53, 778	January...	60, 195	December..	55, 204	..do.....	124, 364	December..	108, 982	Do.
1920.....	28, 833	68, 957	July.....	62, 385	December..	66, 571	July.....	61, 873	December..	135, 528	July.....	124, 258	December.
1921.....	24, 871	59, 934	January...	54, 417	..do.....	57, 626	January...	53, 237	October...	117, 560	January...	107, 660	October.
1922.....	25, 810	59, 987	December..	54, 759	January...	58, 143	December..	53, 188	January...	118, 130	December..	107, 947	January.
1923.....	27, 418	65, 986	August....	61, 813	..do.....	64, 278	..do.....	60, 237	..do.....	130, 090	..do.....	122, 050	Do.
1924.....	31, 715	68, 218	April.....	67, 497	..do.....	66, 627	..do.....	65, 374	..do.....	134, 542	April.....	132, 871	Do.
1925.....	34, 605	71, 374	November	68, 572	..do.....	71, 104	..do.....	67, 465	..do.....	142, 463	December..	136, 037	Do.
1926.....	37, 159	74, 574	August....	71, 862	..do.....	75, 017	..do.....	71, 169	..do.....	149, 474	..do.....	143, 031	Do.
1927.....	39, 635	76, 309	September	73, 876	..do.....	77, 173	..do.....	74, 745	..do.....	153, 296	..do.....	148, 621	Do.
1928.....	40, 972	79, 460	December..	75, 288	..do.....	79, 591	..do.....	74, 694	..do.....	159, 051	..do.....	149, 982	Do.
1929.....	43, 160	85, 400	August....	80, 662	..do.....	86, 644	November	82, 076	..do.....	171, 791	August....	162, 738	Do.
1930.....	44, 283	90, 948	April.....	87, 593	December..	86, 206	January...	81, 743	November	177, 070	March....	169, 515	December.
1931.....	43, 168	79, 942	January...	74, 286	..do.....	78, 118	..do.....	72, 853	December..	158, 060	January...	147, 139	Do.
1932.....	40, 134	70, 867	..do.....	64, 199	..do.....	71, 333	..do.....	65, 766	November	142, 000	..do.....	130, 028	November.
1933.....	38, 678	70, 364	December..	64, 626	April.....	66, 454	December..	62, 192	April.....	136, 818	December..	126, 818	April.
1934.....	39, 744	74, 711	..do.....	70, 261	January...	71, 267	..do.....	67, 113	January...	145, 978	..do.....	137, 374	January.

Salespeople (not traveling)

1914.....	15, 144	15, 169	December.	14, 435	February.	18, 472	December.	13, 511	August.....	33, 641	December.	27, 967	August.
1915.....	19, 043	17, 690	do.....	16, 108	do.....	19, 901	do.....	14, 101	do.....	37, 591	do.....	30, 445	February
1916.....	21, 038	19, 626	do.....	17, 797	do.....	24, 192	do.....	16, 481	do.....	43, 818	do.....	34, 405	Do.
1917.....	23, 108	20, 991	do.....	19, 969	January	24, 607	do.....	17, 962	February.	45, 598	do.....	38, 023	Do.
1918.....	24, 298	20, 588	March	19, 557	October	26, 573	do.....	20, 508	do.....	47, 068	do.....	40, 237	August.
1919.....	25, 064	24, 564	December.	20, 573	January	29, 403	do.....	22, 859	do.....	53, 967	do.....	43, 506	January.
1920.....	28, 833	25, 790	do.....	24, 028	do.....	30, 446	do.....	23, 736	do.....	56, 236	do.....	47, 923	February.
1921.....	24, 871	25, 271	do.....	23, 859	do.....	27, 828	do.....	20, 643	August	53, 099	do.....	44, 727	August.
1922.....	25, 810	27, 923	do.....	24, 076	do.....	31, 750	do.....	21, 351	February.	59, 673	do.....	45, 471	February.
1923.....	27, 418	30, 947	do.....	27, 212	do.....	34, 578	do.....	23, 580	do.....	66, 525	do.....	51, 028	Do.
1924.....	31, 715	36, 000	do.....	32, 628	do.....	36, 363	do.....	25, 750	August.....	72, 363	do.....	58, 947	January.
1925.....	34, 605	38, 397	do.....	34, 499	do.....	39, 267	do.....	27, 002	February.	77, 664	do.....	61, 708	Do.
1926.....	37, 159	42, 273	do.....	38, 357	do.....	40, 416	do.....	27, 264	August.....	82, 689	do.....	65, 760	February.
1927.....	39, 635	43, 549	do.....	39, 951	do.....	43, 315	do.....	29, 023	February.	86, 804	do.....	69, 095	Do.
1928.....	40, 972	47, 734	do.....	42, 228	do.....	46, 822	do.....	29, 135	do.....	94, 556	do.....	71, 599	Do.
1929.....	43, 160	54, 724	do.....	48, 489	do.....	47, 137	do.....	30, 923	do.....	101, 861	do.....	79, 556	January.
1930.....	44, 283	39, 466	May	38, 074	August.....	42, 557	do.....	29, 554	August.....	82, 006	do.....	67, 628	August.
1931.....	43, 168	39, 776	June	37, 942	January	40, 692	do.....	29, 193	February.	79, 790	do.....	67, 142	February.
1932.....	40, 134	36, 787	do.....	35, 721	August.....	35, 733	do.....	25, 549	August.....	72, 397	do.....	61, 270	August.
1933.....	38, 673	41, 072	December.	34, 744	January	39, 901	do.....	24, 939	March	80, 973	do.....	59, 816	March.
1934.....	39, 744	42, 873	do.....	37, 913	do.....	45, 037	do.....	27, 964	January	87, 910	do.....	65, 877	January.

Minimum employment for wage earners of both sexes is shown to occur, with few exceptions, during the winter months. The peak, while showing no such regularity, occurs chiefly during the spring months—April, May, and June—for men, and during the autumn months—September, October, and November—for women. Among clerical workers also, January and February are slack months, but December brings increased employment to women and in some years to men as well. December is almost uniformly the peak month for salespeople of both sexes. The pronounced increase in the number of saleswomen employed during December as compared to the minimum number represents, of course, the employment opportunities which the holiday season offers women.

Table 2 shows the percent of variation from maximum employment in the three occupational groups for each year, 1914 to 1934, for the most important industrial divisions and for all industries combined.

TABLE 2.—PERCENT OF VARIATION FROM MAXIMUM EMPLOYMENT IN GENERAL OCCUPATION GROUPS IN OHIO, 1914 TO 1934, BY SEX, FOR SPECIFIED INDUSTRY GROUPS AND FOR ALL INDUSTRIES COMBINED

Industry group and year	Wage earners			Bookkeepers, stenographers, and office clerks			Salespeople (not traveling)		
	Males	Fe-males	Both sexes	Males	Fe-males	Both sexes	Males	Fe-males	Both sexes
Manufactures:									
1914.....	14.0	11.8	13.0	4.1	3.2	3.0	2.5	10.1	3.9
1915.....	24.7	12.7	23.0	10.6	9.2	10.1	4.8	8.8	4.1
1916.....	15.9	13.9	15.6	13.0	12.6	12.8	5.7	7.9	5.5
1917.....	3.9	7.2	3.2	6.8	12.4	8.4	4.2	16.5	5.2
1918.....	6.2	22.6	8.3	5.3	19.8	8.3	4.1	9.7	3.0
1919.....	14.0	17.5	14.5	16.1	8.5	12.8	13.7	18.6	14.7
1920.....	29.1	24.6	27.4	15.0	14.0	14.6	5.6	8.7	6.3
1921.....	9.7	10.7	7.8	13.3	10.1	11.9	3.6	6.8	3.7
1922.....	29.5	17.6	27.7	9.6	8.9	9.3	8.5	17.1	10.2
1923.....	9.4	9.2	9.4	6.1	6.2	6.1	7.5	14.2	9.1
1924.....	16.1	11.3	15.4	2.1	1.2	1.6	5.8	12.4	6.0
1925.....	7.3	11.5	7.9	3.6	4.4	4.0	8.5	5.0	7.9
1926.....	6.7	9.4	6.3	3.3	5.1	4.1	6.0	8.7	6.4
1927.....	9.8	10.5	8.5	2.2	2.7	2.4	4.4	9.9	5.4
1928.....	12.3	14.2	12.3	4.5	5.1	4.8	6.9	12.3	7.3
1929.....	16.4	12.8	15.0	5.5	5.1	5.3	6.1	8.4	6.4
1930.....	19.6	12.7	18.5	5.0	7.9	6.1	3.5	4.7	3.6
1931.....	16.6	12.2	15.4	9.5	9.9	9.7	3.3	4.2	2.8
1932.....	14.8	11.7	14.0	11.3	9.7	10.5	4.4	5.0	4.3
1933.....	34.7	27.5	33.4	12.7	10.6	11.6	9.6	12.5	10.0
1934.....	17.6	15.1	17.2	7.3	7.1	7.2	8.9	13.6	9.2
Service:									
1914.....	5.7	6.8	6.2	3.4	4.3	3.9	10.1	(1)	15.5
1915.....	15.1	6.6	11.5	8.1	7.4	7.5	13.0	26.0	14.2
1916.....	14.1	9.1	12.2	13.2	14.0	13.5	19.7	23.8	18.7
1917.....	9.5	9.3	9.4	6.3	9.1	7.9	9.7	16.5	9.4
1918.....	13.0	8.4	9.5	8.8	21.5	9.6	16.8	14.5	15.5
1919.....	12.1	5.9	9.7	17.0	7.6	12.3	11.9	5.6	9.4
1920.....	11.4	7.9	9.8	11.4	11.7	11.4	13.8	18.2	14.4
1921.....	7.5	5.1	6.5	4.0	5.2	3.3	11.1	11.3	9.0
1922.....	16.9	9.0	13.2	7.0	7.1	7.7	22.8	15.7	21.7
1923.....	15.5	11.2	13.8	7.7	6.9	7.1	16.5	10.7	15.8
1924.....	10.3	6.3	8.7	3.2	3.7	3.4	13.0	7.9	12.2
1925.....	11.7	6.9	9.8	5.5	4.7	4.9	12.0	15.0	12.2
1926.....	11.4	8.7	9.3	4.1	6.1	5.2	12.6	11.5	12.4
1927.....	10.6	6.5	9.0	3.3	3.4	3.4	10.8	14.1	10.9
1928.....	12.4	6.3	9.8	4.8	4.8	4.8	6.8	13.8	7.0
1929.....	12.8	7.4	10.3	5.3	5.5	5.4	13.2	15.4	13.1
1930.....	11.2	6.6	9.3	3.3	4.1	3.4	18.3	(1)	15.2
1931.....	9.7	7.8	8.9	4.8	5.4	5.0	12.8	(1)	11.7
1932.....	8.1	7.8	7.0	8.5	7.7	8.1	8.6	(1)	7.7
1933.....	12.4	3.0	8.5	3.7	3.0	2.9	19.7	(1)	18.2
1934.....	12.6	7.3	10.1	3.3	4.7	4.1	17.6	(1)	17.0

¹ Not computed because of small number involved.

TABLE 2.—PERCENT OF VARIATION FROM MAXIMUM EMPLOYMENT IN GENERAL OCCUPATION GROUPS IN OHIO, 1914 TO 1934, BY SEX, FOR SPECIFIED INDUSTRY GROUPS AND FOR ALL INDUSTRIES COMBINED—Continued

Industry group and year	Wage earners			Bookkeepers, stenographers, and office clerks			Salespeople (not traveling)		
	Males	Females	Both sexes	Males	Females	Both sexes	Males	Females	Both sexes
Trade, wholesale and retail:									
1914	7.6	19.6	6.6	2.1	5.4	3.6	6.6	28.0	19.7
1915	12.1	22.2	13.1	6.1	7.5	6.6	10.2	30.4	21.6
1916	12.4	20.4	13.5	7.2	10.4	8.9	10.8	33.5	24.5
1917	27.9	11.4	3.8	2.1	10.1	6.0	6.7	27.9	19.7
1918	5.9	18.0	3.5	10.4	10.7	3.8	7.9	23.8	17.8
1919	15.8	13.6	15.3	15.7	9.9	12.0	17.4	23.0	20.5
1920	6.1	9.9	5.8	5.4	4.8	4.8	7.2	22.7	16.6
1921	4.4	16.1	4.5	5.8	7.0	6.6	6.7	26.9	18.7
1922	14.9	24.0	16.7	6.7	8.9	8.1	14.3	33.6	25.9
1923	9.8	21.2	11.7	6.1	7.5	6.9	12.8	32.9	24.7
1924	7.7	19.5	9.3	3.5	3.9	3.7	10.9	30.4	21.0
1925	8.8	17.7	10.5	2.3	6.9	5.4	11.1	32.5	23.7
1926	3.9	22.0	11.1	4.1	7.2	6.2	10.9	34.3	24.3
1927	6.5	16.3	8.3	3.5	8.2	6.7	10.6	34.4	24.1
1928	9.3	17.7	10.7	5.9	8.5	7.7	14.2	39.1	28.6
1929	8.2	17.8	10.2	4.8	8.0	6.9	14.1	35.8	25.3
1930	3.5	13.7	4.3	3.5	5.9	4.9	6.4	32.2	21.1
1931	2.9	19.0	3.3	4.3	6.0	5.4	4.4	29.7	18.6
1932	4.7	18.8	5.9	3.4	8.1	6.6	4.9	29.8	18.5
1933	17.2	29.9	19.6	7.7	12.8	11.1	17.5	38.6	28.7
1934	8.2	24.5	11.2	5.0	8.2	7.1	12.6	38.9	27.4
Transportation and public utilities:									
1914	22.9	7.1	20.0	8.0	4.3	5.9	13.2	(1)	13.5
1915	22.0	7.8	19.6	11.1	11.3	11.1	10.1	(1)	10.1
1916	20.8	12.6	18.9	10.2	10.7	9.7	7.7	(1)	6.6
1917	12.2	13.0	12.0	5.0	21.6	9.3	26.7	(1)	21.8
1918	7.9	9.1	6.0	16.4	22.5	9.0	10.8	(1)	4.3
1919	9.2	8.6	5.5	13.3	2.9	6.8	13.7	(1)	15.3
1920	12.9	11.2	12.5	4.7	10.6	7.8	5.2	(1)	4.4
1921	7.5	5.4	6.0	4.2	6.6	5.0	9.3	(1)	10.0
1922	19.5	6.2	16.1	8.6	7.6	7.4	13.0	(1)	13.3
1923	17.2	8.0	15.4	10.4	6.8	8.0	35.1	(1)	35.3
1924	10.4	5.2	9.0	3.9	3.2	2.5	14.8	(1)	14.7
1925	18.9	9.3	16.5	8.1	7.5	7.6	18.4	(1)	21.1
1926	15.0	1.5	12.3	5.6	4.3	4.5	7.5	(1)	8.4
1927	11.3	7.1	10.3	9.3	4.7	6.7	12.6	(1)	13.9
1928	17.9	7.0	15.4	9.7	11.0	10.2	14.4	(1)	14.8
1929	13.0	7.9	11.9	7.7	10.6	8.9	7.1	(1)	7.5
1930	12.4	13.3	12.0	4.8	7.5	5.9	8.9	(1)	10.0
1931	9.2	12.8	9.6	5.2	4.7	5.0	12.3	(1)	12.4
1932	7.1	17.3	9.2	7.2	6.8	7.0	15.3	(1)	15.1
1933	10.7	15.6	9.6	5.3	3.7	3.2	19.6	(1)	18.5
1934	10.2	4.9	9.3	9.9	5.9	6.8	13.6	(1)	15.5
All industries:									
1914	12.3	9.1	11.8	2.6	4.6	2.2	4.8	26.9	16.9
1915	24.1	10.8	22.3	9.4	7.9	8.8	8.9	29.1	19.0
1916	17.5	13.3	17.0	11.8	11.7	11.8	9.3	31.9	21.5
1917	7.5	5.6	6.6	5.9	11.1	7.5	4.9	27.0	16.6
1918	8.6	19.1	9.9	6.2	17.1	7.1	5.0	22.8	14.5
1919	14.1	13.3	13.6	16.2	8.3	12.4	16.2	22.3	19.4
1920	22.2	17.7	21.6	9.5	7.1	8.3	6.8	21.9	14.8
1921	3.8	6.7	3.8	9.2	7.6	8.4	5.6	25.8	15.8
1922	27.9	15.3	26.0	8.7	8.5	8.6	13.8	32.8	23.8
1923	11.2	9.0	10.9	6.3	6.3	6.2	12.1	31.8	22.1
1924	7.5	7.2	7.3	1.1	1.9	1.2	9.4	29.2	18.5
1925	11.1	10.1	10.9	3.9	5.1	4.5	10.2	31.2	20.5
1926	10.0	8.4	9.5	3.6	5.1	4.3	9.3	32.5	20.5
1927	10.4	9.0	8.7	3.2	3.1	3.0	8.3	33.0	20.5
1928	16.5	11.4	15.4	5.3	6.2	5.7	11.5	37.8	24.3
1929	14.7	9.0	12.9	5.5	5.3	5.3	11.4	34.4	21.9
1930	18.1	9.6	16.6	3.7	5.2	4.3	3.5	30.6	17.5
1931	15.1	8.0	13.7	7.1	6.7	6.9	4.6	28.3	15.9
1932	9.3	9.4	9.3	9.2	7.8	8.4	2.9	28.5	15.4
1933	29.4	20.1	27.6	8.2	6.4	7.3	15.4	37.5	26.1
1934	16.8	12.2	15.9	6.0	5.8	5.9	11.6	37.9	25.1

¹ Not computed because of small number involved.

Number of Persons Employed per Farm in the United States, January 1929 to October 1935

THE average number of family members and hired workers employed per farm in the United States, as reported to the United States Department of Agriculture, is shown in the following table, compiled from figures published by that Department in its periodical Crops and Markets, for each month for which data were available from January 1929 to October 1935.

AVERAGE NUMBER OF PERSONS EMPLOYED PER FARM IN THE UNITED STATES, JANUARY 1929 TO OCTOBER 1935

Kind of labor and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Family labor:												
1929.....	2.17	2.07	2.18	2.33	2.36	2.65	2.61	2.65	2.50	2.41	2.09	2.27
1930.....	2.22	2.21	2.23	2.38	2.34	2.55	2.64	2.48	2.49	2.42	2.36	2.19
1931.....	2.11	2.23	2.23	2.34	2.31	2.46	2.53	2.48	2.48	2.50	2.36	2.23
1932.....	2.17	2.17	2.18	2.30	2.26	2.37	2.49	2.36	2.37	2.31	2.18	2.09
1933.....	2.11	2.15	2.14	2.22	2.25	2.34	2.37	-----	-----	2.25	-----	-----
1934.....	2.09	2.16	2.17	2.23	2.16	2.27	2.37	2.26	2.24	2.17	2.04	2.01
1935.....	2.16	2.15	2.11	2.12	2.12	2.23	2.33	2.27	2.24	2.14	-----	-----
Hired labor:												
1929.....	.92	.80	.91	1.06	1.14	1.21	1.39	1.30	1.24	1.53	1.10	1.00
1930.....	.95	.80	.95	.92	1.09	1.25	1.36	1.26	1.19	1.22	1.09	.93
1931.....	.85	.77	.96	.96	1.02	1.11	1.25	1.23	1.17	1.19	1.04	.81
1932.....	.74	.71	.77	.83	.93	.96	1.09	1.01	1.01	1.09	.89	.77
1933.....	.72	.74	.69	.79	.86	.96	1.01	-----	-----	1.05	-----	-----
1934.....	.64	.73	.67	.80	.80	.92	1.02	.87	.88	.94	.80	.66
1935.....	.65	.65	.69	.72	.79	.89	.98	1.01	.96	.96	-----	-----
Family and hired labor combined:												
1929.....	3.08	2.87	3.09	3.39	3.50	3.86	3.99	3.95	3.74	3.94	3.19	3.27
1930.....	3.16	3.00	3.17	3.30	3.43	3.80	3.99	3.75	3.69	3.64	3.44	3.12
1931.....	2.96	3.00	3.19	3.29	3.33	3.56	3.78	3.71	3.64	3.69	3.40	3.04
1932.....	2.91	2.88	2.95	3.13	3.19	3.33	3.58	3.37	3.38	3.40	3.06	2.86
1933.....	2.83	2.89	2.83	3.01	3.11	3.30	3.38	-----	-----	3.30	-----	-----
1934.....	2.73	2.89	2.84	3.03	2.96	3.19	3.39	3.13	3.12	3.11	2.84	2.67
1935.....	2.80	2.81	2.84	2.84	2.91	3.12	3.31	3.28	3.20	3.10	-----	-----

Farm Labor Supply and Demand, 1929 to 1935

DATA on farm labor supply and demand are issued quarterly by the United States Department of Agriculture in connection with its mimeographed press releases on farm wage rates and are also printed in the periodical Crops and Markets. The following table, compiled from figures published by that Department, shows the relative supply of and demand for farm workers expressed as a percentage of normal, and the supply expressed as a percentage of the demand, from April 1929 to October 1935.

FARM LABOR SUPPLY AND DEMAND APRIL 1929 TO OCTOBER 1935

Year and month	Supply, percent of normal	Demand, percent of normal	Supply, percent of demand	Year and month	Supply, percent of normal	Demand, percent of normal	Supply, percent of demand
1929—April.....	93.6	90.3	103.7	1933—January.....	127.3	53.8	236.4
July.....	92.3	90.8	101.7	April.....	125.8	58.9	213.5
October.....	91.8	88.6	103.6	July.....	116.2	65.5	177.5
1930—January.....	96.7	84.2	114.7	October.....	111.4	68.1	163.6
April.....	99.0	84.8	116.8	1934—January.....	108.7	62.7	173.4
July.....	103.4	81.4	127.0	April.....	107.0	69.4	154.2
October.....	105.9	75.2	140.8	July.....	105.7	70.0	151.0
1931—January.....	113.8	66.6	171.0	October.....	104.7	68.5	152.9
April.....	112.9	71.1	158.8	1935—January.....	104.1	66.8	155.8
July.....	111.1	73.4	151.3	April.....	101.4	73.4	138.1
October.....	113.4	68.9	164.6	July.....	95.7	80.5	118.9
1932—January.....	120.9	60.5	199.8	October.....	94.7	80.2	118.1
April.....	122.2	63.2	193.4				
July.....	123.6	62.0	199.2				
October.....	123.6	60.8	203.3				

Character of Unemployment Statistics for the United States

THE desirability of having authoritative, up-to-date unemployment statistics for the United States has become more and more evident as a result of the depression. The existing statistics are recognized as being very inadequate.

The latest Nation-wide survey was the one made as part of the Federal census of April 1930. Based largely on the results of this survey and of a supplementary survey of 19 cities made in January 1931 by the United States Census Bureau, and on the trend of employment statistics of the United States Bureau of Labor Statistics, various unofficial estimates regarding the number of unemployed in the United States have been made. Also on similarly incomplete data, a few State and local agencies have attempted unemployment estimates for their respective States and cities. These, however, are all recognized as rather unsatisfactory. In 1934, however, State-wide censuses were made in Massachusetts and Pennsylvania. Certain of the more important surveys and estimates of recent years are reported below.

Censuses and Surveys of Unemployment

Federal Censuses

AS NOTED above, the latest Nation-wide enumeration of the unemployed in the United States was made as part of the Federal census of April 1930. The Federal censuses of 1880, 1890, 1900, and 1910 also included information on unemployment, although the results of the inquiries on this particular subject were published only for the 1890 and 1900 censuses, and the data secured are not in comparable form with the data of the 1930 census. The 1920 census schedule contained no question on unemployment.

In the 1930 census inquiry was made as to actual unemployment on the day previous to the enumerator's call.

The unemployed were divided into the following classes:

- A. Persons out of a job, able to work, and looking for a job.
- B. Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle.
- C. Persons out of a job and unable to work.
- D. Persons having jobs but idle on account of sickness or disability.
- E. Persons out of a job and not looking for work.
- F. Persons having jobs, but voluntarily idle without pay.
- G. Persons having jobs and drawing pay, though not at work (on vacation, etc.).

The April 1930 census reported 2,429,062 persons as unemployed in class A—that is, out of a job, able to work, and looking for a job—and 758,585 in class B—i. e., persons having jobs but temporarily laid off without pay. The detailed returns were published by the Bureau of the Census in a 2-volume report.³

Volume I contains the United States summary and the returns (first published as separate State bulletins) for seven classes of unemployment, by sex, for States, and for cities with a population of 50,000 or over. For the States and these cities, classes A and B are reported by sex, color, nativity, weeks idle, reasons for idleness,

³ U. S. Department of Commerce. Bureau of the Census. Fifteenth Census of the United States: 1930 Unemployment. Volumes I and II. Washington, 1931 and 1932.

5-year age groups, ability to speak English, family relationship, and industry groups. For the States and cities in the South these data are given separately for Negroes. For counties and urban places with a population of 10,000 to 50,000, classes A and B are reported by sex only.

Volume II, General Report, presents classes A and B, by sex and occupation, for States and for cities with a population of 100,000 or more. For the country as a whole, and to some extent for smaller areas, certain characteristics of these two classes of the unemployed, such as color, nativity, time idle, age, and marital status are reported in tables arranged to bring out salient facts bearing on the unemployment problem; for example, period of idleness by reason for idleness.

In January 1931 a special census of unemployment was conducted covering the following 19 cities: Boston, Buffalo, New York City (Bronx Borough, Brooklyn Borough, Manhattan Borough), Philadelphia, Pittsburgh, Cleveland, Dayton, Chicago, Detroit, Duluth, Minneapolis, St. Louis, Birmingham, New Orleans, Houston, Denver, Seattle, Los Angeles, and San Francisco. The unemployment data for these cities were tabulated for all unemployment classes by sex, and for classes A and B by sex, color, nativity, period of idleness, reason for idleness, age, industry groups, occupation, and marital condition. The results are published in volume II of the 1930 General Report on Unemployment.

The 1931 edition of the Handbook of Labor Statistics (Bul. No. 541) contains the returns from the 1930 census of unemployment by classes and sex for the United States and by States and geographic divisions, and also a summary of the data for the 1931 census of 19 cities. (Analyses of the returns of the 1930 Federal census of unemployment by industry groups, age, reasons for idleness, and family relationship are given on p. 167 of the present edition of the Handbook.)

Other Surveys of Unemployment ⁴

In addition to the Federal censuses of unemployment, efforts have been made from time to time to ascertain the extent of unemployment in a number of different localities. These surveys have usually not been initiated until it was realized that there was a serious decline in the labor market or until unemployment conditions became actually acute. Thus the large increase of the number of the jobless led to the surveys of unemployment in various cities in 1915 by the Metropolitan Life Insurance Co. in cooperation with the United States Bureau of Labor Statistics.⁵ Again, the grave unemployment situation in 1921 was the reason for the two investigations of unemployment made in that year by the United States Employment Service—one in January, including 182 cities, and the other in September, covering 280 cities.⁶ That same year the Ohio State University department of economics made a complete canvass of the unemployed in carefully selected sections of Columbus. Similar surveys were conducted in that city for the following 4 years.⁷

⁴ For earlier sources of unemployment statistics, see U. S. Bureau of Labor Statistics Bul. No. 109: Unemployment Statistics and Work of Employment Offices, Washington, 1913.

⁵ U. S. Bureau of Labor Statistics Bul. No. 172: Unemployment in New York City, Washington, 1915, and Bul. No. 195: Unemployment in the United States, Washington, 1916.

⁶ President's Conference on Unemployment, September 26 to October 13, 1921. Report. Washington, 1921, p. 48.

⁷ U. S. Bureau of Labor Statistics Bul. No. 400: Unemployment in Columbus, Ohio, 1921 to 1925. Washington, 1926.

In 1922 the United States Bureau of Labor Statistics published a bulletin (no. 310) entitled "Industrial Unemployment: A Statistical Study of Its Extent and Causes", in which an attempt was made to coordinate and interpret the fragmentary data available at the period the bulletin was prepared.

In 1928 and early in 1929, despite the country's apparent prosperity, the rapid spread of unemployment was so obvious that various surveys were inaugurated, some of them being conducted at specified months or seasons for several successive years. A house-to-house canvass in Baltimore was made in 1928, 1929, and 1930 by the office of the Maryland Commissioner of Labor Statistics in cooperation with the city's police department.⁸ In Cincinnati also a house-to-house canvass was carried on in 1929, 1930, and 1931.⁹ Outstanding among the sample surveys of unemployment were those made in Philadelphia under the auspices of the Research Department of the Wharton School of Finance and Commerce, University of Pennsylvania, in the spring, 1929 to 1933, and those conducted in Buffalo sponsored by the New York State Department of Labor¹⁰ in November 1929 to 1933.

As the depression deepened, surveys and studies of the jobless multiplied, one of the most extensive being that of the Metropolitan Life Insurance Co. in December 1930, including 355,759 workers in 213,787 families of the company's policyholders. The investigation covered 46 of the larger cities of the United States.¹¹ An interesting feature of the report of the investigation is a comparison of the 1930 findings with those of the company's survey in 1915.

Other local unemployment studies, based on sample surveys, are described in the 1931 Handbook of Labor Statistics (Bul. No. 541) and in later articles in this section of the present Handbook.

Reports on Unemployment Among Trade-Union Members

MASSACHUSETTS and New York are the only States that reported for any length of time on unemployment among trade-union members, and both of them discontinued the collection of these statistics shortly after the current compilation of employment statistics from representative establishments was undertaken by the United States Bureau of Labor Statistics.

Since March 1928 the American Federation of Labor has been publishing in one of its official organs, the *American Federationist*, monthly reports on percent of unemployment among trade-union members.¹² These figures are at present given for 24 cities, and for the building trades, the printing trades, and "all other trades."¹³ The weighted figure for all trades for September 1934 was 20.3 percent as compared to 22.4 percent in September 1933 and to the following percentages in September 1932, 1931, and 1930, respectively: 24.8, 19.4, and 14.6.

⁸ U. S. Bureau of Labor Statistics Bul. No. 541: Handbook of Labor Statistics, 1931 Edition. Washington, 1931, p. 172.

⁹ *Idem*, p. 186.

¹⁰ 1930-33 studies were also sponsored by Buffalo Foundation.

¹¹ U. S. Bureau of Labor Statistics Bul. No. 541: Handbook of Labor Statistics, 1931 Edition. Washington, 1931, p. 165.

¹² Figures are also published in the Federation's Monthly Unemployment Report, and in less detail in mimeographed press releases on unemployment.

¹³ For method of compilation, see *American Federationist*, Washington, March 1928, p. 329.

Estimates of Unemployment

Official Estimates

OCCASIONALLY estimates of the number of the unemployed in the United States as a whole have been made by Federal authorities. Conspicuous among them was the announcement made in the depression of 1921, and adopted by the President's (Harding) Conference on Unemployment in September of that year, that there were at that time "variously estimated from three and a half to five and a half millions unemployed."¹⁴

In January 1931, the United States Secretary of Commerce estimated, on the basis of the results from the 1931 special census of unemployment in 19 cities, that there were 6,050,000 persons in this country able and willing to work who were unable to secure jobs. Subsequent estimates of the unemployed in the United States have been based on more or less fragmentary sources. From the monthly trend of employment reports of the United States Bureau of Labor Statistics, and using the United States census reports as bases, fairly accurate estimates of the number of persons unemployed can be made for many of the industries covered by these reports—such as manufacturing and mining. For steam-railroad transportation also, exact data on employment are available. For agricultural workers, however, as well as for most professional workers and for the larger group of domestic and other service employees, there is either no information or it is very unsatisfactory.

Unofficial Estimates

Various private estimates of unemployment for the United States have been made. Included in those covering a long period of years are the figures presented in *Real Wages in the United States, 1890-1926* (p. 46), by Paul H. Douglas, in which such estimates are attempted for each of the years from 1897 to 1926, for manufacturing, transportation, building trades, and mining.

In the report of the Committee on Recent Economic Changes, published in 1929, estimates are presented (p. 879) as to the average minimum volume of unemployment among nonagricultural wage and salary earners in the United States, 1920 to 1927. These minimums vary from as low as 1,401,000, or 5.1 percent of the nonagricultural wage and salary workers, in 1920, to 4,270,000, or 15.3 percent, in 1921. However, in 5 of the 8 years covered the percentages of unemployed are under 6.4.

Among other organizations making estimates of unemployment are the American Federation of Labor, the National Industrial Conference Board, the Alexander Hamilton Institute, and the Cleveland Trust Co.

¹⁴ President's Conference on Unemployment, Sept. 26 to Oct. 13, 1921. Report. Washington, 1921, p. 19.

Surveys of Employment and Unemployment

Federal Unemployment Survey of 1930

A SURVEY of unemployment in the United States was made by the Bureau of the Census in April 1930 as a part of the regular decennial census of population, and in January 1931 a similar survey was made by the same bureau for 19 cities. The results of these two surveys were published in summary form in the 1931 edition of the Handbook of Labor Statistics (Bul. No. 541). With the exception of the census of persons on relief and the surveys of Bridgeport, Conn., Lancaster, Pa., and Springfield, Ohio, there have been no later Federal censuses of unemployment (i. e., up to the end of 1935), but additional analyses of the 1930 survey, published by the Bureau of the Census since the issue of the 1931 Handbook, contain much information regarding the composition of the unemployed in 1930 as regards industry groups, age, reasons for idleness, and family relationship. A summarization of these data is given below.

Unemployment, April 1930, by Industry Groups, Age, Reasons for Idleness, and Family Relationship

THE total number of gainful workers (persons 10 years old and over reporting a gainful occupation) in the United States in April 1930 was 48,832,589, comprising 38,053,795 males and 10,778,794 females. Of these, 2,429,062, or 5.0 percent, were returned as out of a job, able to work, and looking for a job (class A¹⁵) on the day preceding the taking of the census. Of the male gainful workers, 2,058,738, or 5.4 percent, were returned as jobless (class A), while of the female gainful workers 370,324, or 3.4 percent, were jobless.

The returns for classes A and B are shown in table 1 by main industry groups, by sex, together with the number of gainful workers in each group.

TABLE 1.—UNEMPLOYMENT RETURNS FOR CLASSES A AND B, AND NUMBER OF GAINFUL WORKERS, 1930, BY INDUSTRY GROUPS

Industry group	Gainful workers		Class A: Persons out of a job, able to work, and looking for a job		Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle	
	Males	Females	Males	Females	Males	Females
All industries.....	38, 053, 795	10, 778, 794	2, 058, 738	370, 324	627, 407	131, 178
Agriculture.....	9, 568, 347	913, 976	105, 536	5, 632	26, 555	5, 594
Forestry and fishing.....	266, 876	3, 249	19, 627	221	8, 292	77
Extraction of minerals.....	1, 147, 770	10, 294	90, 460	298	98, 553	181
Manufacturing and mechanical industries.....	11, 901, 247	2, 416, 288	1, 013, 772	108, 838	336, 477	76, 265
Transportation.....	3, 990, 875	447, 730	199, 220	8, 608	73, 027	1, 898
Trade.....	5, 820, 642	1, 716, 384	195, 757	55, 712	32, 224	10, 960
Public service (not elsewhere classified).....	934, 581	123, 323	21, 841	1, 458	5, 960	414
Professional service.....	1, 663, 049	1, 762, 795	42, 285	33, 043	9, 099	9, 867
Domestic and personal service.....	1, 662, 707	3, 149, 391	88, 254	122, 178	11, 499	22, 981
Industry not specified.....	1, 097, 701	235, 364	281, 986	34, 336	25, 721	2, 941

¹⁵ The 1930 census reported the unemployed in 7 classes, of which the more significant were, A, those able to work and looking for a job, and B, those having jobs but temporarily laid off. The other 5 classes covered persons who, for various reasons, were either unable to work or not seeking jobs.

Table 2 summarizes the returns for the United States in classes A and B, by sex and age groups, with percent of distribution in each class and sex:

TABLE 2.—NUMBER AND PERCENT OF UNEMPLOYED, 1930, BY AGE GROUPS

Age group	<i>Number</i>					
	Class A: Persons out of a job, able to work, and looking for a job			Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle		
	Males	Females	Total	Males	Females	Total
All ages.....	2, 058, 738	370, 324	2, 429, 062	627, 407	131, 178	758, 585
10 to 14 years.....	1, 520	939	2, 459	889	764	1, 653
15 to 19 years.....	192, 176	75, 070	267, 246	50, 097	26, 717	76, 814
20 to 24 years.....	331, 428	83, 255	414, 683	92, 174	27, 645	119, 819
25 to 29 years.....	243, 397	50, 504	293, 901	80, 012	17, 042	97, 054
30 to 34 years.....	203, 300	35, 327	239, 127	69, 804	12, 826	82, 630
35 to 39 years.....	211, 265	33, 479	244, 744	72, 645	12, 609	85, 254
40 to 44 years.....	197, 425	25, 960	223, 385	66, 454	10, 388	76, 842
45 to 49 years.....	188, 078	22, 232	210, 310	59, 427	8, 216	67, 643
50 to 54 years.....	162, 589	17, 114	179, 703	48, 167	6, 193	54, 360
55 to 59 years.....	129, 096	12, 057	141, 153	35, 920	4, 031	39, 951
60 to 64 years.....	97, 042	7, 740	104, 782	25, 565	2, 544	28, 109
65 to 69 years.....	62, 226	4, 259	66, 485	15, 752	1, 416	17, 168
70 years and over.....	37, 171	2, 117	39, 288	10, 162	712	10, 874
Unknown.....	1, 525	271	1, 796	339	75	414

Age group	<i>Percent</i>					
	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
All ages.....						
10 to 14 years.....	0. 1	0. 3	0. 1	0. 1	0. 6	0. 2
15 to 19 years.....	9. 3	20. 3	11. 0	8. 0	20. 4	10. 1
20 to 24 years.....	16. 1	22. 5	17. 1	14. 7	21. 1	15. 8
25 to 29 years.....	11. 8	13. 6	12. 1	12. 8	13. 0	12. 8
30 to 34 years.....	9. 9	9. 5	9. 8	11. 1	9. 8	10. 9
35 to 39 years.....	10. 3	9. 0	10. 1	11. 6	9. 6	11. 2
40 to 44 years.....	9. 6	7. 0	9. 2	10. 6	7. 9	10. 1
45 to 49 years.....	9. 1	6. 0	8. 7	9. 5	6. 3	8. 9
50 to 54 years.....	7. 9	4. 6	7. 4	7. 7	4. 7	7. 2
55 to 59 years.....	6. 3	3. 3	5. 8	5. 7	3. 1	5. 3
60 to 64 years.....	4. 7	2. 1	4. 3	4. 1	1. 9	3. 7
65 to 69 years.....	3. 0	1. 2	2. 7	2. 5	1. 1	2. 3
70 years and over.....	1. 8	. 6	1. 6	1. 6	. 5	1. 4
Unknown.....	. 1	. 1	. 1	. 1	. 1	. 1

Table 3 summarizes the returns for classes A and B, by sex, reason for idleness, and family relationship. Of the returns in class A, 47.7 percent of the males and 9.8 percent of the females were returned as heads of families, while in class B, 59.1 percent of the males and 9.4 percent of the females were family heads. The other returns represented persons who were either related members of families, or lodgers, boarders, or members of one-person or of "partnership" families.

TABLE 3.—REASONS FOR IDLENESS, AND FAMILY RELATIONSHIP, OF UNEMPLOYED, 1930

Subject	Class A: Persons out of a job, able to work, and looking for a job			Class B: Persons having jobs but on lay-off without pay, excluding those sick or voluntarily idle		
	Males	Females	Total	Males	Females	Total
Reason for idleness:						
Voluntary absence.....	30,262	12,612	42,874			
Personal disability.....	101,177	37,096	138,273			
Family reasons.....	4,869	5,834	10,703	9,935	8,709	18,644
Weather conditions.....	4,074	128	4,202	26,668	1,109	27,777
Breakdown of plant or equipment.....	3,746	679	4,425	7,737	1,022	8,759
Seasonality (off season).....	324,176	43,334	367,510	97,369	19,548	116,917
Economic conditions.....	619,792	96,376	716,168	238,625	50,686	289,311
Industrial policy.....	87,354	14,816	102,170	9,603	1,800	11,403
Labor disputes.....	7,774	1,026	8,800	5,368	637	6,005
Immediate or superficial reasons.....	787,257	131,894	919,151	222,295	45,662	267,957
Dissatisfaction.....	73,248	23,672	96,920	3,942	853	4,795
Miscellaneous.....	4,618	525	5,143	1,229	133	1,362
Reason not reported.....	10,391	2,332	12,723	4,136	1,019	5,155
Total.....	2,058,738	370,324	2,429,062	627,407	131,178	758,585
Family relationship:						
Head of family.....	981,591	36,322	1,017,913	370,919	12,326	383,245
Related member of family.....	705,414	257,814	963,228	173,226	102,225	280,451
Lodger, etc.....	373,733	76,188	449,921	73,262	16,627	94,889
Total.....	2,058,738	370,324	2,429,062	627,407	131,178	758,585

State and Local Surveys of Unemployment

A NUMBER of surveys to determine the extent of unemployment have been made during the past few years. At least two of these have been State-wide censuses of unemployment (Massachusetts and Pennsylvania), but the majority of studies have been city-wide only.

In the following table are data showing the extent of various individual surveys and the extent of unemployment disclosed. More detailed data may be found in the Monthly Labor Review.¹⁶

EXTENT OF UNEMPLOYMENT AS DISCLOSED BY SURVEYS IN VARIOUS LOCALITIES

Locality covered by survey	Date of survey	Sample covered by survey		Percent of workers	
		Class	Number	Employed	Unemployed
State surveys:					
Massachusetts.....	January 2, 1934.....	All employables.....	1,808,840	{ 65.5 19.6	} 24.9
Pennsylvania.....	February 1934.....	do.....	3,455,169	{ 55.6 16.3	} 28.1
Local surveys:					
Bridgeport, Conn.....	First quarter, 1934.....	do.....	61,466	{ 73.9	} 26.1
Buffalo, N. Y.....	November 1933.....	Selected areas.....	15,729	{ 57.4 13.9	} 28.7
Cincinnati, Ohio.....	May 1934.....	Total gainful workers.....	208,030	{ 62.6 15.6	} 21.8
Lancaster, Pa.....	First quarter, 1934.....	do.....	25,613	{ 75.8	} 24.2
Lincoln, Nebr.....	November 1933.....	10 representative areas.....	3,684	{ 66.6 10.6	} 22.8
Louisville, Ky.....	March-May 1933.....	All employables.....	107,978	{ 65.9	} 24.1
Philadelphia ⁴	February 1934.....	Employables.....	876,236	{ 53.3 14.1	} 32.6
Pittsburgh ⁴	do.....	do.....	283,589	{ 49.5 14.0	} 36.5
Springfield, Ohio.....	First quarter, 1934.....	do.....	27,416	{ 58.9 9.3	} 31.8
Syracuse, N. Y.....	November 1933.....	7 representative areas.....	7,302	{ 60.8 19.8	} 19.4

¹ Employed full time. ² Employed part time. ³ Includes those on relief work. ⁴ Preliminary results.

¹⁶ Massachusetts: December 1934 (p. 1332); Pennsylvania: September 1935 (p. 618); Bridgeport: March 1935 (p. 626); Cincinnati and Lincoln: March 1934 (p. 524); Louisville: May 1934 (p. 1055); Philadelphia: October 1934 (p. 862); Pittsburgh: October 1934 (p. 865); Springfield: April 1935 (p. 878); and Syracuse: April 1932 (p. 770).

Family Unemployment

UNEMPLOYMENT is generally considered in terms of individuals, but considerable interest also attaches to the question of unemployment by family groups.

Buffalo, N. Y.¹⁷

THE data used as a basis for this study of family groups were obtained in the city of Buffalo, N. Y., in early November 1931, in connection with the third annual study of unemployment in that city. The Buffalo study included all males 18 years of age or over (except students) and all females 18 years of age or over who were usually employed. The data presented in the first section of table 1 concern 9,620 family groups, of which 1,522, or 15.8 percent, had no one employed. However, of these 1,522 family groups there were 110 in which the family member or members usually working but not at that time employed were voluntarily unemployed. Eliminating these 110 family groups yields the figures shown in the second section of the table, which refer to 9,510 family groups.

Of the 9,510 family groups with one or more members desiring work, 1,412, or 14.9 percent, were families in which no one was employed, and 1,815, or 19.1 percent, were families with but one member working part time. Thirty-four percent of the 9,510 family groups either had no member employed or had but one member working part time. In 1,907, or 20.1 percent, of the family groups either no one was employed or only one member was employed and was working less than half time.

In the Buffalo study the employment status of roomers (but not persons furnished meals only) was reported on the schedules. Of the families reporting no member employed, approximately 1 in 16 had one or more roomers, and of the families reporting only one member working part time almost exactly 1 in 20 had one or more roomers.

Unemployment is generally most serious, from the standpoint of family support, when the normal head of the family is without work. This discussion includes 63 family groups of related persons sharing living arrangements but not having a definite family head. They constitute less than seven-tenths of 1 percent of the total involved and were therefore not segregated in this analysis.

Of the 1,412 family groups in which no one was employed there were 7 which had no head. There were also 25 families which showed involuntary unemployment of one or more members but in which the head was unemployed of his own volition. Deducting these, there were 1,380 families in which the head was involuntarily unemployed and in which no one else was working.

There were 1,815 family groups having one person employed part time. Of these there were seven families which had no head. Of the remaining 1,808 family groups the head was employed part time and was the only person employed in 1,696 families. In 112 families the head was unemployed and one other member of the family was employed part time.

Combining these two classifications, it is seen that there were 3,076 family groups in which the head was either (a) involuntarily unemployed (and no one else was working) or (b) the sole worker and employed only part time. These 3,076 families constituted just

¹⁷ Digest of article by Frederick E. Croxton in *Monthly Labor Review*, May 1932 (p. 1034).

under one-third of the families having a head and having one or more members desiring work.

The following table shows family employment status in selected areas in Buffalo:

FAMILY EMPLOYMENT STATUS IN SELECTED AREAS IN BUFFALO, NOVEMBER 1931

Family groups having—	All family groups		Family groups with one or more members desiring work	
	Number	Percent of total	Number	Percent of total
All family groups.....	9,620	100.0	9,510	100.0
No one employed.....	1,522	15.8	1,412	14.9
1 person working part time.....	1,815	18.9	1,815	19.1
Less than ½ time.....	495	5.1	495	5.2
½ time or more.....	1,316	13.7	1,316	13.8
Fraction not reported.....	4	(¹)	4	(¹)
2 or more persons working part time.....	220	2.3	220	2.3
1 person working full time.....	4,114	42.8	4,114	43.3
2 or more persons working full time.....	1,191	12.4	1,191	12.5
2 or more persons working full and part time.....	758	7.9	758	8.0

¹ Less than ¼ of 1 percent.

Bridgeport, Conn.¹⁸

The following data were obtained in the census of unemployment made by the U. S. Bureau of Labor Statistics in cooperation with the U. S. Bureau of the Census during the first quarter of 1934.

Some 33,332 families in the survey had one or more gainful workers. Of these, 17,405 had only 1 such worker, 9,409 had 2, and other families, in diminishing number, had up to 9 or more gainful workers. The following table shows the extent of unemployment among the breadwinners of these family groups. In this tabulation the unemployed include those reporting "no work" and those on relief work.

This table shows that the larger the number of gainful workers in the family, the greater the proportion unemployed. In only about 20 percent of the families with 1 gainful worker was that worker unemployed, whereas in 91 percent of the families with 6 gainful workers there were unemployed workers. The families with 7, 8, and 9 gainful workers were too few in number to warrant the drawing of conclusions, but they appear to affirm the above observation.

PERCENTAGE DISTRIBUTION OF FAMILIES ACCORDING TO NUMBER OF GAINFUL WORKERS AND NUMBER OF UNEMPLOYED, IN BRIDGEPORT, CONN., FIRST QUARTER OF 1934

Number of gainful workers in family	Number of families	Percent of families with specified number of unemployed									
		None	1 or more	1	2	3	4	5	6	7	8 or more
1 or more gainful workers.....	33,332	63.0	37.0	27.4	7.1	1.9	0.5	0.1	-----	-----	-----
1 gainful worker.....	17,405	78.2	21.8	21.8	-----	-----	-----	-----	-----	-----	-----
2 gainful workers.....	9,409	56.6	43.4	33.2	10.2	-----	-----	-----	-----	-----	-----
3 gainful workers.....	4,000	37.8	62.2	35.6	20.2	6.4	-----	-----	-----	-----	-----
4 gainful workers.....	1,689	24.9	75.1	34.3	22.9	13.0	4.9	-----	-----	-----	-----
5 gainful workers.....	623	15.0	85.0	27.3	27.1	16.9	9.5	4.2	-----	-----	-----
6 gainful workers.....	157	9.0	91.0	17.8	26.1	22.9	16.6	5.7	1.9	-----	-----
7 gainful workers.....	43	4.6	95.4	23.3	11.6	23.3	11.6	18.6	4.7	2.3	-----
8 gainful workers.....	4	-----	100.0	50.0	-----	-----	25.0	-----	-----	-----	-----
9 gainful workers or more.....	2	-----	100.0	50.0	-----	-----	-----	-----	-----	50.0	-----

¹⁸ Digest of article in Monthly Labor Review for March 1935 (p. 626).

Syracuse, N. Y.¹⁰

THE information used as a basis for this study was secured as part of the general survey of unemployment in Syracuse in November 1931.

The table on page 173 shows data concerning 4,637 family groups, of which 634, or 13.7 percent, reported no one employed. Of these 634 families, however, there were 55 which, while reporting no one employed, also reported that those persons unemployed were voluntarily so. These 55 family groups have been eliminated from the data shown in the second part of the table.

Of the 4,582 family groups with one or more members desiring work, 579, or 12.6 percent, were families in which no one was employed, and 766, or 16.7 percent, were families with but one member working and that person working only part time. Just under 30 percent of the 4,582 families had either no member employed or but one member working part time. In 833, or 18.1 percent, of the family groups, either no one was employed or only one member was employed and that one was working less than half of usual full time.

Data were collected on the schedules of the employment status of roomers, but not of persons furnished meals only. Of the families which reported no member employed, approximately 1 in 13 had 1 or more roomers, and of the families reporting only 1 member working part time almost exactly 1 in 20 had 1 or more roomers.

Included in the present analysis are 55 family groups of related persons sharing living arrangements but not having a definite head. Because of the small number of such groups they were not segregated for separate study.

Among the 579 family groups reporting no one employed there were 11 which had no head. There were also four families which reported involuntary unemployment of one or more members, but in which the head of the family was unemployed of his own volition. Deducting these 15 family groups leaves 564 families in which the head of the family was involuntarily unemployed and in which no one else was working.

The family groups having one person employed part time numbered 766. Of these there were two families which had no head. Of the remaining 764 family groups the head was employed part time and was the only person employed in 649 families, while in 115 families the head was unemployed and some other member of the family was employed part time.

Combining two classifications reveals 1,213 family groups in which the head was either (a) involuntarily unemployed (and no one else was working), or (b) the sole worker and employed only part time. These 1,213 families amounted to a little over one-fourth of the families having a head and having one or more members desiring work.

The following table shows family employment status for the families enumerated in the seven selected areas in Syracuse.

¹⁰ Digest of article by John Nye Webb and Frederick E. Croxton in Monthly Labor Review for June 1932 (p. 1286).

FAMILY EMPLOYMENT STATUS IN SYRACUSE, NOVEMBER 1931

Family groups having—	All family groups		Family groups with 1 or more members desiring work	
	Number	Percent	Number	Percent
All family groups.....	4,637	100.0	4,582	100.0
No one employed.....	634	13.7	579	12.6
1 person working part time.....	766	16.5	766	16.7
Less than ½ time.....	254	5.5	254	5.5
½ time or more.....	493	10.6	493	10.8
Fraction not reported.....	19	.4	19	.4
2 or more persons working part time.....	95	2.0	95	2.1
1 person working full time.....	2,318	50.0	2,318	50.6
2 or more persons working full time.....	512	11.0	512	11.2
2 or more persons working full and part time.....	312	6.7	312	6.8

Analysis of Unemployed on Relief, October 1933

AN UNEMPLOYMENT relief census was conducted by the Federal Emergency Relief Administration in October 1933. The following data are taken from the report of that census.

In three States approximately one-fourth of the whole population was on relief in October 1933, while the average for the United States was approximately 10 percent and the proportion for 7 States was 5 percent or under. The percentage of the population of each State on relief at that time is shown by table 1, the States being listed in the descending order of percentages.

TABLE 1.—PERCENT TOTAL PERSONS IN RELIEF FAMILIES, OCTOBER 1933, WERE OF PERSONS IN EACH STATE, 1930 CENSUS

State	Percent	State	Percent	State	Percent
Florida.....	25.2	New York.....	9.8	North Dakota.....	6.9
South Carolina.....	23.2	Arkansas.....	9.7	Rhode Island.....	6.8
West Virginia.....	22.3	Georgia.....	9.5	California.....	6.6
Arizona.....	18.9	Kansas.....	9.4	New Mexico.....	6.6
Kentucky.....	18.1	Delaware.....	9.3	Minnesota.....	6.4
Oklahoma.....	17.2	Indiana.....	9.2	Connecticut.....	6.3
Alabama.....	17.2	Wisconsin.....	8.7	Iowa.....	5.9
Louisiana.....	15.5	New Jersey.....	8.5	Missouri.....	5.6
Pennsylvania.....	14.3	Maryland.....	8.3	Oregon.....	5.5
South Dakota.....	14.3	Washington.....	8.2	Maine.....	5.0
Utah.....	12.8	North Carolina.....	8.0	New Hampshire.....	4.5
Michigan.....	12.6	Colorado.....	7.8	Idaho.....	4.4
Montana.....	12.3	District of Columbia.....	7.7	Nebraska.....	4.0
Ohio.....	11.4	Massachusetts.....	7.7	Vermont.....	3.4
Mississippi.....	11.3	Nevada.....	7.4	Virginia.....	2.7
Illinois.....	10.7	Tennessee.....	7.3	Wyoming.....	2.3
United States.....	10.3	Texas.....	7.1		

The immensity of the Federal relief problem is indicated by the number of families aided in the various States, as shown in table 2.

TABLE 2.—NUMBER OF FAMILIES RECEIVING PUBLIC UNEMPLOYMENT RELIEF, OCTOBER 1933, BY STATES

State	Number of families	State	Number of families	State	Number of families
Pennsylvania.....	324,461	Georgia.....	69,588	Montana.....	18,882
New York.....	311,983	Wisconsin.....	67,352	Oregon.....	16,666
Illinois.....	234,727	Missouri.....	57,165	Utah.....	16,354
Ohio.....	202,865	North Carolina.....	56,041	Virginia.....	14,983
Michigan.....	152,679	Mississippi.....	54,559	Nebraska.....	13,844
California.....	118,264	Arkansas.....	48,331	District of Columbia.....	12,228
Oklahoma.....	107,237	Kansas.....	46,221	Rhode Island.....	10,684
Texas.....	105,045	Minnesota.....	45,358	North Dakota.....	10,020
Florida.....	102,432	Tennessee.....	39,312	Maine.....	8,884
Kentucky.....	98,883	Washington.....	37,877	New Mexico.....	6,587
Alabama.....	98,648	Iowa.....	35,051	Delaware.....	5,862
Massachusetts.....	89,848	Maryland.....	31,517	Idaho.....	5,433
South Carolina.....	89,326	Connecticut.....	23,961	New Hampshire.....	5,030
West Virginia.....	86,342	Colorado.....	22,815	Nevada.....	2,946
New Jersey.....	84,452	South Dakota.....	22,382	Vermont.....	2,817
Louisiana.....	76,751	Arizona.....	20,427	Wyoming.....	1,482
Indiana.....	76,649				

Over 50 percent of the families on relief were in 8 States and over 33 percent in 4 States—Pennsylvania, New York, Illinois, and Ohio. The average percentage of persons on relief in the principal cities was above that for the United States as a whole, and generally speaking, above the percentages on relief in the States in which these cities were located.

The proportion of the colored population on relief was almost double the proportion of the white population receiving such aid, as reported in table 3. The proportion of children in the relief group was considerably in excess of the percentage of children in the general population, especially in the age group 6 to 13. The percentage of persons over 65 years of age on relief was below the proportion of all persons in that age group. The percentage on relief of Negroes over 65 years old was 20.5, while the proportion of the Negro population of all ages on relief was 17.8 percent.

TABLE 3.—PERCENT PERSONS ON RELIEF, OCTOBER 1933, IN SPECIFIED AGE GROUPS WERE OF ALL PERSONS IN THESE AGE GROUPS, 1930 CENSUS, BY COLOR OR RACE

Age group	Percent of all persons on relief	Percent of all whites on relief	Percent of all Negroes on relief	Percent of all other races on relief
Under 1 year.....	10.8	10.2	16.1	10.4
1 to 5 years.....	13.7	12.8	20.7	14.5
6 to 13 years.....	14.3	13.3	21.9	16.6
14 to 15 years.....	12.7	12.0	18.8	15.6
16 to 17 years.....	11.8	11.1	17.0	12.8
18 to 24 years.....	9.2	8.6	14.3	10.4
25 to 34 years.....	8.5	7.7	15.5	10.3
35 to 44 years.....	8.9	8.1	16.7	11.0
45 to 54 years.....	8.8	8.0	16.9	11.8
55 to 64 years.....	7.7	6.9	17.9	12.3
65 years and over.....	7.2	6.3	20.5	14.3
All ages ¹	10.3	9.5	17.8	12.8

¹ Including those of unknown ages.

In a few of the States in which there are large numbers of Negroes the percentage of the white population on relief was higher than that of the Negroes. In all cities in which there is a considerable number of Negroes, however, the percentage of this race on relief was substantially above that for the white people.

There were fewer families of 2 to 4 persons and more families of 5 or more persons among relief cases than in the general population, although among the Negroes the proportion of small families on relief was approximately the same as the percentage of small families in the general population. One-person families constituted 13 percent of all relief families and more than 3 percent of persons on relief. The average percentage of one-person families in large cities was a little higher than the average for the United States.

Employment Status of Urban Population on Public Relief, May 1934²⁰

OF THE urban families in the United States receiving relief from public funds—Federal, State, and local—83 percent had in May 1934 at least one member who was employable and 17 percent had no member able to work, according to the findings of the division of statistics, research, and finance of the Federal Emergency Relief Administration. Its survey covers 79 cities, including typical urban areas, so that the percentages and averages based on these findings are applicable to the urban relief rolls of the whole country.

For purposes of the survey employable persons were defined not only as being able to work and looking for a job, but with the further qualifications of being between 16 and 65 years old, actively seeking work and not incapacitated.

Ninety-two percent of the employables, thus defined, formerly had jobs, while 66 percent of them had worked 5 years or more at their ordinary occupation. The 8 percent who had never worked but were seeking jobs were chiefly those who had reached the working age during the depression, and practically all were under 25 years of age.

The 17 percent of the families in which there was no employable person were lacking in such breadwinners for different reasons and circumstances. In some families all of the members were either too young or too old to be employed, while in others the adults had physical handicaps likely to prevent them from ever securing or holding jobs to maintain themselves and their dependents. In many families the only possible employable was a woman whose children required her care during working hours.

The Federal Emergency Relief Administration stresses the importance of these data as a basis for planning for future social security. The 17 percent of the relief families in the urban population who had no employable members included mainly those who will probably remain more or less permanently in need of some kind of aid. On the other hand, the 83 percent of the relief families with one or more employable members constituted those capable of self-support when jobs become available.

²⁰ Data are from press releases of Federal Emergency Relief Administration, Nov. 15, 1934, and Jan. 7, 14, 15, 23, and 28, 1935.

Applying the percentages to the figures for September, * * * it is revealed that approximately 2,100,000 of the 2,500,000 families contained at least one person who was able to work and looking for a job.

The 2,100,000 families and the additional nonfamily individuals receiving relief in cities comprise a total of approximately 3,500,000 employable workers between the ages of 16 and 65, who are actively seeking work, and who are not incapacitated.

Research indicates that the large majority of these 3,500,000 urban workers were wholly fitted to obtain and hold jobs when times are normal. Not only had these persons had work experience previous to the depression, but over 90 percent of those with such experience had held nonrelief jobs at one period or another in the course of the depression and nearly 50 percent had held such employment in 1933 or 1934.

The following tables cover 28 of the 79 cities. These 28 cities include 4 cities of over 1,000,000 population—Chicago, Detroit, Los Angeles, and New York; 5 cities in the eastern region, 6 cities in the southern region, and 9 cities in the central region with from 250,000 to 1,000,000 population; and 4 cities in the western region with from 100,000 to 1,000,000 population.

Table 1 gives the employment status as of May 1934 of households and of total relief population in the 28 cities.

TABLE 1.—EMPLOYMENT STATUS OF RELIEF HOUSEHOLDS AND OF TOTAL RELIEF POPULATION IN SPECIFIED CITIES, MAY 1934

City and region	Relief households				Relief population			Total
	Percent with—			All relief households	Percent employed at non-relief work	Percent unemployed, seeking work	Percent not seeking work	
	1 or more members in non-relief employment	No members employed, but 1 or more seeking work	No members employed or seeking work					
				<i>Percent</i>				<i>Percent</i>
Chicago.....	14	73	13	100	7	55	38	100
Detroit.....	20	77	3	100	10	53	37	100
Los Angeles.....	12	83	5	100	7	59	34	100
New York.....	11	83	6	100	5	59	36	100
Average.....	13	80	7	100	6	58	36	100
Eastern region:								
Boston.....	9	74	17	100	5	56	39	100
Buffalo.....	18	71	11	100	10	53	37	100
Pittsburgh.....	12	79	9	100	6	58	36	100
Providence.....	13	82	5	100	6	61	33	100
Rochester.....	17	73	10	100	8	52	40	100
Average.....	13	76	11	100	7	56	37	100
Southern region:								
Atlanta.....	23	65	12	100	14	56	30	100
Baltimore.....	24	66	10	100	13	52	35	100
Birmingham, Ala.....	16	75	9	100	8	64	28	100
Houston.....	16	67	17	100	9	58	33	100
New Orleans.....	8	87	4	100	4	65	31	100
Washington, D. C.....	15	70	15	100	9	58	33	100
Average.....	18	71	11	100	10	59	31	100

TABLE 1.—EMPLOYMENT STATUS OF RELIEF HOUSEHOLDS AND OF TOTAL RELIEF POPULATION IN SPECIFIED CITIES, MAY 1934—Continued

City and region	Relief households				Relief population			Total
	Percent with—			All relief households	Percent employed at non-relief work	Percent unemployed, seeking work	Percent not seeking work	
	1 or more members in non-relief employment	No members employed, but 1 or more seeking work	No members employed or seeking work					
Central region:				<i>Percent</i>				<i>Percent</i>
Akron.....	20	70	10	100	11	56	33	100
Cincinnati.....	20	71	9	100	11	60	29	100
Cleveland.....	20	70	10	100	10	55	35	100
Indianapolis.....	18	72	12	100	9	60	31	100
Kansas City, Mo.....	26	62	12	100	16	53	31	100
Milwaukee.....	20	72	8	100	10	60	40	100
Minneapolis.....	17	70	13	100	10	53	37	100
St. Louis.....	25	66	9	100	14	56	30	100
St. Paul.....	24	63	13	100	14	50	36	100
Average.....	21	69	10	100	12	55	33	100
Western region:								
Oakland.....	17	79	4	100	8	58	34	100
Salt Lake City.....	11	72	17	100	6	54	40	100
San Diego.....	18	76	6	100	9	56	35	100
San Francisco.....	19	72	9	100	12	60	28	100
Average.....	15	74	11	100	8	56	36	100

Data on the ages of the heads of households on relief—important in connection with plans for the reemployment of such persons—are given in table 2.

TABLE 2.—PERCENTAGE DISTRIBUTION OF HEADS OF RELIEF HOUSEHOLDS ACCORDING TO AGES, MAY 1934

City and region	Percent of heads of relief households who were—					Heads of relief households of all ages
	24 years of age and under	25-34 years of age	35-44 years of age	45-54 years of age	55 years of age and over	
Chicago.....	4	20	30	25	21	<i>Percent</i> 100
Detroit.....	2	15	35	33	15	100
Los Angeles.....	6	24	27	24	19	100
New York.....	3	24	32	24	17	100
Average.....	5	22	31	25	17	100
Eastern region:						
Boston.....	4	19	25	24	28	100
Buffalo.....	6	19	30	25	20	100
Pittsburgh.....	4	23	29	24	20	100
Providence.....	6	21	30	25	18	100
Rochester.....	3	19	30	27	21	100
Average.....	5	20	28	25	22	100
Southern region:						
Atlanta.....	6	24	27	21	22	100
Baltimore.....	6	26	31	21	16	100
Birmingham, Ala.....	6	25	29	22	18	100
Houston.....	4	22	25	21	27	100
New Orleans.....	8	27	29	23	13	100
Washington, D. C.....	9	29	27	19	16	100
Average.....	7	26	28	21	18	100

TABLE 2.—PERCENTAGE DISTRIBUTION OF HEADS OF RELIEF HOUSEHOLDS ACCORDING TO AGES, MAY 1934—Continued

City and region	Percent of heads of relief households who were—					Heads of relief households of all ages
	24 years of age and under	25-34 years of age	35-44 years of age	45-54 years of age	55 years of age and over	
Central region:						<i>Percent</i>
Akron.....	7	18	28	26	21	100
Cincinnati.....	6	25	27	21	21	100
Cleveland.....	5	19	31	26	19	100
Indianapolis.....	5	21	26	22	26	100
Kansas City, Mo.....	5	18	25	25	27	100
Milwaukee.....	6	24	28	24	18	100
Minneapolis.....	3	20	25	25	27	100
St. Louis.....	5	22	28	23	22	100
St. Paul.....	4	20	27	26	23	100
Average.....	5	21	27	24	23	100
Western region:						
Oakland.....	4	22	30	25	19	100
Salt Lake City.....	5	22	22	20	31	100
San Diego.....	5	22	27	25	21	100
San Francisco.....	4	22	26	26	22	100
Average.....	5	22	25	23	25	100

Table 3 discloses that very substantial percentages of workers 16 to 64 years of age on relief have had long experience in their usual occupations, the proportion of such persons with experience of 4½ years or more in their usual occupations in each of the 5 groups of cities included in the tabulation being 63 percent or over.

TABLE 3.—PERCENTAGE DISTRIBUTION OF RELIEF WORKERS ACCORDING TO LENGTH OF EXPERIENCE AT USUAL OCCUPATION, MAY 1934

Groups of cities	Average percent of relief workers						Total	
	Never worked	With work experience of specified number of months						
		Less than 6	6-17	18-53	54-173	174 and over		Un-known
Chicago, Detroit, Los Angeles, and New York.....	8	4	5	18	37	27	1	<i>Percent</i> 100
Eastern region (Boston, Buffalo, Pittsburgh, Providence, Rochester).....	11	4	5	17	35	28	1	100
Southern region (Atlanta, Baltimore, Birmingham, Houston, New Orleans, Washington).....	6	3	5	18	40	27	1	100
Central region (Akron, Cincinnati, Cleveland, Indianapolis, Kansas City, Mo., Milwaukee, Minneapolis, St. Louis, St. Paul).....	6	5	6	18	38	25	2	100
Western region (Oakland, Salt Lake City, San Diego, San Francisco).....	6	5	5	19	37	26	2	100

Unemployed Casual Laborers in Duluth

IN THE spring of 1931 the University of Minnesota Employment Stabilization Research Institute undertook an analysis of unemployed casual laborers in Duluth.²¹ The investigation covered 287 men.

²¹ University of Minnesota. Employment Stabilization Research Institute. Bulletins, Vol. I, No. 3: The Duluth Casual Labor Group, by Alvin H. Hansen, Marion E. Trabue, and Harold S. Diehl. Minneapolis, 1932.

The casual workers in Duluth, it was reported, constituted a special group within the labor market. The great majority of them were homeless men who made that city their headquarters during their periods of unemployment. Formerly these men had been able to tide themselves over seasonal idleness, their jobs in the lumber camps, in the mines, and on the Lakes providing sufficient remuneration for this purpose.

Age, marital status, occupational experience, etc.—The median age of the 287 casual laborers was 49, while 66 percent were 40 to 69 years of age and 4 percent were above 70 years of age. It is pointed out, however, that the group was not altogether typical, as a substantial number of younger men who had been unemployed in the winter had left Duluth by the time the tests were given.

The distribution according to marital status was as follows: Single, 77 percent; widowers, 9.1 percent; divorced or separated, 4.5 percent; and married 9.1 percent. The total number of children of the 66 men who were or had at one time been married was 89—an average of 1.35 per marriage.

At the time of the investigation only six of this unemployed group were members of labor organizations and not more than 22 of the others had ever been affiliated with a union.

Of the 287 men, 94 were native-born citizens; 55 had received their first papers; 48 their second papers.

Over two-thirds had been connected with Duluth for more than 10 years, while more than 20 percent had made that city their headquarters for 30 years or over. The remaining men had been in Duluth less than a year.

Education.—Twenty-six of these men had had no formal schooling whatever, and 23 had had less than 2 years. At the other extreme 22, according to their statements, had had 10 years or more of school. One-third reported 8 years or more, while more than one-fourth had had less than 4 years. More than 40 percent had had less than 6 years. The median number of years of schooling reported was 6.7.

Seventeen had had vocational training of some value, 12 very slight vocational training, but 90 percent had had none at all. Nineteen had had some evening work in citizenship training or English. Thirteen (4.6 percent) were unable to speak English, and 11 (3.8 percent) were able to speak only a little English or at least to speak it very poorly. Eighty-two (28.6 percent) could not read English, while 21 (7.3 percent) could read only a little. As many as 125 (43.6 percent) could not write English, while 22 (7.6 percent) could write very poorly.

The following table shows the number and percentage of men who had at some time occupied skilled positions.

TYPES OF PREVIOUS EMPLOYMENT OF UNEMPLOYED CASUAL LABORERS IN DULUTH

Occupational class	Number	Percent
Nonmanual work.....	1	0.3
Supervisory work.....	5	1.7
Skilled labor.....	35	12.2
Semiskilled labor.....	32	11.2
Unskilled labor exclusively.....	214	74.6

The most usual method of securing a job was direct application to the company. Next in order, but of much less importance, were the free public employment exchanges and the fee-charging agencies, the two types being used almost equally. Relatives, friends, and news-

paper advertisements had been of little assistance to these men when they were seeking employment.

For the years just prior to the present depression the modal wages reported for work in the woods were \$30 to \$40 a month, including board and lodging, and for railroad work, between 35 and 40 cents per hour. Men who had been employed on lake boats reported monthly wages of \$75, including room and board, and firemen on lake transportation had been paid \$105 per month with room and board.

Approximately 85 percent of these casuals lost, as a matter of course, up to 4 months per annum. Ordinarily 8 months of employment out of 12 was regarded as wholly satisfactory. A large proportion reported that generally they had no trouble in finding work when they desired it, indicating that they did not object to some months of idleness. Over two-thirds of the men who gave information on this point stated that usually they did not take odd jobs during temporary periods of idleness. Approximately 7 percent could be considered as "chronically unemployed."

Of the 269 who reported on the length of time they had been unemployed during the current depression, 26 percent had been out of work less than 4 months; 61 percent, less than 8 months; 80 percent, less than 12 months; 93 percent, less than 18 months, and 96 percent, less than 2 years. The remaining 4 percent had been without work for over 2 years.

An amazingly large majority of these casuals looked upon the existing protracted period of unemployment as the only one of significance. Again and again statements were made that "no serious unemployment difficulty had been experienced prior to the present depression. Less than 10 percent were impressed with any previous unemployment that could be characterized as really severe."

Physical and medical findings.—The personal hygiene and habits of living of this unemployed group were far from what they should be, according to the investigators. The results were clearly evident from the physical examinations. Many of the men showed symptoms which required medical attention. Over 65 percent of the group had impaired vision and about 7 percent defective hearing. Foci of infection, such as septic roots of teeth, pyorrhea, extreme dental caries, and chronic throat and nose infection were exceedingly prevalent and resulted in greatly lowered vitality. Such conditions which may well bring about chronic invalidism could have easily been averted by personal hygiene and proper dental and medical care.

In a few cases major illnesses were found, such as Bright's disease, diabetes, tuberculosis, heart disease, etc., which were not only impediments to employment but acutely demanded medical service.

Syphilis was diagnosed clinically in 5 of these men and by positive Wassermann reactions in 14 others. Nine of these cases never had been diagnosed before. Syphilis is a disease which, although truly curable if properly treated in its early stages, is usually a menace to society and tends to produce years of invalidism and dependency of the one infected if it progresses unrecognized and untreated as it was doing in most of these individuals.

Many other conditions, such as painful flat feet, physical deformities, hernias, skin diseases, etc., were discovered, which, although not menacing to life itself, distinctly limit the ability of certain individuals to carry on manual labor. A considerable number of these defects and diseases could have been prevented and some still could be corrected or improved by proper medical care.

The final classifications of the examining physicians indicated that one-fourth of the men less than 60 years old and two-thirds of the men above 60 were physically unfitted to do the only class of work for which they had experience or training. Furthermore, many other men in the group had physical diseases and defects that reduced their working capacity.

More physical limitation for employment was reported for men who had been without jobs for over 12 months than among the men who had been unemployed for less than 4 months. From the viewpoint of society this means, the investigators hold, that persons with physical handicaps, many of which could be prevented or corrected, "tend to become dependent upon society for even the minimum essentials of life over long periods of time."

Labor History of Unemployed in Philadelphia, 1931

A REPORT published in 1933 gives the labor history and experience of 8,722 persons employed on made work in Philadelphia.²² The information was gathered by jobless men allocated to the work in 1931 through the interest of the Philadelphia Emergency Work Bureau of the Committee for Unemployment Relief. The survey was carried out under the supervision of the director of the Philadelphia Community Council. Data were also secured from 1,439 applicants for work relief in the same city.

Summaries of the findings of these two complementary studies are presented below.

Study of Persons Employed on Made Work

IRRESPECTIVE of whether they were native white, foreign-born white, or colored, the percentage of persons in this group who lacked school training was very much greater than the proportion of illiterates for comparable groups in Pennsylvania as a whole. Their educational attainments, however, were not entirely inadequate, and the fact that some of them had schooling far beyond the average for the community was an evidence that their difficulties were not altogether due to lack of education.

Stability on the job.—So far as length of service is a test of success on the job, this group on made work had a good record, only about 5 percent of the whites and 9 percent of the colored being classed "as casual workers who had never had a steady job." More than one-half of the whites and approximately one-third of the colored had held the same jobs for 5 years or over. Service records not uncommonly reached 10, 20, 30, and up to 45 years. Stability on the worker's part is no assurance against cyclical unemployment, however. Workers who had been with the same concerns for many years found themselves laid off with men who had only a few months' service. Only a negligible proportion of those on made work seemed to have definitely failed on their former jobs. Considerably over nine-tenths of the men were jobless as a result of business conditions beyond their control.

²² Pennsylvania, University of. Wharton School of Finance and Commerce. Industrial Research Department. Ten Thousand Out of Work, by Ewan Clague and Webster Powell. Philadelphia, 1933.

Wages.—The previous wages of these people compared quite favorably with the wages of others in similar occupations in the State. The average full-time weekly earnings reported for the whites were \$32 while those for the colored were \$25, no deduction being made for short time or lay-offs during the year.

The weekly earnings of college graduates were more than 60 percent above those of the men who had no formal education, and in addition employment among the former was much more stable.

Industry's responsibility.—Over 3,000 Philadelphia firms were represented by one or more ex-employees among the 8,722 workers included in the survey.

Some large firms were very heavily represented, six of them being charged with over 11 percent of all the men surveyed in this study, or with 14 percent of those men who could be assigned. A total of 29 firms, each laying off 25 or more workers, contributed over 30 percent of the assignable workers. At the other extreme there were 2,368 firms with one man each.

So far as the data contained in this study are concerned, the construction industry had the heaviest responsibility for unemployment. It was represented by two and one-half times as many men as its proportion of the normal gainfully employed population of the city. Manufacturing furnished slightly more unemployed than its normal share of the gainfully employed would have justified.

Most of the workers were common, semiskilled, or skilled laborers. Approximately 15 percent of the whites and 5 percent of the colored were able to do work of a supervisory, clerical, professional, etc., character. Most of the workers had lost their jobs toward the close of the summer of 1930. Approximately 94 percent had become unemployed since the summer of 1929. Temporary jobs played an insignificant part in keeping up incomes when no permanent employment was available.

Prevention of destitution.—According to the report under review it is basically important to have one or more additional wage earners in the family as a protection against destitution when the principal wage earner has no job. While the families of those on made work were larger than the average Philadelphia family, a very high percentage of them had but one wage earner.

On the other hand, 53 percent of the whites and nearly 70 percent of the Negroes had been able to rely partly upon unpaid rent. Commercial borrowing, help from friends and relatives, and credit at stores were used freely by both the white and the colored group. The renting of rooms or doubling up with relatives occurred in about 10 percent of the families. On the other hand, the wages earned by members of the family who were not regular wage earners, or the amounts received through pensions, bonuses, and occasional jobs by the chief wage earner were not important. Finally, about 40 percent of the whites and 60 percent of the Negroes had had to resort to charity before they obtained made work.

The investigator found that home ownership was no great protection against destitution. Although the proportion of home owners among the white families of the group of workers covered was less than half that in the population as a whole, there was a substantial percentage of home owners in the group.

It was found that home ownership was negligible among the Negroes, and was nearly three times as prevalent among the foreign-born as among the native white Americans. On the other hand, the native-born white and the colored workers showed a much greater proportion of owners of automobiles. Among

the colored this was five times as prevalent as home ownership; among the native whites 50 percent greater, while among the foreign-born it was only about one-fifth as common as home ownership. A comparison of home ownership and income brings out very clearly the fact that smaller incomes are a decided bar to ownership; the larger the family income, the higher the proportion of home-owning families.

Persons who had only recently come to Philadelphia were among the first to need assistance after they were unemployed, as they had fewer local friends and resources.

Study of Financial Resources of Applicants for Made Work

SOMEWHAT less than 50 percent of the families of the 1,114 white applicants for made work had savings accounts, 50 percent had insurance, and approximately 25 percent owned their own home.

The percentages were very much the same for the 325 Negro families for savings and insurance, but very different for home ownership. Except for the last, the principal difference between the two races was in the amounts of the reserves. Approximately 25 percent of the whole group of families had no reserves whatever.

Home ownership.—Of 278 families owning or buying homes only 7 realized immediate cash on them in the face of emergency. The remaining 271 families were too overburdened with mortgages to be able to get loans on rapidly dwindling equities. The families were far in arrears in their mortgage interest, taxes, and monthly payments. "The attempt to own a home constituted a serious drain on the resources of these families just at the time when they needed them most for basic necessities." In this regard the Negroes were not so unfortunate as they had not put their scant earnings into real property. The foreign born were most seriously affected, as so many of them were home buyers.

Life insurance was also found to be very inadequate protection in times of unemployment. Out of 560 American-born white and Negro families, only 34 were able to get loans or cash in on their policies. Approximately one-half of these policyholders lost their insurance entirely while they were unemployed.

Self-help period of unemployment.—Savings were found by the investigators to be the only worth-while kind of reserves in periods of economic depression and unemployment. The average savings in the families under consideration were sufficient to carry them for 6 weeks. Approximately nine-tenths of all families borrowed money or deferred paying bills during these 6 weeks. This provided about 50 percent of the total amount available for essentials. These debts or credits meant 3 months' independence for the average family.

The resources of the Negroes were only half those of the whites. The former were not only reduced to a much lower standard of living during the self-help period of unemployment but were more likely to have recourse sooner to relief agencies.

All families were forced to reduce their standards of living drastically, the white to a minimum health level for the bare necessities, the colored to a minimum health level for food alone.

Both groups tried hard to get along by themselves, through the economic use of every resource, the constant search for temporary income, repeated reductions in the standards of living, and help from relatives and friends.

Conditions in Families of the Unemployed in Philadelphia, May 1932

AT THE time its annual Philadelphia unemployment survey of May 1932 was being planned by the industrial research department of the Wharton School of Finance and Commerce, it was decided to make also a survey of family conditions. The 35,471 families included in the unemployment investigation, however, were too many to interview in regard to their detailed conditions, so a sample of 9,591 families was selected as reasonably representative of the larger group, which in turn was representative of the city as a whole. The findings of this survey made by the industrial research department in cooperation with the service committee for professional and business women are presented in Special Report No. 5 (Feb. 23, 1933) of the department.

Table 1 shows the number and percent of families included in the survey who were in distress and the reasons for such distress, also the estimated number of families in the city suffering from each kind of distress, on the assumption that the findings of the survey are representative of Philadelphia as a whole.

TABLE 1.—NUMBER AND PERCENT OF FAMILIES IN DISTRESS IN PHILADELPHIA, MAY 1932, BY KIND OF DISTRESS

Kind of distress	Families in distress		
	Disclosed by survey		Estimated number in city
	Number	Percent	
Insufficient food.....	997	10.4	47,800
Insufficient clothing.....	824	8.6	39,500
Insufficient heat.....	1,112	11.6	53,300
Evicted for unpaid rent.....	349	3.6	16,500
Lack of medical attention.....	348	3.6	16,300
Loss of home ownership.....	340	3.6	16,700
Loss of furniture.....	110	1.1	5,300
Total in distress.....	3,434	35.8	164,700
No distress.....	6,157	64.2	295,300
Total, all families.....	9,591	100.0	460,000

“Insufficient heat” was reported when the family was found to have no cooking heat or was obliged to wear extra wraps in the home. Many houses had no heat at all except while meals were being cooked. Other families had to use their neighbors’ stoves to cook the meager food supplied them by relatives, friends, or relief organizations. Some families had to remain in bed a substantial part of the colder days to keep warm.

Of the 9,591 families covered by the investigation, 1,478, or 15.4 percent, had insufficient food, clothing, or home heat when the survey was made. Many families were suffering from 2 of these 3 types of distress and there were other families inadequately provided with all 3 necessities.

Lack of needed medical attention was reported by 3.6 percent of the families surveyed. This percentage represents an estimated 17,000 families in the city. It may be asked why a family should lack medical care when free attention is obtainable at several hospitals and clinics in the city. The answer is that many

families have no means of transportation; others do not know of the free service available; some have never had to rely on free medical attention and are reluctant to seek it for the first time; and, finally, the hospitals and clinics hesitate to grant free service to families that are not pauperized. Families in this latter group present the most serious problem of all. Many of these families could pay for needed medical attention, but only by foregoing other needs that they consider more essential. As a consequence they postpone obtaining the needed medical attention, hoping, in many cases vainly, that a few months later the family will be able to afford medical attention without so great a sacrifice of other needs.

In table 2 the percentage and number of families who received and gave specified types of help during the depression are reported. It will be noted that 19.7 percent of the families had spent all their savings, that 18.4 percent directly helped relatives or friends, and that 9.8 percent shared their homes with others. Of the group suffering from insufficient food, clothing, or heat, 39 percent were reported as unable to pay store bills.

TABLE 2.—SOURCES AND FORMS OF ASSISTANCE RECEIVED AND AID GIVEN BY FAMILIES IN PHILADELPHIA

Source and form of assistance received and help given	Total families		Families with—					
			Insufficient food, clothing, or heat		Other distress		No distress	
	Percent based on survey	Estimated number in city	Percent based on survey	Estimated number in city	Percent based on survey	Estimated number in city	Percent based on survey	Estimated number in city
Families.....	100.0	460,000	100.0	70,840	100.0	93,840	100.0	295,320
<i>Source of assistance</i>								
Borrowed from—								
Relatives and friends.....	17.6	80,874	34.4	24,369	38.5	36,128	6.9	20,377
Other sources.....	6.8	31,278	13.9	9,847	15.6	14,639	2.3	6,792
Unpaid store bills.....	16.2	70,132	39.0	27,628	28.3	26,557	5.4	15,947
Received help from—								
Relatives and friends.....	13.4	61,440	25.5	18,064	39.3	36,879	2.2	6,497
Welfare agencies.....	23.2	106,794	58.1	41,158	69.0	64,750	.3	886
Spent savings—								
All.....	19.7	90,695	28.4	20,119	25.8	24,211	15.7	46,365
Part.....	14.0	64,297	4.1	2,904	5.0	4,692	19.2	56,701
No savings.....	22.5	103,520	34.1	24,156	29.5	27,683	17.5	51,681
<i>Kind of help received</i>								
Money.....	5.6	25,546	15.6	11,051	12.3	11,542	1.0	2,953
Food.....	23.6	108,494	60.5	42,858	69.0	64,730	.3	886
Clothing.....	3.0	13,594	9.5	6,730	7.0	6,569	.1	295
Work relief.....	.6	2,767	1.9	1,346	1.2	1,126	.1	295
Other help.....	3.9	17,788	6.9	4,888	10.6	9,947	1.0	2,953
<i>Kind of help given others</i>								
Direct help to relatives or friends.....	18.4	84,585	11.2	7,934	9.3	8,727	23.0	67,924
Shared home with others.....	9.8	44,921	13.9	9,847	12.2	11,448	8.0	23,626

According to table 3, the average weekly income of all the surveyed families specifying income was \$14.09, while that of the families with insufficient food, clothing, or heat was \$3.98. The group with no distress averaged \$19.94.

TABLE 3.—PERCENT OF FAMILIES SURVEYED HAVING SPECIFIED WEEKLY INCOME IN PHILADELPHIA, MAY 1932¹

Weekly income	Families with—			
	Insufficient food, clothing, or heat	Other distress	No distress	Total
	Percent	Percent	Percent	Percent
No income.....	59.2	48.6	13.3	28.7
Up to \$3.....	6.4	8.4	1.0	3.6
\$3.01 to \$5.....	6.2	7.5	2.2	4.0
\$5.01 to \$10.....	13.2	16.5	11.4	12.8
\$10.01 to \$15.....	6.5	7.7	13.4	11.0
\$15.01 to \$20.....	4.6	4.6	16.1	11.6
\$20.01 to \$25.....	2.4	3.3	12.7	8.9
\$25.01 to \$35.....	1.2	2.2	17.7	11.6
\$35.01 to \$50.....	.3	1.0	8.8	5.7
\$50.01 to \$75.....	.0	.2	2.6	1.6
\$75.01 to \$100.....	.0	.0	.6	.4
Over \$100.....	.0	.0	.2	.1
Total.....	100.0	100.0	100.0	100.0
Average income.....	\$3.98	\$5.36	\$19.94	\$14.09

¹ Includes only families specifying income.

The average percentage decrease in income for all families at the time of the survey compared with their income when all employable members were employed was 71.6, as shown in table 4. The average decrease in income for the group with insufficient food, clothing, or heat was 88.8 percent.

TABLE 4.—PRESENT (MAY 1932) FAMILY INCOME COMPARED WITH INCOME WHEN ALL EMPLOYABLE MEMBERS WERE LAST EMPLOYED

Income per week	Families with—							
	Insufficient food, clothing, or heat		Other distress		No distress		Total	
	Specifying decreases in income	Average decrease in income	Specifying decreases in income	Average decrease in income	Specifying decreases in income	Average decrease in income	Specifying decreases in income	Average decrease in income
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Total.....	98.9	88.8	98.0	87.6	92.3	57.6	94.0	71.6
None.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Up to \$3.....	100.0	90.0	100.0	89.0	100.0	85.0	100.0	88.9
\$3.01 to \$5.....	100.0	84.0	94.9	84.0	97.0	78.0	97.1	82.0
\$5.01 to \$10.....	97.4	71.0	100.0	73.0	96.8	67.0	97.8	69.4
\$10.01 to \$15.....	100.0	56.0	98.9	59.0	96.7	51.0	98.4	53.0
\$15.01 to \$20.....	100.0	45.0	92.2	49.0	94.0	47.0	94.3	47.0
\$20.01 to \$25.....	100.0	42.0	100.0	45.0	91.8	37.0	93.0	38.0
\$25.01 to \$35.....	90.0	34.0	91.3	39.0	89.9	34.0	90.0	34.2
\$35.01 to \$50.....	100.0	21.0	88.9	36.0	80.9	32.0	81.4	32.0
\$50.01 to \$75.....			100.0	58.0	87.7	31.0	88.0	31.8
\$75.01 to \$100.....					78.6	27.0	78.6	27.0
Over \$100.....					75.0	47.0	75.0	47.0

Of all the families included in the survey, 45.8 percent owned or were purchasing homes. About one-fourth of the group of families with insufficient food, clothing, or heat owned their homes. Of the families in this group who owned or were buying homes, 90.5 percent had mortgages, 71.5 percent were in arrears in their mortgage payments, and 64.7 percent were behind in their taxes. Slightly over 77 percent of the renters in the same group were back in their rent.

Readjustment of Workers Displaced by Plant Shut-Downs

THE fact that the major part of the burden of industrial change as exemplified by the permanent closing of factories falls upon the workers, even in spite of well-organized community and company efforts to minimize the effect of the enforced unemployment, is shown by a study of what happened to workers in two rubber-manufacturing plants located in New Haven and Hartford, Conn., who became unemployed when the plants were permanently closed.²³ The study extended over a period of 3 years and was carried out as two separate but related investigations, the first covering a period of 11 months after the shut-down of the plants,²⁴ during which time employment opportunities were approximately normal, and the second covering the following 2 depression years.

The New Haven plant was closed in April 1929 and the Hartford plant in August of the same year, these shut-downs occurring as a result of a general program of the United States Rubber Co. for consolidating scattered small plants into a few major factories. About 2,200 workers were displaced in the two factories, and as the closing of these factories involved dismissing such a large number of workers at the same time, and also since pensions and a dismissal wage were paid to certain of the long-service workers, the shut-downs offered an unusual opportunity to study the readjustment of displaced industrial workers, as well as the influence of the payment of a dismissal wage upon such readjustment.

The L. Candee & Co. factory in New Haven, manufacturing rubber footwear, was the oldest rubber manufacturing plant in the United States and had an unusual number of long-service employees. Much of the work was individual in character, the work of some departments consisting almost entirely of hand work. About 60 percent of the workers were women. More than half of the workers were Italians and many married couples worked there, while many of the younger workers were related to the older employees, so that in a sense the plant formed a community by itself. The Hartford Rubber Works was a tire manufacturing plant, and its processes were more mechanized and specialized. The employees were practically all men, many of them single, and there was no single nationality predominating as in New Haven, although native second-generation Americans formed the largest single group—about one-fourth of the total. The New Haven plant closed at a time when business was still good and when there were opportunities to find other work, but the Hartford plant closed shortly before the onset of the depression so that opportunities for securing employment soon ceased.

Upon the notice of the impending shut-down the New Haven company took steps to assist in the readjustment of the employees. Workers were allowed to take time off to look for work during the 4 weeks which elapsed between the announcement and the final closing of the plant, while the employment department made every effort to place

²³ Yale University. Institute of Human Relations. *After the Shut-Down. Part 1.—The readjustment of industrial workers displaced by 2 plant shut-downs*, by Ewan Clague and Walter J. Couper. *Part 2.—Former L. Candee workers in the depression*, by E. Wight Bakke. New Haven, 1934.

²⁴ A summary of the earlier study was published in the April 1931 issue of the *Monthly Labor Review* (p. 69).

workers in other plants, eligible workers were retired from service under the existing pension plan, and for all other long-service workers a dismissal wage of 1 week's pay at current earnings was given for each year of service if they had had at least 15 years' service or if they were 45 and had had 10 or more years of service. Under this provision 116 employees, or about 15 percent, received payments ranging from \$137 to \$2,088, with a median of about \$400. At the Hartford plant the same procedure was followed and pensions and dismissal wages were paid on the same basis. However, the number eligible for pension was very small and 126 employees, or about 10 percent, received a dismissal wage.

As the number of workers, therefore, who were eligible for pensions and for dismissal wage varied so much in the two plants, and there was so much variation in other factors, the shut-down of the plants offered an excellent opportunity for a comparative study of the degree of success with which these workers adjusted themselves to the change and to trace the influence upon that adjustment of such factors as age, nationality, skill, dismissal wage, community efforts to assist readjustment, and the general employment condition in the industrial area.

Composition of the Groups Studied

IN THE survey of the two groups of workers, 729 were listed in New Haven and 1,105 in Hartford, schedules being secured for 244 men and 428 women in New Haven and 8 women and 526 men in Hartford. Age and sex were important factors in the securing of the proportionately larger number of schedules in New Haven, as that plant had an overwhelming majority of women at the younger ages as well as a high proportion of older workers, neither of which classes is as mobile as the group of younger men in Hartford, who accounted for a large part of the unsecured schedules since they had in most cases undoubtedly left the city in their search for work. Also the distinctly family constitution of the Candee plant was a factor in decreasing the mobility of these workers even among the younger men.

While both of the plants employed a great many foreign-born workers as well as first-generation native-born, the nationality of the workers did not appear to have been of any great importance in indicating a tendency toward migration, but it was rather the difference between business conditions in the two places, New Haven not having had any high degree of prosperity in the preceding years while Hartford had been industrially prosperous for many years, and had, therefore, furnished an attractive labor market, especially for men drifting from the depressed textile centers of New England. The basic factor, therefore, in the relative mobility of the working forces of the two plants, appeared to be an economic one—the condition of business. The migratory workers of Hartford were the ones who were missed in the survey, and this fact is considered to make the results more directly comparable, as it made for a greater similarity in the groups in the two places.

An analysis of the service records of the workers showed that about 37 percent of the force in New Haven had worked 10 years or more on a total working-time basis—that is, exclusive of shut-downs and temporary absences—while 121 had exceeded 15 years, and 87 had records of 20 years and over. The average length of service in this plant was

9.9 years while in Hartford the average was only 5.4 years, in the latter plant there being only a handful of extra-long-service workers and a very large proportion of men in the groups under 2 years. In many instances in Hartford the short-service workers were not the younger employees as in New Haven, but were older workers, even over 40 years of age, who had recently joined the force.

Length of Time Out of Work

A CLASSIFICATION of the workers according to the period of time which elapsed before a permanent job was secured showed that in Hartford only 9 of the 534 workers surveyed did not try to find work, while among the 672 in New Haven there were 84 who did not try to find new jobs. The difference between the two places in the number seeking jobs was largely due to the sex differences in the working forces of the two plants. In New Haven 69 women (for the most part because they were housewives or older women who had decided to retire from industry) and 15 men did not look for other work, while in Hartford only 9 were recorded as not looking for work.

In New Haven, of the 228 men seeking work, 140 secured their first permanent job in somewhat less than 3 months, while of the 358 women looking for work 231 found work within that period. In Hartford 305 of the 523 who sought work were placed within 3 months. In this tabulation jobs which were strictly temporary were not counted, but jobs which were given and accepted in good faith on a permanent basis were considered as permanent even though the worker was laid off later because of slack work.

There seemed to be little difference between the sexes in the time it took to find the first job, but there was a very decided difference when the age of workers was taken into account, as a very definite handicap was evident for workers over 45. Of all men over this age seeking work, only 43 percent found jobs within the 3 months, while 71 percent of those workers under 45 were permanently placed. Among the women the corresponding percentages were 44 and 67. In many cases these first placements were not permanent, as 43 percent of the Hartford men lost their first job after varying periods of service, over half of them being unemployed again within about 2 months. In New Haven only 46 percent of those finding work were still employed on their first job at the close of the survey. The total loss of working time amounted to 40 percent of the available working time for New Haven workers during the 11 months and to 43 percent for the Hartford workers in a period of about 10 months. But on the closing date of the survey the majority of those who had actively sought work had a more or less satisfactory job, slightly over 70 percent in Hartford and almost 74 percent in New Haven being employed on that date while others had had work some time during the period.

Reduced Earnings of Displaced Workers

THE amount of unemployment, however, does not measure the total losses of the workers, as the earnings were much reduced. The average weekly earnings of the New Haven men on the best-paid jobs they were able to secure after the shut-down were barely more than 80 percent of the rubber-company rates with a still greater loss among the women, while among the Hartford workers a greater decline was

suffered, the average on the new job being approximately 70 percent of former earnings. For the workers in New Haven the net effect of unemployment upon incomes in a period of about 1 year after the shut-down was a loss of about 50 percent of their income during the preceding year with the rubber company. This difference was largely made up for workers receiving the dismissal wage; although their earnings losses were more severe than for the others, the dismissal-wage payments brought their total income up to more than 83 percent of their income during the preceding year.

The families of these workers had been able to get along during the period with very little recourse to relief from the social agencies. A large number either owned their own homes or were in the process of purchasing them, and insurance was very widely held. The use of credit figured rather largely in carrying some of the families through the unemployment period. The debts were in the form of commercial loans, borrowings from friends or relatives, credit given by the merchants, or back rent due to the landlord. In New Haven only 20 families applied for relief at any time during the period.

In summing up the result of the study it is said that it is clear—

The major part of the burden of industrial change, if these two cases are typical, falls upon the workers. Despite the efforts which were made by the company and by the community in each case, the majority of the workers had to take care of themselves, and suffer whatever losses were involved. Nevertheless, the payment of a dismissal wage to a selected group of workers was of material benefit to them and their families during the readjustment. The results of its use in these two cases were so uniformly good as to justify its extension to other workers and other industries.

For example, there were many workers at both the New Haven and Hartford plants who might well have been entitled to a dismissal wage on the basis of their investment of time and skill with the company—men and women who fell short of the service required (10 years for workers 45 years and over, and 15 years for others) in order to qualify. A minimum of 5 years would have brought into the fold a large group of middle-aged and younger workers who were markedly handicapped in making the readjustment. On the other hand, the authors of the report believe there is every reason for keeping the dismissal wage entirely distinct from unemployment insurance. The former is essentially an indemnity for the probably permanent loss of job and skill; the latter is to cover the temporary readjustment involved in changing jobs. The experiences of the United States Rubber Co. workers serve to emphasize the fact that the dismissal wage must take its place as a most important device for the establishment of greater security for the industrial worker.

Study of Workers in the Candee Plant

THE extended study covering the former New Haven workers during the entire 3-year period showed that there was a steady decline among these workers in working time and wages. The readjustment shown by the first study during the 11-month period was not one toward steady work but to a set of jobs which produced a decreasing amount of work and wages in each succeeding year. The older men were found to be in a particularly unfavorable position, and the best records were made by the groups aged 30 to 44 years. There was a decline in average earnings from the 1928 figure of \$1,250.41 for the men and \$761.89 for the women to \$557 and \$385.73, respectively, during the third year following the lay-off. The burden fell heavily on the skilled men, whose average earnings by the third year had fallen to \$34 less than those of the unskilled and \$98 less than those of the semiskilled men. This fact apparently indicates that the

qualities which help men to rise to skilled jobs and high wages while they are at work do not assist them to readjust satisfactorily to new jobs, and that the readjustment entails the acceptance of work of less skill and at lower wages with its resulting blow to the worker's standard of living and status.

The report states that the cumulative effect of the loss of jobs and wages was felt by the entire community, some of this loss being evidenced in the growth of antisocial attitudes, and in the ill effects on health, on initiative, and on industrial efficiency as well as on family life. In spite of the fact that the company and the community attempted to fill the gap caused by lack of wages with terminal wages, pensions, and charity, "the fact stands out that the 3 years found the workers themselves bearing 65 percent, 88 percent, and 86 percent of that burden, respectively. In spite of the efforts of the company and the community, it is still the worker himself who must drastically revise his standard of living, search for alternative methods of maintenance when he faces unemployment, and through such efforts shoulder most of the load. In spite of mounting relief funds, unemployment is still predominantly the workers' problem."

Rural Factory Industries as Employers of Farm Labor

EMPLOYMENT opportunities for farm people in small factories in the smaller towns and in the open country were disclosed by a study of 138 factories in 15 States, made by the United States Department of Agriculture,²⁵ the data for the most part covering the year 1931.

The factories taken for study fell in 3 groups: 102 factories and 2 shops, each valued at \$200,000 or less; 19 plants valued at over \$200,000 each; and 15 barrel factories on the Eastern Shore of Maryland and Virginia.

All but 10 of the 104 plants of the first group were in operation at the time the study was made, but of these 10, 8 were strictly seasonal in character and operated only part of the year, while 2 had been closed for several months because of the depression. Six additional factories were run intermittently, generally opening up only as orders were received. The remainder were in operation practically the entire year, though not all of their employees were kept continuously on a full-time basis.

Table 1 shows the extent of the employment offered by the plants valued at \$200,000 or less.

²⁵ U. S. Department of Agriculture. Circular No. 312: Rural Factory Industries. Washington, 1934.

TABLE 1.—EMPLOYMENT FURNISHED BY RURAL FACTORIES VALUED AT \$200,000 OR LESS, CLASSIFIED BY INDUSTRY, 1931¹

Item	Number of employees in factories producing—						Total
	Textiles	Forest products	Food products	Leather and leather products	Clay and glass products	Miscellaneous	
Season of employment:							
Spring.....	5,759	1,687	105	1,734	196	69	9,550
Summer.....	5,764	1,664	371	1,717	216	62	10,294
Fall.....	5,738	1,724	355	1,717	226	68	9,828
Winter.....	5,726	1,712	195	1,694	176	61	9,664
Maximum employed during year ²	6,016	1,769	981	1,734	226	69	10,795
Workers employed—							
Full time:							
Living on farms.....	1,591	456	32	325	64	6	2,474
Living elsewhere.....	3,906	1,167	73	1,352	132	55	6,685
Total.....	5,497	1,623	105	1,677	196	61	9,159
Part time:							
Living on farms.....	134	43	317	4	-----	1	499
Living elsewhere.....	385	103	559	53	30	7	1,137
Total.....	519	146	876	57	30	8	1,636
All employees:							
Living on farms.....	1,725	499	349	329	64	7	2,973
Living elsewhere.....	4,291	1,270	632	1,405	162	62	7,822
Total.....	6,016	1,769	981	1,734	226	69	10,795

¹ For all but 1 factory for which 1929 data were secured.

² The maximum number exceeds the total reported for any 1 season, since not all of these industries reached a peak of employment during the same 3-month period.

Employees living on farms constituted 27.5 percent of the total number of persons working in the 104 factories. They obtained about as much work proportionally as employees living elsewhere, since 83.2 percent of the former and 85.5 percent of the latter were reported as full-time workers.

The average number of days' employment in the factories and the average daily wage for employees living on farms and elsewhere are shown in table 2.

TABLE 2.—AVERAGE NUMBER OF DAYS OF EMPLOYMENT AND AVERAGE DAILY WAGES IN RURAL FACTORIES VALUED AT \$200,000 OR LESS IN 1931¹

Item	Textiles	Forest products	Food products	Leather and leather products	Clay and glass products	Miscellaneous
	Number of days worked					
Employees living—						
On farms:						
Male.....	236	219	98	271	248	235
Female.....	244	256	65	273	245	-----
Elsewhere:						
Male.....	251	221	97	268	222	259
Female.....	240	241	102	273	245	267
	Average daily wage					
Employees living—						
On farms:						
Male.....	\$2.86	\$2.42	\$2.14	\$3.10	\$3.06	\$2.70
Female.....	1.93	2.20	1.54	2.47	2.48	-----
Elsewhere:						
Male.....	2.96	2.42	2.12	3.10	3.32	2.38
Female.....	1.96	1.76	1.82	2.47	2.48	2.25

¹ For all but 1 factory for which 1929 data were secured.

There were 19 factories valued at over \$200,000. Table 3 shows the employment opportunity offered by these plants:

TABLE 3.—EMPLOYMENT FURNISHED BY RURAL FACTORIES VALUED AT OVER \$200,000 IN 1931

Item	Number of employees in factories producing—				
	Textiles	Metal products	Forest products	Paper products	Total
Season of employment:					
Spring.....	3,554	2,700	650	429	7,333
Summer.....	3,764	2,510	610	429	7,313
Fall.....	3,619	2,522	610	429	7,180
Winter.....	3,993	2,704	650	429	7,776
Maximum employed during the year ¹	4,218	2,713	650	429	8,010
Workers employed—					
Full time:					
Living on farms.....	599	332	65	26	1,022
Living elsewhere.....	2,780	2,143	545	403	5,871
Total.....	3,379	2,475	610	429	6,893
Part time:					
Living on farms.....	132	7	40		179
Living elsewhere.....	707	231			938
Total.....	839	238	40		1,117
All employees:					
Living on farms.....	731	339	105	26	1,201
Living elsewhere.....	3,487	2,374	545	403	6,809
Total.....	4,218	2,713	650	429	8,010

¹ The maximum number exceeds the total reported for any one season since not all of these industries reached a peak of employment during the same 3-month period.

Average daily wages ranged from \$1.60 to \$6.00 for male employees and from \$1.50 to \$3.00 for females.

The 15 barrel factories on the Eastern Shore depended mainly upon local farmers for the market for their product, which was used in shipping the potato crop of the region. There were 223 employees in the spring (chiefly after May 1) of 1930, 239 in the summer, 18 in the fall, and 7 in the winter, although during fall and winter the workers retained worked only intermittently.

The foremen of these barrel factories were usually white men (eight being farm operators also), and the laborers were mostly Negroes. The wages of the latter were commonly on a piecework basis, and ranged from \$2.00 to \$4.25 per day in 1930.

The report states that these small-town and rural factories were benefiting the farm people in the following ways: (1) By enabling them to sell some of their farm products to the factories as raw materials for manufacturing purposes; (2) by full- or part-time employment at the factories; (3) by enabling them to perform certain steps in the manufacturing processes in their own homes or in small farm shops; (4) through profits on their investments in the factory; and (5) by selling foodstuffs and possibly other farm products on local markets that have been expanded because of the presence of the factory.

Location of Manufactures as Affecting Employment Opportunities

IN a study of the location of manufactures in the United States covering the period 1899-1929, the Employment Stabilization Research Institute of the University of Minnesota²⁶ found that during

²⁶ Minnesota, University of. Employment Stabilization Research Institute. The location of manufactures in the United States, 1899-1929, by Frederick B. Garver, Francis M. Boddy, and Alvar J. Nixon.

the 30-year period there has been a movement toward greater employment density in the States west of Pennsylvania. In New England there has been either a smaller rate of increase or a decline. In 1929 the greatest concentration of industry was found in New England (Vermont excepted), the Middle Atlantic States (including Delaware), and the East North Central States. This area, termed by the authors of the study "the manufacturing belt of the United States", contained approximately 70 percent of all industrial wage earners between 1925 and 1929. In general, the location of manufactures is found to be closely associated with that of the coal fields. The location of iron and steel industries likewise influences the location of industry.

Manufacturing is slowly tending to become dispersed more nearly in accordance with population, the evidence shows. This is partly accounted for by the development of new manufactures, such as the making of ice cream, bread baking, and printing and publishing, near the point of consumption. The hardware and woolen and worsted industries remain highly localized, however, while others, such as boots and shoes and cotton textiles, are tending to follow the distribution of population. Automobile production is highly concentrated both as to geographic location and in respect to population. Industries developing where population is particularly dense include perishable commodities, clothing, boots and shoes, and foundry machine shops.

Sparseness of manufacture characterizes the Plains region between the Rocky Mountains and the western boundaries of those States stretching from Louisiana to Minnesota, a region wholly without bituminous coal or anthracite in the northern part but having vast deposits of natural gas and petroleum in the southern part and minor fields in the extreme northwest. This is, of course, a section sparsely and only recently settled and largely agricultural.

Food industries are located with regard to location of raw materials, location of markets, and the technical character of the raw materials and of the products, the authors find. For example, flour mills and meat-packing establishments locate close to the wheat and corn-hog areas; they are also drawn toward the markets, this factor making for centering production in Buffalo and Chicago. However, no uniform tendency toward concentration and dispersion exists, meat packing having remained concentrated up to 1919 but showing a slight tendency toward dispersion thereafter, while flour milling and butter and cheese making have steadily become more concentrated.

Textile industries have not followed the same trends. The woolen and worsted industry has remained in the New England and the Middle Atlantic States in a period when the cotton industry has gradually changed from New England to the South. The making of wearing apparel is concentrated but less so than the basic manufactures of textiles. Nor do the various manufactures of wearing apparel have their origin in the same localities as the basic manufactures of textiles.

It is not evident to the authors of this study, on the basis of facts disclosed, whether or not the manufacturing industries are approaching stability of localization. Textiles, excluding wool, and the important basic industry, iron and steel, are still unsettled in location.

HOMEWORK AND SWEATSHOPS

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Relation Between Industrial Homework and Industrial Depressions

IS THERE any relation between an industrial depression and the extent to which industrial homework is practiced? If so, is it sufficiently marked to be perceptible, and in what direction does it appear? The division of women in industry of the New York State Department of Labor, becoming interested in this question, made an inquiry covering the period 1911 to 1930 and published the results in its official organ, the Industrial Bulletin, for February 1932.

It might reasonably be supposed, it was pointed out, that homework would increase as times grow hard. Women who cannot leave their families to work in factories might apply for homework as other workers lose their positions, and employers who see their returns falling off might send out homework in increasing volume as a means of reducing factory costs. To test this assumption the division prepared a table covering the period mentioned, showing for each year the index number of employment of all factories in New York State, of all factories in the men's clothing industry, and of homeworkers in licensed tenements. The figures under this last head were based on the reports of the homework inspectors, who regularly inspect each tenement licensed for homework and report the number of persons engaged in such work at the time of the inspection. The information thus obtained is not wholly satisfactory, but may be taken to show the general trend. Two regular inspections are made a year.

The following table shows the results obtained:

COURSE OF FACTORY EMPLOYMENT AND OF HOMEWORK IN NEW YORK STATE
1911 TO 1930

Year	Index numbers (average 1925-1927=100) of—			Number of homework inspectors	Year	Index numbers (average 1925-1927=100) of—			Number of homework inspectors
	Factory employees		Home-workers in licensed tenements			Factory employees		Home-workers in licensed tenements	
	All industries	Men's clothing industry				All industries	Men's clothing industry		
1911.....			83	8	1921.....	94	97	102	11
1912.....			86	10	1922.....	101	105	72	20
1913.....			84	10	1923.....	112	110	86	20
1914.....	97	99	71	14	1924.....	102	101	109	20
1915.....	100	99	76	14	1925.....	101	102	105	20
1916.....	117	108	73	14	1926.....	101	101	103	20
1917.....	122	111	87	14	1927.....	97	97	91	20
1918.....	124	104	132	18	1928.....	93	94	97	20
1919.....	116	97	127	18	1929.....	98	94	77	20
1920.....	120	110	120	18	1930.....	86	83	77	20

Apparently in periods of depression homework falls off more sharply than factory work, although marked fluctuations in homework seem to have lagged somewhat behind those in factory work, except for the present depression in which homework led in the decline. Both business prosperity and business depression are definitely reflected in the volume of homework, but the relation is direct. Some of the factors influencing it are thus summarized.

It would seem, then, that there is a direct relation between the volume of factory work and that of homework. There are various factors which must influence this relationship. In some industries certain processes in the manufacturing or finishing of factory-made articles have lent themselves readily to homework. In these cases homework has long held a definite place in the industry and is expanded or curtailed as the volume of factory work itself increases or diminishes. It is undoubtedly true that there are other industries in which homework is substituted for factory work during a depression. In still others, homeworkers constitute a reserve labor supply and as such are the first workers to be dispensed with when business becomes dull. With their plants and machinery in existence manufacturers in such industries are anxious to keep their factory workers employed. Instead of increasing homework as a substitute for factory work at such times, they rely upon homework as a means of expanding production beyond the capacity of their plants during periods of greater activity.

Homework Under the National Recovery Program

EVIDENCES of hardships worked upon some classes of labor under code provisions prohibiting homework led the President to issue an order on May 15, 1934, permitting homework to be done by certain persons under specified conditions, provided a certificate for each homeworker, issued in accordance with instructions of the United States Department of Labor, was obtained from the State agency designated by the Department as the certifying medium. Joint application from the homeworker and the employer was required, and certificates were granted only to the following classes of persons:

- (1) A homeworker who is suffering from a physical defect, injury, or illness not of a contagious nature, which physically incapacitates such homeworker for work in a factory or other regular place of business.
- (2) A homeworker whose services are absolutely essential at home to care for another person who is either bedridden or an invalid, and neither person is suffering from a contagious disease.
- (3) A homeworker who was accustomed to this method of earning a living before the code prohibition went into effect and is too old to be able to make an adjustment to factory routine. (No able-bodied person under 50 shall be considered too old to make this adjustment.)

In Pennsylvania the special-exemption certificates required by the Executive order were issued by the bureau of women and children of the State department of labor and industries. In a report on industrial homework in that State under the N. R. A., the bureau stated that by March 1, 1935, it had issued 190 such certificates, 88 on account of disability, 49 to aged workers, and 53 to workers needed at home to care for invalids. The special significance of the information acquired through the issuance of these exemption certificates—that is, the tendency of certain industries to apply for exemption—was not minimized, in the opinion of the bureau, by the small number involved. In this connection the report stated that the men's neckwear industry, which employed only 2 percent of the homeworkers

reported in September 1933, had, in March 1935, 30 percent of the workers to whom special-exemption certificates had been issued.

Not all codes prohibited home manufacture, however, and while gains were made in the control of homework under the National Recovery Administration, the preliminary report of a study made by the United States Department of Labor showed that homeworkers in the summer and fall of 1934 still received far less than a living wage and worked excessively long hours.¹

The Department of Labor's study was made between June and November 1934, a year after the earliest codes became effective. Some of the codes did not include provisions for the regulation of homework, others set the rates of pay for homeworkers below the rates for factory employees, and others established the same rate for home and other workers by implication in the definitions of "employee" given. It was found that even where the codes had raised the piece rates of homeworkers they still did not approximate those of factory help. This is also true of the individual earnings of homeworkers, which with few exceptions were on a lower level than earnings of factory workers. Two industries studied, glove and lace manufacturing, made a better showing as regards hourly earnings of homeworkers than did the other industries. This was attributed in part to the efforts of these two industries to regulate homework. However, the efforts of the lace industry to limit working time and employment of children in the home were found to have been unsuccessful. In this particular industry the code authority conscientiously tried to obtain reports on hours and persons employed but had not been able to prevent the abuses mentioned. The report states: "This failure, like the failure to raise earnings, has been due in part to the fact that piece rates have been set too low and in part—in one branch of the industry, at least—to the use of the contract system; but in general it is due to the inherent difficulties of regulating homework."

Granting that "bootlegging" of homework continued under codes that prohibited the practice, the report under review stated that the volume of homework had been reduced after the prohibitions became effective. Difficulty was encountered in locating homeworkers in the course of this study, in contrast with earlier periods when it was necessary only to walk along the streets in certain areas to see entire families at work in their homes.

Experience of manufacturers who had brought homeworkers into their plants in accordance with code provisions indicated that the necessary adjustments were not so great as was at first anticipated. The presence of workers in the shops had facilitated the shipment of orders, made it easier to correct mistakes, and contributed to the development of more efficient methods of production. Employers who had experienced these improvements believed that if homework had been prohibited in all codes alike, so that no group of employers would enjoy an unfair advantage over others, the abolition of homework would have been satisfactory.

The findings in this study, as summarized in the original report, follow.

¹ U. S. Department of Labor. *A Study of Industrial Homework in the Summer and Fall of 1934: A Preliminary Report to the National Recovery Administration.* (Mimeographed.)

Summary of Findings

THE study included interviews with 1,473 families containing 2,320 individual homeworkers. These families were located in 7 widely scattered States, and were doing work for 24 industries. Eighty-seven percent of the families were engaged on work for 9 industries: Knitted outerwear (454); lace (217); infants' and children's wear (138); art needlework (109); fresh-water pearl button (100); dolls' dresses (86); tags (76); embroidery, etc. (51); gloves (50).

Although the majority of codes provided that the labor provisions should apply to all persons working in the industry, only a few code authorities gave special attention to the problem of obtaining compliance with these standards for industrial homeworkers.

The findings of this study made a full year after the N. R. A. had been set up indicate that standards for industrial homeworkers have not been raised to anything approaching the level of factory standards. Earnings, whether measured by the hour or the week, are extremely low, inhumanly long hours are still permitted, and child labor is still prevalent in the homework industries where children can profitably be employed. One-third of the homeworkers making dolls' dresses, and 8 percent of the homeworkers engaged on lace, were children under 16. Of all the 2,282 homeworkers in all industries whose ages were reported 8 percent were under 16 years of age.

Only 9 percent of the homeworkers for whom hourly earnings were reported earned as much as 30 cents an hour, and only 5 percent earned as much as 35 cents an hour—the hourly minimum rate generally set by the codes.

Hourly earnings were less than 10 cents an hour for a majority of workers included in the study. The proportion earning under 10 cents an hour was 79 percent in knitted outerwear, 91 percent in infants' and children's wear, and 78 percent in fresh-water pearl button carding. Eighteen percent of the homeworkers earned less than 5 cents an hour. In certain industries this proportion was very much higher—67 percent of the workers knitting and crocheting infants' wear, and 47 percent of those sewing and embroidering infants' and children's dresses, earned less than 5 cents an hour.

Earnings above 15 cents an hour were comparatively frequent only in gloves, lace, and art needlework.

Thirty-five percent of the chief homeworkers worked more than usual code hours—40 a week; in one industry the proportion working at least 50 hours in a week was as high as 57 percent. Instances were found of workers who had labored for 70 and 80 hours a week, knitting boucle dresses for women, or sewing and embroidering dresses for children.

In 62 percent of the families interviewed a single person did homework; however, among the 1,473 families interviewed there were 2,320 individual workers, and in some families there were as many as 5 and 6 persons who regularly assisted the chief homeworker. Weekly earnings were reported for the family doing homework as a group regardless of the number who worked in that family. Half the families received less than \$3 a week from their homework. Only 6 percent received as much as \$13 a week, which is the minimum generally set by the codes for a single worker.

Two of the industries studied, lace and gloves, offered examples of specific regulation of homework. In the lace industry regulations issued by the code authority were designed to assure homeworkers the same hours and earnings as those of factory workers; namely, \$13 a week and not more than 40 hours. In the glove industry a minimum-wage scale had been adopted which gave homeworkers rates 10 percent lower than those paid inside workers.

The following findings for the lace industry indicate that although conditions under codes were better than in unregulated industries the efforts to regulate made little progress in achieving the goal set:

(1) Only a fifth of the chief homeworkers on lace were earning as much as 30 cents an hour (the code minimum was 32½ cents).

(2) Seventeen percent of these homeworkers were working 50 hours a week or longer, although in one branch of the industry work was slow; in lace cutting where more work was available this proportion was much higher—29 percent.

(3) In 60 percent of the families doing lace at least 2 persons did homework; in 22 percent of the families at least 3 persons worked. A total of 425 persons were found working in 217 families, although each homeworker was required to sign an agreement intended to assure that only 1 person would do the work.

(4) Eight percent of the lace homeworkers (419 reported age) were less than 16 years old (the code abolished child labor).

(5) Only one-third of the families had weekly earnings amounting to \$10 a week or over in spite of the fact that several persons commonly worked, and that hours as high as 60 and 70 a week were reported by some workers (the code minimum was \$13 a week).

In industries where there had been no special efforts at regulation earnings were a great deal lower, and hours were limited only by the amount of work the homeworker could obtain.

Table 1 shows the distribution of hourly earnings for the chief homeworker for the 1,044 persons who reported on this item.

TABLE 1.—NUMBER AND PERCENT OF TOTAL CHIEF HOMEWORKERS CLASSIFIED BY HOURLY EARNINGS

Hourly earnings of chief homeworker	Number	Percent distribution	Hourly earnings of chief homeworker	Number	Percent distribution
Total.....	1,473	-----	15 and under 20 cents.....	100	10
Total reported.....	1,044	100	20 and under 25 cents.....	63	6
Under 2 cents.....	20	2	25 and under 30 cents.....	44	4
2 and under 4 cents.....	91	9	30 and under 35 cents.....	39	4
4 and under 6 cents.....	164	16	35 and under 40 cents.....	19	2
6 and under 8 cents.....	152	15	40 and under 45 cents.....	10	1
8 and under 10 cents.....	151	14	45 cents or more.....	23	2
10 and under 15 cents.....	168	16	Not reported.....	429	-----

Table 1 shows that only 5 percent of the total number of workers received as much as 35 cents an hour, the usual code minimum-wage rate.

In table 2 the distribution of the chief homeworkers is by the number of hours worked per week.

TABLE 2.—NUMBER AND PERCENT OF TOTAL CHIEF HOMEWORKERS CLASSIFIED BY WEEKLY WORKING TIME

Weekly hours worked by chief homemaker	Number	Percent distribution	Weekly hours worked by chief homemaker	Number	Percent distribution
Total.....	1, 473	-----	50 and under 60 hours.....	86	8
Total reporting.....	1, 069	100	60 and under 70 hours.....	86	8
Under 20 hours.....	240	22	70 and under 80 hours.....	57	5
20 and under 30 hours.....	196	18	80 hours or over.....	25	2
30 and under 40 hours.....	207	19	Not reported.....	404	-----
40 and under 50 hours.....	172	16			

In spite of the intermittency of homework, with interruptions for household duties, nearly one-half of the chief homeworkers devoted 35 hours or over per week to the work, and approximately one-fourth worked 50 hours or over.

Homeworkers on Relief

IMPROVEMENT in earnings of homeworkers under the N. R. A. codes was not sufficient in many cases to offset increased living costs and the burden of continued unemployment of the major breadwinners of the homeworking families. In consequence, many of these families were on the public-relief rolls. The Bureau of Women and Children of the Pennsylvania Department of Labor and Industry found in its annual survey² of industrial homework in that State that in January 1935 one-fourth of the Philadelphia homeworkers reported by manufacturers of infants' and children's wear were from families who were receiving relief, according to a check made with the relief agencies.

Similarly, in Connecticut, of the 129 families covered in a survey³ of homework in the fabricated-metal industry, 47 percent were receiving aid from public relief in addition to their earnings, a condition which the report held to be representative of the condition of homeworkers throughout the fabricated-metal industry. According to the public relief rolls of the towns in which the industry is centered, 173 families, or 40 percent of the entire 438 families employed in homework, were receiving public aid during at least part of the year before the study was made.

Growth of Sweatshop Conditions During the Depression

COMPARATIVELY early in the depression social workers and officials of State labor departments reported from different parts of the country the reappearance and rapid growth of conditions in industry which it was thought had been definitely abolished by law

² Pennsylvania Department of Labor and Industry. Industrial Homework in Pennsylvania Under the N. R. A. Harrisburg, March 1935. (Mimeographed.)

³ Connecticut Department of Labor. Report of the Commissioner of Labor for the period ended June 30, 1934.

and public opinion, such as illegally long hours, low pay, and violation of protective labor legislation. The deterioration in working conditions was stressed at a conference on Present Day Child Labor Problems, held in Washington, D. C., in December 1932.⁴

Frances Perkins and Joseph M. Tone, commissioners of labor of New York and Connecticut, respectively; Beatrice McConnell of the Pennsylvania Department of Labor; Edward F. McGrady of the American Federation of Labor; Courtney Dinwiddie of the National Child Labor Committee; and others, testified to the appearance of a new variation of the old sweatshop, with unbelievably low wages and long hours for children as well as adults. A relentless pressure on labor standards was pictured.

Conditions in Various States

IN CONNECTICUT the worst conditions seem to have been found in the garment-making industry, in which "runaway shops" were responsible for a serious situation. As early as 1929 the Connecticut Chamber of Commerce noted a movement of factories, not confined to the garment-making trades, from other States to Connecticut to take advantage of the easier labor laws there, the trend being principally from New York State. At that time the movement was looked upon as something to be encouraged. By 1931, however, the influx of responsible establishments had apparently come to an end, and the advent of a runaway shop had come to be recognized as a serious evil, embodying the old-time abuses of the sweatshop. The State deputy commissioner of labor, in an article published in the Pennsylvania Labor Herald of November 19, 1932, thus described its method of operation:

The sweatshop owner, however, still works out of and for New York. From the New York manufacturers he receives shirts, underwear, or dresses, all cut, ready for sewing. He brings them to some low-rent loft or abandoned factory in which he has installed a few sewing machines and there hires women and girls at pitifully low wages to do the sewing.

He has no capital invested in raw materials; little in anything. His entire equipment can be moved overnight when he decides to skip town without paying his wages or other bills.

Some of these employers literally pay no wages at all. Under the pretense of hiring learners they get the girls to work for nothing for 2 or 3 weeks till they learn the business. At the end of this period the girls are discharged and replaced with another group of deluded learners. The employer thus gets his labor for nothing.

Others, not quite so brazen, pay unmistakably low rates. The girls are lucky if they get \$3 at the end of a hard week and are rolling in wealth if their pay check amounts to \$6.

In addition, sanitary conditions were reported as bad and violations of the hours law as frequent, although Connecticut permitted a 55-hour week. The State commissioner of labor, speaking before the Washington conference, said:

Employers have been known to punch the time cards of their employees, thus showing a legal number of hours, while the employees, including minors, worked overtime. Cases were found in which children worked 80 hours or more a week.

In Massachusetts attention was called especially to the situation through the efforts of the State minimum-wage commission to enforce the minimum-wage law:

An investigation made by the Massachusetts Minimum Wage Commission last spring disclosed that rates as low as 10 cents—and in one case, 5 cents—an hour

⁴ U. S. Children's Bureau. Summary of the Conclusions of the Conference on Present Day Child Labor Problems, December 1932. (Mimeographed.)

were paid to girl workers in Fall River; hundreds were earning less than \$5 a week. In 5 plants investigated, manufacturing men's furnishings, women's underwear, house dresses, children's dresses, only 5 employees earned more than \$15 a week. Of 1,616 employees in 13 plants making women's apparel, 71 percent earned less than \$10 a week and 97 percent earned less than \$15 a week. In one of the worst-paid shops hourly rates ranged from 10 cents to 16 cents an hour; the earnings of these workers, if employed for a full week of 48 hours, would range from \$4.80 to \$7.68 a week. Practically all the shops paying these low wages had started business in the town since the beginning of the present depression. Many factories of similar character have been established in other Massachusetts cities during this period. In New Bedford, for instance, it was found that wages paid were even lower than in Fall River, and check-ups at later dates revealed that, even after investigation by the minimum-wage commission, wages were continuing downward.

Miss Perkins, then State industrial commissioner of New York, stressed the fact that "the jobs at present open to boys and girls between 14 and 16 years of age offer practically nothing worth-while from the standpoint either of training or earnings."

So far as factory jobs for adolescents are concerned, one of the greatest difficulties is the increase of very low-paid piecework. One order which came to a junior office recently called for girls to clean men's pants in a men's clothing shop. During the first few weeks the employer paid a salary of \$7 a week. From then on, however, payment was by the piece, at the rate of one-half cent for each pair of pants cleaned. According to the girls placed on this work, it takes about 5 minutes to clean a pair of pants. This means an hourly rate of 6 cents. In a 48-hour week, providing work came in steadily, the net earnings would be \$2.88.

From Pennsylvania, Maryland, and New Jersey also came complaints of sweatshop conditions, especially where young workers were concerned.

The Washington conference, which approached the problem from the child-welfare point of view, planned a program for the emergency, calling for an improvement in hour and age regulations for child workers, for a stricter control over the employment of minors in hazardous occupations, and for mandatory minimum-wage legislation for minors under 18. To make these improvements effective, it held that bureaus of women and children should be established in State labor departments, or, if they already exist, should be strengthened, and that business firms should be required to register with State labor departments to facilitate inspection.

HOUSING AND BUILDING OPERATIONS

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Building Construction in Principal Cities of the United States 1931 to 1935

DATA concerning building permits issued are collected monthly by the Bureau of Labor Statistics from all cities in the United States having a population of 10,000 or over. Previous to the year 1933, information was collected only from cities having a population of 25,000 or over.

The Bureau issues a monthly pamphlet showing, by geographic divisions, the number and estimated cost of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, of total building operations, and of the number of families provided for.

Reports are also issued annually showing, by cities, the number and estimated cost of each of the different kinds of buildings for which permits are issued in the cities from which schedules are received. For the calendar year 1934, schedules were received from 819 cities having a population of 10,000 or over.

Comparable data for 355 identical cities are herein presented for the years 1931 and 1932. This information is limited to cities having a population of 25,000 or more.

Beginning with January 1933, however, the Bureau extended the scope of its work on this subject to include cities having a population of 10,000 or more. Therefore, to include the building activity of cities having a population of 10,000 or more, data are also shown for 819 comparable cities for the years 1933 and 1934.

The cost figures shown in the following tables are for buildings only. No land costs are included. Only buildings within the corporate limits of the cities enumerated are shown. The States of Illinois, Massachusetts, New Jersey, New York, North Carolina, and Pennsylvania, through their departments of labor, are cooperating with the Bureau of Labor Statistics in the collection of these data.

Trend in Expenditures for Building Construction, September 1929 to December 1935

TABLE 1 gives index numbers showing families provided for and expenditures for building operations, by months, from September 1929 to December 1935.

TABLE 1.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF INDICATED EXPENDITURES FOR BUILDING OPERATIONS, SEPTEMBER 1929 TO DECEMBER 1935

[Monthly average, 1929=100]

Year and month	Families provided for	Indicated expenditures for—			
		New residential buildings	New non-residential buildings	Additions, alterations and repairs	Total building construction
1929					
September.....	70.2	63.7	81.3	95.0	73.7
October.....	64.4	61.6	107.9	115.2	85.7
November.....	51.7	44.8	89.6	95.2	68.1
December.....	35.9	30.2	74.3	66.1	51.7
1930					
January.....	34.2	29.4	64.3	55.1	46.1
February.....	43.0	34.7	51.8	57.5	44.1
March.....	57.1	47.2	87.1	77.5	66.4
April.....	62.0	51.0	100.1	81.8	73.8
May.....	59.6	48.5	90.7	84.5	69.3
June.....	54.4	45.1	82.5	74.0	63.3
July.....	49.9	44.1	85.7	77.4	64.8
August.....	48.7	43.4	87.2	58.6	54.4
September.....	51.3	44.4	73.8	64.2	58.2
October.....	58.3	44.9	53.5	58.1	49.7
November.....	52.9	42.5	54.4	37.8	46.3
December.....	45.0	37.6	64.3	53.5	50.1
1931					
January.....	39.1	30.8	43.4	55.5	38.9
February.....	40.3	30.3	43.8	48.6	37.9
March.....	53.4	40.7	76.4	58.0	57.1
April.....	64.6	48.6	73.9	65.2	60.6
May.....	51.7	39.8	58.5	53.0	48.8
June.....	43.4	33.4	41.7	56.5	39.4
July.....	35.8	27.6	53.7	57.8	41.7
August.....	36.6	33.5	63.9	48.3	47.3
September.....	30.1	24.8	41.8	41.0	33.5
October.....	33.7	25.4	34.8	39.8	30.8
November.....	23.8	19.0	32.7	33.6	26.2
December.....	14.7	11.8	32.9	27.3	22.3
1932					
January.....	14.4	10.2	25.0	25.8	18.2
February.....	13.0	9.1	16.5	26.7	14.3
March.....	15.4	10.7	18.1	27.0	15.7
April.....	13.4	9.7	25.0	32.0	18.8
May.....	11.3	7.9	39.3	27.3	23.3
June.....	10.6	7.9	24.6	28.2	17.3
July.....	8.2	5.6	16.1	22.6	12.0
August.....	9.7	6.8	15.7	24.9	12.6
September.....	10.8	7.5	11.4	21.7	10.7
October.....	9.5	6.6	12.6	22.8	11.0
November.....	6.4	4.9	21.8	14.9	13.0
December.....	5.0	3.6	17.3	13.7	10.5
1933					
January.....	4.9	3.4	26.8	16.2	14.7
February.....	5.6	4.6	8.9	14.2	7.9
March.....	7.2	4.2	6.9	20.9	7.8
April.....	7.4	4.6	9.9	22.6	9.5
May.....	11.9	8.1	33.8	29.8	21.7
June.....	12.3	8.8	11.5	33.3	13.8
July.....	10.2	8.0	10.9	26.7	12.2
August.....	8.9	7.1	10.4	29.4	11.9
September.....	11.8	8.6	12.8	25.5	13.1
October.....	6.5	5.2	13.1	30.1	12.1
November.....	12.1	8.6	10.3	18.3	11.0
December.....	6.7	4.6	13.8	23.5	11.1

TABLE 1.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF INDICATED EXPENDITURES FOR BUILDING OPERATIONS, SEPTEMBER 1929 TO DECEMBER 1935—Continued

Year and month	Families provided for	Indicated expenditures for—			
		New residential buildings	New non-residential buildings	Additions, alterations and repairs	Total building construction
1934					
January.....	3.7	2.8	10.5	24.2	8.9
February.....	3.8	3.2	10.3	22.2	8.7
March.....	7.2	5.7	13.9	27.0	10.8
April.....	9.0	6.7	13.6	30.1	12.8
May.....	10.2	7.3	20.4	36.4	16.7
June.....	7.2	5.3	12.6	34.4	12.4
July.....	7.8	5.3	16.8	35.8	14.2
August.....	7.6	5.4	17.0	34.1	14.1
September.....	7.4	5.7	12.6	32.0	12.3
October.....	9.0	6.8	16.4	43.5	16.0
November.....	8.2	5.9	16.1	31.2	13.7
December.....	5.4	4.0	10.2	23.2	9.3
1935					
January.....	7.3	5.1	11.1	27.9	10.9
February.....	8.5	5.6	13.9	29.7	12.5
March.....	16.6	11.4	18.6	41.6	19.2
April.....	18.9	13.0	21.2	45.5	21.6
May.....	20.0	14.2	19.9	47.2	22.0
June.....	26.8	16.1	24.4	43.6	24.3
July.....	20.6	15.3	22.2	50.9	24.1
August.....	20.6	15.5	32.5	54.8	28.5
September.....	19.0	14.2	25.2	46.8	24.0
October.....	24.5	19.1	27.4	50.9	28.2
November.....	22.6	16.9	26.8	39.3	25.0
December.....	15.5	12.9	32.7	35.6	24.2

Amount and Cost of Building, 1931 to 1935

TABLE 2 shows the total number of new buildings and the estimated cost of each of the different kinds of new buildings for which permits were issued for each year 1931 to 1935. The data for 1931 and 1932 cover 355 identical cities; those for 1933 and 1934 cover 819 identical cities; and those for 1935 cover 811 cities.

TABLE 2.—NUMBER OF BUILDINGS AND COST OF BUILDING CONSTRUCTION FOR WHICH PERMITS WERE ISSUED, 1931-35

355 identical cities

Kind of building	Buildings for which permits were issued			
	1931		1932	
	Number	Cost	Number	Cost
Residential buildings:				
1-family dwellings.....	54,769	\$260,160,285	22,226	\$85,438,316
2-family dwellings.....	5,604	38,869,831	1,648	10,078,284
1-family and 2-family dwellings with stores combined.....	541	3,952,649	236	1,462,010
Multifamily dwellings.....	2,172	132,901,079	430	13,024,528
Multifamily dwellings with stores combined.....	99	9,452,626	32	563,000
Hotels.....	19	2,112,633	6	205,000
Lodging houses.....	10	335,800	12	132,300
All other.....	91	9,829,934	18	1,678,192
Total.....	63,305	457,614,837	24,608	112,581,630

TABLE 2.—NUMBER OF BUILDINGS AND COST OF BUILDING CONSTRUCTION FOR WHICH PERMITS WERE ISSUED, 1931-35—Continued

355 identical cities—Continued

Kind of building	Buildings for which permits were issued			
	1931		1932	
	Number	Cost	Number	Cost
Nonresidential buildings:				
Amusement buildings.....	550	\$24, 078, 018	373	\$12, 709, 193
Churches.....	495	18, 967, 885	266	9, 064, 325
Factories and workshops.....	1, 536	48, 841, 046	815	17, 572, 871
Public garages.....	1, 090	11, 108, 302	554	2, 626, 601
Private garages.....	81, 002	24, 014, 561	44, 172	10, 630, 807
Service stations.....	3, 854	10, 500, 297	3, 249	6, 728, 645
Institutions.....	247	58, 426, 078	117	16, 805, 722
Office buildings.....	283	107, 125, 643	135	10, 316, 101
Public buildings.....	407	129, 180, 308	225	106, 459, 208
Public works and utilities.....	491	43, 962, 932	313	25, 648, 660
Schools and libraries.....	575	113, 696, 583	205	43, 533, 016
Sheds.....	9, 630	2, 897, 432	10, 186	2, 525, 008
Stables and barns.....	288	487, 570	281	324, 936
Stores and warehouses.....	7, 123	66, 816, 236	4, 707	25, 928, 014
All other.....	2, 677	2, 784, 513	1, 397	5, 495, 030
Total.....	110, 258	662, 888, 013	66, 795	296, 693, 137
Total new buildings.....	173, 563	1, 120, 502, 850	91, 403	409, 274, 767
Additions, alterations, and repairs.....	238, 448	202, 119, 208	197, 482	109, 957, 878
Grand total, all buildings.....	412, 011	1, 322, 622, 058	288, 885	519, 232, 645

819 identical cities

	1933		1934	
	Number	Cost	Number	Cost
Residential buildings:				
1-family dwellings.....	22, 358	\$84, 987, 866	20, 396	\$78, 994, 055
2-family dwellings.....	1, 267	7, 134, 113	977	5, 841, 003
1-family and 2-family dwellings with stores combined.....	259	1, 312, 039	216	1, 013, 207
Multifamily dwellings.....	364	28, 828, 177	320	18, 947, 496
Multifamily dwellings with stores combined.....	17	208, 508	23	510, 800
Hotels.....	2	102, 500	3	160, 000
Lodging houses.....	15	103, 860	6	24, 350
All other.....	22	1, 009, 709	49	2, 450, 670
Total.....	24, 304	123, 686, 772	21, 990	107, 941, 581
Nonresidential buildings:				
Amusement buildings.....	437	5, 296, 579	603	10, 277, 168
Churches.....	324	5, 742, 525	401	5, 808, 220
Factories and workshops.....	1, 046	20, 653, 069	1, 163	18, 150, 747
Public garages.....	380	2, 005, 631	515	3, 362, 514
Private garages.....	40, 938	9, 255, 892	37, 935	9, 104, 102
Service stations.....	3, 057	7, 062, 800	3, 002	9, 520, 811
Institutions.....	87	20, 863, 575	124	13, 034, 008
Office buildings.....	111	5, 551, 977	164	14, 370, 968
Public buildings.....	169	36, 889, 256	351	41, 432, 384
Public works and utilities.....	251	57, 534, 914	393	14, 558, 905
Schools and libraries.....	98	11, 866, 192	482	36, 529, 900
Sheds.....	12, 863	3, 230, 973	12, 378	3, 441, 317
Stables and barns.....	496	407, 077	686	1, 120, 814
Stores and warehouses.....	5, 215	25, 459, 327	5, 424	33, 605, 266
All other.....	545	1, 043, 705	1, 104	1, 661, 817
Total.....	66, 017	212, 863, 492	64, 725	215, 778, 941
Total, new buildings.....	90, 321	336, 550, 264	86, 715	323, 720, 522
Additions, alterations, and repairs.....	236, 967	130, 506, 357	264, 506	168, 910, 014
Grand total, all buildings.....	327, 288	467, 056, 621	351, 221	492, 630, 536

TABLE 2.—NUMBER OF BUILDINGS AND COST OF BUILDING CONSTRUCTION FOR WHICH PERMITS WERE ISSUED, 1931-35—Continued

811 Cities

Kind of building	Buildings for which permits were issued		Kind of building	Buildings for which permits were issued	
	1935			1935	
	Number	Cost		Number	Cost
Residential buildings:			Nonresidential buildings—		
1-family dwellings.....	49,001	\$201,953,620	Continued.....		
2-family dwellings.....	2,047	11,126,852	Service stations.....	3,642	\$11,098,439
1- and 2-family dwellings with stores combined.....	381	1,629,941	Institutions.....	111	21,121,907
Multifamily dwellings.....	1,461	69,176,309	Office buildings.....	216	8,429,935
Multifamily dwellings with stores combined.....	62	3,259,150	Public buildings.....	451	77,005,494
Hotels.....	12	328,039	Public works and utilities.....	391	26,534,078
Lodging houses.....	16	72,047	Schools and libraries.....	434	55,244,178
All other.....	78	3,681,273	Sheds.....	12,039	3,561,207
Total.....	53,058	291,227,231	Stables and barns.....	523	586,268
Nonresidential buildings:			Stores and warehouses.....	7,000	42,909,331
Amusement buildings.....	569	12,550,678	All other.....	899	1,872,984
Churches.....	486	7,310,651	Total.....	79,439	316,730,227
Factories and workshops.....	1,584	32,324,740	Total, new buildings.....	132,497	607,957,458
Public garages.....	567	3,770,011	Additions, alterations, and repairs.....	317,626	228,546,659
Private garages.....	50,527	12,410,326	Grand total.....	450,123	836,504,117

Families Provided for, 1931 to 1935

TABLE 3 shows the number of families provided for in each of the different kinds of dwellings for which permits were issued during the calendar years 1931, 1932, 1933, and 1934.

TABLE 3.—NUMBER AND PERCENTAGE OF FAMILY DWELLING UNITS PROVIDED, 1931-34

[355 identical cities in 1931 and 1932; 819 identical cities in 1933 and 1934]

Kind of dwelling	Number of new dwellings for which permits were issued				Families provided for			
	1931	1932	1933	1934	1931	1932	1933	1934
All dwellings.....	63,185	24,572	24,265	21,932	106,077	30,386	34,870	29,908
1-family dwellings.....	54,769	22,226	22,358	20,396	54,769	22,226	22,358	20,396
2-family dwellings.....	5,604	1,648	1,267	977	11,208	3,296	2,534	1,954
1-family and 2-family dwellings with stores combined.....	541	236	259	216	762	307	318	262
Multifamily dwellings.....	2,172	430	364	320	37,103	4,404	9,570	7,135
Multifamily dwellings with stores combined.....	99	32	17	23	2,235	153	90	161

During 1935, permits were issued in 811 cities for 52,952 dwellings, which were planned to house 76,515 families. Of these 76,515 dwelling units, 49,001 or 64 percent were in 1-family dwellings, 21,870 or 28.6 percent were in apartment houses, 4,094 were in 2-family dwellings, 1,100 were in apartment houses with stores combined, and 450 were in 1- and 2-family dwellings, with stores combined.

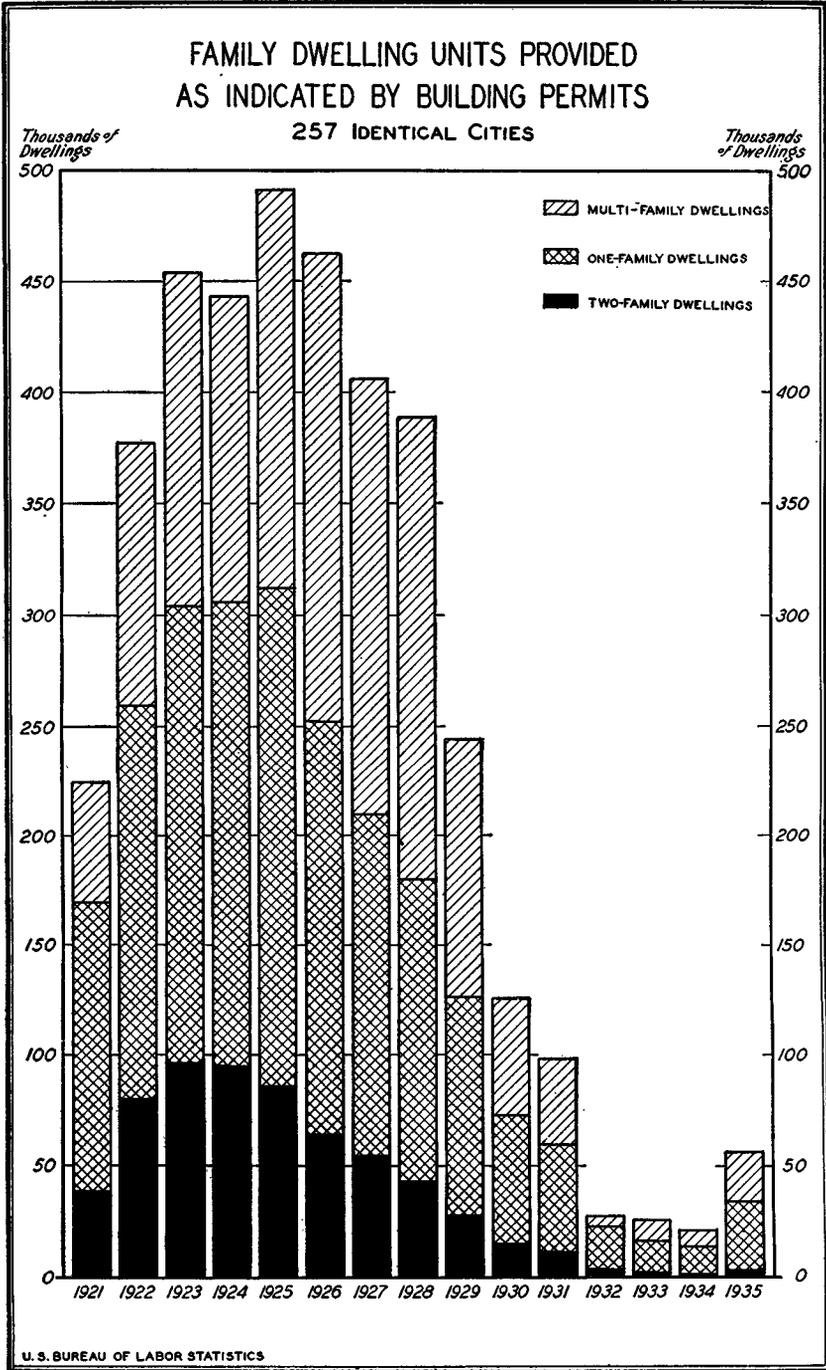


Table 4 shows the number and percentage distribution of families provided for in the different kinds of dwellings in 257 identical cities, for the years 1921 to 1935.

TABLE 4.—NUMBER AND PERCENT OF FAMILIES PROVIDED FOR IN DIFFERENT KINDS OF DWELLINGS IN 257 IDENTICAL CITIES, 1921 TO 1935

Year	Number of families provided for in—				Percent of families provided for in—		
	1-family dwellings	2-family dwellings ¹	Multi-family dwellings ²	All classes of dwellings	1-family dwellings	2-family dwellings ¹	Multi-family dwellings ²
1921.....	130, 873	38, 858	54, 814	224, 545	58. 3	17. 3	24. 4
1922.....	179, 364	80, 252	117, 689	377, 306	47. 5	21. 3	31. 2
1923.....	207, 632	96, 944	149, 697	453, 673	45. 8	21. 2	33. 0
1924.....	210, 818	95, 019	137, 062	442, 919	47. 6	21. 5	30. 9
1925.....	226, 159	86, 145	178, 918	491, 222	46. 0	17. 5	36. 4
1926.....	188, 074	64, 298	209, 842	462, 214	40. 7	13. 9	45. 4
1927.....	155, 512	54, 320	196, 263	406, 095	38. 3	13. 4	48. 3
1928.....	136, 907	43, 098	208, 673	388, 678	35. 2	11. 1	53. 7
1929.....	98, 164	27, 813	118, 417	244, 394	40. 2	11. 4	48. 5
1930.....	57, 318	15, 145	52, 859	125, 322	45. 7	12. 1	42. 2
1931.....	48, 330	11, 310	38, 538	98, 178	49. 2	11. 5	39. 3
1932.....	19, 528	3, 400	4, 453	27, 381	71. 3	12. 4	16. 3
1933.....	14, 437	2, 124	9, 318	25, 879	55. 8	8. 2	36. 0
1934.....	13, 397	1, 457	7, 209	22, 063	60. 7	6. 6	32. 7
1935.....	31, 030	3, 023	21, 757	55, 810	55. 6	5. 4	39. 0

¹ Includes 1-family and 2-family dwellings with stores.

² Includes multifamily dwellings with stores.

Expenditures for Building Operations, 1921 to 1935

TABLE 5 shows the estimated expenditures for new residential buildings, for new nonresidential buildings, for additions, alterations, and repairs, and for total building operations in 257 identical cities, for the years 1921 to 1935, together with the estimated population as of July 1 each year; the number of families provided for; the ratio of families provided for to each 10,000 of population; and index numbers of each of these items, and of families provided for weighted by population.

TABLE 5.—ESTIMATED EXPENDITURES FOR BUILDING CONSTRUCTION, FAMILIES PROVIDED FOR, AND INDEX NUMBERS THEREOF IN 257 IDENTICAL CITIES, 1921 TO 1935

Year	New residential buildings		New nonresidential buildings		Additions, alterations, and repairs		Total building operations	
	Estimated expenditures	Index number	Estimated expenditures	Index number	Estimated expenditures	Index number	Estimated expenditures	Index number
1921.....	\$937, 352, 739	100. 0	\$635, 775, 199	100. 0	\$282, 651, 791	100. 0	\$1, 855, 779, 729	100. 0
1922.....	1, 612, 352, 921	172. 0	876, 276, 713	137. 8	297, 310, 776	105. 2	2, 785, 940, 410	150. 1
1923.....	2, 000, 986, 900	213. 5	1, 070, 596, 718	168. 4	359, 678, 980	127. 3	3, 431, 262, 598	184. 9
1924.....	2, 070, 276, 772	220. 9	1, 137, 631, 080	178. 9	300, 358, 735	106. 3	3, 508, 266, 587	189. 0
1925.....	2, 461, 546, 270	262. 6	1, 343, 880, 884	211. 4	232, 635, 185	82. 3	4, 038, 062, 339	217. 6
1926.....	2, 255, 994, 627	240. 7	1, 300, 840, 876	204. 6	270, 091, 701	95. 6	3, 826, 927, 204	206. 2
1927.....	1, 906, 003, 260	203. 3	1, 231, 785, 870	193. 7	340, 815, 932	120. 6	3, 478, 605, 062	187. 4
1928.....	1, 859, 429, 751	198. 4	1, 135, 549, 986	178. 6	309, 719, 975	109. 6	3, 304, 699, 712	178. 1
1929.....	1, 433, 111, 774	152. 9	1, 146, 958, 101	180. 4	353, 047, 656	124. 9	2, 933, 117, 531	158. 1
1930.....	601, 269, 847	64. 1	849, 386, 873	133. 6	249, 018, 794	88. 1	1, 699, 675, 514	91. 6
1931.....	426, 270, 111	45. 5	622, 830, 444	98. 0	188, 894, 738	66. 8	1, 237, 985, 293	66. 7
1932.....	103, 452, 079	11. 0	275, 788, 958	43. 4	102, 249, 230	36. 2	481, 490, 267	25. 9
1933.....	91, 298, 433	9. 7	183, 065, 712	28. 8	108, 025, 306	38. 2	382, 389, 451	20. 6
1934.....	76, 370, 924	8. 1	164, 627, 281	25. 9	135, 688, 065	48. 0	376, 686, 270	20. 3
1935.....	211, 987, 850	22. 6	260, 093, 152	40. 9	183, 132, 408	64. 8	655, 213, 410	35. 3

TABLE 5.—ESTIMATED EXPENDITURES FOR BUILDING CONSTRUCTION, FAMILIES PROVIDED FOR, AND INDEX NUMBERS THEREOF IN 257 IDENTICAL CITIES, 1921 TO 1935—Continued

Year	Population		Families provided for			
	As estimated by Census Bureau	Index number	Number	Index number	Ratio to each 10,000 of population	Index number adjusted to population
1921.....	36,575,118	100.0	224,545	100.0	61.4	100.0
1922.....	37,511,516	102.6	377,305	168.0	100.6	163.7
1923.....	38,447,913	105.1	453,673	202.0	118.0	192.2
1924.....	39,384,311	107.7	442,919	197.3	112.5	183.2
1925.....	40,320,708	110.2	491,222	218.8	121.8	198.4
1926.....	41,257,106	112.8	462,214	205.8	112.0	182.4
1927.....	42,058,897	115.0	406,095	180.9	96.6	157.3
1928.....	42,767,125	116.9	388,678	173.1	90.9	148.1
1929.....	43,665,235	119.4	244,394	108.8	56.0	91.1
1930.....	¹ 44,850,467	122.6	125,322	55.8	27.9	45.5
1931.....	45,896,339	125.5	98,178	43.7	21.4	34.8
1932.....	46,647,939	127.5	27,381	12.2	6.9	9.6
1933.....	47,411,849	129.6	25,879	11.5	6.5	8.9
1934.....	(²)	(²)	22,063	9.8	³ 4.7	³ 7.6
1935.....	(²)	(²)	55,810	24.9	³ 11.8	³ 19.2

¹ Actual enumeration.

² No estimate made.

³ Based on 1933 population.

Average Cost of Dwellings per Family, 1921 to 1935

TABLE 6 shows the average cost per family unit, each year 1921 to 1935, of housing accommodations of each type for which permits were issued in the 257 identical cities from which reports were received.

The cost figures from which these averages were computed are as stated by the prospective builder on applying for his permit to build. No land costs are included. There may be a profit or loss between the cost to the owner and the cost to the purchaser.

TABLE 6.—AVERAGE COST OF NEW DWELLINGS¹ PER FAMILY IN 257 IDENTICAL CITIES, 1921 TO 1935

[This table does not attempt to show the change in the cost of erecting an identical building, but it does show the change in the cost of such building as was erected]

Year	Average cost of new dwellings per family				Index numbers of cost of dwellings per family (1921=100)			
	1-family dwellings	2-family dwellings ²	Multifamily dwellings ³	All classes of dwellings	1-family dwellings	2-family dwellings ³	Multifamily dwellings ³	All classes of dwellings
1921.....	\$3,972	\$3,762	\$4,019	\$3,947	100.0	100.0	100.0	100.0
1922.....	4,134	3,801	3,880	4,005	104.1	101.0	96.5	101.5
1923.....	4,203	4,159	4,001	4,127	105.8	110.6	98.6	104.6
1924.....	4,317	4,336	4,419	4,352	108.7	115.3	108.9	110.9
1925.....	4,618	4,421	4,289	4,464	116.3	117.5	106.7	113.1
1926.....	4,725	4,430	4,095	4,422	119.0	119.1	101.9	112.0
1927.....	4,830	4,368	4,170	4,449	121.6	116.1	103.8	112.7
1928.....	4,937	4,064	4,129	4,407	124.3	108.0	102.7	111.7
1929.....	4,915	4,020	4,402	4,566	123.7	106.9	109.5	115.7
1930.....	4,993	3,924	3,857	4,355	125.7	104.3	96.0	111.1
1931.....	4,834	3,607	3,644	4,225	121.7	95.9	90.7	107.0
1932.....	3,943	3,250	3,011	3,705	99.3	86.4	74.9	93.9
1933.....	3,844	3,110	3,040	3,494	96.8	82.7	75.6	88.5
1934.....	3,801	3,316	2,612	3,381	95.7	88.1	65.0	85.7
1935.....	4,228	2,955	3,201	3,750	106.4	78.5	79.6	95.2

¹ Includes only cost of the buildings.

² Includes 1-family and 2-family dwellings with stores.

³ Includes multifamily dwellings with stores.

Prices of Building Materials, Wages, and Rents, 1921 to 1935

THE Bureau of Labor Statistics collects monthly the wholesale prices of building materials and from such figures computes index numbers. Retail prices paid by builders are not available, but it is believed that the trend of retail prices follows closely that of wholesale prices.

The index numbers shown in table 7 for wage rates in the building trades are for union labor only. In many cities the building trades are highly organized, while in others there is considerable nonunion labor. The Bureau has no data concerning the wages of nonunion workers.

Information concerning rents is collected by the Bureau semi-annually in 32 cities.

TABLE 7.—INDEX NUMBERS OF BUILDING EXPENDITURES, MATERIAL PRICES, UNION WAGES, AND RENTS, 1921 TO 1935

Year	Estimated expenditures for building operations in 257 identical cities	Wholesale prices of building materials	Union wage rates per hour in the building trades	Rent (32 cities) ¹
1921.....	100.0	100.0	100.0	100.0
1922.....	150.1	99.9	93.4	102.9
1923.....	184.9	111.6	103.6	105.6
1924.....	189.0	105.0	112.2	109.3
1925.....	217.6	104.4	116.3	109.8
1926.....	206.2	102.7	124.0	108.8
1927.....	187.4	97.2	128.5	107.0
1928.....	178.1	96.6	129.0	104.5
1929.....	158.1	97.9	130.6	102.0
1930.....	91.6	92.3	136.2	99.3
1931.....	66.7	81.4	137.9	94.1
1932.....	25.9	73.3	117.5	84.4
1933.....	20.6	79.1	116.0	72.7
1934.....	20.3	76.7	(?)	68.1
1935.....	35.3	87.6	(?)	* 68.1

¹ The revised index has been computed by weighting the indexes computed for individual cities by the population represented by each.

² No data collected.

³ Preliminary.

Value of Contracts Awarded for Construction Financed From Federal Funds, 1933 to 1935

THE value of contracts awarded and force-account work started on construction projects financed from Federal funds from July 1933 to October 1935 is given in the following table, by type of construction. The table also includes certain "white-collar" projects.

VALUE OF CONTRACTS AWARDED AND FORCE-ACCOUNT WORK STARTED ON CONSTRUCTION AND WHITE-COLLAR PROJECTS FINANCED FROM FEDERAL FUNDS, JULY 1933 TO OCTOBER 1935¹

Type of construction	Total	The Works Program ²	Regular govern- mental appropriations ³	Public Works Administration		
				Federal	Non-Federal	
					N. I. R. A.	E. R. A. A. 1935 ⁴
All types.....	\$3,116,884,746	\$286,231,228	\$330,546,368	\$1,635,376,758	\$841,303,060	\$23,427,332
Building.....	582,405,719	30,471,575	55,503,513	161,063,015	324,055,026	11,312,590
Electrification ⁵	1,496,902	709,130	693,995	-----	-----	93,777
Forestry.....	29,932,665	13,837,500	-----	16,075,169	-----	-----
Hydroelectric power plants.....	2,344,800	2,344,800	-----	-----	-----	-----
Naval vessels.....	393,723,489	-----	146,907,834	246,915,655	-----	-----
Plant, crop, and livestock control ⁶	18,270,758	18,270,758	-----	-----	-----	-----
Public roads:	-----	-----	-----	-----	-----	-----
Roads.....	657,865,131	17,307,457	66,476,932	574,080,742	-----	-----
Grade-crossing elimination ⁵	5,429,907	5,429,907	-----	-----	-----	-----
Railroad construction and repair.....	201,293,643	-----	-----	-----	201,293,643	-----
Reclamation.....	242,167,892	44,094,719	3,321,255	194,635,420	-----	116,498
River, harbor, and flood control.....	518,792,563	120,398,379	46,783,969	351,594,906	-----	15,309
Streets and roads ⁶	138,045,327	6,503,210	5,510,755	35,818,295	88,705,758	1,507,309
Water and sewerage systems.....	217,992,012	746,709	501,043	5,995,049	200,479,378	10,269,833
White-collar projects ³	17,905,934	17,905,934	-----	-----	-----	-----
Miscellaneous.....	89,218,004	8,191,150	4,947,072	49,198,511	26,769,255	112,016

¹ Based on figures received up to Jan. 15, 1936.

² July 1935 to October 1935. Does not include data for that part of The Works Program operated by the Works Progress Administration.

³ July 1934 to October 1935.

⁴ July 1935 to October 1935.

⁵ August 1935 to October 1935.

⁶ Other than those reported by the Bureau of Public Roads.

Elapsed Time in Building Construction

THE following is a summary of the results of an inquiry made by the Bureau of Labor Statistics in 1932 to ascertain the length of time elapsing (1) between the date of issue of a building permit and the date work was started on the building, and (2) between the date work was started and the date the building was ready for occupancy. The study covered the permits for new construction issued in 14 representative cities in 1931. For purposes of comparison the results of a similar previous investigation covering 10 of these cities in 1929 are also given. Data for each of these cities separately and other detailed data were published in the Monthly Labor Review for January 1933 (p. 158).

No data were collected concerning additions, alterations, and repairs, and the studies were further restricted by the omission of such buildings as private garages, sheds, stables, and barns, which though large in number were low in value. In the 1931 analysis, also, 243 buildings (slightly more than 2 percent of the total) were eliminated because construction was not carried to completion, due to lack of funds or to other causes; by far the largest number of these were one-family dwellings.

The objects of these studies were to determine—

- (1) How many permits were allowed to lapse or were canceled.
- (2) How soon work was available in the construction of the building after issuance of the permit.
- (3) The length of time for which employment was available on the different types of buildings.

Lapses and Cancellations

TABLE 1 shows, for 1929 and 1931, the value of lapsed permits and the percent they form of the total estimated cost of permits for all buildings included in the study in 10 selected cities, by kinds of buildings.

TABLE 1.—VALUE AND PERCENT OF LAPSED PERMITS IN 10 CITIES, BY KINDS OF BUILDINGS, 1929 AND 1931

Kind of building	Estimated cost		Lapsed permits			
	1929	1931	Estimated cost		Percent	
			1929	1931	1929	1931
All buildings.....	\$404,560,994	\$184,336,713	\$8,879,850	\$6,077,200	2.2	3.3
1-family dwellings.....	70,121,310	35,128,155	432,350	970,950	.6	2.8
2-family dwellings.....	21,879,042	12,104,150	114,700	538,700	.5	4.5
Apartment buildings.....	84,069,012	39,887,460	6,702,500	3,425,500	8.0	8.6
Public buildings.....	93,579,822	70,355,071	957,000	386,500	1.0	.5
Commercial buildings.....	134,911,808	26,881,877	673,300	755,550	.5	2.8

In 1929 the value of buildings for which permits were canceled or allowed to lapse in these 10 cities was \$8,879,850, or 2.2 percent of the value of all buildings included in this study, as compared with \$6,077,200, or 3.3 percent, in 1931. The value of lapsed permits was greater in 1931 than in 1929 in the case of 1-family dwellings, 2-family dwellings, and commercial buildings, but less in the case of apartment houses and public buildings.

Table 2 shows the number of lapsed permits in these 10 cities and the percent such permits form of the total, by kinds of buildings.

TABLE 2.—NUMBER AND PERCENT OF LAPSED PERMITS IN 10 CITIES, BY KINDS OF BUILDINGS, 1929 AND 1931

Kind of building	Number		Lapsed permits			
	1929	1931	Number		Percent	
			1929	1931	1929	1931
All buildings.....	19,316	10,832	186	387	1.0	3.6
1-family dwellings.....	13,073	7,152	96	196	.7	2.7
2-family dwellings.....	2,472	1,511	20	68	.8	4.5
Apartment buildings.....	1,207	618	45	45	3.7	7.3
Commercial buildings.....	2,139	1,365	21	72	1.0	5.3
Public buildings.....	375	186	4	6	1.1	3.2

In these 10 cities, permits were issued during 1931 for 10,832 buildings of the type considered in this study. Of this number 387, or 3.6 percent, lapsed or were canceled. During 1929, only 1 percent of the permits issued were canceled. The percentage of cancelations was also larger in 1931 than in 1929 for each class of buildings studied. The highest percentage of lapses occurred in permits for apartment houses.

Lag Between Issue of Permit and Start of Work

TABLE 3 shows the number of buildings on which work was started during 1929 and 1931 in these 10 cities, by kinds of buildings, and by the number of days elapsing between the issue of the permit and the starting of work on the excavation.

TABLE 3.—NUMBER OF NEW BUILDINGS STARTED DURING 1929 AND 1931 IN 10 CITIES, BY KINDS OF BUILDINGS AND BY PERIOD BETWEEN ISSUE OF PERMIT AND COMMENCEMENT OF EXCAVATION

Days between date of permit and start of excavation	Number of permits issued for—										Total permits			
	1-family dwellings		2-family dwellings		Apartment buildings		Commercial buildings		Public buildings		Number		Percent	
	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931
1 and under...	5,843	2,037	1,216	454	451	186	823	454	150	67	8,483	3,198	44.3	30.6
2 and under 4.	2,231	1,376	280	295	191	107	356	241	46	30	3,154	2,049	16.5	19.6
4 and under 6.	1,358	1,045	218	180	93	86	242	150	42	15	1,953	1,476	10.2	14.1
6 and under 8.	1,038	818	171	136	101	69	153	108	27	12	1,490	1,143	7.8	10.9
8 and under 10	508	502	106	87	58	28	98	75	9	7	779	699	4.1	6.7
10 and under 13	529	373	120	84	64	31	106	60	15	8	834	556	4.4	5.3
13 and under 16	481	279	106	48	49	20	79	52	10	6	725	405	3.8	3.9
16 and under 19	247	217	53	32	38	9	41	32	8	7	387	297	2.0	2.8
19 and under 22	167	95	43	15	25	9	42	16	8	4	295	139	1.5	1.3
22 and under 26	150	49	36	19	12	6	41	13	11	3	250	90	1.3	.9
26 and under 31	114	34	11	6			46	17	10	3	200	63	1.0	.6
31 and under 36	55	16	28	50	11	5	28	21	6	9	128	101	.7	1.0
36 and under 41	34	13	13	5	6	2	27	11	4	2	84	33	.4	.3
41 and under 51	56	49	11	9	9	3	16	13	8	4	100	78	.5	.7
51 and under 61	37	12	12	7	6	3	17	8	5	1	77	31	.4	.3
61 and over.....	79	41	28	16	29	6	53	22	12	2	201	87	1.1	.8
Total.....	12,977	6,956	2,452	1,443	1,162	573	2,168	1,293	371	180	19,130	10,445	100.0	100.0
Average period per building (days).....	5.6	6.5	6.7	7.4	10.2	6.5	9.8	8.1	13.0	10.9	6.6	6.9	-----	-----

During 1929 permits were issued for 19,130 buildings, and the average period which elapsed between the issuance of the permit and the starting of work on the building was 6.6 days. In 1931 the average lag was 6.9 days.

Lag Between Start of Work and Completion of Building

TABLE 4 shows the number and percent of buildings on which work was started during 1929 and 1931 in 10 cities, by kind of buildings and by days elapsing between the date work was started on the excavation and the date the building was completed.

TABLE 4.—NUMBER OF NEW BUILDINGS STARTED DURING 1929 AND 1931 IN 10 CITIES BY KIND OF BUILDINGS AND BY PERIOD BETWEEN COMMENCEMENT OF EXCAVATION AND COMPLETION OF BUILDING

Days between start of excavation and completion of building	Number of permits issued for—									
	1-family dwellings				2-family dwellings				Apartment buildings	
	Frame		Brick		Frame		Brick			
	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931
30 days and under.....	53	55	1	2	4	4	-----	-----	-----	-----
31 to 45 days.....	414	379	5	15	28	42	-----	2	1	1
46 to 60 days.....	992	929	16	60	153	114	6	15	21	11
61 to 75 days.....	1,444	1,052	75	156	289	142	12	23	50	39
76 to 90 days.....	1,259	695	185	244	328	167	31	57	111	61
91 to 105 days.....	844	471	401	310	260	103	79	84	152	74
106 to 120 days.....	606	312	441	297	187	75	87	100	133	71
121 to 150 days.....	709	314	1,269	544	179	83	179	126	194	108
151 to 180 days.....	450	149	803	256	121	38	156	56	155	100
181 to 210 days.....	305	66	906	226	62	21	88	65	122	41
211 to 240 days.....	98	43	530	57	22	5	50	40	64	19
241 to 270 days.....	87	20	276	107	8	2	31	2	33	9
271 to 300 days.....	31	24	263	13	7	1	14	1	26	17
301 to 330 days.....	29	16	118	24	5	2	10	5	23	11
331 to 365 days.....	15	10	141	10	5	2	22	49	22	3
366 to 395 days.....	14	11	104	18	5	1	5	1	18	2
396 days and over.....	20	33	70	38	1	6	18	9	37	6
Total.....	7,370	4,579	5,607	2,377	1,664	808	788	635	1,162	573
Average period per building (days).....	98.4	88.8	177.6	142.7	103.3	96.7	171.5	156.2	163.1	143.5

Days between start of excavation and completion of building	Number of permits issued for—				Total permits			
	Commercial buildings		Public buildings		Number		Percent	
	1929	1931	1929	1931	1929	1931	1929	1931
30 days and under.....	130	195	16	2	204	258	1.1	2.5
31 to 45 days.....	189	222	19	2	656	663	3.4	6.3
46 to 60 days.....	286	197	16	4	1,490	1,330	7.8	12.7
61 to 75 days.....	292	152	21	3	2,183	1,567	11.4	15.0
76 to 90 days.....	265	121	15	7	2,197	1,352	11.5	12.9
91 to 105 days.....	191	90	18	14	1,945	1,146	10.2	11.0
106 to 120 days.....	165	59	17	8	1,636	922	8.6	8.8
121 to 150 days.....	232	80	36	20	2,798	1,275	14.6	12.2
151 to 180 days.....	153	57	38	21	1,876	677	9.8	6.5
181 to 210 days.....	83	32	31	11	1,597	462	8.3	4.4
211 to 240 days.....	49	27	28	14	841	205	4.4	2.0
241 to 270 days.....	37	18	18	16	490	174	2.6	1.7
271 to 300 days.....	19	10	23	7	383	73	2.0	.7
301 to 330 days.....	19	8	8	7	212	73	1.1	.7
331 to 365 days.....	16	7	17	12	238	93	1.2	.9
366 to 395 days.....	11	1	13	4	170	38	.9	.4
396 days and over.....	31	17	37	28	214	137	1.1	1.3
Total.....	2,168	1,293	371	180	19,130	10,445	100.0	100.0
Average period per building (days).....	107.6	88.0	198.4	235.6	132.0	111.2	-----	-----

Work was started during 1931 on 10,445 buildings of the type selected for this study and on 19,130 buildings in 1929. It required an average of 111.2 days to complete these buildings in 1931 as against 132 days in 1929.

Relative Cost of Material and Labor in Building Construction, 1931-32

A STUDY of the relative cost of material and labor in building construction in 15 cities during 1931 and 1932 was made by the Bureau of Labor Statistics, along the same lines as a study made in 1928 of 4 cities. Information was compiled from records kept by representative contractors in these 15 cities. The Bureau's agents selected typical buildings in the residential and nonresidential groups and data were obtained from both the primary contractors and the subcontractors who did work on the buildings. Altogether information was obtained for 204 buildings.

In every city except Duluth data were obtained for 6 ordinary dwelling houses, 2 apartment houses, and 6 nonresidential buildings. In most cities the nonresidential quota consisted of 2 stores, 2 office buildings, and 2 factories or warehouses; when such were not obtainable substitutions were made of buildings as nearly like these as possible. Sufficient data for nonresidential buildings could not be obtained in Duluth.

The cost figures given in the present article represent only the actual cost of the building from the time excavation started. They do not include overhead expenses, profits, cost of land, finance charges, or architect's fees. The cost of material is its actual cost as delivered on the job, including freight and hauling. The labor costs are actual wages paid to labor on the job and do not include any shop labor, such as that involved in the making up of millwork, the cutting of stone at the quarries, or fabrication in the mills.

Relative Cost of Material and Labor in New Buildings

TABLE 1 shows the percent that the cost of labor and of material each formed of the total cost of construction of residential and nonresidential buildings, in each of the 15 cities from which data were obtained, the weighted total of all buildings in each of these cities, and for the 15 cities combined. In this weighting the residential and nonresidential totals for a city were weighted by the proportional cost of such classes as shown by building permits issued in the city during 1931 and the first 7 months of 1932.

TABLE 1.—PERCENT OF TOTAL COST OF CONSTRUCTION OF BUILDINGS CHARGEABLE TO LABOR AND MATERIAL IN 15 SPECIFIED CITIES

City	Percent chargeable on—					
	Residential buildings		Nonresidential buildings		Both types	
	Material	Labor	Material	Labor	Material	Labor
All 15 cities combined.....	62.7	37.3	64.3	35.7	63.6	36.4
Atlanta, Ga.....	70.1	29.9	71.4	28.6	71.0	29.0
Boston, Mass.....	56.9	43.1	59.8	40.2	59.0	41.0
Chicago, Ill.....	65.1	34.9	61.4	38.6	62.3	37.7
Dallas, Tex.....	74.0	26.0	72.1	27.9	72.8	27.2
Duluth, Minn.....	66.3	33.7	(1)	(1)	-----	-----
Indianapolis, Ind.....	59.7	40.3	63.9	36.1	62.5	37.5
Little Rock, Ark.....	67.7	32.3	73.5	26.5	71.5	28.5
New Orleans, La.....	69.4	30.6	68.9	31.1	69.0	31.0
New York, N. Y.....	59.6	40.4	63.1	36.9	61.3	38.7
Roanoke, Va.....	64.1	35.9	67.0	33.0	65.9	34.1
Saginaw, Mich.....	66.5	33.5	64.8	35.2	65.3	34.7
St. Louis, Mo.....	63.0	37.0	64.1	35.9	63.7	36.3
Salt Lake City, Utah.....	65.6	34.4	65.6	34.4	65.6	34.4
Seattle, Wash.....	57.5	42.5	63.7	36.3	61.2	38.8
Trenton, N. J.....	59.0	41.0	62.8	37.2	62.2	37.8

¹ Data for nonresidential building not obtained.

Table 2 shows the highest and lowest percentage of labor and material costs for individual residential and nonresidential buildings, by cities.

TABLE 2.—HIGHEST AND LOWEST PERCENTAGE OF LABOR AND MATERIAL COSTS FOR INDIVIDUAL BUILDINGS, 1932, BY CITIES

City	Residential buildings				Nonresidential buildings			
	Material cost		Labor cost		Material cost		Labor cost	
	Highest percentage	Lowest percentage	Highest percentage	Lowest percentage	Highest percentage	Lowest percentage	Highest percentage	Lowest percentage
Atlanta, Ga.....	73.8	63.5	36.5	26.2	78.8	62.8	37.2	21.2
Boston, Mass.....	60.9	43.8	56.2	39.1	62.1	55.1	44.9	37.9
Chicago, Ill.....	65.9	60.3	39.7	34.1	67.5	54.2	45.8	32.5
Dallas, Tex.....	80.2	68.8	31.2	19.8	74.8	66.8	33.2	25.2
Duluth, Minn.....	70.1	62.3	37.7	29.9	-----	-----	-----	-----
Indianapolis, Ind.....	72.3	56.3	43.7	27.7	67.7	61.5	38.5	32.3
Little Rock, Ark.....	71.2	62.3	37.7	28.8	78.5	69.1	30.9	21.5
New Orleans, La.....	73.1	60.8	39.2	26.9	75.1	61.0	39.0	24.9
New York, N. Y.....	67.8	57.2	42.8	32.2	66.3	52.9	47.1	33.7
Roanoke, Va.....	69.3	59.6	40.4	30.7	71.3	61.4	38.6	28.7
Saginaw, Mich.....	67.8	54.1	45.9	32.2	71.4	55.6	44.4	28.6
St. Louis, Mo.....	70.4	55.7	44.3	29.6	70.4	57.4	42.6	29.6
Salt Lake City, Utah.....	67.0	61.8	38.2	32.1	70.4	63.2	36.8	29.6
Seattle, Wash.....	68.5	55.5	44.5	31.5	65.5	58.9	41.1	34.5
Trenton, N. J.....	62.7	52.4	47.6	37.3	64.7	54.2	45.8	35.3

It was found that the proportion of labor and material costs varied considerably on different buildings within each city. For example, in New York City the highest proportionate labor cost on any residential building was 42.8 percent, and the lowest 32.2, while the highest labor cost on any nonresidential building was 47.1 percent, and the lowest 33.7. In Indianapolis one residential building had a labor cost of 43.7 percent, while another had a labor cost of only 27.7 percent.

The highest proportion of the total expenditures going for material on any one residential building occurred in Dallas (80.2 percent) and the lowest percentage was in Boston (43.8). The highest proportionate labor cost on any one building in the same class of building also was found in Boston (56.2 percent).

In nonresidential building the highest percentage chargeable to material on an individual building occurred in Atlanta, Ga., and the lowest in New York City. The highest labor percentage on an individual building in the nonresidential group occurred in New York and the lowest in Atlanta.

How the Building Dollar Goes

TABLE 3 shows the percentage that the cost of each class of work in building forms of the total cost of residential building in each of the cities and for all 15 cities combined. These figures include both labor and material.

TABLE 3.—PERCENTAGE THAT COST OF EACH CLASS OF WORK FORMS OF TOTAL COST OF RESIDENTIAL BUILDINGS, BY CITIES

(These figures include material and labor)

Class of work	Percent of total cost chargeable to specified class of work in—							
	Atlanta, Ga.	Boston, Mass.	Chicago, Ill.	Dallas, Tex.	Duluth, Minn.	Indianapolis, Ind.	Little Rock, Ark.	New Orleans, La.
Excavating and grading.....	1.3	1.6	0.3	0.9	2.3	0.9	1.0	0.5
Brickwork.....	10.3	13.9	15.4	7.1	9.6	17.6	14.4	7.1
Carpenter work.....	44.2	27.4	17.2	52.9	41.0	23.6	45.1	39.7
Tile work.....	3.2	4.6	3.5	2.9	1.7	3.4	1.9	4.3
Concrete work.....	4.2	4.8	22.1	5.1	8.3	13.3	4.8	6.6
Electric wiring and fixtures.....	4.6	3.8	5.0	4.7	2.7	2.8	3.6	5.1
Heating and ventilating.....	3.3	6.9	5.9	1.0	9.0	6.0	1.2	8.5
Plumbing.....	9.5	9.6	10.3	11.4	9.0	9.6	11.1	12.0
Plastering and lathing.....	5.6	9.5	7.6	.....	6.9	8.7	7.9	6.1
Painting.....	4.4	5.2	3.1	9.6	5.4	4.0	4.8	5.6
Papering.....	.3	.4	1.4	.3	.....	.3	.....	.....
Roofing.....	3.5	2.1	.4	3.4	2.8	1.1	4.1	4.1
Miscellaneous.....	.....	10.2	7.7	.7	1.2	8.6	.....	.6
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Class of work	Percent of total cost chargeable to specified class of work in—							
	New York, N. Y.	Roanoke, Va.	Saginaw, Mich.	St. Louis, Mo.	Salt Lake City, Utah	Seattle, Wash.	Trenton, N. J.	All 15 cities combined
Excavating and grading.....	2.9	1.3	0.6	0.9	1.5	1.4	1.7	1.3
Brickwork.....	22.7	9.3	11.5	20.3	14.0	6.9	21.4	14.8
Carpenter work.....	23.5	41.5	40.2	28.1	32.9	26.4	28.2	27.3
Tile work.....	4.1	1.2	2.9	3.8	4.5	3.2	3.3	3.5
Concrete work.....	5.5	5.2	4.5	10.8	8.1	15.6	5.8	11.7
Electric wiring and fixtures.....	4.0	4.5	6.7	3.7	4.8	4.7	2.7	4.5
Heating and ventilating.....	4.8	9.9	7.7	6.2	9.5	7.1	9.6	6.6
Plumbing.....	9.7	10.2	9.6	10.2	10.0	10.9	8.5	10.1
Plastering and lathing.....	12.6	6.8	5.6	7.0	6.2	7.8	8.9	8.2
Painting.....	4.4	4.0	5.5	3.8	3.5	4.3	4.0	4.2
Papering.....	.....	.....	.....	.....	2.8	.....	.1	.5
Roofing.....	1.5	6.1	2.2	2.2	2.1	1.5	4.4	1.8
Miscellaneous.....	4.3	.....	3.0	3.0	.....	10.1	1.4	5.5
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In these 15 cities together, carpentry work accounted for a larger part of the building dollar than any other item in residential building (27.3 cents), while papering accounted for the smallest portion (fifteenth of 1 cent). Brickwork, concrete work, and plumbing each also represents more than 10 cents of each dollar spent. In Chicago concrete work took a larger portion of the building dollar than carpentry work. The low heating costs in Dallas, Tex., and Little Rock, Ark., are accounted for by the fact that most residences do not have a central heating plant.

Table 4 shows the percentage that the cost of each class of work forms of the total cost of nonresidential building.

TABLE 4.—PERCENTAGE THAT COST OF EACH CLASS OF WORK FORMS OF TOTAL COST OF NONRESIDENTIAL BUILDINGS, BY CITIES

[These figures include material and labor]

Class of work	Percent of total cost chargeable to specified class of work in—							
	At-lanta, Ga.	Bos-ton, Mass.	Chi-cago, Ill.	Dallas, Tex.	Indian-apolis, Ind.	Little Rock, Ark.	New Or-leans, La.	New York, N. Y.
Excavating and grading.....	1.4	2.6	3.6	2.0	0.7	1.4	5.2	2.6
Brickwork.....	17.3	18.9	13.2	18.7	21.0	24.0	12.2	20.7
Carpenter work.....	5.6	6.8	8.9	10.4	8.2	24.6	17.4	1.7
Tilework.....	2.1	2.4	4.0	2.1	3.4	.3	2.5	1.3
Concrete work.....	21.9	16.4	22.3	9.4	19.3	16.1	13.6	15.7
Structural steel.....	11.9	11.1	4.4	13.5	1.4	6.5	6.8	13.4
Electric wiring and fixtures.....	5.4	8.3	6.1	6.8	4.8	1.2	6.9	5.2
Heating and ventilating.....	4.8	7.7	11.0	4.1	7.6	.2	7.4	5.8
Plumbing.....	5.9	4.1	5.2	4.7	7.5	1.6	5.9	6.1
Plastering and lathing.....	4.3	4.4	4.0	4.5	6.6	6.4	8.9	3.7
Painting.....	1.7	2.0	2.2	3.9	1.2	2.9	2.1	.8
Roofing.....	1.9	1.2	3.0	.4	1.1	7.5	4.4	1.0
Glass and glazing.....	.6	1.1	1.0	1.4	1.7	1.7	1.3	1.0
Elevators.....	8.2	2.8	2.9	10.8	6.8	-----	1.2	12.5
Miscellaneous.....	6.9	10.4	8.2	7.4	8.7	5.6	4.2	8.7
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Class of work	Percent of total cost chargeable to specified class of work in—						
	Roa-noke, Va.	Sagi-naw, Mich.	St. Louis, Mo.	Salt Lake City, Utah	Seattle, Wash.	Tren-ton, N. J.	All 14 cities combined
Excavating and grading.....	4.4	2.1	1.9	2.7	2.5	4.2	2.5
Brickwork.....	17.5	16.1	13.4	11.3	14.7	24.0	17.2
Carpenter work.....	5.9	10.0	4.4	25.3	10.2	4.1	6.4
Tile work.....	1.5	1.6	.8	.8	1.2	1.8	1.7
Concrete work.....	22.1	14.0	32.4	15.4	25.4	11.2	20.7
Structural steel.....	9.0	8.1	6.3	5.9	2.5	13.1	8.7
Electric wiring and fixtures.....	6.9	5.8	9.4	7.8	5.7	3.7	6.6
Heating and ventilating.....	4.5	8.6	6.3	6.8	6.3	9.4	6.6
Plumbing.....	2.8	5.6	5.2	6.9	4.4	4.9	5.2
Plastering and lathing.....	4.1	4.6	3.5	4.5	4.9	4.5	4.3
Painting.....	1.0	1.6	.6	2.5	1.8	1.8	1.6
Roofing.....	1.3	3.4	.3	3.4	1.1	1.4	1.3
Glass and glazing.....	1.2	1.8	1.3	3.4	2.0	.6	1.3
Elevators.....	3.4	6.2	7.2	3.0	9.5	2.5	7.6
Miscellaneous.....	14.4	11.0	5.9	.3	7.8	12.6	8.3
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

For nonresidential building, the largest portion of the building dollar (20.7 cents) went for concrete work and the lowest (1.3 cents) for roofing and also for glass and glazing. In 5 of the 14 cities from which data were collected concrete work accounted for a larger portion of the building dollar than any other item in construction work. In

6 cities brickwork accounted for the largest percentage, while in 3 cities, carpentry work was the most costly item.

There were a few differences in the processes involved in the erection of residential and nonresidential buildings. In residential building, papering is included. There is no papering in nonresidential buildings. Glass and glazing is a separate item in nonresidential building, while in residential building the millwork comes already glazed and this item is therefore included under carpentry work in this class of building. Structural steel and elevators are shown separately in nonresidential building. In residential building these items were not of enough importance to show separately.

Causes of Seasonal Fluctuations in the Construction Industry

A SURVEY to determine the causes of the seasonal fluctuations in the construction industry was made by the Bureau of Labor Statistics in 1931. The primary purpose was to ascertain to what extent such fluctuations, with their disastrous effects upon the employment of labor, were due to actual climatic difficulties and, whatever the causes, what might be done to improve the situation.

The survey was made by a special agent of the Bureau, who visited and interviewed leaders of the construction industry in the following cities: Chicago, Ill.; Milwaukee, Fond du Lac, and Eau Claire, Wis.; Minneapolis and St. Paul, Minn.; Atlanta, Ga.; and New Orleans, La. The persons interviewed were requested to express their opinions in the form of personal letters to the Bureau, and the report of the agent and the opinions of the architects, builders, and real-estate men interviewed were incorporated in the report of the survey which was published in the Monthly Labor Review for September 1931. A summary of this report follows.

Winter Operations in the Construction Industry in the Northern States

THE rigorous winter weather which normally prevails in the States of Illinois, Wisconsin, and Minnesota is no longer a serious problem to the construction industry in these States. Twenty years ago the advent of the first frost in November would bring with it a complete cessation of activities in all lines of construction work. Not only would no new building projects be started during the months of November to March, but even jobs already begun in the late summer or early fall but not yet completely enclosed before the arrival of winter would be shut down until the coming of spring.

The situation now presents an entirely new aspect. During the war and immediately afterward many builders were compelled to carry on a large proportion of their work during the winter months in order to complete their projects within the time limits set by their contracts. They soon discovered that the cold weather, in itself, presented no physical obstacles which could not be overcome by means of more diligent supervision and a certain amount of protection of the work against snow and ice. Additional experimentation soon convinced them that even the operations which are most adversely

affected by freezing temperatures, namely, the pouring of concrete and the masonry work on the exterior or the shell of the building, can easily be safeguarded by the simple device of heating the water and the aggregates in the process of mixing the concrete and by protecting the newly concreted section of the structure by means of canvas enclosures and artificial heat supplied by 'coke- or oil-burning salamanders.

The trend in favor of winter work in the construction industry received a further stimulus from the report of President Harding's Committee on Unemployment which, under the leadership of President Hoover, then the Secretary of Commerce, made a special study of seasonal fluctuations in the construction industry. The report was published in 1924. The committee found that winter construction work had been carried on with considerable success in all parts of the country, and that the workmanship and the cost of winter operation did not compare unfavorably with any other season of the year. In prefacing the report President Hoover therefore declared: "The seasonal character of the construction industries is a matter of custom and habit, not of climatic conditions." The findings of the committee were taken up by the various trades and associations connected with the construction industry, and a strong movement grew up with the purpose of further extending winter operations in order to mitigate the seasonal fluctuations in the construction industry.

In the present survey in Illinois, Minnesota, and Wisconsin an attempt was made to ascertain (1) the extent of building operations carried on by the firm, number of years' experience in the business, and the territory covered; (2) the type of building specialized in (industrial plants, commercial buildings, apartment houses, bungalows, etc.); (3) the extent of winter operations carried on; (4) the principal difficulties and disadvantages to builder and to owner in carrying on winter operations; (5) the methods of pouring concrete, laying brick, etc., used by the firm to overcome the difficulties offered by winter weather and to guarantee the soundness and safety of the building erected during the winter; (6) the extra costs involved in carrying on construction during the winter; (7) the comparative efficiency of labor in winter and summer building; (8) the principal advantages of winter building to builder and to owner; (9) whether the firm, on the basis of its experience in winter operations, advocates or disapproves of operations during the winter months and reasons therefor; (10) any helpful information on the problem of winter operations, particularly as to the possible effect on the stabilization of the construction industry.

Some of the outstanding facts disclosed by the opinions of the representative organizations and individuals in this section of the country were as follows:

(1) Winter weather was not regarded as a deterrent to building operations in the case of the major types of buildings, such as large offices, industrial plants, large apartment buildings, etc., which require a year or more for completion.

(2) On major operations, architects and general contractors carry on construction work irrespective of the season of the year and even in subzero weather. The majority of the contractors in this section of the country had had several years of experience with winter work and knew the precautions necessary for winter operations.

(3) The precautions and the equipment needed for winter work are comparatively simple and have now become fairly standardized.

(4) The extra expenses involved in protecting winter work against the weather are comparatively small and represent but a small fraction of the total building cost. The exact amounts vary considerably with the nature of the project and the severity of the winter season. Some of the architects and contractors were of the opinion that this extra cost is in some measure overcome by the lower costs on other items; they pointed out that the price of materials is lower in the winter; that the contractor may voluntarily reduce his profit on a winter job in order to keep his organization intact and his men employed, while the workmen will often accept a lower rate for year-round work. Some were even of the opinion that the extra measures necessary to protect the job in winter are no greater or more expensive than those necessary, because of heat and rain, to protect it in the summer.

(5) There was no definite agreement among the builders as to the comparative efficiency of labor in winter work. Very few contractors contended that they get as much work from a given workman during the cold season as at milder seasons of the year, as the worker is hampered by cold and by the extra clothing which he must wear. The majority of contractors, however, were of the opinion that the average efficiency of the men hired during the winter months is higher than the summer average. This is due to the fact that, since work is slack during the winter months, the employer has a large supply of labor from which to choose. Only the best workmen, therefore, are retained.

(6) In the construction of smaller buildings, and particularly of the smaller houses, the season of the year is still an important factor. The opinion of architects and builders in this field was more or less divided. Some favored winter operations in all buildings, while others were opposed to winter work on houses as uneconomical and more or less hazardous. Those in favor of winter work on this class of building believed that the person who has his house built in the off season has a decided advantage because of lower costs of materials, lower charges by the contractor, a higher grade of labor, etc. They stated, also, that a house built in the winter under the proper precautions is as well constructed as one built in the summer. Others, on the contrary, were of the opinion that winter costs are enough higher to make a prospective home builder hesitate to undertake the construction of his new house in the winter.

(7) The architects and the contractors no longer need to be educated as to the practicability of winter construction work. The amount of winter operations in the construction industry, however, will be determined by the extent toward which the general public, and particularly the prospective builders, are educated to the safety, feasibility, and desirability of building in the off season.

Fluctuations in the Construction Industry in the Southern States

IN VIEW of the fact that cold weather no longer plays an important role in the construction industry, even in the sections of the country which are affected by a prolonged and moderately severe winter season, the question arose as to the other factors which are directly or indirectly responsible for the continuation of seasonal fluctuations in the building trades. The survey of the Bureau of Labor Statistics

was therefore extended to include the construction industry in Atlanta, Ga., which is known to have a comparatively mild and short winter season, and in New Orleans, La., where freezing weather is rare.

The monthly figures of building permits issued, as published by the Bureau of Labor Statistics, show the volume of construction in these two cities to be considerably smaller during the months of December, January, and February than at any other season of the year. This trend is not uniform, however, and it is not yet clearly established as to the extent to which the figures of contracts awarded in any one month actually measure the building operations carried on during that month. It was decided, therefore, not to accept the cessation of building operations during the winter months as an established fact, but to ascertain in the interviews with the representative architects and builders in these two cities (1) whether the locality really is affected by a recurrent winter stoppage in the construction industry, and (2) if so, the principal causes of the cessation of operations in the construction industry during the winter months.

The outstanding facts disclosed by the survey in Atlanta and New Orleans were:

(1) The attitude of the representative architects and builders in the city of Atlanta toward the question of winter building was not uniform. They agreed that there is a decided diminution in building operations during the months of December, January, and February of each year. They also agreed that one of the principal causes for the winter slump in building activities is the fact that the city of Atlanta has only one renting or leasing date, which falls on September 1. All prospective commercial and home builders plan their operations so as to have the building completed by that date. This condition throws the bulk of building operations on the spring and summer months, for very few, even of the larger residences, require more than 8 months for building.

A large number of the builders, however, also insisted that the cessation of building activities during the winter months is also due to a very large degree to the weather conditions in Atlanta during those months. They stated that while the spells of cold weather in Atlanta are very brief and not particularly severe, there is more rain in the months of January and February than in other months of the year. The frequent rains, alternating with an occasional cold and freezing temperature at this time of the year, make it almost impossible to proceed with any outside work. Besides, very few of the builders in Atlanta had had experience in building during the cold season, and they were not provided with the equipment necessary for winter operations.

There were some among the architects and builders who claimed that the causes of the winter slack period in Atlanta are entirely psychological, due to a general tendency of the public to begin thinking about building a home only with the arrival of warm weather. It is their view that an additional 1 or even 2 renting dates during the year and an educational campaign in favor of the year-round building operations would lessen the seasonal fluctuations in the building trades in Atlanta. The builders would then be called upon to perform a certain proportion of their work during the winter season and would thus be given an opportunity to show whether or not it is physically impossible to build in Atlanta during the winter season.

(2) In contrast with the situation in Atlanta, the representative architects and builders in New Orleans were fairly unanimous in their views on winter building. It was generally admitted that New Orleans suffers from a definite falling off of building operations during the winter months, but it was also generally agreed that the winter weather has absolutely nothing to do with this condition. Some architects and builders even claimed that conditions in the winter are more conducive to efficient workmanship in the construction industry than the hot summer weather. Nevertheless, the bulk of the construction work is concentrated during the late spring and summer months. This concentration is due to the single leasing date in New Orleans, which is October 1. Not only are all the new projects planned so as to be completed by that date, but nearly all of the repair work is done during the summer months in anticipation of the renting season. A movement was started several years ago to inaugurate an additional leasing date in the spring, but so far without any results. It was the unanimous opinion of the architects, general contractors, and subcontractors in the city of New Orleans that the fluctuations in the construction industry in that city will not be done away with until the single leasing date has been replaced by 2 or even 3 annual renting dates.

What Can Be Done to Stabilize the Construction Industry

CONSTRUCTION work is very important in the industrial life of a community and a successful attempt to eliminate, or at least to mitigate, the seasonal fluctuations in the construction industry will of necessity prove beneficial not only to the construction industry but also to the country as a whole. The opinions of leading men in the construction industry who were interviewed show that the seasonal fluctuations in the industry are due not so much to weather conditions as to old popular notions and customs which have been in existence in the separate communities for years past, and which now prove to be the stumbling block in the way of a more regulated development of the industrial life of the community.

Certain elements in the construction industry will always remain seasonal in the colder regions of the country. It is impossible to build roads and to pave streets during the cold winter months. But it has been shown that it is not impossible to build offices and houses during the winter months. An educational campaign such as was carried on in the city of St. Paul during the winter months of 1925-26 may help to induce the prospective office and house owner to build when he is ready and not to wait until everybody else begins building.

Again, such cities as Atlanta, Ga., and New Orleans, La., in which the existence of a single leasing date in the fall is responsible for the concentration of the construction work during the summer months, could and should establish 2 and, if necessary, 3 leasing dates in order to spread the building activities over the entire year. It is the prospective owner of the building who needs to be educated, and an educational campaign started simultaneously in a number of cities may help considerably to straighten out the seasonal ups and downs in the construction industry, and to that extent also mitigate the social evils caused by these fluctuations.

Employment in the Construction of a Sample Apartment House

THE United States Bureau of Labor Statistics made in 1932 a study of the man-hour productivity in the construction of an apartment house in Washington, D. C. The project selected for study was of reinforced concrete faced with brick and tile, five stories in height, and containing 117 apartments and a lobby. It was located in a popular residential district. The dwelling units ranged in size from 1 room, kitchenette, and bath, to 5 rooms and 2 baths.

The moving of dirt was started on September 9, 1931, and on April 1, 1932, the apartments were ready for occupancy; thus the job was largely one of winter construction. The winter was mild and, as a result, the work was carried on without complete loss of any whole day. No labor disturbances occurred during the course of the work.

The study was undertaken to determine the amount of work in terms of man-hours done by each occupation or trade, in a building of this size and type, the rotation of each class of work, the duration of work for each occupation on the job, the number of men employed each day, and the progress of each trade as shown by man-hours worked per week in relation to the total man-hours worked by that trade. So far as known this is a pioneer study of this character.

Day-by-Day Employment

TABLE 1 shows the number of men employed day by day in the construction of the apartment house, from the beginning to the completion of the job.

The fluctuation in employment, all trades combined, during the period of construction is depicted by table 1. The greatest number of men working on any one day was 230—on November 4. The largest number of man-hours worked in a single day occurred on November 5, when 229 men put in 2,067 hours' work. Generally, any work done on Sunday was done by laborers, but on several Sundays some men in the skilled trades also worked. On Monday, November 30, there was rain, necessitating the stopping of work by bricklayers and plasterers and their laborers; this accounts for the decrease in number employed on that day as compared with the previous Saturday.

TABLE 1.—NUMBER OF MEN EMPLOYED ON THE BUILDING EACH DAY, SEPTEMBER 9, 1931, TO APRIL 2, 1932

Date	Number of men	Date	Number of men	Date	Number of men	Date	Number of men
Sept. 9.....	12	Oct. 31.....	139	Dec. 22.....	145	Feb. 12.....	77
Sept. 10.....	14	Nov. 1 ¹	² 26	Dec. 23.....	153	Feb. 13.....	55
Sept. 11.....	19	Nov. 2.....	220	Dec. 24.....	127	Feb. 14 ¹	⁵ 12
Sept. 12.....	17	Nov. 3.....	218	Dec. 25.....	0	Feb. 15.....	83
Sept. 13 ¹	0	Nov. 4.....	230	Dec. 26.....	20	Feb. 16.....	80
Sept. 14.....	16	Nov. 5.....	229	Dec. 27 ¹	0	Feb. 17.....	93
Sept. 15.....	11	Nov. 6.....	213	Dec. 28.....	114	Feb. 18.....	89
Sept. 16.....	6	Nov. 7.....	157	Dec. 29.....	137	Feb. 19.....	93
Sept. 17.....	9	Nov. 8 ¹	¹ 15	Dec. 30.....	141	Feb. 20.....	65
Sept. 18.....	23	Nov. 9.....	198	Dec. 31.....	138	Feb. 21 ¹	⁴ 9
Sept. 19.....	20	Nov. 10.....	185	Jan. 1.....	35	Feb. 22.....	89
Sept. 20 ¹	0	Nov. 11.....	195	Jan. 2.....	61	Feb. 23.....	98
Sept. 21.....	32	Nov. 12.....	217	Jan. 3 ¹	0	Feb. 24.....	111
Sept. 22.....	31	Nov. 13.....	206	Jan. 4.....	160	Feb. 25.....	102
Sept. 23.....	26	Nov. 14.....	167	Jan. 5.....	159	Feb. 26.....	108
Sept. 24.....	35	Nov. 15 ¹	³ 3	Jan. 6.....	145	Feb. 27.....	74
Sept. 25.....	39	Nov. 16.....	187	Jan. 7.....	153	Feb. 28 ¹	² 6
Sept. 26.....	8	Nov. 17.....	178	Jan. 8.....	146	Feb. 29.....	99
Sept. 27 ¹	0	Nov. 18.....	186	Jan. 9.....	77	Mar. 1.....	93
Sept. 28.....	45	Nov. 19.....	187	Jan. 10 ¹	² 2	Mar. 2.....	90
Sept. 29.....	56	Nov. 20.....	187	Jan. 11.....	145	Mar. 3.....	85
Sept. 30.....	55	Nov. 21.....	147	Jan. 12.....	139	Mar. 4.....	90
Oct. 1.....	84	Nov. 22 ¹	0	Jan. 13.....	137	Mar. 5.....	68
Oct. 2.....	105	Nov. 23.....	161	Jan. 14.....	133	Mar. 6 ¹	² 8
Oct. 3.....	49	Nov. 24.....	161	Jan. 15.....	132	Mar. 7.....	84
Oct. 4 ¹	0	Nov. 25.....	158	Jan. 16.....	64	Mar. 8.....	83
Oct. 5.....	95	Nov. 26.....	136	Jan. 17 ¹	⁴ 4	Mar. 9.....	90
Oct. 6.....	99	Nov. 27.....	154	Jan. 18.....	121	Mar. 10.....	86
Oct. 7.....	103	Nov. 28.....	109	Jan. 19.....	128	Mar. 11.....	83
Oct. 8.....	115	Nov. 29 ¹	⁹ 9	Jan. 20.....	122	Mar. 12.....	59
Oct. 9.....	95	Nov. 30.....	67	Jan. 21.....	126	Mar. 13 ¹	¹ 10
Oct. 10.....	73	Dec. 1.....	164	Jan. 22.....	125	Mar. 14.....	59
Oct. 11 ¹	0	Dec. 2.....	160	Jan. 23.....	78	Mar. 15.....	57
Oct. 12.....	102	Dec. 3.....	164	Jan. 24 ¹	⁶ 6	Mar. 16.....	66
Oct. 13.....	119	Dec. 4.....	152	Jan. 25.....	120	Mar. 17.....	56
Oct. 14.....	87	Dec. 5.....	97	Jan. 26.....	106	Mar. 18.....	56
Oct. 15.....	101	Dec. 6 ¹	¹ 18	Jan. 27.....	104	Mar. 19.....	39
Oct. 16.....	102	Dec. 7.....	190	Jan. 28.....	105	Mar. 20 ¹	0
Oct. 17.....	84	Dec. 8.....	197	Jan. 29.....	86	Mar. 21.....	54
Oct. 18 ¹	0	Dec. 9.....	146	Jan. 30.....	60	Mar. 22.....	52
Oct. 19.....	111	Dec. 10.....	204	Jan. 31 ¹	0	Mar. 23.....	37
Oct. 20.....	123	Dec. 11.....	214	Feb. 1.....	79	Mar. 24.....	37
Oct. 21.....	116	Dec. 12.....	148	Feb. 2.....	80	Mar. 25.....	30
Oct. 22.....	126	Dec. 13 ¹	² 15	Feb. 3.....	83	Mar. 26.....	19
Oct. 23.....	121	Dec. 14.....	210	Feb. 4.....	75	Mar. 27 ¹	0
Oct. 24.....	95	Dec. 15.....	220	Feb. 5.....	64	Mar. 28.....	16
Oct. 25 ¹	¹ 16	Dec. 16.....	211	Feb. 6.....	33	Mar. 29.....	13
Oct. 26.....	134	Dec. 17.....	214	Feb. 7 ¹	¹ 14	Mar. 30.....	14
Oct. 27.....	142	Dec. 18.....	210	Feb. 8.....	73	Mar. 31.....	8
Oct. 28.....	149	Dec. 19.....	122	Feb. 9.....	70	Apr. 1.....	4
Oct. 29.....	160	Dec. 20 ¹	0	Feb. 10.....	75	Apr. 2.....	3
Oct. 30.....	185	Dec. 21.....	161	Feb. 11.....	76		

¹ Sunday.

² All unskilled workers.

³ 5 skilled tradesmen, 10 laborers.

⁴ 4 skilled tradesmen, 5 laborers.

Time Spent on Each Class of Work

TABLE 2 shows the number of man-hours spent on each class of work and the percent each formed of the total man-hours worked on the building.

TABLE 2.—NUMBER OF MAN-HOURS SPENT ON EACH CLASS OF WORK, AND PERCENT OF TOTAL TIME

Class of work	Man-hours worked		Class of work	Man-hours worked	
	Number	Per-cent of total		Number	Per-cent of total
All classes of work.....	154,161	100.0	Waterproofing.....	183	0.1
Excavating.....	691	.4	Plastering.....	5,959	3.9
Carpentry form.....	12,119	7.9	Plastering, helpers.....	5,071	3.3
Carpentry form, helpers.....	14,548	9.4	Bricklaying, partition wall.....	5,060	3.3
Pile driving.....	2,456	1.6	Bricklaying, partition wall, helpers.....	7,013	4.5
Concrete and cement work.....	11,440	7.4	Ventilation.....	342	.2
Electrical work.....	3,427	2.2	Lathing.....	1,171	.8
Steam fitting.....	5,900	3.8	Roofing.....	640	.4
Plumbing.....	8,788	5.7	Carpentry, trim.....	3,414	2.2
Reinforced-steel work.....	3,190	2.1	General labor.....	7,693	5.0
Elevator construction.....	1,015	.7	Tile laying.....	2,427	1.6
Refrigeration.....	1,718	1.1	Mosaic and terrazzo work.....	5,431	3.5
Bricklaying.....	10,466	6.8	Weather stripping.....	2,064	1.3
Bricklaying, helpers.....	11,930	7.7	Carpentry, parquet floors.....	3,711	2.4
Stone masonry.....	712	.5	Painting.....	4,313	2.8
Carpentry, rough.....	3,395	2.2	Paper hanging.....	1,712	1.1
Carpentry, rough, helpers.....	4,551	3.0	Screens.....	414	.3
Sheet-metal work.....	1,109	.7	Shades.....	90	.1

Carpentry work (form, rough, trim, and the laying of parquet floors) accounted for the largest percentage of man-hours worked by any skilled trade group, being 14.7 percent of the total.

Table 3 gives the limiting dates of each class of work, the average number of men employed in each class of work (when working), and the total man-hours, and shows, for some of the kinds of work, a measurement of the work done and the output per man-hour.

An attempt was made to show wherever possible the quantity of the work done (in terms of a standard unit of measurement) and the productivity per man-hour. For some classes of work it was impossible to determine a proper unit measurement of work—as for instance, for general labor. In certain other occupations, while a unit was used, it does not typify all classes of work done by workers in those occupations.

The man-hours worked by the skilled men in the respective trades were added to the man-hours worked by helpers and laborers to complete such type of work and the quantity of work done was divided by the sum of the man-hours. As an example, the hours worked by plasterers, lathers, and plasterers' laborers were added and the number of square yards of work done was divided by the total number of hours, to find the square yards of work per man per hour.

TABLE 3.—TERMINAL DATES, AVERAGE NUMBER OF MEN AT WORK, MAN-HOURS WORKED, AND OUTPUT ON SPECIFIED CLASSES OF WORK

Class of work	Date of—		Average number of men on job	Man-hours worked	Quantity of work done	Output per man-hour
	Start	Finish				
Excavating.....	Sept. 9	Sept. 17	10	691	5,129 cu. yds.....	7.5 cu. yds.
Pile driving.....	Sept. 18	Oct. 8	18	2,456	581 piles.....	0.2 pile.
Concrete and cement work.....	Oct. 1	Mar. 31	18	11,440		
Carpentry form.....	Sept. 10	Nov. 24	22	12,119		
Carpentry form, helpers.....	Sept. 11	Nov. 26	26	14,848	34,350 cu. yds.....	0.8 cu. yd.
Reinforced-steel work.....	Oct. 2	Nov. 23	11	3,190		
Electrical work.....	Oct. 1	Mar. 23	4	3,427	2,828 outlets.....	0.8 outlet.
Steam fitting.....	Oct. 1	Mar. 23	6	5,900		
Plumbing.....	Oct. 1	Mar. 23	9	8,788		
Elevator construction.....	Oct. 12	Mar. 29	2	1,015		
Refrigeration.....	Oct. 12	Mar. 30	4	1,716		
Bricklaying.....	Oct. 27	Dec. 24	26	10,466	774,342 brick & tile.	35.0 brick & tile.
Bricklaying, helpers.....	Oct. 27	Dec. 24	24	11,930		
Stone masonry.....	Nov. 6	Jan. 6	5	712	1,350 cu. ft.....	2.0 cu. ft.
Carpentry, rough.....	Nov. 6	Jan. 21	7	3,395		
Carpentry, rough, helpers.....	Nov. 11	Jan. 21	5	4,551		
Waterproofing.....	Nov. 17	Jan. 5	3	183	42,538 sq. ft.....	230 sq. ft.
Plastering.....	Nov. 18	Mar. 18	10	5,959		
Lathing.....	Nov. 30	Feb. 17	3	1,171	52,000 sq. yds.....	4.3 sq. yds.
Plastering, helpers.....	Nov. 18	Mar. 18	8	5,071		
Bricklaying, partition wall.....	Nov. 20	Jan. 28	11	5,060		
Bricklaying, partition wall, helpers.....	Nov. 20	Jan. 28	10	7,013	11,820 sq. yds.....	0.9 sq. yd.
Sheet-metal work.....	Nov. 20	Feb. 6	5	1,109		
Ventilation.....	Nov. 23	Feb. 5	3	342		
Roofing.....	Dec. 7	Dec. 18	8	640	25,500 sq. ft.....	39.8 sq. ft.
Carpentry, trim.....	Dec. 14	Mar. 31	5	3,414		
General labor.....	Jan. 4	Mar. 31	15	7,693		
Mosaic and terrazzo work.....	Jan. 4	Apr. 2	7	5,431	4,200 sq. ft.....	0.8 sq. ft.
Tile laying.....	Jan. 4	Mar. 11	8	2,427	7,325 sq. ft.....	3.0 sq. ft.
Weather stripping.....	Jan. 4	Feb. 26	6	2,064	1,285 openings.....	0.6 opening.
Carpentry, parquet floors.....	Jan. 18	Mar. 22	9	3,711	70,000 sq. ft.....	18.5 sq. ft.
Painting.....	Feb. 15	Mar. 26	14	4,313		
Paper hanging.....	Feb. 15	Mar. 12	6	1,712	21,791 sq. yds.....	12.7 sq. yds.
Screens.....	Mar. 15	Mar. 31	4	414	1,252 screens.....	3.0 screens.
Shades.....	Mar. 15	Mar. 22	3	90	1,250 shades.....	13.9 shades.

Weekly Fluctuations in Employment on Specified Classes of Work

TABLE 4 shows the time spent each week in each class of work.

TABLE 4.—MAN-HOURS SPENT EACH WEEK ON SPECIFIED CLASSES OF WORK

Class of work	Man-hours worked in week ending—									
	Sept. 12	Sept. 19	Sept. 26	Oct. 3	Oct. 10	Oct. 17	Oct. 24	Oct. 31	Nov. 7	Nov. 14
All classes of work.....	518	655	1,338	3,150	4,552	5,199	6,104	8,355	11,032	9,893
Excavating.....	442	249		614	1,146	1,731	2,123	1,937	2,052	1,715
Carpentry, form.....	34	52	142	1,145	1,441	1,575	1,776	2,081	2,264	2,173
Helpers.....	42	161	346	814	599					
Pile driving.....		193	850							
Concrete and cement work.....				366	950	1,102	1,255	1,774	1,741	1,274
Electrical work.....				27	104	120	136	160	160	160
Steam fitting.....				54	25	94	84	128	176	256
Plumbing.....				68	70	116	266	552	697	701
Reinforced-steel work.....				62	217	426	429	747	522	499
Elevator construction.....						3	3	3	4	4
Refrigeration.....						32	32	32	112	120
Bricklaying.....								484	1,693	1,392
Helpers.....								457	1,513	1,330
Stone masonry.....									60	156
Carpentry, rough.....									38	76
Helpers.....										37

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TABLE 4.—MAN-HOURS SPENT EACH WEEK ON SPECIFIED CLASSES OF WORK—Continued

Class of work	Man-hours worked in week ending—										
	Nov. 21	Nov. 28	Dec. 5	Dec. 12	Dec. 19	Dec. 26	Jan. 2	Jan. 9	Jan. 16	Jan. 23	Jan. 30
All classes of work.....	8,417	7,119	6,498	9,014	9,854	4,672	4,867	6,748	6,015	5,647	4,679
Carpentry, form.....	513	60									
Helpers.....	1,324	220									
Concrete and cement work.....	1,031	163	33	1,015	286	35					
Electrical work.....	160	160	160	160	168	128	128	128	160	152	160
Steam fitting.....	241	211	456	656	552	419	467	502	205	160	160
Plumbing.....	704	498	584	656	604	413	346	391	299	240	240
Reinforced-steel work.....	258	30									
Elevator construction.....	3		84	112	87	69	65			48	54
Refrigeration.....	120	120	120	72	144	24					
Bricklaying.....	1,573	1,129	959	1,082	1,551	603					
Helpers.....	1,142	1,336	1,293	1,751	1,909	724	415				
Stone masonry.....	184	148	64	16	24	24	16	20			
Carpentry, rough.....	399	570	278	361	359	244	395	297	204	174	
Helpers.....	122	198	503	519	551	164	484	701	420	552	300
Sheet-metal work.....	3	120	136	132	132	105	108	80	88	100	68
Waterproofing.....	43	25	42		24	21	22	6			
Plastering.....	161	416	231	192	658	333	592	780	880	475	320
Helpers.....	144	220	175	96	540	174	376	770	880	400	360
Bricklaying, partition wall.....	193	679	568	733	708	416	416	564	206	290	227
Helpers.....	99	736	712	957	809	515	781	794	402	676	472
Ventilation.....		80		64	80						48
Lathing.....			100	120	104	64	64	224	175	120	96
Roofing.....				320	320						
Carpentry, trim.....					64	192	192	386	334	303	219
General labor.....								301	857	315	302
Tile laying.....								216	265	260	279
Mosaic and terrazzo work.....								192	244	590	582
Weather stripping.....								396	396	396	396
Carpentry, parquet floors.....									396	396	396

Class of work	Man-hours worked in week ending—									Total
	Feb. 6	Feb. 13	Feb. 20	Feb. 27	Mar. 5	Mar. 12	Mar. 19	Mar. 26	Apr. 2	
All classes of work.....	3,227	3,483	4,185	4,779	4,331	4,063	3,031	2,048	688	154,161
Excavating.....										691
Carpentry, form.....										12,119
Helpers.....										14,548
Concrete and cement work.....								212	203	2,456
Electrical work.....	160	160	96	96	96	96	96	96		3,427
Steam fitting.....	160	160	160	160	160	160	60	34		5,900
Plumbing.....	240	240	200	200	200	160	80	23		8,788
Reinforced-steel work.....										3,190
Elevator construction.....	80	80	80	68	30		59	72	7	1,015
Refrigeration.....	19			89	78	225	49	216	112	1,716
Bricklaying.....										10,466
Helpers.....										11,930
Stone masonry.....										712
Carpentry, rough.....										3,395
Helpers.....										4,551
Sheet-metal work.....	37									1,109
Waterproofing.....										183
Plastering.....	116	80	80	200	160	160	120			5,959
Helpers.....	184	96	96	140	160	140	120			5,071
Bricklaying, partition wall.....										5,060
Helpers.....										7,013
Ventilation.....	70									342
Lathing.....	56	24	24							1,171
Roofing.....										640
Carpentry, trim.....	185	232	274	295	249	197	168	100	24	3,414
General labor.....	738	1,010	1,128	1,060	682	469	443	278	110	7,693
Tile laying.....	260	263	144	272	280	188				2,427
Mosaic and terrazzo work.....	406	578	470	369	506	650	429	223	192	5,431
Weather stripping.....	120	120	120	120						2,064
Carpentry, parquet floors.....	396	440	443	440	412	396	392			3,711
Painting.....			742	742	742	742	742	603		4,313
Paper hanging.....			128	523	576	430				1,712
Screens.....							192	182	40	414
Shades.....							81	9		90

The maximum weekly number of hours worked by all trades was in the week ending November 7, when 11,032 man-hours were worked. During that week, while only two occupations reached their actual peak in hours worked, five other classes of work were nearly at their maximum. The total number of man-hours put in on these seven classes of work in that week represents over nine-tenths of the total hours for the week. Of the 13 kinds of work carried on during that week, what is known as the "concrete group" (concrete and cement work, form carpentry, helpers on form carpentry, and reinforced-steel work) was responsible for 6,579 of the 11,032 man-hours worked during the week.



Public Aid to Housing in the United States

Federal Measures

WITHIN the past several years Congress passed three measures designed to improve housing conditions, relieve distressed home owners, and stimulate building. These were the Home Loan Bank Act, the Home Owners Loan Act, and the Federal Housing Act.

Several additional measures, while directed primarily toward the relief of unemployment and the creation of new employment, have indirectly aided housing by encouraging, by loans or grants of Federal funds, the construction of new dwellings. Thus, the Emergency Relief and Construction Act of 1932 authorized the use of Federal funds for assistance to low-cost housing and slum clearance; the National Industrial Recovery Act, approved June 16, 1933, provided loans and grants for public works (including housing), and authorized the formation of agencies to promote subsistence-homestead projects as part of a program of redistribution of surplus population; the Federal Emergency Relief Act, approved May 12, 1933, permitted grants of Federal funds for unemployment relief; and the rural rehabilitation program inaugurated as part of the relief work included the use of funds for the construction of low-cost dwellings in "rural-industrial communities."

Housing Under Relief and Recovery Measures

Emergency Relief and Construction Act of 1932.—The Reconstruction Finance Corporation, set up under this act, made only one housing loan. This was a 5 percent loan of \$8,022,000 made to a private limited-dividend corporation. It involved the construction of Knickerbocker Village, consisting of the two 12½-story buildings furnishing housing accommodations for 1,593 families at an average rental of \$12.50 per room per month. This project was completed during 1934. The housing activities of the Reconstruction Finance Corporation ceased with the passage of the act of 1933.

National Industrial Recovery Act, 1933.—Several agencies formed under this act included housing in the scope of their activities. These were the Housing Division and the Public Works Emergency Housing Corporation of the Emergency Administration for Public Works (P. W. A.), and the Division of Subsistence Homesteads in the United States Department of the Interior.

Assistance to housing by the Housing Division of the Public Works Administration has been of two types: (1) Loans to private limited-dividend corporations for housing construction, and (2) housing projects undertaken directly by the Division itself or by "duly authorized and properly constituted public bodies and groups organized not for profit but for public service."

(1) On the first class of projects the loans bear 4 percent interest and the period of amortization is 25, 30, and 35 years, according as the buildings are of nonfireproof, semifireproof, or fireproof construction. The funds for this type of loan were exhausted early in 1935. The Housing Division plans to exercise supervision over the leases, in order to insure that low-income families will benefit. Probably the way in which this will be done will be through a check on the annual incomes of the proposed tenants; families would not be accepted if the rentals in the project formed less than a specified percentage of the annual family income.

Loans have been made by the Public Works Administration for 7 private limited-dividend housing projects, aggregating \$10,971,600 and planned to provide quarters for some 3,000 families. All had been completed and were either occupied or ready for tenancy by the end of September 1935.

(2) Loans to public housing authorities bear 3 percent interest and run for not to exceed 60 years; the Public Works Administrator makes an outright grant of 45 percent of the cost of the projects. In all cases the plans must meet the approval of the Housing Division as to types of construction, floor and air space, lighting, sanitary facilities, rental requirements, etc.

Up to December 18, 1935, 50 Federal low-cost housing projects had been announced, to provide for more than 25,000 families. Funds allotted to these totaled about 130 million dollars. Of the 50 Federal projects, 47 were under contract.

Approximately \$150,000,000 was allotted for housing purposes by the Public Works Administration.

The Division of Subsistence Homesteads was allotted \$25,000,000 to be used in setting up experimental homestead projects. Up to the end of December 1934, the Division had approved 62 projects, for 43 of which it had allotted \$12,879,900 of its funds; 19 other projects had received tentative allotments aggregating \$3,797,570. Forty of the projects publicly announced provided for homesteads for 5,004 families. (For an account of the homestead projects of this Division, see article (p. 847) in section on Unemployment Insurance and Relief.)

Under a reorganization effected early in 1935, the Division was transferred to the new Resettlement Administration. In the latter part of 1935 that body started development of the first of a group of "green-belt" communities; this project is located at Beltsville, Md., near Washington, D. C., and is expected to cost \$5,500,000.

Federal Emergency Relief Act, 1933.—As part of the rural rehabilitation program inaugurated by the Federal Emergency Relief Administration (F. E. R. A.) several rural industrial settlements have been built. These were entirely new settlements, and the settlers were families chosen from public relief rolls. Although the families are on a rental basis, it is expected that some plan will be worked out by which they will be permitted to purchase the houses on a long-term basis. These settlements were designed to provide

accommodations for some 950 families. (An account of these rural industrial homestead projects is given in the section on Unemployment Insurance and Relief.) This work was taken over by the Resettlement Administration on its creation in 1935.

Relief Act of 1935.—The appropriation act approved April 8, 1935, provided \$450,000,000, to be used for housing, with the stipulation that the President should allot the sum in his discretion until June 30, 1937. Allotments have been made from this appropriation to continue and expand the work on housing by Federal agencies that existed prior to the passage of the act, but no statement has been made as to the scope of the new work to be undertaken by the Rural Resettlement Division of the Resettlement Administration at the close of 1935.

Progress Under Direct Housing Measures

Home Loan Bank Act, 1932.—This act is administered by the Home Loan Bank Board.

For the purposes of the act the United States is divided into from 8 to 12 districts, in each of which a Federal home-loan bank is established. Membership in these district banks is open, upon subscription of a certain amount of the bank's stock, to building and loan associations, savings and loan associations, cooperative banks, homestead associations, insurance companies, or savings banks. As amended, the act provides that these agencies may obtain Federal advances on amortized home loans of 6 years' maturity or longer, up to 65 percent of the unpaid principal of the loan and 60 percent of the value of the property securing the loan; on other home-mortgage collateral, advances are restricted to 50 percent of the unpaid principal and 40 percent of the value of the property. If mortgages furnished as collateral for advances have been insured under the National Housing Act, the home-loan bank may advance up to 90 percent of the unpaid principal. A lending organization which becomes a member of the system—and so, eligible to advances—must subscribe for home-loan-bank stock in an amount equal to 1 percent of the aggregate unpaid principal of its home-mortgage loans, but in any case must subscribe not less than \$1,500.

On December 5, 1935, there were 3,441 building and loan associations, mutual savings banks, and life insurance companies which had become members of the Federal home-loan-bank system, of which 99 percent were of the savings and loan type. Of the current credit thus built up, \$95,595,000 was outstanding in advances to member organizations on that date.

An analysis of the loans made in December 1934 to borrowers from the local building and loan associations formed under the Federal act showed that 55 percent was for refinancing mortgages, 20 percent was for new construction, 15 percent for the purchase of existing dwellings, and 10 percent for the reconditioning of houses.

Home Owners Loan Act, 1933.—The administration of this act is in the hands of the Home Owners Loan Corporation, under the supervision of the Home Loan Bank Board. This law is designed for the benefit of home owners threatened with the loss of their homes because of inability to meet amortization payments, taxes, etc.

Loans made by the Corporation are of three kinds:

(a) Those in which the holder of the mortgage agrees to accept the Corporation's bonds; these are limited to 80 percent of the appraised value of the property, mature in not to exceed 15 years, and bear interest at not over 5 percent.

(b) Cash loans on mortgaged homes for which the holder will not accept Corporation bonds; these are limited to 40 percent of the value of the property and bear interest at not to exceed 6 percent.

(c) Cash loans on mortgaged homes (to make repairs, meet taxes, etc.), allowable up to 50 percent of the value of the property. The authority of the Corporation to make such loans is limited to 3 years.

Within a year after the signing of the Home Owners Loan Act, June 13, 1933, the Home Owners Loan Corporation had advanced in bonds and cash for distressed home owners the sum of \$923,416,733, on 306,887 dwellings. The average loan per dwelling, up to July 1934, was \$3,013. At the end of the first full year of operation (Sept. 7, 1934) the Corporation had closed 505,070 loans, and had advanced \$1,513,100,612, of which about \$150,000,000 was paid in cash in the various communities. Some \$103,300,000 was paid into local treasuries to liquidate arrears of taxes and assessments, and the Corporation pointed out, in a statement issued September 19, 1934, that "these sums have reduced tax delinquencies which were serious in some instances, permitting countless communities to meet their pay rolls for schools, police, and other services and to take care of other obligations." More than \$20,274,000 had been expended for the repair and remodeling of the homes on which loans were made, "providing employment for thousands of men in the building trades and stimulating transportation and the manufacture and sale of construction materials of many kinds."

The passage early in 1934 of legislation guaranteeing the principal as well as the interest of the bonds facilitated the work of the Corporation, and during the late spring and early summer loans were concluded at the rate of about 15,000 per week.

Under the National Housing Act, passed June 27, 1934, an additional \$900,000,000 in bonds for the refunding of past mortgages—making a total of \$3,100,000,000 in resources of the Corporation—was made available.

From its organization on June 13, 1933, to October 26, 1934, the Corporation had made loans aggregating \$1,828,083,114 to 608,109 home owners in all parts of the country. During the week ending with that date new applications numbered 6,981, the lowest figure for any week since the Corporation had been in operation. This was construed as "evidence that the peak of home-owner relief need has passed and that Federal aid is giving way to active resumption of lending operations by private financial institutions."

On November 13, 1934, the Corporation announced that it would receive no more applications for loans and (of those received) would act upon only those which had proceeded as far as the legal division.

In the spring of 1935 Congress extended the lending powers of the Corporation by voting it an additional sum of \$1,750,000,000. The Corporation announced that it would immediately resume operations, dealing first with the 283,889 applications approved but on which loans had been withheld because of lack of funds.

Loans made up to November 28, 1935, numbered 953,195 and totaled \$2,882,733,143. Only 97,972 applications were pending at that time, or approximately 5 percent of those received. More than half of the applicants for assistance had been granted loans.

National Housing Act, 1934.—This act is administered by the Federal Housing Administration. As developed by that agency the activities have been of two types:

(1) A temporary program, scheduled to end December 31, 1935, but extended to April 1, 1936, providing for short-term loans for the modernization of home properties—a measure designed to increase employment in the building trades. The Administration does not itself make loans; it merely insures lending institutions against any losses incurred, up to 20 percent of the total so loaned by any one lending institution. The underlying idea is that this insurance will take the place of the property security ordinarily required for loans. The total liability that may be incurred by the Federal Housing Administration is limited to \$200,000,000.

The home-modernization credit plan depends primarily on the personal character and earning power of the borrower. Lending institutions are not required to make any loan, but the Federal Housing Administration will insure the lending agency against loss provided the following requirements are met:

(a) The borrower must own the property on which the improvements are to be made.

(b) There must be no liens against the property. As regards tax liens the original regulation was amended in a ruling of September 6, 1934, permitting the lending agency to use its own judgment as to whether unpaid taxes should bar the making of the loan.

(c) Any mortgage on the property must be in "good standing", i. e., the property owner must be fulfilling the terms of the mortgage. Exceptions are permitted, even in case of delinquent owners, however, provided there is written agreement between mortgagor and mortgagee that foreclosure will not take place during the term of loan.

(d) The prospective borrower's annual income must be at least five times the amount of the annual payments which he agrees to make.

(e) The borrower must agree that the money will be used entirely for repairs, alterations, and improvements to his property and that he will repay the loan in monthly installments. (A farmer borrower may arrange to pay off the loan when he receives the proceeds of the sale of his crops, livestock, etc.)

No security is required. The term of the loan runs from 1 to 3 years, and in exceptional cases to as long as 5 years. Loans insured may not exceed \$50,000 each (to improve apartments, hotels, etc.). Up to the end of 1934 there were 11,936 financial institutions which had qualified to make modernization loans.

(2) A long-time program to assist responsible citizens in purchasing homes under a "mutual mortgage plan", by which the Administration insures first mortgages on dwellings used primarily as residences. It may also insure first mortgages on low-cost housing projects of Federal, State, or municipal agencies or private limited-dividend corporations.

As of December 9, 1935, the Federal Housing Administration announced that 646,940 modernization and repair notes had been insured for a total of \$234,105,461; that 62,359 home mortgages selected for appraisal and with fees paid totaled \$240,597,352; and that 15 mortgages on low-cost housing projects accepted for insurance totaled \$27,030,234, making a grand total of \$501,733,047.

State Legislation

STATE legislative enactments in the field of housing are a comparatively recent development. The earliest piece of housing legislation was that of Puerto Rico (1921) which in its homestead act authorized the Commissioner of the Interior to construct low-cost houses for workmen. The next act was that of New York, passed in 1927. No other legislation in this field was passed until 1932 when three States passed housing laws. In 1933, 16, and in 1934, 2 housing measures were enacted. By 1935, 14 States had laws authorizing the formation of limited-dividend corporations for the erection of dwellings, and 16 jurisdictions had legislation creating a State housing authority or providing for the establishment of local housing authorities.

All of the States which passed measures authorizing the formation of limited-dividend corporations set up boards or commissions. These have broad powers as to the methods of financing, rates of profit, rents, sales prices, and design, construction, and operation of housing projects.

Fifteen cities and one county ¹ set up local housing authorities with power to acquire land and construct, sell, lease, or operate housing projects.

The majority of the recent housing laws were passed to allow States and municipalities to receive funds from the Federal Government, and the housing activities carried on under them are included in the section (p. 234) relating to Federal housing measures.

Concerning housing undertaken and carried out independently of Federal loans, under State housing commissions, data are available for New York only and relate only to projects undertaken before the inauguration of the Federal program.

At the end of 1934 the New York State Board of Housing reported that 11 projects had been completed under its supervision providing quarters for 1,947 families, at an average rental of \$10.76 per room. There were six other projects approved by the board and proceeding under its jurisdiction, all of which had been recipients of Federal loans. Data regarding the effect of the tax-exemption feature of the act upon the provision of low-cost housing are given in the article on page 244.

¹ Los Angeles, Calif.; Washington, D. C.; St. Clair County, Ill.; Lexington, Ky.; Detroit, Mich.; New York City, Schenectady, and Buffalo, N. Y.; Cleveland, Columbus, Dayton, Toledo, Warren, and Youngstown, Ohio; Columbia, S. C.; and Milwaukee, Wis.

Housing Conditions in American Cities, 1934

SUBSTANDARD living conditions were found to be wide-spread in 64 cities of the United States covered in the real property inventory by the United States Bureau of Foreign and Domestic Commerce. Overcrowding, houses going or gone into disrepair, and deficiencies in plumbing, heating, and lighting facilities were some of the unfavorable conditions found.

The Bureau's survey was undertaken as a Civil Works Administration project for white-collar workers and was a complete census of residential structures in 64 cities so selected as to give a representative cross-section of urban America. One or more cities and both large and small communities were taken in every State, so that there was a wide range of industrial activities. The field work was done during the period December 1933 to March 1934.

Data were obtained for 2,633,135 dwelling units, nearly 40 percent of which were occupied by their owners. Nearly 80 percent were single-family dwellings, 13 percent were two-family structures, and all other types (including apartment buildings) formed 8 percent of the total. The small proportion of multiple-family dwellings was probably due to the large number of smaller cities covered.

On the basis of the facts revealed in the survey, the typical American home is described as follows:

The typical American home may be described as a single-family dwelling, about 19 years old, of wood or frame construction, containing five rooms. It is equipped with either bathtub or shower, indoor water closet, uses electricity for lighting and gas for cooking. For the country as a whole, reliance is placed predominantly upon heating stoves for heat, although over 31 percent of all dwelling units use warm-air furnaces. Coal is the principal fuel used.

Characteristics of Housing Accommodations

THE owner-occupied dwellings, it was found, were considerably larger than the average rented quarters. Over 83 percent of all single-family homes occupied by their owners had five or more rooms, as compared with only 63 percent of the rented dwellings.

More than 90 percent of the homes were equipped with electricity for lighting and some 69 percent used gas for cooking.

The absence of sanitary plumbing on a larger scale than is commonly realized was one of the outstanding facts revealed by this study. There were 449,627 homes (17 percent) which had no indoor toilet facilities and 612,977 (23 percent) which had no bath.

Considerable differences were found between the relative proportions of owner-occupied dwellings and of rented dwellings as regards household facilities, as table 1 shows.

TABLE 1.—PERCENT OF DWELLINGS IN 64 CITIES WHICH HAD SPECIFIED HOUSEHOLD CONVENIENCES

Type of convenience	Percent having specified convenience		
	Total	Owner-occupied units	Rental units
Mechanical refrigeration.....	17.0	21.0	14.4
Lighting by—			
Gas.....	.2	.2	.2
Electricity.....	90.6	95.4	87.5
Cooking by—			
Gas.....	69.4	72.7	67.3
Electricity.....	3.9	5.3	3.0
Indoor water closet.....	82.9	86.8	80.4
Bath.....	76.7	83.8	72.1

While the value of owner-occupied homes ranged from under \$1,000 to \$20,000 and over, the typical valuation of the single-family owner-occupied dwellings was from \$3,000 to \$4,999, nearly 30 percent being in this value class.

Of the entire group of 860,465 single-family homes occupied by their owners, 54 percent were mortgaged. The proportion mortgaged varied from city to city—from 16 percent in Frederick, Md., to 76 percent in Waterbury, Conn.

Table 2 shows the distribution of the rental units according to the monthly rent charged. In some cases these amounts covered such items as garage, refrigeration, etc. It is evident from the table that the rents in the multiple dwellings are higher than those in the single-family dwellings.

TABLE 2.—DISTRIBUTION OF RENTAL DWELLINGS IN 64 CITIES ACCORDING TO GROSS MONTHLY RENTS¹

Gross monthly rental ¹	All rental units		Single-family dwellings		All other (multiple-family) dwellings	
	Number	Percent	Number	Percent	Number	Percent
All rates.....	1,597,208	100.0	676,341	100.0	920,867	100.0
Under \$10.00.....	248,650	15.6	138,290	20.5	110,360	12.0
\$10-\$14.99.....	292,202	18.3	137,247	20.3	154,955	16.8
\$15-\$19.99.....	284,173	17.8	112,517	16.6	171,656	18.6
\$20-\$29.99.....	413,522	25.9	151,443	22.4	262,079	28.5
\$30-\$39.99.....	272,104	17.0	96,703	14.3	175,401	19.1
\$50-\$74.99.....	49,725	3.1	19,587	2.9	30,138	3.3
\$75-\$99.99.....	8,111	.5	3,721	.6	4,390	.5
\$100 and over.....	4,709	.3	2,601	.4	2,108	.2
Not reported and rent free.....	24,012	1.5	14,232	2.1	9,780	1.1

¹ Includes any concessions, such as refrigeration, garage, etc.

Adequacy of American Housing

THE data gathered throw some light on the question of the adequacy of the living quarters of the American people. Of the properties canvassed in the survey, 58,747 were in such bad condition as to be unfit for habitation and yet 41,891 of these were occupied at the time of the survey. There were 204,228 vacant structures but of these 16,856 (8.3 percent) were unfit for use and only 51,558 (25.3

percent) were in good repair. Furthermore, 30,600 of the vacant dwellings had been unoccupied for 2 years or more and 26,159 others for from 1 to 2 years. The report comments, as to this, that "it is reasonable to assume that most of these properties are deteriorating and are probably in need of major repairs, if they are not already beyond profitable repair."

The data showed that 17.1 percent of the dwellings had an average of more than 1 person per room. There were 379,434 dwellings (15.6 percent) with an average of 1 to 2 persons per room, and 6,120 dwellings (0.3 percent) with more than 3 persons per room.

The survey disclosed that there were 183,200 extra families, sharing quarters with householders, who expected to set up separate establishments of their own as soon as conditions improved. Of these extra families, 88,187 were sharing owner-occupied dwellings and 95,013 were sharing rented structures.

Housing and Health

QUITE definite evidence that if slum districts in cities were eliminated and houses provided which meet adequate sanitary requirements, there would be a favorable effect on the future health of the population is provided by a study² by the United States Public Health Service of the relationship between housing and health. This evidence is based in part on the much higher mortality and sickness rates in the slums, a fact which has been recognized for many years, and upon the causal conditions of impure water supply, insanitary toilets, lack of sewer connections, overcrowding, lack of light and of adequate ventilation, excessive dampness, dilapidation, and lack of screening against flies and mosquitoes, which are generally found in slum areas and in the tenement districts of large cities and the blighted, poor areas of most urban communities.

Studies both in this country and abroad have shown that the relation of excessive sickness and mortality rates to the conditions in the slum or overcrowded districts of large cities is most clearly shown for infant mortality, pulmonary tuberculosis, and perhaps pneumonia, although in certain areas other diseases such as typhoid fever, diphtheria, scarlet fever, rickets, hookworm disease, etc., show a connection with these conditions. Among these studies is one by the United States Children's Bureau, which found on the basis of 23,000 birth records in eight cities that the death rate of infants was two and one-half times as great in homes with two or more persons per room as in homes with less than one person per room. With regard to overcrowding, a study in Detroit showed that, with an average number per room of 0.9 person or more, the deaths from all causes were 10.9 per 1,000 as compared with 9.5 deaths with an average number of persons per room of 0.7 or less. Death rates of infants ranged from 86 per 1,000 births under the most crowded conditions to 62 per 1,000 where there was the least crowding, while the death rates per 100,000 population were very much greater for tuberculosis among persons living under crowded conditions and considerably

² Public Health Reports, Nov. 2, 1934; *The Relation Between Housing and Health*, by Rollo H. Britten.

higher for pneumonia and diphtheria. A classification of census tracts in Cleveland on the basis of equivalent monthly rental showed that the 1930 death rate, after adjustment for age and sex, varied from 15 to 1,000 population in the lowest of the 12 economic areas to 7.2 per 1,000 in the highest. The average rentals in these areas varied from less than \$20 per month in the lowest to \$75 or more in the highest. Although these figures are important in indicating in a general way the effect of slum areas or bad housing, many complicating factors enter into them, such as density of population, race, tenement flats, proportion renting dwellings, age distribution, marital condition, unemployment, illiteracy, juvenile delinquency, and birth rate.

Proof that some of this excess in the death rates is due to substandard housing is shown by data from Liverpool, England, in which the deaths in the slum areas are compared with those in municipal houses constructed for the same type of population. The figures, which are averages for the years 1923-29, show that the infant mortality was 98 per 1,000 births for the entire city, 131 for corporation tenements, and 171 for a slum area, while the deaths from all causes per 1,000 population were respectively 13.9, 18.2, and 28.4 and the deaths from pulmonary tuberculosis per 100,000 population were 123, 164, and 299. These figures show mortality rates in the slum district greatly in excess of those in the municipal houses, although in turn the latter are definitely higher than for the city generally. These figures are made even more significant by the fact that in the slum area regular sanitary measures are carried out, such as inspection by the sanitary staff, systematic cleaning of streets and sewers, and the provision of baths and washhouses, and the operation of infant-welfare centers and clinics in close proximity to the area, showing that nothing short of demolition would prevent the continuance of high death rates. A pure water supply and sanitary disposal of sewage are frequently lacking in slum districts, and both are of the utmost importance; where wells or cisterns are used or water is not actually piped into dwellings there is a continuing risk of epidemic disease, and the lack of proper toilet facilities, coupled with insanitary disposal of sewage, may result in the prevalence of typhoid fever, dysentery, various diarrheal diseases, summer complaints of infants, and in some parts of the country, hookworm.

Overcrowding and the Spread of Disease

WHILE families in slum areas live under overcrowded conditions it is considered that the excess of contact diseases in these areas is due not so much to overcrowding in the individual flat or house as to the general congestion of the area, which results in congregation of young children in the hallways of tenements, in the streets, etc. There are many diseases which are spread from close personal contact, primarily by secretions from the mouth and nose through droplet infection, these diseases including the common cold, sore throat, bronchitis, influenza, the common diseases of childhood, cerebrospinal fever, pneumonia, and tuberculosis. The effect of congestion and overcrowding in the past on the prevalence of such epidemic diseases as plague, smallpox, cholera, and typhus fever has been very great, and it is evident that the slum areas present a real menace, not only to the inhabitants of these areas, but to other parts of the population.

Lack of adequate ventilation and light, also characteristic of slum areas, may play a part in the occurrence of such diseases as tuberculosis and rickets, while inadequate screening against flies and mosquitoes may be reflected in the rate for typhoid fever and diarrheal diseases and, in the South, in malaria, while ratproofing, which is almost unknown in the worst sections of our cities, is an important public health measure in districts where there is a possibility of the contraction of plague from rodents.

There are no statistics of the extent to which dilapidation of houses, which has been increasing during the depression, has increased the danger of accidents in the home nor of the loss of life in slum areas from fire, although it is evident that houses or tenements which are so dilapidated as to make repairs uneconomic must offer many accident hazards, while the continual occurrence of fatal fires in tenement houses in large cities is recognized as a hazard resulting from construction antedating the passage of strict building ordinances.

Tax Exemption and Low-Cost Housing in New York City

IN JUNE 1927, New York City adopted an ordinance remitting local taxes for a period of 20 years on model tenements erected by limited-dividend corporations, provided they met certain specifications. A State law passed a year earlier had exempted such buildings from State taxes, if they were finished before 1937, to the same extent that local taxes might be remitted. The reports of the State housing board³ give data as to the amount and kind of housing provided under the legislation of 1926 and 1927 and discuss the most common objections against encouraging the provision of housing by tax exemption, showing how far these are applicable to the limited-dividend housing projects of recent years.

Amount and Kind of Housing Supplied by Limited-Dividend Corporations

THE State law of 1926 provided that in order to secure tax exemption, the limited-dividend corporations must erect their buildings under the supervision of the State housing board and in accordance with its specifications. The work completed under this law consists of 11 different projects, comprising 1,918 apartments used for dwelling purposes, with a total of 7,356 rooms, including 44 dining alcoves and 11 bathrooms counted as half rooms. Five other projects were approved by the State housing board. Under the terms of the State law, these projects were all conservatively financed, with a view to making them attractive for investment rather than for speculative purposes. The average rent may not be more than \$12.50 per room per month, and dividends may not exceed 6 percent. If, after due provision for management, maintenance, and amortization, returns would permit a larger dividend, rents must be reduced. The State board of housing exercises a close supervision over plans and construc-

³ New York State Board of Housing Report, Albany, 1932 (Legislative document (1932) No. 84); Report, Albany, 1933 (Legislative document (1933) No. 112).

tion and enforces standards as to size of rooms, coverage of area, provision of light and air, cross ventilation, sanitation and the like, far superior to those usually found in low-rental buildings. Generally speaking, the board's approval is limited to sites which are large enough and so situated as to permit the development of projects with low coverage and in accordance with modern principles of site planning. Looking upon it as a duty to prove that superior types of dwellings are possible at relatively low cost, the board will not approve any project which is not suitably adapted to its surroundings and which is not so planned as to secure adequate light and air and necessary privacy for every apartment. In general, apartments may be only two rooms deep, thus securing complete through ventilation, and in the large projects, a number of valuable facilities are provided, such as club-rooms, playgrounds, and the like.⁴

Rentals

THE 11 completed projects comprised 1,936 apartments containing 7,384 rooms, excluding those occupied by superintendents or used for commercial purposes and 45 bathrooms counted as half rooms in 2 projects. The monthly rent of the apartments in 1932 ranged from between \$15 and \$20 charged for each of two 2-room apartments, to between \$75 and \$80 for ten 5-room apartments, the average monthly rent per room varying from \$9.30 to \$16.67.

A rental of \$12.50 per room per month is looked upon as the outside limit of what the average worker can pay for housing. Of the 7,384 rooms listed, 90 percent were within this limit, two-thirds were under \$11, and one-quarter were under \$10. The board looked upon this as a demonstration that, by means of large-scale economies and careful planning, excellent housing can be provided, even in a large city, at rentals within the reach of the great mass of workers.

Some Effects of Tax Exemption

IN DISCUSSING this topic it is emphatically stated that tax exemption without careful regulation is not desirable.

Without the proper safeguards tax exemption will neither lower rents nor improve standards. Unfortunately, a striking illustration of this situation was witnessed in New York City during the last decade, when the city of New York took advantage of the amendment to the State law which granted municipalities the right to exempt from taxes residential buildings whose construction was begun before April 1, 1924. The result, as we have pointed out in the previous reports, was the production of 1- and 2-family dwellings of decidedly inferior quality, mostly in Brooklyn and Queens, at rents that were considerably above the price that could be paid by families with modest incomes.

But, given proper regulation, tax exemption indubitably aids in the production of desirable housing at lower rents than could be afforded otherwise. Without it, rents in the housing provided by the limited-dividend corporations would have to be increased from \$1.27 to \$3.18 per room per month.

The principal factor producing the variations shown in the room rental increases is the difference in the average room sizes. Buildings with smaller rooms experience the lowest savings and those with the larger rooms the greatest

⁴ Descriptions of some of these buildings were given in the Monthly Labor Review, August 1928 (p. 1), and September 1929 (p. 106).

savings. In other words, limited-dividend companies that provide the highest accommodations to tenants—as measured by room sizes—receive the greatest benefits from tax exemption.

Cost of Tax Exemption to the Municipality

IN CONSIDERING the effect of tax exemption upon the city's revenues, it must be remembered that the exemption is not upon the total cost of the site and building combined, but upon either the cost or appraised value, whichever is the lower, of the improvements. The actual amount granted in tax exemptions by New York City to the State Board of Housing projects was \$43,427 in 1929, \$60,386 in 1930, \$131,834 in 1931, and \$179,557 in 1932, a total of \$415,203 for the 3 years. Considering only the financial aspect, attention is called to the fact that this is, at least in part, offset by the fact that operation of limited-dividend corporations tends to improve the neighborhood in slum areas and to accelerate the building up of new localities in outlying regions, with increasing revenues to the city.

Furthermore, it is doubtful that the city will really lose any revenue at all over a period of years. The experience of the board reinforces these conclusions. * * * The assessed valuation of land in the Amalgamated Housing Corporation was increased by more than 250 percent since 1927; the Academy Housing Corporation by over 130 percent; the Brooklyn Garden Apartments by about 60 percent; Farband Housing Corporation by 80 percent; and the Schnurmacher projects on the lower East Side by about 15 percent. The average increase in land assessments for the 9 projects is 53 percent above the assessment placed on the land when acquired.

The board feels that the sum lost through tax exemption is a small amount to pay for the advantage of securing improved housing at rentals the worker can meet, and for the demonstration these projects afford of the fact that the provision of housing in New York has been allowed to develop along unnecessarily expensive and undesirable lines.

Every structure erected in terms of the board's standards is a challenge to the community to rid itself of a system that provides homes by letting the small owner hold the bag while the land developer parcels out the city's undeveloped land into 20 or 25 foot lots, the second mortgagee charges the hard-pressed owners an interest of 9 to 15 percent, the builder erects ugly rows of single and 2-family houses, and apartment houses crowd the land to the maximum permitted by law.

Housing Situation in Philadelphia, Spring of 1934

BAD housing conditions affecting a considerable proportion of the housing facilities in Philadelphia were disclosed by a survey carried on by the State Emergency Relief Administration as a public-works project.⁵ This survey was similar to the real property inventory of the United States Bureau of Foreign and Domestic Commerce in 64 cities but covered a number of additional points.⁶

For purposes of the study the city was divided into 11 districts, and 2,700 enumerators visited more than 460,000 households during April and May 1934.

Of the 507,667 family dwelling units for which data were obtained, 458,581 were occupied and only 49,086 (9.7 percent) were vacant.

⁵ Pennsylvania. State Emergency Relief Administration. Department of Research and Statistics. Bulletins Nos. 1-18: Philadelphia Real Property Survey. Philadelphia, 1934 and 1935.

⁶ Philadelphia was not included in that survey. For a summary of that inventory see p. 240, and Monthly Labor Review, March 1935 (p. 723).

These family accommodations were fairly evenly distributed between rented and owned dwellings, 293,710 being rental units (of which 244,624 were occupied) and 213,957 being units occupied by the owners. Of the structures occupied by the owners, 77,468 were owned free of encumbrance, 135,257 were mortgaged, and data were not available for the remaining 1,232.

It was found that there were 26,470 extra families living with the householders in the dwellings visited.

Slightly over 1 percent of the structures were more than 100 years old, 18.5 percent were between 50 and 100 years old, 27.7 percent were between 30 and 50 years of age, while 40.8 percent had been constructed during the past 30 years, and age data were not obtained for 11.8 percent. Over 90 percent of the dwellings were in good condition or could be made so with minor repairs. There were, however, 14,188, or 3.3 percent, which were unfit for habitation, and only 5,668 of these were vacant, so that it is evident that at the time of the survey families were living in 8,520 dwellings which were regarded by the investigators as unfit for use.

Somewhat under 95 percent of the dwellings fronted on a major street (i.e., those over 20 feet in width), 3.1 percent on a minor street, 1 percent on a dead-end street, 0.3 percent on an alley, 0.8 percent on a court, and 0.2 percent on a tunnel.

Hot-air and hot-water heat were the most common, but 44,843 of the 433,796 dwellings were heated by stove and 2,984 had no heating facilities whatever.

Gas was used for cooking in 91.8 percent and electricity for lighting in 94.3 percent of the dwellings.

Nine-tenths (89.8 percent) of the buildings were supplied with both hot and cold water and 9.5 percent had cold water only. There were, however, 1,524 structures (0.4 percent) which had water piped only to the yard, and 2,048 (0.5 percent) which had no water connections at all and had to depend on neighbors for the supply. About 90 percent had bathrooms. Dwellings having water-closets in the yard formed 9.1 percent of the total and those having privy vaults 1 percent. In the section with the worst housing conditions—the east central section—there were 2,927 dwellings without either water-closets or privy vaults.

The gross monthly rentals of the rental units are shown in the statement below:

	<i>Number of dwellings</i>
Total dwellings.....	244, 624
Monthly rental of—	
Under \$10.....	9, 504
\$10 to \$19.99.....	57, 163
\$20 to \$29.99.....	91, 924
\$30 to \$49.99.....	64, 336
\$50 to \$69.99.....	13, 430
\$70 to \$99.99.....	3, 344
\$100 and over.....	2, 542
Rate not reported.....	2, 381

Attitudes Toward Home Ownership and Tenancy

A STUDY of attitudes toward home ownership and tenancy, made with a view to finding an explanation of the apartment-house movement, was published in the *Journal of Land and Public Utility Economics* (Chicago) for August 1931, as part of an article entitled "Apartment-house increases and attitudes toward home ownership", by Coleman Woodbury. The locality of the study was the city of Chicago and its metropolitan region, but some information is also given for adjacent towns in Illinois. The social classes covered by the survey included the so-called "white-collar workers", as represented by the employees of the People's Gas & Light & Coke Co. of Chicago; well-to-do professional and business men, members of the City Club of Chicago; the lower-paid professional classes, found among the faculty and staff members of Northwestern University, including full-time teachers and members of the faculties of the professional schools; organized skilled and semiskilled workers, as represented by the secretaries and delegates of trade unions in Chicago and in towns outside of Chicago; and a miscellaneous class of workers, mostly unorganized, living on the west side of Chicago.

The information presented in the article is based on 1,882 questionnaires obtained in the latter part of 1930, 53.9 percent thereof having been furnished by owners and 46.1 percent by renters. Twenty-five percent were from employees of the gas company, of whom 46.2 percent were owners and 53.8 percent renters; 23.6 percent from City Club members, of whom 60.4 percent were owners and 39.6 percent renters; 16 percent from organized labor, of whom 61.8 percent were owners and 38.2 percent renters; 15.6 percent from Northwestern University faculty and staff members, of whom 39.9 percent were owners and 60.1 percent renters; and 19.8 percent from the "miscellaneous" workers, of whom 60.3 percent were owners and 39.7 percent renters.

The following table shows the distribution of owners and renters by income groups:

DISTRIBUTION OF OWNERS AND RENTERS BY INCOME GROUPS

Income group	Owners		Renters		Total	
	Number	Percent of income group	Number	Percent of income group	Number	Percent of total
All groups.....	1,014	53.9	868	46.1	1,882	100.0
Under \$1,800.....	215	54.6	179	45.4	394	20.9
\$1,800 to \$3,000.....	330	53.1	291	46.9	621	33.0
\$3,000 to \$5,000.....	118	41.3	168	58.7	286	15.2
\$5,000 to \$7,500.....	95	48.7	100	51.3	195	10.4
\$7,500 to \$10,000.....	74	64.9	40	35.1	114	6.1
Over \$10,000.....	169	68.1	79	31.9	248	13.2
Unclassified.....	13	54.2	11	45.8	24	1.3

Of the home renters, 60.3 percent of those replying to the questionnaire lived in apartment houses or in apartment hotels (6.6 percent in the latter), 23.8 percent in 2-family houses, and 15.4 percent in single-family houses. Of the home owners, 6.6 percent lived in multifamily dwellings, 13.9 percent in 2-family houses, and 78.8 percent in single-family houses.

Seventy-eight percent of the renters and 29 percent of the owners had lived less than 5 years at their present addresses. The mobility of residence of the renters appeared to be characteristic of renters as a whole and not of apartment dwellers alone, as 70.1 percent of a sample of renters of single-family houses had lived at their present address less than 5 years as compared with a corresponding percentage for apartment renters of 79.8 percent and for renters of 2-family houses of 77.8 percent.

The absence of children was found more frequently among renters than among home owners, 44.7 percent of the renters covered by the study having no children as compared with 22 percent of the home owners. Of the home owners who had children, 54.4 percent had two or more children, while only 29.7 percent of the renters had families of this size, although it is noted that renters living in single-family and 2-family houses had almost as many children as the owners living in these types of dwellings. Only 29.1 percent of the renters of single-family houses were childless and 45.5 percent had two or more children; of the renters of 2-family houses, 26.6 percent had no children and 43.5 percent had two or more children.

Reasons for Home Ownership or Tenancy

AMONG the owners, the welfare of the children was most frequently given as the chief consideration leading to home ownership, followed, in the order named, by safety of investment; forced saving; amenities, such as working around the house, making gardens, etc.; protection and security; lack of play space in apartment districts; and noise in apartment districts. The prevalence of these reasons for owning a home had about the same rank in the different occupational and income classifications, welfare of children holding first place, in every income class, and amenities and protection and security ranking fairly constantly in about fourth or fifth place, except that protection and security did not occur among the leading seven reasons given in the higher-income groups. Investment considerations held high rank in the lower-income groups, but were superseded in the higher-income groups by reasons which stressed the "undesirable physical characteristics of most apartment-house districts." When the considerations entering into home ownership were classified under three heads—(1) financial reasons, (2) family-welfare reasons, and (3) negative, antiapartment reasons—it was found that there were 1,016 citations in the first classification, 1,226 in the second, and 321 in the third.

The following reasons for renting instead of owning a dwelling were those which received most frequent mention:

1. Renting is cheaper than owning.
2. Financing costs of owning too high.
3. Tax burden on owners too heavy.
4. Investment in house too fixed.
5. Renting increases freedom.
6. Installment payments on house are dangerous.
7. Owned house a poor investment.
8. Costs incidental to purchase of house too high.
9. Land value too high.
10. Renting increases bargaining power.

Reasons 4 to 8 are said to have been given with about the same frequency. The first reason cited in every income group, except

that of persons receiving under \$1,800, was that "renting is cheaper than owning." The cost of financing the purchase of a house was the chief consideration in the income group under \$1,800 and came second in the income group \$1,800 to \$3,000 and fourth in the group \$3,000 to \$5,000, but was well down the list in the higher-income groups. Expense and investment reasons made up 75 percent of the total number of reasons given, 48 percent being expense reasons and 27 percent investment reasons. The lowest percentage of expense and investment reasons occurred among the City Club members and the highest percentage among the unskilled laborers. The ease with which renters can adjust the size of their living quarters to changes in the size of the family was emphasized by those with incomes of over \$10,000.

Only 14 percent of the 913 owners wished to sell and to become renters, while 53 percent of the 785 renters wished to become owners, thus clearly indicating that "the increase in multifamily houses in the Chicago region is not caused by a wholesale change of attitude toward the relative advantages of home ownership and home tenancy."

The article emphasizes that the following should be kept in mind: The findings of the study relate solely to conditions in and about Chicago, a city which has had a very rapid recent growth; the information was obtained during one of the deepest business and industrial depressions in the history of the country; the sample "does not give sufficient weight to the lower-income groups"; the means of securing the list of persons to whom the questionnaire was sent "unavoidably weighted the sample with the more stable and 'settled' classes of the population"; many persons may question the degree of accuracy with which most people can analyze their reasons for any line of action; and that the opinions regarding home ownership and tenancy should be treated as opinions and not as established facts.

**IMMIGRATION, EMIGRATION, AND
NATURALIZATION**

**U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition**

Administration of Immigration, Emigration, and Naturalization Laws

THE immigration and naturalization laws of the United States are administered by the Immigration and Naturalization Service of the United States Department of Labor. Data regarding the immigration movement and naturalization of aliens are compiled monthly by the Immigration and Naturalization Service, this office being a reorganization and merger of the former Bureau of Immigration and Bureau of Naturalization. The figures and text in this section are taken from the above-mentioned sources.

Immigration and Emigration by Months, July 1, 1930, to March 31, 1935

TABLE 1 shows the inward and outward passenger movement for the fiscal years ending June 30, 1931, 1932, 1933, and 1934, and for July 1934 to March 1935. In table 2 is shown the net increase or decrease of population through permanent immigration and emigration of aliens, for the fiscal years 1932, 1933, and 1934, according to the country of last residence in the case of immigrants, and of future residence in the case of emigrants. Table 3 gives for 1931, 1932, 1933, and 1934, for immigrants and emigrants, the principal States of intended future or last permanent residence, respectively, and also their occupational status, sex, age periods, and marital condition. Over two-thirds of the immigrants admitted during the fiscal years 1932, 1933, and 1934 had no occupation, being mainly women and children under 16 years of age, the vast majority of whom came to join their near relatives in this country.

TABLE 1.—INWARD AND OUTWARD PASSENGER MOVEMENT FROM JULY 1, 1930, TO MARCH 31, 1935

Period	Inward					Aliens debarred from entering ¹	Outward					Aliens deported after landing ²
	Aliens admitted			United States citizens arrived	Total		Aliens departed			United States citizens departed	Total	
	Immigrant	Nonimmigrant	Total				Emigrant	Nonemigrant	Total			
1930-31												
July.....	13,323	16,466	29,789	38,822	68,611	881	4,818	22,588	27,406	55,366	82,772	1,440
August.....	14,816	19,724	34,540	69,957	104,497	837	5,245	29,166	34,411	88,372	122,783	1,208
September.....	17,792	29,359	47,151	80,900	128,051	929	5,100	24,604	29,704	56,526	86,230	1,552
October.....	13,942	23,304	37,246	40,702	77,948	854	5,352	22,938	28,290	32,988	61,278	1,526
November.....	9,209	13,032	22,241	22,381	44,622	734	4,951	19,285	24,236	24,420	48,656	1,405
December.....	6,439	9,939	16,378	28,535	44,913	806	5,450	17,603	23,053	21,140	44,193	1,377
January.....	4,091	8,724	12,815	19,844	32,659	693	4,397	17,169	21,566	24,885	46,451	1,517
February.....	3,147	9,065	12,212	27,508	39,720	689	4,720	16,170	20,890	33,172	54,062	1,210
March.....	3,577	12,767	16,344	34,861	51,205	597	4,693	12,751	17,444	32,278	49,722	1,726
April.....	3,470	14,289	17,759	28,281	46,040	809	5,647	14,346	19,993	24,418	44,411	1,897
May.....	3,799	14,062	17,861	22,518	40,379	1,001	5,616	15,602	21,218	23,242	44,460	1,767
June.....	3,534	12,809	16,343	25,588	41,931	914	5,893	16,812	22,705	29,579	52,284	1,517
Total.....	97,139	183,540	280,679	439,897	720,576	9,744	61,882	229,034	290,916	446,386	737,302	18,142
1931-32												
July.....	3,174	12,361	15,535	30,944	46,479	761	7,428	20,450	27,878	46,961	74,839	1,681
August.....	4,090	16,580	20,670	59,372	80,042	657	9,541	23,009	32,550	65,895	98,445	1,584
September.....	5,017	20,940	25,957	62,581	88,538	684	8,733	20,393	29,126	42,247	71,373	1,446
October.....	3,913	17,096	21,009	32,427	53,436	806	10,857	16,525	27,382	35,016	62,398	1,663
November.....	2,899	9,832	12,731	16,823	29,554	573	11,318	14,271	25,589	23,224	48,813	1,525
December.....	2,642	8,086	10,728	16,932	27,660	455	10,727	17,370	28,097	24,351	52,448	1,336
January.....	2,220	7,242	9,462	17,158	26,620	577	8,550	14,693	23,243	25,016	48,259	1,537
February.....	1,984	7,346	9,330	19,829	29,159	392	6,188	9,691	15,879	22,920	38,799	1,505
March.....	2,103	9,243	11,351	22,012	33,363	445	6,239	10,097	16,336	24,718	41,064	2,112
April.....	2,469	11,266	13,735	23,261	36,996	580	6,746	9,886	16,632	19,980	36,612	1,633
May.....	2,479	10,579	13,058	19,233	32,291	540	8,577	13,262	21,839	22,152	43,991	1,597
June.....	2,586	8,719	11,305	18,690	29,995	564	8,391	14,715	23,106	28,357	51,463	1,807
Total.....	35,576	139,295	174,871	339,262	514,133	7,064	103,295	184,362	287,657	380,837	668,494	19,426

1932-33												
July.....	2,079	10,534	12,613	28,006	40,619	561	11,328	24,089	35,417	59,298	94,715	2,100
August.....	2,719	14,107	16,826	54,070	70,896	605	8,783	20,141	28,924	57,887	86,811	1,946
September.....	3,129	21,348	24,477	60,258	84,735	596	8,556	17,290	26,146	38,368	64,514	1,643
October.....	2,388	14,407	16,795	28,058	44,853	590	7,788	14,776	22,564	28,854	51,418	2,103
November.....	2,006	8,681	10,687	14,879	25,566	428	8,031	13,062	21,093	22,129	43,222	1,580
December.....	1,846	7,132	8,978	13,259	22,237	424	8,040	13,233	21,273	20,461	41,734	1,604
January.....	1,511	6,627	8,138	14,159	22,297	270	5,019	11,793	16,812	19,792	36,604	1,220
February.....	1,277	6,311	7,588	17,005	24,593	505	4,345	8,587	12,932	19,097	32,029	1,102
March.....	1,393	8,029	9,422	18,414	27,836	300	4,287	7,327	11,614	16,682	28,296	1,640
April.....	1,300	8,455	9,755	18,539	28,294	372	4,409	8,909	13,318	16,012	29,330	1,780
May.....	1,694	11,615	13,309	20,029	33,338	409	4,002	10,561	14,563	17,727	32,290	1,519
June.....	1,726	10,414	12,140	18,325	30,465	467	5,193	13,953	19,146	22,238	41,384	1,628
Total.....	23,068	127,660	150,728	305,001	455,729	5,527	80,081	163,721	243,802	338,545	582,347	19,865
1933-34												
July.....	1,830	10,306	12,136	24,453	36,589	564	5,256	17,768	23,024	42,135	65,159	1,138
August.....	2,628	13,927	16,555	43,525	60,080	536	5,120	14,623	19,743	37,626	57,369	995
September.....	2,961	18,893	21,854	46,528	68,382	602	3,784	12,416	16,200	27,137	43,337	846
October.....	3,004	15,737	18,741	25,675	44,416	542	3,856	13,345	17,201	23,285	40,486	929
November.....	2,251	8,655	10,906	13,179	24,085	456	3,232	9,039	12,271	14,597	26,868	770
December.....	2,324	8,414	10,738	11,979	22,717	323	3,187	9,550	12,737	10,707	23,444	685
January.....	1,843	7,763	9,606	11,848	21,454	338	2,907	10,798	13,705	13,936	27,641	570
February.....	1,714	6,990	8,704	15,334	24,038	291	2,077	7,951	10,028	18,433	28,461	564
March.....	2,324	9,043	11,367	20,795	32,162	375	2,304	7,777	10,081	14,899	24,980	632
April.....	2,432	11,012	13,444	22,249	35,693	478	2,730	10,759	13,489	22,349	35,838	475
May.....	3,126	12,712	15,838	19,473	35,317	427	2,343	11,272	13,615	18,003	31,618	683
June.....	3,033	10,982	14,015	18,213	32,228	452	2,975	12,103	15,078	18,984	34,062	592
Total.....	29,470	134,434	163,904	273,257	437,161	5,384	39,771	137,401	177,172	262,091	439,263	8,879
1934-35												
July.....	2,777	11,018	13,795	24,065	37,860	517	3,515	13,940	17,455	26,642	44,097	657
August.....	4,004	16,461	20,465	49,341	69,806	499	3,785	18,508	22,293	48,606	70,989	659
September.....	3,585	20,545	24,130	43,927	68,057	475	4,710	16,867	21,577	37,533	59,110	606
October.....	3,586	15,622	19,208	24,976	44,184	547	3,630	13,295	16,925	20,825	37,750	655
November.....	3,386	9,572	12,958	15,091	28,049	458	4,354	13,269	17,623	18,542	36,165	709
December.....	2,561	7,760	10,321	12,388	22,709	400	3,853	10,338	14,191	13,942	28,133	732
January.....	2,424	8,350	10,774	14,443	25,217	359	2,943	11,096	14,039	17,016	31,055	618
February.....	1,948	7,088	9,036	15,474	24,510	346	2,226	8,940	11,166	17,628	28,794	651
March.....	2,401	10,164	12,565	20,470	33,035	361	2,460	9,286	11,746	16,665	28,411	540
Total 9 months.....	26,672	106,580	133,252	220,175	353,427	3,962	31,476	115,539	147,015	217,489	364,504	5,827

¹ Debarred aliens not included among arrivals, as they were not permitted to enter.

² These deportees (exclusive of temporary visitors across land borders and seamen permitted to ship foreign one-way) are included among aliens departed.

TABLE 2—IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED, YEARS ENDING JUNE 30, 1932, 1933, AND 1934, BY COUNTRIES OF LAST PERMANENT OR INTENDED FUTURE RESIDENCE, WITH EXCESS OF ADMISSIONS (+) AND OF DEPARTURES (—)

Country	1932			1933			1934		
	Admitted	De-parted	Excess	Admitted	De-parted	Excess	Admitted	De-parted	Excess
Albania.....	245	122	+123	129	105	+24	160	36	+124
Austria.....	301	452	-151	228	348	-120	310	158	+152
Belgium.....	229	676	-447	133	554	-421	176	277	-101
Bulgaria.....	65	157	-92	23	153	-130	40	95	-55
Czechoslovakia.....	494	1,862	-1,368	294	1,122	-828	644	481	+163
Denmark.....	262	582	-320	166	333	-167	127	200	-73
Estonia.....	32	74	-42	18	58	-40	49	36	+13
Finland.....	100	764	-664	108	579	-471	150	273	-123
France.....	854	2,572	-1,718	571	1,702	-1,131	707	1,096	-389
Germany.....	2,670	5,533	-2,863	1,919	5,131	-3,212	4,392	3,502	+890
Great Britain:									
England.....	1,374	7,019	-5,645	712	7,100	-6,388	891	3,845	-2,954
Scotland.....	633	4,370	-3,737	228	4,739	-4,511	375	1,970	-1,595
Wales.....	50	311	-261	39	304	-265	30	188	-149
Greece.....	877	1,406	-529	532	1,277	-745	605	644	-39
Hungary.....	446	783	-337	285	469	-184	284	245	+39
Irish Free State.....	441	2,457	-2,016	266	2,804	-2,538	327	1,228	-901
Italy.....	6,662	4,866	+1,796	3,477	6,270	-2,793	4,374	3,047	+1,327
Latvia.....	69	61	+8	50	41	+9	54	21	+33
Lithuania.....	191	411	-220	118	330	-212	149	114	+35
Netherlands.....	231	780	-549	174	628	-454	186	286	-100
Northern Ireland.....	98	621	-523	72	649	-577	116	411	-295
Norway.....	348	1,686	-1,338	202	1,602	-1,400	235	866	-631
Poland.....	1,296	2,408	-1,112	1,332	1,675	-343	1,032	785	+247
Portugal.....	248	1,003	-755	90	2,166	-2,076	225	502	-277
Rumania.....	465	768	-303	247	530	-283	247	318	-71
Russia.....	244	1,524	-1,280	164	515	-351	205	218	-13
Spain.....	445	2,998	-2,553	198	2,815	-2,617	297	1,168	-871
Sweden.....	328	2,930	-2,602	142	1,822	-1,680	195	625	-430
Switzerland.....	235	778	-543	163	537	-374	193	328	-135
Yugoslavia.....	508	1,814	-1,306	174	1,048	-874	184	523	-339
Other Europe.....	138	313	-175	129	285	-156	242	140	+102
Total, Europe.....	20,579	52,101	-31,522	12,383	47,691	-35,308	17,210	23,626	-6,416
China.....	750	3,384	-2,634	148	3,551	-3,403	187	2,372	-2,185
Japan.....	526	813	-287	75	1,074	-999	86	842	-756
Palestine.....	163	123	+40	47	157	-110	66	204	-138
Syria.....	253	117	+136	162	147	+15	164	64	+100
Other Asia.....	239	481	-242	120	621	-501	94	290	-196
Total, Asia.....	1,931	4,918	-2,987	552	5,550	-4,998	597	3,772	-3,175
Canada.....	7,927	1,989	+5,938	6,135	1,705	+4,430	7,873	1,529	+6,344
Newfoundland.....	76	192	-116	52	122	-70	72	84	-12
Mexico.....	2,171	37,074	-34,903	1,936	19,110	-17,174	1,801	6,501	-4,700
West Indies.....	1,029	3,463	-2,434	862	2,995	-2,133	861	2,247	-1,386
Central America.....	672	856	-184	507	776	-269	443	521	-78
South America.....	702	2,209	-1,507	433	1,695	-1,262	355	1,055	-700
Other America.....	1	1	-1	5	5	-2	4	2	+2
Total, America.....	12,577	45,784	-33,207	9,925	26,408	-16,483	11,409	11,939	-530
Africa.....	186	221	-35	71	209	-138	104	168	-64
Australia.....	191	147	+44	79	152	-73	83	131	-48
New Zealand.....	100	88	+12	43	52	-9	47	30	+17
Pacific Islands.....	12	36	-24	15	19	-4	20	105	-85
Total, others.....	489	492	-3	208	432	-224	254	434	-180
Grand total.....	35,576	103,295	-67,719	23,068	80,081	-57,013	29,470	39,771	-10,301

TABLE 3.—IMMIGRANT ALIENS ADMITTED AND EMIGRANT ALIENS DEPARTED, YEARS ENDING JUNE 30, 1931, 1932, 1933, AND 1934, BY PRINCIPAL STATES OF INTENDED FUTURE OR LAST PERMANENT RESIDENCE, OCCUPATIONS, SEX, AGE, AND MARITAL CONDITION

Item	Immigrants				Emigrants			
	1931	1932	1933	1934	1931	1932	1933	1934
<i>State</i>								
California.....	7,788	3,382	1,972	2,388	7,463	19,780	12,126	5,387
Connecticut.....	2,164	875	486	654	719	1,207	1,133	502
Illinois.....	5,850	1,902	1,196	1,584	2,934	4,591	3,984	1,906
Massachusetts.....	7,225	2,507	1,548	1,779	1,646	2,368	3,246	1,455
Michigan.....	5,591	2,253	1,627	2,298	4,277	5,549	5,332	2,055
New Jersey.....	6,381	1,982	1,216	1,507	2,702	4,501	4,140	1,677
New York.....	35,867	12,200	8,039	10,921	21,458	30,239	28,650	16,439
Ohio.....	2,889	918	541	792	1,767	2,604	1,818	844
Pennsylvania.....	6,359	1,926	1,219	1,444	2,756	4,282	3,740	1,626
Texas.....	1,799	1,246	1,153	1,116	7,891	11,668	5,037	2,795
Washington.....	1,707	573	355	626	846	986	986	668
Other States.....	13,519	5,812	3,716	4,361	7,423	15,520	9,889	4,417
Total.....	97,139	35,576	23,068	29,470	61,882	103,295	80,081	39,771
<i>Occupation</i>								
Professional.....	4,773	2,538	1,631	2,128	2,363	2,827	2,367	2,085
Commercial.....	2,393	1,133	785	1,275	2,143	2,771	2,374	1,798
Skilled.....	13,549	2,831	2,375	3,180	9,281	13,301	11,125	5,457
Farmers.....	2,743	403	292	425	1,471	2,115	1,531	1,035
Servants.....	9,740	1,232	550	805	3,956	5,317	4,979	2,870
Laborers.....	7,925	1,372	978	1,346	18,049	35,619	26,499	9,984
Miscellaneous.....	3,004	1,003	911	1,182	2,821	3,334	2,881	1,747
No occupation.....	53,012	25,064	15,546	19,129	21,798	38,011	28,325	14,795
<i>Sex</i>								
Male.....	40,621	13,917	9,219	12,101	40,857	66,859	51,852	24,481
Female.....	56,518	21,659	13,849	17,369	21,025	36,436	28,229	15,290
<i>Age</i>								
Under 16 years.....	17,320	6,781	4,131	5,389	5,241	8,977	5,867	2,554
16 to 21 years.....	21,156	6,055	3,390	4,008	4,499	7,191	4,149	2,010
22 to 29 years.....	25,956	8,933	6,205	7,459	15,392	24,723	18,273	8,277
30 to 37 years.....	14,097	5,451	3,764	5,111	13,675	24,102	19,392	9,436
38 to 44 years.....	5,891	2,466	1,674	2,409	8,074	14,505	11,788	5,823
45 years and over.....	12,719	5,890	3,904	5,094	15,001	23,797	20,012	11,671
<i>Marital condition</i>								
Single.....	56,564	16,392	9,652	13,120	28,378	44,302	33,684	16,640
Married.....	35,700	16,863	11,848	14,311	30,960	53,493	42,551	21,091
Widowed.....	4,573	2,161	1,461	1,875	2,466	5,390	3,711	1,920
Divorced.....	302	160	107	164	78	110	135	

Immigration into the United States, 1820 to 1934

RECORDS of immigration into the United States began with the year 1820. Table 1 shows the immigration, by periods, from 1820 to 1934, by certain important geographical divisions and countries, with comparative percentages. Over the whole period of 115 years the total immigration was 37,947,265, of which 18,387,132, or 48.5 percent, came from northern and western Europe. The great influx from southern and eastern Europe came during the years 1901 to 1914, since which time the immigration from that division has been greatly reduced. The drastic decrease in immigration since the unrestricted pre-World-War period is vividly revealed by a comparison of present-day immigration with that for September 1913, one of the 4 years when over a million immigrants arrived from Europe. In that single month, more immigrants were admitted at the port of New York from Austria-Hungary, Italy, or the Russian Empire than are now admitted at all ports from all countries during an entire year. From 1901 to 1910, the annual average immigration from Europe was

813,602, or 92.5 percent of the total, while in 1934 that continent contributed but 17,210 immigrants, or 58.4 percent, of the total. The total immigration for the last 3 years was 88,114, which is less than one-fourth of the annual average immigration in the decade 1921-30. A drastic influence in restricting immigration has been the regulation in force since 1930 under which immigration visas are denied to prospective immigrants if it is believed they may become public charges in the United States. This particularly excludes aliens without jobs (unless of substantial financial status), while the alien contract labor law excludes aliens with jobs. As a result, the stream of immigration has been reversed, and since December 1930 the emigrants or alien residents of this country leaving for intended future permanent residence abroad have outnumbered the immigrant aliens admitted for permanent residence in the United States. In the last 3 years, about five emigrants departed for every two immigrants admitted.

TABLE 1.—IMMIGRATION TO THE UNITED STATES FROM NORTHERN AND WESTERN EUROPE, SOUTHERN AND EASTERN EUROPE, ASIA, CANADA AND NEWFOUNDLAND, MEXICO, WEST INDIES, AND OTHER COUNTRIES, BY SPECIFIED PERIODS AND YEARS¹

Period or year	Total number of immigrants	Number from—							
		Europe			Asia	Canada and Newfoundland ²	Mexico	West Indies	Other countries ⁴
		Northern and western ³	Southern and eastern ³	Total					
1820-30-----	151,824	103,119	3,389	106,508	15	2,486	4,818	3,998	33,999
1831-40-----	599,125	489,739	5,949	495,688	48	13,624	6,599	12,301	70,865
1841-50-----	1,713,251	1,592,062	5,439	1,597,501	82	41,723	3,271	13,528	57,146
1851-60-----	2,598,214	2,431,336	21,324	2,452,660	41,455	59,309	3,078	10,660	31,052
1861-70-----	2,314,824	2,031,642	33,628	2,065,270	64,630	153,878	2,191	9,046	19,809
1871-80-----	2,812,191	2,070,373	201,889	2,272,262	123,823	383,640	5,162	13,957	13,347
1881-90-----	5,246,613	3,778,633	958,413	4,737,046	68,380	393,304	1,913	29,042	16,928
1891-1900-----	3,687,564	1,643,492	1,915,486	3,558,978	71,236	3,311	971	33,066	20,002
1901-10-----	8,795,386	1,910,035	6,225,981	8,136,016	243,567	179,226	49,642	107,548	79,387
1911-20-----	5,735,811	997,438	3,379,126	4,376,564	192,599	742,185	219,004	123,424	82,075
1921-30-----	4,107,209	1,284,023	1,193,830	2,477,853	97,400	924,515	459,287	74,899	73,255
1931-34-----	185,253	55,240	56,841	112,081	6,425	44,318	9,241	5,248	7,940
Total, 1820-1934.	37,947,265	18,387,132	14,001,295	32,388,427	909,620	2,941,519	765,177	436,717	505,805
1921-----	805,228	138,551	513,813	652,364	25,034	72,317	30,758	13,774	10,981
1922-----	309,556	79,427	136,945	216,385	14,283	46,810	19,551	7,449	5,098
1923-----	522,919	156,429	151,491	307,920	13,705	117,011	63,788	13,181	7,334
1924-----	706,896	203,346	160,983	364,339	22,065	200,690	89,336	17,559	12,907
1925-----	264,314	125,248	23,118	148,366	3,578	102,753	32,964	2,106	4,547
1926-----	304,488	126,437	20,125	155,562	3,413	93,368	43,316	3,222	5,607
1927-----	335,175	126,721	41,647	168,368	3,660	84,580	67,721	4,019	6,818
1928-----	307,255	116,297	42,246	158,513	3,380	75,281	59,016	4,058	7,007
1929-----	279,678	114,469	44,129	158,598	3,758	66,451	40,154	4,306	6,411
1930-----	241,700	97,118	50,320	147,438	4,535	65,254	12,703	5,225	6,545
1931-----	97,139	34,719	27,190	61,909	3,345	22,183	3,333	2,496	3,873
1932-----	35,576	7,762	12,817	20,579	1,931	8,003	2,171	1,029	1,863
1933-----	23,068	4,792	7,591	12,383	552	6,187	1,936	862	1,148
1934-----	29,470	7,967	9,243	17,210	597	7,945	1,801	861	1,056

See footnotes at end of table.

TABLE 1.—IMMIGRATION TO THE UNITED STATES FROM NORTHERN AND WESTERN EUROPE, SOUTHERN AND EASTERN EUROPE, ASIA, CANADA AND NEWFOUNDLAND, MEXICO, WEST INDIES, AND OTHER COUNTRIES, BY SPECIFIED PERIODS AND YEARS¹—Continued

Period or year	Per cent from—							
	Europe			Asia	Canada and Newfoundland ²	Mexico	West Indies	Other countries ³
	Northern and western ⁴	Southern and eastern ⁵	Total					
1820-30.....	68.0	2.2	70.2	-----	1.6	3.2	2.6	22.4
1831-40.....	81.8	1.0	82.8	-----	2.2	1.1	2.1	11.8
1841-50.....	93.0	.3	93.3	-----	2.4	.2	.8	3.3
1851-60.....	93.6	.8	94.4	1.6	2.3	.1	.4	1.2
1861-70.....	87.8	1.4	89.2	2.8	6.6	.1	.4	.9
1871-80.....	73.6	7.2	80.8	4.4	13.6	.2	.5	.5
1881-90.....	72.0	18.3	90.3	1.3	7.5	-----	.6	.3
1891-1900.....	44.6	51.9	96.5	1.9	.1	-----	.9	.6
1901-10.....	21.7	70.8	92.5	2.8	2.0	.6	1.2	.9
1911-20.....	17.4	58.9	76.3	3.4	12.9	3.8	2.2	1.4
1921-30.....	31.3	29.0	60.3	2.4	22.5	11.2	1.8	1.8
1931-34.....	29.8	30.7	60.5	3.5	23.9	5.0	2.8	4.3
Total, 1820-1934.....	48.5	36.9	85.4	2.4	7.8	2.0	1.1	1.3
1921.....	17.2	63.8	81.0	3.1	9.0	3.8	1.7	1.4
1922.....	25.7	44.2	69.9	4.6	15.1	6.3	2.4	1.7
1923.....	29.9	29.0	58.9	2.6	22.4	12.2	2.5	1.4
1924.....	28.8	22.8	51.6	3.1	28.4	12.6	2.5	1.8
1925.....	42.6	7.9	50.5	1.2	34.9	11.2	.7	1.5
1926.....	41.5	9.6	51.1	1.1	30.7	14.2	1.1	1.8
1927.....	37.8	12.4	50.2	1.1	25.3	20.2	1.2	2.0
1928.....	37.9	13.7	51.6	1.1	24.5	19.2	1.3	2.3
1929.....	40.9	15.8	56.7	1.3	23.8	14.4	1.5	2.3
1930.....	40.2	20.8	61.0	1.9	27.0	5.2	2.2	2.7
1931.....	35.7	28.0	63.7	3.5	22.8	3.4	2.6	4.0
1932.....	21.8	36.1	57.9	5.4	22.5	6.1	2.9	5.2
1933.....	20.8	32.9	53.7	2.4	26.8	8.4	3.7	5.0
1934.....	27.0	31.4	58.4	2.0	27.0	6.1	2.9	3.6

¹ No official records were made of the influx of foreign population to this country prior to 1820. Although the number of immigrants arrived in the United States from the close of the Revolutionary War up to 1820 is not accurately known, it is estimated by good authorities at 250,000.

For 1820 to 1867 the figures are for alien passengers arriving; for 1868 to 1903, for immigrants arriving; for 1904 to 1906, for aliens admitted; and for 1907 to 1934, for immigrant aliens admitted. The years from 1820 to 1831 and 1844 to 1849, inclusive, are those ending September 30; from 1833 to 1843 and 1851 to 1867 those ending December 31; and beginning with 1869 and thereafter those ending June 30. The other periods cover 15 months ending December 31, 1832; 9 months ending December 31, 1843; 15 months ending December 31, 1850; and 6 months ending June 30, 1868.

² Northern and western Europe comprises Belgium, Denmark, France, Germany, Iceland, Luxemburg (1925 to 1934), Netherlands, Norway, Sweden, Switzerland, and England, Ireland, Scotland, Wales, and United Kingdom not specified. Southern and eastern Europe comprises the other countries on that continent.

³ From 1820 to 1898 includes all British North American possessions.

⁴ Includes Central and South America, Africa, Australia, Pacific Islands, and countries not specified.

Table 2 gives, in the order of numerical importance, the countries from which the largest number of immigrants came, together with the peak year of immigration therefrom, during the whole period of 115 years. Table 3 shows the principal sources of immigration in each decade since 1820. These tables deal solely with immigration. Data for emigration and net increase or decrease of population are not available for years earlier than 1908. Table 4 gives this information for specified periods from 1908 to 1934.

TABLE 2.—PRINCIPAL SOURCES OF IMMIGRATION TO THE UNITED STATES, TOTAL IMMIGRATION THEREFROM, AND PEAK YEAR, DURING 115 YEARS BEGINNING 1820 AND ENDING JUNE 30, 1934¹

Country	Total, 115 years	Peak year	Number
Germany	5,927,275	1882	250,630
Italy	4,679,107	1907	285,731
Ireland	4,587,566	1851	221,253
Great Britain	4,239,173	1888	108,692
Austria-Hungary	4,135,830	1907	338,452
Russia	3,342,939	1913	291,040
Canada and Newfoundland	2,941,519	1924	200,690
Sweden	1,215,451	1882	64,607
Norway	802,180	1882	29,101
Mexico	765,177	1924	89,336
France	586,337	1851	20,126
West Indies	446,463	1924	17,559
Greece	425,266	1907	36,580
Poland	404,993	1921	95,089
China	379,480	1882	39,579
Turkey	360,643	1913	38,083
Denmark	333,576	1882	11,618
Switzerland	291,623	1883	12,751
Japan	276,983	1907	30,226
Portugal	253,820	1921	19,195
Netherlands	248,343	1882	9,517
Spain	163,281	1921	23,818
Rumania	154,966	1921	25,617
Belgium	154,477	1913	7,405
South America	116,684	1924	9,270
Czechoslovakia	109,068	1921	40,884

¹ During early years, mainly prior to 1920 and particularly for Austria-Hungary, Germany, and Russia, figures given cover arrivals from countries as then constituted. Separate figures for Poland not given from 1899 to 1919. Beginning with 1920, Poland, and Czechoslovakia for the first time, shown separately in immigration statistics. During early years, Canada and Newfoundland shown as British North American possessions. Prior to 1900 (mainly from 1830 to 1870) number for United Kingdom not specified included with Great Britain. From 1820 to 1868, immigration from Sweden included with number given for Norway.

TABLE 3.—PRINCIPAL SOURCES OF IMMIGRATION TO THE UNITED STATES, AND NUMBER OF IMMIGRANTS THEREFROM DURING EACH DECADE FROM 1820-1930¹

Decade	Three principal sources					
	Highest		Second highest		Third highest	
	Country	Number	Country	Number	Country	Number
1820-30	Ireland	54,338	Great Britain	27,489	France	8,868
1831-40	do	207,381	Germany	152,454	Great Britain	75,810
1841-50	do	780,719	do	434,626	do	267,044
1851-60	Germany	951,667	Ireland	914,119	do	423,974
1861-70	do	787,468	Great Britain	606,896	Ireland	435,778
1871-80	do	718,182	do	548,043	do	436,871
1881-90	do	1,452,970	do	807,357	do	655,482
1891-1900	Italy	651,893	Austria-Hungary	592,707	Russia	505,290
1901-10	Austria-Hungary	2,145,266	Italy	2,045,877	do	1,597,306
1911-20	Italy	1,109,524	Russia	921,201	Austria-Hungary	896,342
1921-30	Canada and Newfoundland	924,515	Mexico	459,287	Italy	455,315

¹ Prior to 1900 (mainly from 1830 to 1870) number for United Kingdom not specified included with Great Britain. During early years, or prior to 1910, Canada and Newfoundland shown as British North American possessions. Canada shown separately beginning with 1925. From 1899 to 1919 Poland is included with Austria-Hungary, Germany, and Russia. Countries added to the list since the beginning of the World War are therefore included with the countries to which they belonged. The figures for 1906 include 32,897 persons returning to their homes in the United States. This year was the first in which aliens returning to the United States were recorded by country of last permanent residence instead of country whence they came, and since this year aliens reporting their residence as the United States have been shown in immigration statistics as nonimmigrants.

TABLE 4.—NET INCREASE OR DECREASE OF POPULATION, BY ADMISSION AND DEPARTURE OF ALIENS, 1908-34, BY PERIODS AND YEARS

Period or year	Admitted			Departed			Increase (+) or decrease (-)
	Immigrant	Nonimmigrant	Total	Emigrant	Nonemigrant	Total	
Years ending June 30:							
1908-10.....	2,576,226	490,741	3,066,967	823,311	672,327	1,495,638	+1,571,329
1911-20.....	5,735,811	1,376,271	7,112,082	2,146,994	1,841,163	3,988,157	+3,123,925
1921-25.....	2,638,913	782,898	3,421,811	697,397	716,839	1,414,236	+2,007,575
1926-30.....	1,468,296	991,983	2,460,279	347,679	932,863	1,280,542	+1,179,737
1931-34.....	185,253	584,929	770,182	285,029	714,518	999,547	-229,365
Total, 27 years.....	12,604,499	4,226,822	16,831,321	4,300,410	4,877,710	9,178,120	+7,653,201
1926.....	304,488	191,618	496,106	76,992	150,763	227,755	+268,351
1927.....	355,175	202,826	538,001	73,366	180,142	253,508	+284,493
1928.....	307,255	193,376	500,631	77,457	196,899	274,356	+226,275
1929.....	279,678	199,649	479,327	69,203	183,295	252,498	+226,829
1930.....	241,700	204,514	446,214	50,661	221,764	272,425	+173,789
1931.....	97,139	183,540	280,679	61,882	229,034	290,916	-10,237
1932.....	35,576	139,295	174,871	103,295	184,362	287,667	-112,786
1933.....	23,068	127,660	150,728	80,081	163,721	243,802	-93,074
1934.....	29,470	134,434	163,904	39,771	137,401	177,172	-13,268
Calendar years:							
1918-20.....	1,071,836	468,360	1,540,196	604,051	394,937	998,988	+541,208
1921-30.....	3,741,286	1,778,181	5,519,467	936,374	1,688,397	2,624,771	+2,894,696
1931-34.....	129,631	554,083	683,714	277,960	664,551	942,511	-258,797
Total, 17 years.....	4,942,753	2,800,624	7,743,377	1,818,385	2,747,885	4,566,270	+3,177,107
1926.....	336,295	204,095	540,390	73,179	163,271	236,450	+303,940
1927.....	323,885	197,010	520,895	75,122	193,750	268,872	+252,023
1928.....	290,297	197,385	487,682	77,599	194,509	272,108	+215,574
1929.....	268,941	204,786	473,727	53,173	198,442	251,615	+222,112
1930.....	180,251	200,718	380,969	52,930	238,055	290,985	+89,984
1931.....	43,353	156,611	199,964	89,570	204,868	294,438	-94,474
1932.....	28,008	130,609	158,617	97,617	174,935	272,452	-113,835
1933.....	23,899	127,383	151,282	51,690	137,871	189,561	-38,279
1934.....	34,371	139,480	173,851	39,183	146,877	186,060	-12,209

Admissions Under Immigration Act of 1924, Deportations, and Citizens Departed Overseas

TABLE 1 gives for specified periods the number of aliens admitted, by classes, under the Quota Act of 1924; and table 2 shows the annual quotas allotted the different countries, as well as the number of quota immigrants admitted. Table 3 shows the number of aliens deported from 1916 to 1934 for various causes under the immigration laws, and table 4, covering American citizens departed overseas in the calendar year 1934 mainly for a vacation abroad, shows the classes of ocean travel, immediate destination, and flag of vessel or carrier.

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TABLE 1.—ALIENS ADMITTED UNDER THE IMMIGRATION ACT OF 1924, AS AMENDED, YEARS ENDING JUNE 30, 1925-34, BY CLASSES

Classes	1925-30 ¹	1931	1932	1933	1934
Under section 3:					
Government officials, their families, attendants, servants, and employes.....	32,302	4,973	3,844	4,053	4,363
Temporary visitors for business.....	123,404	17,150	13,741	11,360	13,068
Temporary visitors for pleasure.....	228,753	38,486	26,724	25,539	36,765
In continuous transit through the United States.....	159,007	32,169	26,678	22,693	23,687
To carry on trade under existing treaty.....	6,913	1,095	837	653	552
Total.....	550,984	93,873	73,824	64,298	78,435
Under section 4:					
Husbands of United States citizens.....	1,966	527	296	1,232	1,021
Wives of United States citizens ²	65,024	9,684	5,779	3,643	4,348
Children of United States citizens ²	58,065	7,053	3,415	1,783	2,522
Returning residents.....	538,959	91,442	67,057	62,610	55,169
Natives of nonquota countries.....	767,557	21,139	9,328	7,475	8,183
Their wives ²	3,767	184	84	54	39
Their children ²	1,041	52	49	20	15
Ministers of religious denominations.....	3,562	383	291	204	196
Wives of ministers.....	1,521	144	81	41	69
Unmarried children of ministers.....	2,773	226	132	57	97
Professors of colleges, academies, seminaries, or universities.....	878	109	100	45	61
Wives of professors.....	258	38	35	19	28
Unmarried children of professors.....	144	43	21	14	24
Students.....	10,831	1,538	1,266	877	1,048
Veterans of the World War.....	4,647				
Wives of veterans.....	913				
Unmarried children of veterans.....	1,008				
Spanish subjects admitted into Puerto Rico.....	121	27	25	25	23
American Indians born in Canada.....	23	2		10	3
Women who had been United States citizens.....	204	97	105	101	134
Miscellaneous.....					6
Total.....	1,463,262	132,688	88,064	78,210	72,966
Under section 5: Quota immigrants (charged to quota).....	903,119	54,118	12,983	8,220	12,483
Grand total.....	2,917,365	280,679	174,871	150,728	163,904

¹ Total for 1925-30 does not include 1,349 aliens admitted in 1925, who arrived prior to July 1, 1924, or before the immigration act of 1924 went into effect.

² Wives and unmarried children practically all born in quota countries.

TABLE 2.—ANNUAL QUOTAS UNDER THE NATIONAL ORIGINS PLAN OF IMMIGRATION ACT OF 1924, AS AMENDED, AND ALIENS ADMITTED AS QUOTA IMMIGRANTS, YEARS ENDING JUNE 30, 1930-34, BY COUNTRY OR REGION OF BIRTH

Nationality, or country or region of birth	Annual quota	Quota immigrants admitted in—				
		1930	1931	1932	1933	1934
Albania.....	100	110	81	102	75	57
Andorra.....	100	1		1		
Austria.....	1,413	1,417	524	187	121	229
Belgium.....	1,304	1,118	524	117	59	104
Bulgaria.....	100	95	52	11	11	17
Czechoslovakia.....	2,874	2,898	1,448	304	171	389
Danzig, Free City of.....	100	112	52	6	10	8
Denmark.....	1,181	1,144	516	209	123	101
Estonia.....	116	112	71	15	17	36
Finland.....	569	559	300	69	72	114
France.....	3,086	2,312	1,226	288	257	308
Germany.....	25,957	27,119	10,100	2,086	1,324	3,515
Great Britain and Northern Ireland:						
England.....		18,480	5,972	1,213	772	933
Northern Ireland.....		7,860	1,586	104	89	137
Scotland.....		21,917	4,875	723	266	443
Wales.....		2,018	601	59	44	53
Greece.....	307	362	308	141	108	200
Hungary.....	869	864	624	329	187	209
Iceland.....	100	41	22	5	2	2
Irish Free State.....	17,853	19,692	6,780	452	282	322
Italy.....	5,802	5,610	4,245	2,012	1,109	1,362
Latvia.....	236	202	138	43	29	48
Liechtenstein.....	100	9	7	1		
Lithuania.....	386	398	305	181	96	124

TABLE 2.—ANNUAL QUOTAS UNDER THE NATIONAL ORIGINS PLAN OF IMMIGRATION ACT OF 1924, AS AMENDED, AND ALIENS ADMITTED AS QUOTA IMMIGRANTS, YEARS ENDING JUNE 30, 1930-34, BY COUNTRY OR REGION OF BIRTH—Continued

Nationality, or country or region of birth	Annual quota	Quota immigrants admitted in—				
		1930	1931	1932	1933	1934
Luxemburg.....	100	96	41	7	4	2
Monaco.....	100	4	5		3	
Netherlands.....	3,153	2,788	1,142	185	128	136
Norway.....	2,377	2,546	1,156	260	141	155
Poland.....	6,524	6,456	2,841	917	961	1,138
Portugal.....	440	377	433	201	69	166
Rumania.....	377	670	497	318	236	199
Russia.....	2,712	2,291	1,537	528	309	407
San Marino.....	100	45	15			
Spain.....	252	332	263	191	164	228
Sweden.....	3,314	3,204	1,247	290	105	153
Switzerland.....	1,707	1,605	797	132	122	133
Turkey.....	226	65	20	33	34	39
Yugoslavia.....	845	782	523	252	105	110
Other Europe.....	(1)	809	379	50	28	142
Total Europe.....	150,501	137,016	51,153	12,022	7,634	11,719
Asia.....	1,423	2,150	1,344	530	392	433
Other quota regions.....	1,850	614	477	281	127	172
American colonies of European countries.....	(1)	1,717	1,144	150	67	159
Total, all countries.....	153,774	141,497	54,118	12,983	8,220	12,483

¹ Annual quota for colonies, dependencies, or protectorates in other Europe, Asia, Africa, Pacific Islands, and America, included with the allotment for the European country to which they belong.

TABLE 3.—ALIENS DEPORTED FROM THE UNITED STATES UNDER WARRANT PROCEEDINGS, YEARS ENDING JUNE 30, 1916-34, BY PRINCIPAL RACES AND BY CAUSES, WITH COMPARATIVE PERCENTAGES

Race and cause	Aliens deported during—						
	1916-20	1921-25	1926-30	1931	1932	1933	1934
	Number						
Race							
Chinese.....	615	1,517	1,133	398	2,380	2,573	405
Dutch and Flemish.....	125	468	1,149	243	202	205	98
English.....	1,621	2,896	6,439	1,195	1,243	1,078	602
French.....	684	1,665	3,141	585	587	554	481
German.....	275	1,636	4,176	1,156	935	806	354
Irish.....	617	1,288	2,856	635	671	699	391
Italian.....	610	2,453	3,569	724	1,055	1,145	583
Mexican.....	4,092	6,001	21,943	8,335	7,049	7,772	3,860
Scandinavian.....	434	968	2,687	720	513	474	186
Scotch.....	405	1,095	2,221	535	513	549	272
Spanish.....	199	1,040	1,921	394	599	502	135
Other races.....	2,353	7,400	12,495	3,222	3,679	3,508	1,512
Total.....	12,033	28,427	63,730	18,142	19,426	19,865	8,879
Cause							
Public charges from insanity and other causes existing prior to entry.....	1,361	3,165	4,145	578	492	534	369
Mentally or physically defective at time of entry.....	419	666	960	374	615	522	293
Criminal and immoral classes.....	2,974	4,632	9,060	2,719	2,804	2,796	2,094
Entered without proper immigration visa under Immigration Act of 1924.....		2,723	28,981	6,205	8,167	9,099	3,611
Remained longer than permitted.....			5,466	2,835	3,284	3,148	986
Miscellaneous causes.....	7,279	17,241	15,118	5,431	4,064	3,766	1,526
Total.....	12,033	28,427	63,730	18,142	19,426	19,865	8,879
	Percent						
Public charges from causes existing prior to entry.....	11.3	11.1	6.5	3.2	2.5	2.7	4.1
Mentally or physically defective at time of entry.....	3.5	2.4	1.5	2.0	3.2	2.6	3.3
Criminal and immoral classes.....	24.7	16.3	14.2	15.0	14.4	14.1	23.6
Miscellaneous causes.....	60.5	70.2	77.8	79.8	79.9	80.6	69.0
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 4.—UNITED STATES CITIZENS DEPARTED FROM AMERICAN TO FOREIGN SEAPORTS DURING CALENDAR YEAR 1934, BY CLASS OF OCEAN TRAVEL, FLAG OF CARRIER, AND FOREIGN DESTINATION OR COUNTRY OF DEBARKATION

Destination	Class of travel						Flag of carrier	
	First class	Cabin	Second class	Tourist third	Third class	Total	United States	Foreign
England.....	8,238	8,950	348	11,532	6,315	35,383	7,528	27,855
France.....	6,171	6,409	291	8,020	5,781	26,672	6,092	20,580
Germany.....	2,328	1,899	162	5,785	9,649	19,723	3,078	16,645
Ireland.....	180	1,012	36	2,525	4,670	8,323	1,875	6,448
Italy.....	4,135	818	3,270	3,606	9,991	21,220	698	20,522
Norway.....	5	357	-----	667	1,291	2,320	-----	2,320
Sweden.....	515	323	-----	1,396	2,539	4,773	-----	4,773
Other Europe, including Mediterranean ports ¹	1,794	3,609	1,227	4,390	6,230	17,250	2,027	15,223
China.....	1,608	427	711	193	2,482	5,421	3,346	2,075
Japan.....	1,840	271	936	362	4,738	8,147	1,851	6,296
Other Pacific.....	1,765	972	382	110	507	3,736	2,751	985
Canada and Mexico.....	3,937	7,378	753	137	345	12,550	9,077	3,473
Bermuda.....	34,812	3,893	382	18	-----	39,105	1,043	38,062
Cuba.....	10,328	9,268	57	300	610	20,563	19,670	893
Other West Indies.....	10,097	7,815	692	127	285	18,516	11,231	7,285
Central America.....	4,263	9,605	121	1,054	124	15,167	13,238	1,929
South America.....	3,133	2,155	143	273	163	5,867	3,800	2,067
Total	95,149	104,661	9,511	40,495	54,920	264,736	87,305	177,431
Flag of carrier:								
United States.....	28,905	44,341	1,139	6,214	6,706	87,305	-----	-----
Foreign.....	66,244	20,320	8,372	34,281	48,214	177,431	-----	-----

¹ Includes departures overseas via Canadian seaports.

² Northern Africa and Near East.

³ Includes 9,608 aircraft (cabin) passengers, principally from Miami to West Indies.

Naturalization of Aliens

SECTION 8 of the basic Naturalization Act of June 29, 1906, provides that no alien shall be naturalized who cannot speak the English language, unless physically unable to do so. The only other exception to this requirement is made in the case of declarants who take up Government homesteads. The alien who files his petition for citizenship must sign his petition in his own handwriting. However, there is no requirement of law that the alien sign his declaration of intention, and, under the regulation, the declaration may be signed by mark if the declarant is unable to write. The principal law governing racial limitation of naturalization in this country is found in section 2169, United States Revised Statutes (2d ed., 1878, U. S. C., title 8, sec. 359), which reads:

The provision of this title [naturalization] shall apply to aliens being free white persons, and to aliens of African nativity and to persons of African descent.

The number of naturalization certificates issued during the 6 fiscal years ending June 30, 1929 to 1934, is shown in table 1, by countries of former allegiance, and in table 2 by geographical divisions and States of residence, and sex. Table 3 shows, for the fiscal years 1924 to 1934, the number of aliens denied naturalization, by principal reasons for denial, also number of petitions for naturalization disposed of and percent thereof denied.

In the 28 fiscal years 1907 to 1934, a total of 6,320,987 declarations of intention to become citizens (first papers) and 3,935,987 petitions for citizenship (second papers) were filed, and 3,521,022 certificates of citizenship were issued. The peak year and number were as follows: Declarations, 440,651 in 1917; petitions, 256,858 in 1919; and certificates, 233,155 in 1928. Beginning with July 1922 the statistics show

the country of origin or former allegiance of the aliens naturalized. Italy, British Empire, Poland, Russia, and Germany, in the order given, were the principal countries of former allegiance, natives of these five countries comprising two-thirds of the total naturalized in the 12 years from 1923 to 1934. Of the total for this period, 79.3 percent were males and 20.7 percent females. In 1923, only four of every hundred aliens naturalized were females.

Out of every 100 persons naturalized from 1907 to 1934, 57 were in the North Atlantic States, chiefly New York, Pennsylvania, Massachusetts, and New Jersey; about 28 were in the North Central States, principally Illinois, Michigan, and Ohio. The Western States, mainly California and Washington, had about 9, and the combined South Atlantic and South Central States less than 6, out of every 100 persons naturalized during the last 28 years.

TABLE 1.—ALIENS ADMITTED TO CITIZENSHIP DURING FISCAL YEARS ENDING JUNE 30, 1929 TO 1934, BY NATIONALITY AND SEX

Nationality	Year ending June 30—						Total, 1929-34
	1929	1930	1931	1932	1933	1934	
Albania.....	510	359	294	217	158	133	1,671
Austria.....	4,154	3,217	2,476	1,970	1,765	1,589	15,171
Belgium.....	1,013	747	637	564	422	413	3,796
British Empire.....	41,014	32,128	32,514	37,046	31,529	30,008	204,244
Bulgaria.....	273	213	214	200	121	125	1,146
Czechoslovakia.....	9,215	6,942	4,832	4,032	3,150	3,105	31,276
Danzig, Free City of.....	30	100	53	63	43	47	336
Denmark.....	2,095	1,652	1,482	1,445	1,147	1,220	9,041
Estonia.....	112	236	178	143	96	88	848
Finland.....	1,447	1,251	1,149	1,265	918	927	6,957
France.....	1,240	1,167	877	905	830	860	5,879
Germany.....	16,700	15,762	17,592	17,854	16,405	18,008	102,321
Greece.....	6,253	4,011	3,172	2,335	1,704	1,727	19,202
Hungary.....	4,824	3,787	4,421	2,224	1,592	1,633	18,481
Italy.....	44,843	31,551	22,756	20,886	16,331	17,053	153,420
Latvia.....	853	619	399	405	334	375	2,885
Liechtenstein.....	21	23	99	6	4	9	162
Lithuania.....	3,249	2,466	1,893	1,900	1,612	1,460	12,580
Luxemburg.....	110	67	69	81	41	37	405
Monaco.....		2			1		3
Netherlands.....	2,100	1,696	1,180	1,134	749	798	7,657
Norway.....	3,311	2,752	2,813	2,788	2,165	2,161	15,990
Poland.....	31,801	22,596	15,401	14,280	12,091	12,392	108,561
Portugal.....		764	800	824	792	645	727
Rumania.....	5,817	3,932	2,524	2,093	1,716	1,617	17,699
Russia.....	18,291	12,994	9,521	7,621	6,747	6,072	61,246
San Marino.....	5	2	1	1	1	4	14
Spain.....	808	635	594	551	611	649	3,848
Sweden.....	5,963	4,848	4,836	4,087	3,019	3,028	25,781
Switzerland.....	1,931	1,424	1,225	1,217	893	956	7,646
Yugoslavia.....	5,573	4,236	3,319	2,974	2,065	2,132	20,299
China.....				1	83	33	117
Japan.....				3	54	89	146
Palestine.....	194	162	125	95	89	68	723
Persia.....	126	69	76	68	46	56	441
Syria.....	1,089	717	588	491	397	397	3,679
Turkey.....	3,610	2,333	1,560	1,257	1,000	917	10,667
Other Asia.....	9	2	4	2	18	35	70
Mexico.....	164	176	178	248	278	346	1,390
West Indies.....	76	74	90	82	99	105	526
Central America.....	92	53	358	58	56	65	662
South America.....	332	348	363	333	347	380	2,103
Africa.....	45	43	39	24	50	66	267
Philippine Islands.....	27	53	29	16	19	25	169
Repatriated Americans.....	4,143	2,800	2,427	2,354	1,922	1,839	15,485
Countries not specified ¹	501	342	318	489			1,650
Total, all countries.....	224,728	169,377	143,495	136,600	113,363	113,669	901,232
<i>Sex</i>							
Male.....	167,665	120,572	106,715	95,901	78,293	82,465	651,611
Female.....	57,063	48,805	36,780	40,699	35,070	31,204	249,621
Civilian.....	224,197	167,637	140,271	136,598	112,368	110,867	891,938
Military.....	531	1,740	3,224	2	995	2,802	9,294

¹ Nationality not recorded; naturalized in outlying possessions.

TABLE 2.—CERTIFICATES OF NATURALIZATION ISSUED, YEARS ENDING JUNE 30, 1929 TO 1934, BY GEOGRAPHIC DIVISIONS, STATES OR OUTLYING POSSESSIONS, AND SEX

Division and State of residence	1929	1930	1931	1932	1933	1934
North Atlantic:						
Connecticut.....	5,363	4,420	3,665	3,662	3,444	3,064
Maine.....	780	831	353	450	407	371
Massachusetts.....	17,230	12,283	12,356	14,727	10,306	8,636
New Hampshire.....	621	509	387	479	358	372
New Jersey.....	17,451	12,708	9,290	10,298	7,572	7,129
New York.....	78,591	59,552	46,061	41,834	44,650	45,722
Pennsylvania.....	20,220	13,258	10,966	9,023	6,693	6,802
Rhode Island.....	2,222	1,612	1,620	1,590	1,037	948
Vermont.....	362	331	192	277	319	202
Total.....	142,840	105,504	84,890	82,340	74,786	73,246
South Atlantic:						
Delaware.....	190	121	144	120	85	111
District of Columbia.....	476	423	366	369	269	362
Florida.....	726	462	378	301	298	268
Georgia.....	156	146	83	87	67	60
Maryland.....	1,003	728	761	556	385	475
North Carolina.....	168	76	92	29	20	40
South Carolina.....	106	49	46	39	24	31
Virginia.....	327	198	153	114	86	101
West Virginia.....	1,115	639	461	347	182	218
Total.....	4,267	2,842	2,484	1,962	1,416	1,666
North Central:						
Illinois.....	22,469	16,422	13,850	12,252	7,880	6,949
Indiana.....	1,850	1,391	1,328	1,080	752	863
Iowa.....	1,352	1,057	940	759	523	441
Kansas.....	433	245	286	216	202	192
Michigan.....	12,586	10,203	11,437	11,857	7,482	9,110
Minnesota.....	3,347	2,720	2,241	1,996	1,417	1,475
Missouri.....	2,243	1,578	1,139	1,108	892	779
Nebraska.....	1,070	744	689	560	343	356
North Dakota.....	437	477	319	309	208	294
Ohio.....	9,470	7,671	5,811	4,585	3,469	3,488
South Dakota.....	409	308	287	279	124	166
Wisconsin.....	3,608	3,076	2,584	2,204	2,014	2,161
Total.....	59,274	45,892	40,911	37,205	25,306	26,274
South Central:						
Alabama.....	224	68	85	104	51	46
Arkansas.....	60	51	29	37	26	24
Kentucky.....	261	172	147	120	65	104
Louisiana.....	349	240	220	171	198	181
Mississippi.....	82	33	54	44	23	23
Oklahoma.....	158	134	135	118	88	81
Tennessee.....	176	123	120	87	59	83
Texas.....	764	557	673	486	501	549
Total.....	2,074	1,378	1,463	1,167	1,013	1,091
Western:						
Arizona.....	143	109	136	174	147	151
California.....	10,552	9,084	9,245	9,369	7,264	7,463
Colorado.....	609	464	360	425	225	315
Idaho.....	144	132	112	114	91	100
Montana.....	478	363	379	371	289	271
Nevada.....	132	98	99	103	114	78
New Mexico.....	90	78	60	69	47	42
Oregon.....	722	675	661	563	446	514
Utah.....	382	266	168	173	147	175
Washington.....	2,294	1,968	2,062	1,899	1,899	1,672
Wyoming.....	226	182	147	177	117	110
Total.....	15,772	13,419	13,429	13,437	10,484	10,891
Insular possessions:						
Alaska.....	240	223	166	161	95	155
Hawaii.....	140	74	98	220	201	246
Puerto Rico.....	113	45	54	98	59	98
Virgin Islands.....	8			10	3	2
Total.....	501	342	318	489	358	501
Grand total.....	224,728	169,377	143,495	136,600	113,363	113,669
Sex:						
Male.....	167,665	120,606	106,715	95,901	78,293	82,465
Female.....	57,063	48,771	36,780	40,699	35,070	31,204

TABLE 3.—CERTIFICATES OF NATURALIZATION DENIED (CIVILIAN AND MILITARY IN CONTINENTAL UNITED STATES), YEARS ENDING JUNE 30, 1924 TO 1934,¹ BY PRINCIPAL REASONS FOR DENIAL, AND COMPARATIVE PERCENTAGES

Year	Reasons for denial										Petitions for naturalization disposed of	
	Not of good moral character	Unfavorable draft status or disloyalty	Declaration of intention invalid	Not sufficiently familiar with American institutions	Unable to produce witnesses or deposition	Incompetent witnesses	Petitioner's motion for discontinuance (withdrawals)	Failure to continue completion of naturalization	Other reasons	Total	Number	Percent denied
1924.....	946	5,001	559	1,832	171	1,489	671	5,162	2,443	18,324	158,664	11.5
1925.....	1,108	3,299	351	2,678	161	1,206	1,051	4,338	1,421	15,613	168,070	9.3
1926.....	988	1,595	427	3,090	225	1,000	480	4,409	1,060	13,274	159,605	8.3
1927.....	1,115	582	490	1,536	217	1,324	581	4,481	1,620	11,946	211,750	5.6
1928.....	1,240	416	686	1,812	359	1,131	588	4,625	1,622	12,479	245,634	5.1
1929.....	1,424	217	478	1,670	278	1,241	722	4,201	1,617	11,848	236,075	5.0
1930.....	916	50	184	1,193	182	671	444	4,177	1,251	9,068	178,103	5.1
1931.....	746	47	148	1,102	171	316	297	3,811	876	7,514	150,691	4.9
1932.....	793	23	99	824	137	274	274	2,161	893	5,478	141,589	3.9
1933.....	584	5	50	988	114	138	270	2,031	523	4,703	117,708	4.0
1934.....	200	13	19	66	31	68	215	154	367	1,133	114,301	1.0
Total....	10,060	11,248	3,491	16,841	2,046	8,858	5,593	39,550	13,693	111,380	1,882,190	5.9
Percent of total denials..	9.0	10.0	3.1	15.1	2.0	8.0	5.0	35.5	12.3	100.0	5.9	-----

¹ Exclusive of military for 1924; figures for years prior to 1929 include Alaska, Hawaii, Puerto Rico, and Virgin Islands.

Increase of Mexican Population in the United States, 1920 to 1930

THE economic and social aspects of the immigration of Mexican labor to this country in recent years give an additional interest to the census returns for 1930 on the Mexican people in the United States.

These figures show that from 1920 to 1930 the Mexican population in this country increased from 700,541 to 1,422,533, or 103 percent. Because of the growing importance of this element in our population it was given a separate classification in the 1930 census. In preceding censuses the Mexicans were included in the white population. The enumerators for the latest census, however, were instructed in effect to classify as Mexican "all persons born in Mexico, or having parents born in Mexico, who are not definitely white, Negro, Indian, Chinese, or Japanese." According to these directions, 65,968 persons of Mexican birth or parentage were scheduled as white in 1930 and 1,422,533 as Mexican.

Using as a basis the 1920 returns for persons born in Mexico and persons having one or both parents born in Mexico, it was estimated that there were in that year 700,541 persons who would have been classified as Mexican under the 1930 instructions.¹

It will be noted from the following table² that the three States with the largest Mexican population in both 1920 and 1930 are

¹ United States Department of Commerce. Bureau of the Census. Fifteenth Census of the United States: 1930. Population bulletin. United States Summary. Composition and Characteristics of the Population. Washington, 1931, p. 7.

² *Idem*, pp. 27 and 32.

Arizona, California, and Texas, which, combined, accounted for 82 percent of the Mexicans in this country in 1930.

MEXICAN POPULATION IN THE UNITED STATES, BY DIVISIONS AND STATES, 1920 AND 1930

Division and State or section	1920 ¹	1930		
		Males	Females	Total
Geographic divisions:				
New England.....	84	69	38	107
Middle Atlantic.....	3,215	4,550	2,207	6,757
East North Central.....	7,593	37,907	20,410	58,317
West North Central.....	25,674	22,925	16,880	39,805
South Atlantic.....	384	425	266	691
East South Central.....	381	790	613	1,403
West South Central.....	399,550	358,151	337,845	695,996
Mountain.....	141,494	132,905	116,409	249,314
Pacific.....	122,176	200,952	169,191	370,143
Total.....	700,541	758,674	663,859	1,422,533
New England:				
Maine.....	2		2	2
New Hampshire.....	1		1	1
Vermont.....	1		1	1
Massachusetts.....	57	43	23	66
Rhode Island.....	4	6	4	10
Connecticut.....	19	20	7	27
Middle Atlantic:				
New York.....	1,479	1,879	1,019	2,898
New Jersey.....	255	295	159	454
Pennsylvania.....	1,481	2,376	1,029	3,405
East North Central:				
Ohio.....	942	2,806	1,231	4,037
Indiana.....	725	6,708	2,934	9,642
Illinois.....	4,334	18,216	10,690	28,906
Michigan.....	1,344	8,529	4,807	13,336
Wisconsin.....	238	1,648	748	2,386
West North Central:				
Minnesota.....	350	2,069	1,557	3,626
Iowa.....	2,888	2,380	1,915	4,295
Missouri.....	3,393	2,834	2,155	4,989
North Dakota.....	42	376	232	608
South Dakota.....	95	481	335	816
Nebraska.....	2,746	3,585	2,736	6,321
Kansas.....	16,170	11,220	7,950	19,150
South Atlantic:				
Delaware.....	30	24		24
Maryland.....	47	38	18	56
District of Columbia.....	35	41	26	67
Virginia.....	38	20	16	36
West Virginia.....	55	155	102	257
North Carolina.....	10	8	2	10
South Carolina.....	6	4	5	9
Georgia.....	44	38	9	47
Florida.....	119	97	88	185
East South Central:				
Kentucky.....	98	53	35	88
Tennessee.....	54	16	9	25
Alabama.....	74	27	42	69
Mississippi.....	155	694	527	1,221
West South Central:				
Arkansas.....	278	248	161	409
Louisiana.....	2,620	2,392	2,160	4,552
Oklahoma.....	7,977	4,434	2,920	7,354
Texas.....	398,675	351,077	332,604	683,681
Mountain:				
Montana.....	269	1,766	805	2,577
Idaho.....	1,128	907	371	1,278
Wyoming.....	2,000	4,582	2,592	7,174
Colorado.....	14,340	30,824	26,852	57,676
New Mexico.....	32,794	30,775	28,565	59,340
Arizona.....	88,484	59,102	55,071	114,173
Utah.....	1,202	2,728	1,284	4,012
Nevada.....	1,297	2,221	869	3,090
Pacific:				
Washington.....	384	477	85	562
Oregon.....	616	1,247	321	1,568
California.....	121,176	199,228	168,785	368,013
Sections:				
The North.....	36,556	65,451	39,535	104,986
The South.....	400,315	359,366	338,724	698,090
The West.....	263,670	333,857	285,600	619,457

¹ Estimated. In the censuses preceding that of 1930, the Mexicans for the most part were included in the white population.

According to the reports of the United States Commissioner General of Immigration for the fiscal years ending June 30, 1931 and 1932, the number of Mexican emigrant aliens recorded as departing from the United States in these 2 years was 51,398, while only 4,301 Mexican immigrant aliens were admitted. These figures are very far from telling the whole story of the exodus of Mexicans from the country as a result of the depression. The following extracts from the reports of the United States Commissioner General of Immigration, mentioned above, are of interest in this connection:

From numerous sources it has been reported that the departures of Mexicans to their own country in the past year, of which we have no complete records, have reached large proportions. Communities in the Far West and Southwest have aided in this repatriation to relieve their charity burdens, but from many parts of the country Mexicans and their families have gone back because of continued lack of employment in this country, the attraction of home ties, and the belief that they can providentially obtain assistance from their relatives or others.

An unrecorded but impressive number of Mexicans have returned home in the past year [fiscal year ending June 30, 1932], with the help of the Mexican Government itself or through the efforts and aid of cities, towns, and charitable organizations. They have been going across the border in streams with their small belongings. The Immigration Service had not the facilities to keep count of this *hegira*.

INDUSTRIAL ACCIDENTS AND SAFETY

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Sources of Industrial-Accident Statistics

THE principal sources of information and statistical data on industrial accidents in the United States are (1) Federal and State governmental agencies dealing with labor, (2) the National Safety Council, and (3) employers' associations in a few industries.

Among the governmental agencies those in the Federal service are: Bureau of Labor Statistics, Children's Bureau, Division of Labor Standards, and Women's Bureau of the Department of Labor; Bureau of Chemistry and Soils of the Department of Agriculture; Bureau of Air Commerce, and Bureau of Navigation and Steamboat Inspection of the Department of Commerce; Bureau of Mines of the Department of the Interior; Bureau of Yards and Docks of the Department of the Navy; Bureau of the Public Health Service of the Department of the Treasury; Office of the Chief of Engineers, Department of War; Interstate Commerce Commission; Office of the Federal Coordinator of Transportation; and United States Employees' Compensation Commission. State mediums for the collection of industrial accident statistics are the State departments of labor and State industrial commissions, workmen's compensation commissions, and State mining departments. To be sure not all States are equally equipped for the collection of accident data, and the data are still far from being uniform and comparable. But, generally speaking, in the chief industrial States some agency discharges that function to a fairly comprehensive extent.

Before compensation for accidents in industry had been inaugurated in the United States, the Bureau of Labor Statistics had been making an annual study (begun in 1910) of accidents and accident prevention in the iron and steel industry. Accident experience in this industry has been collected annually directly from the plants concerned, and has been published from time to time in bulletins of the Bureau and in the Monthly Labor Review. The purpose of this continuous study has been to set up the average experience as a standard by which a given section of the industry might determine its relative standing in the matter of accident occurrence, to determine by year-to-year presentation whether the trend of accidents is in the direction of increase or decrease, to show by suitable examples the possibilities of accident prevention when the problem is attacked with intelligence and vigor, and to afford illustrative material for use in the prosecution of accident-prevention campaigns.

Having secured the cordial cooperation of the iron and steel industry to such an extent that accident reporting is now regular and complete, and susceptible of analysis for the application of accident-prevention measures, the Bureau of Labor Statistics in 1926 began the collection, on a comprehensive scale, of industrial accidents in selected manufacturing industries. Starting with 1,282 establishments employing 555,996 full-year workers and representing 24

industry groups, the scope of this work has been expanded to include 30 industry groups, and with a corresponding increase in the number of establishments, 55 percent of the workers in those industries are now covered in the Bureau's industrial accident data.

Another Federal agency dealing with general industrial accident statistics is the United States Employees' Compensation Commission. This body administers compensation laws covering three distinct groups of workers: (1) Federal employees; (2) longshoremen and harbor workers; and (3) workers in private employment in the District of Columbia. Annual reports of the Commission give statistical presentations of the accident record of each of these three groups, analyzing the number of injuries by industry (or branch of the service, in the case of Federal employees), extent of disability, cause, time lost, fatal and nonfatal, etc.

In those industrial States—notably California, Illinois, New Jersey, New York, Ohio, and Pennsylvania—in which the agency administering the compensation law is a unit of the State department of labor, the statistical work connected with compensation and accidents is a major part of the duties of the statistical bureaus of the department. In Massachusetts and some of the other States, on the other hand, the agency administering the compensation law is entirely distinct from the department of labor and industries. In States which provide additional compensation for illegally employed minors injured at work, special compilations of accidents to all minors are made to facilitate the application of the penalizing provision.

Accident statistics of the agencies so far discussed deal with general employment. Another group of agencies is concerned with accidents in specific industries. Statistics of accidents in mining and quarrying are on the whole more generally and adequately compiled than are those relating to accidents in other industries. State mine inspection machinery, whether operating independently or through the State department of labor, affords a special avenue for the collection of information concerning mine accidents. In fact, in most mining States, all accidents must be reported to the industrial accident board and to the mine regulating agency of the State. Publication and to some extent analysis of mine accidents are quite generally made by the different State mine inspection agencies, either as separate reports on that specific subject, or as part of the annual report of the State body.

The Federal Bureau of Mines also issues an annual series of reports on mine accidents. In coal mining, only fatalities were reported prior to 1930, when the Bureau began to compile nonfatal injuries. These data are compiled from reports voluntarily furnished by coal-mining companies, supplemented by data from the State mine inspectors and published annually. Annual reports of all fatal and nonfatal accidents in metal mines and quarries are published by the Bureau of Mines, which receives the data direct from the operators except in California, where the State industrial commission compiles the statistics and furnishes them to the Federal bureau; in Alaska, where reports for metal mines are furnished by the Territorial mine inspector; and in Arizona and Idaho, where reports for metal mines are furnished through the State mine officials. Accident records of coke ovens and metallurgic plants are similarly compiled and issued annually by the Bureau of Mines, usually in its technical paper series.

Carriers in interstate transportation are required by law to report all accidents to the Interstate Commerce Commission. These reports are compiled by the Bureau of Statistics of the Commission, which publishes a monthly summary of accidents, a quarterly report on accident statistics, and an annual accident bulletin. This bulletin is a complete survey of railway accidents occurring during the year, with an analysis of their causes, and presents in addition the accident records of the reporting carriers.

Among the nongovernmental agencies collecting and disseminating accident statistics, the National Safety Council covers the widest field. It receives reports on accidents and man-hour exposure directly from its members, and also has contact with many sources of information concerned with public, home, and industrial accidents. Of these, safety organizations in industrial establishments affiliated with the National Safety Council, insurance companies, and State and city health departments are the most important agencies concerned with industrial accidents. The statistical committee of the National Safety Council issues annually a publication dealing with "accident facts" which presents the year's accident record as determined by the National Safety Council through its various reporting agencies. It also publishes annually a series of pamphlets showing detailed information for each industrial group of its members.

A few employers' or manufacturers' associations have developed facilities for keeping record of accidents in the industries they represent. The department of accident prevention of the American Petroleum Institute compiles and publishes annually a summary of injuries in the industry and reviews of fatalities. Statistics of injuries and deaths in cement manufacture are published annually by the Portland Cement Association in its Accident Prevention Magazine.

Accidents in Manufacturing Industries, 1933

FIGURES collected and compiled by the Bureau of Labor Statistics in its annual survey of accidents in manufacturing industries show an increase for 1933 in frequency rates but a decrease in severity rates.

An average of 22.17 injuries was sustained in the combined industries during 1933 for every 1,000,000 man-hours worked, as against 19.55 in 1932, an increase in the frequency rate of 13.4 percent. An average of 2.59 days was lost through the injuries received in 1933, including standard schedule allowances for deaths and permanent disabilities, for every 1,000 man-hours worked as against 2.86 in 1932, a decrease in the severity rate of 9.4 percent.

Continued curtailment of industrial activity was responsible for a further reduction in employment during 1933, and the diminished exposure to the hazards of industrial life naturally resulted in a substantial reduction in the total number of industrial injuries, but, as shown by the frequency rates of the Bureau, the total number of injuries did not decline so rapidly as the man-hours of exposure.

The difference in the frequency rates for the 2 years is presumably, at least in part, due to a let-up in safety activities—a common but unfortunate result of economy programs—so that unsafe conditions or practices were not eliminated or improved. Such neglect would

naturally lead to a proportionate increase in accidents and, aside from the standpoint of human relations, would in the end prove far more expensive than the cost of the necessary safety work involved.

Other information received by the Bureau shows that, while the usual accident-prevention work was continued in many establishments, safety activities were curtailed greatly in others through reduction in safety personnel and maintenance personnel, or in funds for upkeep and repair of working places.

The question of continued and energetic accident-prevention work is especially important at the present time. Renewed industrial activity, with the attendant employment of many workers in tasks with which they are not familiar, will greatly increase the occupational hazards, even where conditions are rendered as safe as possible. Reduction or laxness in safety work will increase these hazards still further, exact their toll of injuries and suffering, and prevent efficient and economic operation of the industry.

A distribution of accident frequency and severity rates for the combined manufacturing industries in 1933, by extent of disability, is shown in table 1, with comparable yearly rates for the 7 previous years. These rates were computed from the records for all establishments covered by the survey of the Bureau, and weighted according to the total number of wage earners employed in each of the industrial groups, as given in the reports of the United States Bureau of the Census.

These rates differ somewhat from the rates published by the National Safety Council in the 1933 edition of Accident Facts. (See p. 279.) The differences are presumably due mainly to the weighting employed in the Bureau study and the difference in industries, plants, and occupations covered in the two surveys. The report of the National Safety Council covers the experience of its member establishments, all of which are presumably interested and active in safety promotion, and consequently may present more favorable rates than the survey of the Bureau of Labor Statistics, the coverage of which is probably more general in character. Also, the National Safety Council includes in its figures industries other than manufacturing, and clerical employees as well as wage earners.

TABLE 1.—ACCIDENT FREQUENCY AND SEVERITY RATES IN MANUFACTURING INDUSTRIES, 1926 TO 1933 (WAGE EARNERS ONLY)

Year	Deaths		Permanent disability		Temporary disability		Total			
	Frequency rate	Severity rate	Frequency rate	Severity rate	Frequency rate	Severity rate	Frequency		Severity	
							Rate	Percent of change, as compared with preceding year	Rate	Percent of change, as compared with preceding year
1926.....	0.16	0.98	1.27	1.18	22.73	0.46	24.16		2.62	
1927.....	.17	1.05	1.22	1.12	21.21	.41	22.60	-6.5	2.58	-1.5
1928.....	.18	1.08	1.32	1.16	21.02	.40	22.52	-.4	2.64	+2.3
1929.....	.15	.91	1.38	1.12	22.45	.40	23.98	+6.5	2.43	-8.0
1930.....	.17	1.06	1.41	1.34	21.50	.42	23.08	-3.8	2.82	+16.0
1931.....	.15	.90	1.30	1.35	17.40	.34	18.85	-18.3	2.59	-8.2
1932.....	.17	1.00	1.45	1.50	17.93	.36	19.55	+3.7	2.86	+10.4
1933.....	.14	.85	1.39	1.36	20.64	.38	22.17	+13.4	2.59	-9.4

The industrial accident surveys of the Bureau are limited to wage earners and do not include clerical employees, as the accident hazard for that group is entirely different. The surveys covered approximately 33 percent of the total wage earners in the respective industrial groups in 1926, 34 percent in 1927 and 1928, 38 percent in 1929, 56 percent in 1930, 64 percent in 1931, 56 percent in 1932, and 55 percent in 1933.

Comparable frequency and severity rates for the individual industries were in former years computed from records of establishments in States which furnished data for all accidents resulting in disability extending beyond the day of injury. Some of the important States covered in the surveys supply reports only of compensable accidents, excluding all temporary injuries which do not result in disability extending beyond the waiting period for compensation.¹ Other States omit special types of injuries.²

Beginning with 1933 frequency and severity rates were computed from records of all cooperating establishments, based on the number of injuries actually reported and the missing number of injuries determined by the Bureau. It must, however, be taken into consideration that it has not been possible to obtain the same percentage of coverage in all of the industries, so that neither the number of man-hours worked nor the actual number of accidents in any one industry is comparable with the same item for another industry. Only the frequency rates and severity rates are comparable. The individual rates for 1933 are shown in detail in table 2.

TABLE 2.—NUMBER OF ACCIDENTS AND ACCIDENT FREQUENCY AND SEVERITY RATES FOR WAGE EARNERS IN SPECIFIED INDUSTRIES, 1933

[Frequency rates are based on 1,000,000 hours' exposure, severity rates on 1,000 hours' exposure]

Industry	Man-hours worked (thou- sands)	Death			Permanent disability			Temporary disability			Total		
		Num- ber of cases	Fre- quency rate	Sev- erity rate	Num- ber of cases	Fre- quency rate	Sev- erity rate	Num- ber of cases	Fre- quency rate	Sev- erity rate	Num- ber of cases	Fre- quency rate	Sev- erity rate
Agricultural im- plements.....	18, 651	2	0.11	0.64	26	1.39	0.92	570	30.56	0.53	598	32.06	2.09
Automobiles.....	365, 433	26	.07	.42	408	1.12	.85	5, 264	14.40	.27	5, 698	15.59	1.54
Automobile tires and rubber goods.....	87, 804	9	.10	.61	61	.69	.50	1, 490	16.98	.36	1, 560	17.77	1.47
Boots and shoes.....	201, 236	8	.04	.24	93	.46	.33	1, 366	6.79	.11	1, 467	7.29	.68
Brick, tile, and terra cotta.....	22, 438	13	.58	3.48	30	1.34	1.78	911	40.60	.67	954	42.52	5.93
Carpets and rugs.....	25, 355	0	-----	-----	28	1.10	1.03	174	6.86	.12	202	7.96	1.15
Chemicals.....	58, 723	9	.15	.92	41	.70	.77	788	13.42	.24	838	14.27	1.93
Cotton goods.....	366, 963	11	.03	.18	209	.57	.47	4, 925	13.42	.23	5, 145	14.02	.88
Electrical machin- ery, apparatus, and supplies.....	179, 787	14	.08	.47	200	1.11	.92	1, 730	9.62	.19	1, 944	10.81	1.58
Fertilizers.....	12, 214	7	.57	3.44	16	1.31	1.09	496	40.61	.78	519	42.49	5.31
Flour, feed, and other grain-mill products.....	32, 752	5	.15	.91	48	1.47	2.30	965	29.46	.55	1, 018	31.08	3.76
Foundry and machine-shop prod- ucts.....	134, 836	20	.15	.89	295	2.19	2.00	3, 572	26.49	.48	3, 887	28.83	3.37
Furniture.....	81, 082	3	.04	.22	201	2.48	1.68	1, 668	20.57	.30	1, 872	23.09	2.20
Glass.....	80, 730	8	.10	.59	60	.74	.85	1, 706	21.13	.34	1, 774	21.97	1.78
Hardware.....	11, 767	0	-----	-----	27	2.29	1.36	292	24.82	.38	319	27.11	1.74
Iron and steel.....	656, 196	110	.17	1.00	776	1.18	.97	12, 277	18.71	.41	13, 163	20.06	2.38

¹ Wisconsin, 3 days; Illinois, Michigan, New Jersey, and New York, 1 week; Alabama, 2 weeks.

² California, temporary injuries; Oklahoma, fatal injuries.

TABLE 2.—NUMBER OF ACCIDENTS AND ACCIDENT FREQUENCY AND SEVERITY RATES FOR WAGE EARNERS IN SPECIFIED INDUSTRIES, 1933—Continued

[Frequency rates are based on 1,000,000 hours' exposure, severity rates on 1,000 hours' exposure]

Industry	Man-hours worked (thousands)	Death			Permanent disability			Temporary disability			Total		
		Number of cases	Frequency rate	Severity rate	Number of cases	Frequency rate	Severity rate	Number of cases	Frequency rate	Severity rate	Number of cases	Frequency rate	Severity rate
Leather.....	58,637	5	0.08	0.51	40	0.68	0.74	1,332	22.72	0.34	1,377	23.48	1.59
Logging.....	14,695	26	1.77	10.62	58	3.95	7.17	1,229	83.63	1.93	1,313	89.35	19.72
Lumber—planing mills.....	26,009	10	.38	2.31	89	3.42	3.50	914	35.14	.65	1,013	38.94	6.46
Lumber—sawmills.....	69,453	24	.35	2.07	241	3.47	4.94	3,918	56.41	1.05	4,183	60.23	8.06
Paper and pulp.....	159,400	26	.16	.98	215	1.35	1.58	3,367	21.12	.39	3,608	22.63	2.95
Petroleum refining.....	93,254	30	.32	1.93	120	1.29	1.64	1,112	11.92	.28	1,262	13.53	3.85
Pottery.....	25,238	3	.12	.71	12	.47	.40	403	15.97	.33	418	16.56	1.44
Shipbuilding, steel.....	32,709	7	.21	1.28	51	1.56	1.36	574	17.55	.33	632	19.32	2.97
Slaughtering and meat packing.....	201,426	22	.11	.66	331	1.64	1.48	5,769	28.64	.44	6,122	30.39	2.58
Stamped and enameled ware.....	35,950	3	.08	.50	86	2.39	1.37	642	17.86	.29	731	20.33	2.16
Stoves.....	32,082	3	.09	.56	72	2.24	1.52	980	30.55	.57	1,055	32.88	2.65
Woolen goods.....	104,472	5	.05	.29	109	1.04	1.15	1,522	14.57	.24	1,636	15.66	1.68
Machine tools.....	13,135	1	.08	.46	14	1.06	.59	237	18.04	.39	252	19.18	1.44
Steam fittings, apparatus, and supplies.....	22,464	2	.09	.53	21	.93	.90	335	14.91	.24	358	15.93	1.67

The survey covered 29 manufacturing groups up to 1929, when separate figures became available for logging operations, which were previously included in the classification "Lumber—sawmills." A new classification, "Logging", was therefore added in 1929, making 30 groups in all. The separation is very noticeable in the accident rates for sawmills, which dropped sharply in 1929 through the elimination of the more hazardous logging operations.

Sixteen of the thirty industrial groups followed the combined trend and experienced increases in frequency rates and decreases in severity rates in 1933, as compared with 1932. Eight other groups experienced increases in both rates, while 4 other groups experienced decreases in both rates, and 2 other groups experienced decreases in frequency rates and increases in severity rates.

In frequency rates the increases ranged from 0.04 for boots and shoes to 9.03 for hardware, and the decreases ranged from 0.41 for steam fittings, apparatus, and supplies to 10.95 for logging. In severity rates the increases ranged from 0.02 for woolen goods to 2.82 for planing mills, and the decreases ranged from 0.07 for automobiles and for automobile tires and rubber goods to 7.91 for logging.

Fourteen of the thirty industries present frequency rates higher than the average (22.17), with logging showing the worst experience (89.35) and sawmills next (60.23). Logging also shows the worst experience in severity rates (19.72), sawmills again being second (6.06). Nine other industries also show severity rates exceeding the average (2.59).

Accident Statistics of National Safety Council for 1934

ACCIDENTS in the United States during 1934 were responsible for approximately 101,000 deaths and 9,720,000 nonfatal disabling injuries, according to the 1935 edition of *Accident Facts*, the annual statistical publication of the National Safety Council. The wage loss, medical expense, and overhead cost of insurance (which does not include the amount of compensation paid) involved in these deaths and injuries are estimated by the council to aggregate \$2,400,000,000.

On the basis of reports from the United States Bureau of the Census and various other sources, the estimated division of the 101,000 deaths attributes 16,000 to occupational accidents, 36,000 to motor-vehicle accidents, 34,500 to home accidents, and 17,500 to public accidents not involving motor vehicles. The figures stated for occupational deaths include 3,000 which occurred in accidents involving motor vehicles and which are included under that classification also, but the duplication has been eliminated in the total. As the corrected figures for 1933 show a total of 91,087 deaths, the estimate for 1934 presents an increase of nearly 11 percent, which is attributed to 5,000 additional motor-vehicle fatalities, 4,500 additional home fatalities, combined with 1,500 additional fatalities occurring in gainful employment.

Occupational Accidents

FIGURES developed by the Council from all available data place the number of accidental deaths in various kinds of gainful employment at 16,000, an increase of 10 percent from the 1933 total (14,500). An approximate distribution allocates 1,900 to manufacturing; 2,300 to construction, including Government projects; 2,000 to transportation and public utilities; 3,800 to trade and service industries; 1,600 to mining, quarrying, and oil and gas wells; and 4,400 to agriculture.

The number of nonfatal disabling injuries, determined by using the relative proportion of deaths to injuries as found in reports of industrial concerns to the council, is given as 61,000 resulting in permanent disability and 1,300,000 resulting in temporary disability, a total of 1,361,000.

Loss of wages through occupational death and injury is estimated at \$460,000,000; medical expense, including hospital and surgical fees, at \$40,000,000, and the overhead cost of insurance at \$100,000,000. The figures for wage loss include schedule charges for death and permanent disabilities, as adopted by the International Association of Industrial Accident Boards and Commissions. These two types of injuries are consequently given full economic values, which exceed compensation payments.

Extracts from insurance records and records of State industrial commissions are presented, as well as a summary of the experience of establishments reporting injury rates direct to the National Safety Council. This summary shows an increase in the index numbers for frequency rates of reporting companies from 41.2 in 1933 to 43.2 in 1934 (5 percent), and an increase in the index numbers for severity rates from 60.6 in 1933 to 63.4 in 1934 (4 percent). The index numbers, which are based on 1926 rates as 100, show that the increase in rates was caused principally by a larger number of deaths and permanent disabilities.

INJURY FREQUENCY AND SEVERITY RATES OF 3,866 INDUSTRIAL UNITS REPORTING TO THE NATIONAL SAFETY COUNCIL FOR 1934, BY INDUSTRY

Industry	Number of units	Man-hours worked (thousands)	Frequency rates (per 1,000,000 hours' exposure)	Severity rates (per 1,000 hours' exposure)
All industries ¹	3,866	4,343,740	15.29	1.70
Automobile.....	57	216,346	22.24	1.28
Cement.....	114	29,866	6.50	3.89
Chemical.....	254	217,609	10.30	1.81
Clay products.....	41	12,008	24.82	1.80
Construction.....	84	105,730	31.89	4.32
Electric railway.....	49	96,196	19.29	1.83
Food.....	342	245,547	16.42	1.18
Foundry.....	95	50,300	23.42	2.21
Glass.....	43	50,079	9.84	1.04
Laundry.....	36	8,546	5.03	.83
Lumber.....	44	19,825	83.83	4.80
Machinery.....	275	356,878	9.33	.83
Marine.....	55	108,715	12.14	1.85
Meat packing.....	76	168,108	38.62	1.46
Metal products, miscellaneous.....	160	112,725	15.02	1.41
Mining.....	168	63,264	51.45	10.19
Nonferrous metals.....	57	84,777	10.30	1.46
Paper and pulp.....	216	143,277	19.07	1.95
Petroleum.....	128	605,390	14.31	1.69
Printing and publishing.....	47	24,923	6.38	.89
Public utilities.....	613	651,273	10.54	1.68
Quarry.....	135	11,187	17.34	3.53
Refrigeration.....	71	21,645	27.67	.78
Rubber.....	48	133,880	9.25	.80
Sheet metal.....	184	124,949	14.07	1.30
Steel.....	116	361,323	10.81	2.20
Tanning and leather.....	64	48,697	15.36	.95
Textile.....	152	167,044	9.73	.60
Tobacco.....	23	19,513	3.13	.05
Woodworking.....	100	28,553	14.99	.91

¹ Include miscellaneous industries, not shown separately, and eliminate duplication between marine and petroleum industries.

The rates for all of the combined reporting industrial units in 1934 are given as 15.29 (per 1,000,000 man-hours) for frequency rates and 1.70 (per 1,000 man-hours) for severity rates. These figures are based on reports from 3,866 industrial units, working 4,343,740,000 man-hours during the year. The rates for the individual industries present a wide variation, ranging from 3.13 to 83.83 for frequency rates and from 0.05 to 10.19 for severity rates, as shown in the preceding table.

Accident Record, by Industry

Aircraft Operation

FIGURES published by the Aeronautics Branch of the United States Department of Commerce³ show that the 101 accidents occurring in American-operated scheduled transport service during 1933 resulted in the death of 10 pilots, copilots, or members of aircraft crews, severe injury to 4, and minor injuries to 17, while 109 others who were involved in the accidents received no injuries whatever. Of a total of 250 passengers involved in the same accidents, 8 lost their lives, 3 were severely injured, 29 suffered minor injuries, and 210 were not injured.

³ Air Commerce Bulletin, Mar. 15, 1934.

In 1933 the air lines flew 54,642,545 miles, or 541,015 miles per accident, as compared with 442,895 miles per accident in 1932. A decided improvement is noted when the record for 1933 is compared with that of 1928, when 86 accidents occurred during the 10,673,450 miles flown, an average of only 124,110 miles per accident. A total of 568,940 passengers was carried during 1933, with an aggregate of 198,800,079 passenger-miles.

More than one-half of the accidents occurred during ordinary voluntary landings (34) and forced landings (27). Causes of the 1933 accidents were divided as follows: Personnel errors, 18.38 percent; power-plant failures, 23.76 percent; airplane failure, 18.56 percent; weather, 22.47 percent; airport and terrain, 10.89 percent; miscellaneous, 3.96 percent. In another 1.98 percent the causes were undetermined or doubtful.

Coal Mines

STATISTICS of accidents occurring in coal mines during 1932, published by the United States Bureau of Mines in its Bulletin No. 380⁴ shows that injuries during the year, totaling 60,179, resulted in 1,207 fatalities, 79 permanent total disabilities, 1,449 permanent partial disabilities, and 57,444 temporary disabilities.

The number of workers declined from 589,705 in 1931 to 527,623 in 1932, a reduction of 10.5 percent. The average days of operation also declined from 168 in 1931 to 149 in 1932, a reduction of 11.3 percent, resulting in a decrease in the total number of man-hours worked from 804,394,130 in 1931 to 636,391,330 in 1932, a reduction of 20.9 percent. The number of deaths dropped from 1,463 in 1931 to 1,207 in 1932, a decline of 17.5 percent, making a slight increase in the fatality rate per million man-hours worked (from 1.82 in 1931 to 1.90 in 1932), or an increase of 4.3 percent. The nonfatal-injury rate shows a decided reduction from 99.89 in 1931 to 92.67 in 1932, a decline of 7.2 percent.

While 958 of the 1,207 fatal accidents occurred in the bituminous-coal mines, 4,844 of the total bituminous-coal mines operated the entire year without a fatal accident, although they employed 66.2 percent of the workers and produced 70.0 percent of all bituminous tonnage. A distribution by States shows that the coal mines in Alaska were operated without loss of life during the year, while the highest fatality rate was established by New Mexico (7.49 per 1,000,000 man-hours worked). Tennessee presented the lowest nonfatal-injury rate (42.76) and Texas the highest (196.52).

The only figures available for nonfatal injuries are for the years 1930, 1931, and 1932. Table 1 shows the number of workers employed, the number of man-hours worked, production, and the number of workers killed, by 5-year periods from 1911 to 1930 and by years from 1926 to 1932.

⁴ United States Bureau of Mines. Bulletin 380: Coal-Mine Accidents in the United States, 1932, by W. W. Adams and L. E. Geyer. Washington, 1934.

TABLE 1.—EMPLOYMENT, PRODUCTION, AND FATALITIES IN COAL MINES, 1911 TO 1932

Period or year	Number of men employed	Man-hours worked	Production (short tons)	Men killed		
				Number	Rate per 1,000,000 man-hours worked	Rate per 1,000,000 tons mined
1911-15.....	3,695,847	6,991,812,000	2,646,030,795	12,583	1.80	4.76
1916-20.....	3,801,904	7,388,822,000	3,131,929,644	12,097	1.64	3.86
1921-25.....	4,059,014	5,849,631,000	2,794,733,483	11,077	1.89	3.96
1926-30.....	3,499,541	5,878,704,781	2,977,484,316	11,175	1.90	3.75
1926.....	759,033	1,352,840,000	657,804,437	2,518	1.86	3.83
1927.....	759,177	1,219,079,000	597,858,916	2,231	1.53	3.73
1928.....	682,831	1,135,543,000	576,093,039	2,176	1.92	3.78
1929.....	654,494	1,168,551,000	608,816,788	2,187	1.87	3.59
1930.....	644,006	1,002,691,781	536,911,136	2,063	2.06	3.84
1931.....	589,705	804,394,130	441,760,978	1,463	1.82	3.31
1932.....	527,623	636,391,330	359,565,093	1,207	1.90	3.36

Table 2 shows the number of workers employed, days worked, number of fatalities, and production per man, by 5-year periods from 1906 to 1930.

TABLE 2.—NUMBER OF WORKERS, NUMBER OF FATALITIES, AND PRODUCTION IN COAL MINES, 1906 TO 1930

Period or year	Men employed		Average days active	Men killed		Production per death (short tons)	Average production per man		Deaths per million tons
	Actual number	Equivalent 300-day workers		Number	Rate per 1,000 300-day workers		Tons per year	Tons per day	
1906-10 (average) ¹	675,067	484,454	215	2,658	5.49	169,719	668	3.10	5.89
1911-15 (average).....	739,169	541,489	220	2,517	4.65	210,263	716	3.26	4.76
1916-20 (average).....	760,881	599,781	237	2,419	4.03	258,944	824	3.48	3.86
1921-25 (average).....	811,803	484,071	179	2,215	4.58	252,346	689	3.85	3.96
1926-30 (average).....	699,908	485,139	208	2,235	4.62	266,521	853	4.10	3.75

¹ Figures for 1906 to 1909, inclusive, are only for States under inspection service. Figures for 1909 as to average days active were estimated by the Bureau of Mines.

Underground operations accounted for 1,355 fatalities and 73,312 nonfatal injuries in 1931, and 1,115 fatalities and 52,759 nonfatal injuries in 1932. Fatal injuries in shaft or open-cut operations totaled 30 in 1931 and 30 in 1932, while the nonfatal injuries were 1,187 in 1931 and 1,301 in 1932. In surface operations, 78 fatal and 5,850 nonfatal injuries occurred in 1931, and 62 fatal and 4,912 nonfatal injuries in 1932. Falls of roof or face accounted for 836 of the underground deaths and 21,733 of the underground nonfatal injuries in 1931, and in 1932 for 612 deaths and 14,808 nonfatal injuries. The next principal cause of underground injuries was mine cars and locomotives, which were responsible for 237 deaths and 15,437 nonfatal injuries in 1931, and for 179 deaths and 11,118 nonfatal injuries in 1932.

Fatality rates for bituminous-coal mines and anthracite mines are shown in table 3, which contains rates for each type and both types combined, by years, from 1925 to 1932.

TABLE 3.—FATALITY RATES FOR BITUMINOUS-COAL AND ANTHRACITE MINES, 1925 TO 1932

Year	Bituminous-coal mines		Anthracite mines		All mines	
	Per 1,000 300-day employ-ees	Per 1,000,000 tons mined	Per 1,000 300-day employ-ees	Per 1,000,000 tons mined	Per 1,000 300-day employ-ees	Per 1,000,000 tons mined
1925.....	4.79	3.53	4.12	6.47	4.65	8.84
1926.....	4.86	3.60	3.37	5.36	4.50	3.83
1927.....	4.60	3.36	3.94	6.11	4.43	3.73
1928.....	4.90	3.45	3.85	5.93	4.64	3.78
1929.....	4.63	3.19	4.24	6.53	4.54	3.59
1930.....	5.26	3.46	4.22	6.40	5.00	3.84
1931.....	4.42	2.83	4.43	6.42	4.42	3.31
1932.....	4.85	3.09	3.83	4.99	4.60	3.36

Coke Ovens

ACCORDING to reports of the United States Bureau of Mines on coke-oven accidents,⁵ the coking industry has been materially affected by the general business depression. The number of workers employed decreased 20 percent between 1930 and 1931, and 23 percent between 1931 and 1932. Working days and man-hours were reduced proportionately.

Some improvement was noted in accident prevention, although the death rate was higher in 1932 than in 1931. The death rate per thousand 300-day workers dropped from 1.22 in 1930 to 0.50 in 1931, a reduction of 59 percent, but rose again to 1.01 in 1932, an increase for the year of 102 percent.

A gradual change in production methods is shown by the report for 1930. The operation of beehive ovens has been declining steadily for a number of years, with a corresponding increase in the use of by-product ovens.

The main causes of fatal accidents in coking are railway cars, burns, coke cars and motors, and suffocation from gases. The largest number of nonfatal injuries in 1930 was caused by falls of persons, with burns, handling of objects, hand tools, and falling objects as other principal causes, in the order named.

Table 1 shows the number of employees, days worked, fatalities, and lost-time nonfatal injuries at all coke ovens in the United States, by years, from 1916 to 1931.

⁵ United States Bureau of Mines. Technical paper 508: Coke-Oven Accidents in the United States During the Calendar Year 1930, by W. W. Adams and L. Chenoweth, Washington, 1931; and Technical paper 559: Coke-Oven Accidents in the United States During the Calendar Year 1932, by W. W. Adams and L. Chenoweth, Washington, 1933.

TABLE 1.—NUMBER OF EMPLOYEES, DAYS OF LABOR PERFORMED, FATALITIES, AND LOST-TIME NONFATAL INJURIES AT COKE OVENS IN THE UNITED STATES, 1916 TO 1931

Year	Average days of operation	Men employed		Days of labor performed	Fatalities		Nonfatal injuries	
		Actual number	Equivalent in 300-day workers		Total	Per 1,000 300-day workers	Total	Per 1,000 300-day workers
1916.....	324	31,603	34,119	10,235,674	45	1.32	5,237	153.49
1917.....	329	32,417	35,595	10,678,429	76	2.14	6,713	188.59
1918.....	329	32,389	35,476	10,642,688	73	2.06	7,792	219.64
1919.....	289	28,741	27,674	8,302,059	53	1.92	4,031	145.66
1920.....	319	28,139	29,921	8,976,214	49	1.64	3,415	114.13
Average.....	319	30,658	32,557	9,767,013	59	1.82	5,438	167.02
1921.....	257	16,204	13,868	4,160,298	17	1.23	1,853	133.62
1922.....	284	19,278	18,236	5,470,939	29	1.59	1,710	93.77
1923.....	324	23,729	25,627	7,688,160	45	1.76	2,593	101.18
1924.....	303	20,451	20,681	6,204,448	24	1.16	1,645	79.54
1925.....	310	23,254	24,054	7,216,239	28	1.16	1,696	70.51
Average.....	299	20,583	20,493	6,148,017	29	1.40	1,899	92.68
1926.....	315	23,115	24,288	7,286,605	51	2.10	1,922	79.13
1927.....	337	20,667	23,223	6,967,035	25	1.08	1,285	55.33
1928.....	336	19,390	21,710	6,512,929	17	.78	1,012	46.61
1929.....	344	22,459	25,724	7,717,306	22	.86	1,329	51.66
1930.....	347	19,855	22,936	6,880,895	28	1.22	1,022	44.56
Average.....	335	21,097	23,576	7,072,954	29	1.23	1,314	55.73
1931.....	350	15,564	18,163	5,448,923	9	.50	534	29.40

Table 2 shows the number of employees, days worked, fatalities, and lost-time nonfatal injuries, by States, for 1932. Previous to 1932 frequency rates were based on exposure of one thousand 300-day workers, but in 1932 the base was changed to 1,000,000 man-hours worked.

TABLE 2.—NUMBER OF EMPLOYEES, DAYS OF LABOR PERFORMED, FATALITIES, AND LOST-TIME NONFATAL INJURIES AT COKE OVENS IN THE UNITED STATES, 1932, BY STATES

State	Men employed, actual number	Days of labor performed	Average days of operation	Fatalities	Nonfatal injuries
United States.....	12,002	4,158,664	346	14	320
Alabama.....	619	216,013	349	1	17
Illinois.....	1,119	377,138	337	-----	19
Indiana.....	656	239,628	365	2	3
Massachusetts.....	667	244,122	366	-----	18
Michigan.....	909	332,523	366	1	29
Minnesota.....	292	89,710	307	-----	12
New York.....	1,514	554,009	366	4	57
Ohio.....	1,111	396,935	357	2	21
Pennsylvania.....	2,451	796,939	325	2	59
Tennessee.....	105	36,399	347	-----	4
Virginia.....	132	22,446	170	-----	3
West Virginia.....	630	213,549	339	1	4
Not segregated.....	1,797	639,253	356	1	69

Construction Industry, New York City

ACCIDENT frequency and severity rates in the building construction industry of New York were appreciably reduced during 1931, according to the Building Trades Employers' Association of that city.⁶

The records for 1931 cover 300 firms in 27 different trade organizations, with 14,136 employees who worked 28,051,058 man-hours. The combined frequency rate for 1931 was 40.99, while the combined frequency rate for all reporting employers in 1930 was 42.50. The combined severity rate for 1931 was 3.03, as against a severity rate for all reporting employers in 1930 of 3.82. The entire year's work was completed without a lost-time accident by 163 firms in 26 different groups with 2,237 employees who worked 4,333,742 man-hours.

Table 1 shows the average number of employees in each trade group in 1931, with accident frequency and severity rates for 1929, 1930, and 1931.

TABLE 1.—ACCIDENT FREQUENCY AND SEVERITY RATES IN BUILDING CONSTRUCTION IN NEW YORK CITY, 1929, 1930, AND 1931

Trade group	Average number of employees, 1931	Frequency rates (per 1,000,000 man-hours' exposure)			Severity rates (per 1,000 man-hours' exposure)		
		1929	1930	1931	1929	1930	1931
All groups.....	14,136	42.36	42.50	40.99	3.49	3.82	3.03
Allied Building Metal Industries.....	1,303	35.78	38.56	32.97	0.77	2.00	2.68
Asbestos Contractors' Association.....	328	64.10	55.99	56.40	.54	1.29	.87
Carpenters' Association, Master.....	365	38.03	41.69	34.87	7.16	1.28	20.88
Cement Workers, Masters' League of.....	663	102.79	107.72	71.16	13.24	18.05	13.45
Composition Roofers and Waterproofers.....	154	37.69	94.03	135.69	.57	1.65	11.75
Cut Stone Contractors' Association.....	290	30.03	18.58	32.13	1.09	.22	1.22
Elevator Manufacturers' Association.....	962	55.07	85.93	49.73	7.83	12.00	4.06
General contractors.....	4,960	59.63	42.53	45.30	5.17	3.62	1.70
Glass Association, The Stained and Leaded.....	36	.00	.00	.00	.00	.00	.00
Glass Dealers' Association, The Window and Plate.....	89	32.29	38.60	59.42	.79	.85	1.20
Heating and Piping Contractors.....	694	22.88	12.92	43.97	.58	.15	5.41
Lighting Fixture Manufacturers' Council.....	101	9.20	10.73	4.24	.68	.20	.00
Marble Industry Employers' Association.....	730	20.02	16.64	24.62	.30	5.60	2.12
Metal Door and Window Association.....	115	35.19	5.93	16.72	.32	.23	.05
Metallic Furring and Lathing Association.....	191	35.75	32.18	21.70	.18	.51	.11
Mosaic and Terrazzo Employers' Association.....	184	8.65	.00	2.61	.18	.00	.15
Painters and Decorators, Association of Master.....	349	21.51	14.33	14.41	1.23	1.28	.66
Parquet Flooring Association of Brooklyn.....	2	.00	.00	.00	.00	.00	.00
Parquet Flooring Association of New York.....	127	5.26	5.06	4.60	.14	.01	.01
Plasterers' Association, Contracting.....	479	35.83	64.48	65.37	5.06	6.35	1.55
Plumbers (Division No. 1), Association of Master.....	607	24.63	60.70	56.50	.56	1.27	.55
Refrigerator Manufacturers' Association.....	36	13.17	11.46	.00	.55	.34	.00
Rigging Contractors' Association.....	50	12.12	27.81	21.30	1.30	4.17	2.54
Roofers and Sheet Metal Workers.....	703	37.78	40.23	17.16	.90	5.89	4.74
Stone Setters' Association, Contracting.....	120	31.67	149.89	64.10	.60	17.08	1.07
Tile Contractors' Association.....	253	34.43	23.70	2.16	.38	.58	.01
Individual members.....	245	43.48	55.43	29.29	3.68	2.33	.48

Data relating to the group of identical establishments are given in table 2, which shows the average number of employees for 1931, by trade groups, with accident frequency and severity rates for 1929, 1930, and 1931. Forty-seven of these firms, in 18 different trade groups (with 2,176 employees who worked 4,182,689 man-hours), completed the 3 years without a lost-time injury.

⁶ Building Trades Employers' Association of the City of New York. Committee on Accident Prevention. Bulletin No. 13: Industrial Accident Facts, 1932 ed. New York, 2 Park Avenue, April 1932.

TABLE 2.—ACCIDENT FREQUENCY AND SEVERITY RATES IN BUILDING CONSTRUCTION IN NEW YORK CITY, FOR FIRMS REPORTING FOR ALL 3 YEARS, 1929, 1930, AND 1931

Trade group	Average number of employees, 1931	Frequency rates (per 1,000,000 man-hours' exposure)			Severity rates (per 1,000 man-hours' exposure)		
		1929	1930	1931	1929	1930	1931
All groups.....	7, 673	44.73	47.08	46.65	4.43	4.82	3.95
Allied Building Metal Industries.....	939	38.35	38.86	40.61	0.84	2.29	3.67
Asbestos Contractors' Association.....	10	64.10	157.34	336.53	.54	3.40	9.27
Carpenters' Association, Master.....	254	44.31	53.27	40.70	9.09	1.85	30.57
Cement Workers, Masters' League of.....	410	111.89	114.95	88.47	13.70	14.65	19.90
Composition Roofers and Waterproofers.....	141	31.08	109.99	139.14	.49	1.74	13.34
Cut Stone Contractors' Association.....	283	29.20	15.59	32.94	1.09	.17	1.25
Elevator Manufacturers' Association.....	942	55.05	83.24	50.27	7.99	12.72	4.14
General Contractors.....	1, 969	59.53	40.27	57.26	7.24	4.44	2.41
Glass Association, The Stained and Leaded.....	24	.00	.00	.00	.00	.00	.00
Heating and Piping Contractors.....	223	30.93	19.93	31.65	1.15	.21	.49
Lighting Fixture Manufacturers' Council.....	101	.00	21.69	4.24	.00	.03	.04
Marble Industry Employers' Association.....	667	15.17	15.41	23.34	.27	6.32	2.15
Metallic Furring and Lathing Association.....	160	37.72	34.25	18.02	.20	.54	.09
Painters and Decorators, Association of Master.....	177	20.57	14.36	20.49	.49	2.67	.51
Parquet Flooring Association of New York.....	9	.00	26.96	.00	.00	.08	.00
Plasterers' Association, Contracting.....	268	38.84	64.58	63.76	5.84	.91	.95
Plumbers (Division No. 1), Association of Master.....	408	18.89	45.38	59.93	.31	.38	.60
Refrigerator Manufacturers' Association.....	18	13.17	23.39	.00	.55	.86	.00
Rigging Contractors' Association.....	4	.00	.00	.00	.00	.00	.00
Roofers and Sheet Metal Workers.....	334	29.29	47.33	24.51	.58	.40	.40
Tile Contractors' Association.....	134	34.43	8.63	4.66	.38	.17	.03
Individual members.....	198	56.42	47.96	23.93	1.98	2.48	.57

¹ Average number of employees in 1929, 12,174.

² Average number of employees in 1930, 10,802.

The 1,150 injuries to workers in all reporting establishments during 1931 included 8 deaths, 35 cases resulting in permanent disability, and 1,107 in temporary disability. The frequency of injuries shows that 347 cases were caused through handling objects, 187 through falls of persons, 167 through stepping on or striking against objects, 162 through falling objects, 105 through using hand tools, 64 through machinery, 17 through explosives, and 10 through poisonous substances, while the other 91 were due to miscellaneous causes. The greatest severity rate is for falls of persons, which accounted for 45 percent of the time loss. Handling objects was responsible for 19 percent, and falling objects for 15 percent.

Federal Government Employees

INJURY frequency rates, computed by the Bureau of Labor Statistics from injuries reported by civilian employees in Federal service for the years 1921 to 1932, show that 19 workers were killed and 2,112 injured in 1932 for every 100,000,000 man-hours worked, as compared with 28 killed and 1,485 injured in 1921 per 100,000,000 man-hours worked.

There was consequently a decrease during the 12 years of 32.1 percent in fatal injury rates, but an increase of 42.2 percent in nonfatal injury rates.

In this study the Bureau has succeeded for the first time (through the cooperation of the various branches of the Federal service) in obtaining practically complete data on actual man-hour exposure for

each year of the period from each branch of the service. This made it possible to revise the rates previously published for 1921-27, which had been based on an assumed uniform 8-hour workday, as well as to compile new rates for 1928-32 on an actual man-hour basis.

It was, however, found necessary to continue computation based on the total number of injuries reported to the United States Employees' Compensation Commission, which includes not only injuries resulting in disabilities extending beyond the day of injury (disabling injuries), but also those requiring medical attention other than first-aid treatments but not involving any time loss. Accurate figures for disabling injuries are not available by year of occurrence, but the number of these seemingly ranged from 62 to 78 percent of the reported nonfatal injuries. Inclusion of the injuries requiring medical attention consequently increases the frequency rate for the nonfatal injuries from 22 to 38 percent over the rate published in other studies of the Bureau, in which the rates were based on disabling injuries only. Proper allowance must therefore be made when comparing the rates for Government employees with other rates.

The increase in nonfatal rates, however, supports conclusively the suggestions which have appeared in the annual reports of the United States Employees' Compensation Commission about the desirability of a well-directed and sustained accident-prevention program in the Federal civilian service.

While this class of employment is ordinarily considered as essentially clerical, and consequently not subject to special accident hazards, large divisions of the work involve dangers fully comparable to those encountered in many of the most hazardous private enterprises.

Notable among these is the Forest Service of the Department of Agriculture, in which numbers of workers are employed in connection with the suppression of forest fires, the Reclamation Service of the Department of the Interior and the Engineer Department of the Army, with large numbers of employees engaged in construction work.

Work in the arsenals of the War Department and the navy yards of the Navy Department is comparable in danger with similar work in private industries. Work of a manual character is also performed in other branches of the Federal service but, with two exceptions, safety regulations for the manual workers as well as for the clerical employees are left to the discretion of the individuals or of the supervisors.

One of the two exceptions is the Department of the Navy, which in 1921 established an Office of Safety Engineering, in charge of a department safety engineer and with a local safety engineer in each of the 37 navy yards and stations. Efforts were at first devoted to safeguarding the physical causes of injury—installation of safety devices, elimination of dangerous conditions, and equipment of protective clothing. An educational program was added later, and in 1931 the safety movement was further stimulated through competitive awards. As a result, the frequency rate for the two-thirds of the civilian employees of the Department, which come under the jurisdiction of the Office of Safety Engineering, has been greatly reduced

each year. In 1929 reports were received of 20.59 disabling injuries per 1,000,000 man-hours work, in 1930 of 17.69, in 1931 of 16.08, and in 1932 of 10.06.⁷

A large portion of the work performed in navy yards equals that of foundries and machine shops in private industry. The frequency rate obtained by the Bureau of Labor Statistics for this industry was 33.69 in 1929, 26.50 in 1930, 26.09 in 1931, and 23.79 in 1932, decidedly higher than the rates for the navy yards and other naval stations. Shipbuilding, another of the activities, also presents considerably higher rates in private industry—23.59 in 1929, 29.66 in 1930, 36.89 in 1931, and 26.11 in 1932.

The other exception is the Government Printing Office, where health and safety provisions for employees have been carefully developed and maintained by the administration, with the assistance of an efficiently organized hospital department under the direction of a medical and sanitary officer. Complete physical examination, including tests of vision and hearing, are made of all new employees and physical qualifications are important factors in assigning employees to suitable tasks.

In spite of the manual work performed, the experience of the Government Printing Office shows proportionately fewer injuries, in each year from 1922 to 1932, than in any other branch of the service. Its frequency rates are also considerably less than the average frequency rates quoted by the National Safety Council for its members in the printing and publishing industry, presumably the best-regulated private establishments of similar character. The average frequency rates (per 1,000,000 man-hours) shown by the National Safety Council were 13.52 in 1928, 12.23 in 1929, 9.67 in 1930, 9.12 in 1931, and 6.87 in 1932, and these rates were for disabling injuries only. The frequency rates (per 1,000,000 man-hours) computed for the Government Printing Office were 3.94 in 1928, 4.62 in 1929, 4.96 in 1930, 3.34 in 1931, and 3.67 in 1932. These rates, however, included injuries requiring only medical attention other than first-aid treatment, so are approximately 30 percent higher than if computed on the same basis as the rates of the National Safety Council.

⁷ According to later information the rate was reduced to 7.06 disabling injuries per 1,000,000 man-hours worked in 1933.

Table 1 shows the number of fatal and nonfatal accidents reported to the United States Employees' Compensation Commission, and frequency rates for these, computed on the basis of man-hour exposure as obtained from the respective departments for all Government services, from 1921 to 1932. Table 2 gives the same information for 1932 for different branches of the service. The number of employees shown in the tables is the average number for each department as reported by the Civil Service Commission, but is not used for computing the rates.

TABLE 1.—NUMBER OF INJURIES AND INJURY FREQUENCY RATES IN ALL BRANCHES OF THE FEDERAL CIVILIAN SERVICE, 1921 TO 1932

[Based on number of injuries reported to United States Employees' Compensation Commission]

Year	Average number of employees	Number of injuries			Frequency rates (per 1,000,000 hours' exposure)		
		Fatal	Non-fatal ¹	Total	Fatal injuries	Nonfatal injuries ¹	Total
1921-32.....		3, 578	260, 100	263, 678	0. 24	17. 66	17. 90
1921.....	567, 757	344	18, 046	18, 390	. 28	14. 85	15. 13
1922.....	542, 562	349	17, 910	18, 259	. 30	15. 36	15. 66
1923.....	543, 404	265	17, 727	17, 992	. 22	15. 03	15. 25
1924.....	555, 265	268	20, 270	20, 538	. 22	16. 96	17. 18
1925.....	565, 323	305	20, 386	20, 691	. 25	16. 57	16. 82
1926.....	568, 990	263	19, 264	19, 527	. 21	15. 56	15. 77
1927.....	574, 751	358	20, 189	20, 547	. 29	16. 38	16. 67
1928.....	587, 017	307	21, 882	22, 189	. 24	17. 41	17. 65
1929.....	601, 150	334	25, 356	25, 690	. 26	19. 71	19. 97
1930.....	598, 644	292	25, 777	26, 069	. 23	20. 12	20. 35
1931.....	611, 729	262	28, 176	28, 438	. 21	22. 40	22. 61
1932.....	583, 427	231	25, 117	25, 348	. 19	21. 12	21. 31

¹ Includes medical cases.

TABLE 2.—NUMBER OF INJURIES AND INJURY FREQUENCY RATES IN VARIOUS BRANCHES OF THE FEDERAL CIVILIAN SERVICE IN 1932, BY DEPARTMENTS AND SERVICES

Branch of Service	Number of employees	Number of injuries			Frequency rates (per 1,000,000 hours' exposure)		
		Fatal	Non-fatal	Total	Fatal injuries	Non-fatal injuries	Total
Department of Agriculture.....	27, 280	31	3, 427	3, 458	0. 55	60. 86	61. 41
Department of Commerce.....	19, 829	9	555	564	. 22	13. 79	14. 01
Government Printing Office.....	4, 897	1	36	37	. 10	3. 57	3. 67
Department of Interior.....	17, 302	10	1, 262	1, 272	. 29	36. 45	36. 74
Department of Labor.....	5, 723	4	123	127	. 39	12. 02	12. 41
Department of the Navy.....	47, 064	36	1, 096	1, 132	. 39	12. 01	12. 40
Post Office Department.....	287, 032	34	8, 107	8, 141	. 05	13. 35	13. 40
Department of the Treasury.....	52, 438	11	1, 080	1, 091	. 12	11. 31	11. 43
Department of War.....	49, 863	64	7, 064	7, 128	. 65	71. 98	72. 63
District of Columbia.....	10, 584	-----	700	700	-----	34. 33	34. 33
Other services.....	61, 415	31	1, 667	1, 698	. 25	13. 30	13. 55

Iron and Steel Industry

A REVIEW of the data on accidents in the iron and steel industry in the quarter of a century during which the Bureau of Labor Statistics has been collecting data, reveals some very interesting trends.

Since 1907 a remarkable decline has taken place in accident rates in this industry. In that year 82.06 workers were being killed or injured for every 1,000,000 man-hours worked and 6.9 days' working time was being lost by injured employees for every 1,000 man-hours worked. Since that year the general tendency in both severity and frequency of accidents has been downward, although in occasional years the rates have swerved upward. Considerable increases in the frequency of accidents took place from 1911 to 1912, from 1915 to 1917, and from 1927 to 1929. Minor increases occurred from 1919 to 1920, from 1921 to 1923, from 1930 to 1931, and from 1932 to 1933. Large increases in time loss (indicating a greater severity of accidents) took place from 1911 to 1913 and from 1915 to 1917, while slight rises were shown from 1921 to 1924, from 1925 to 1926, from 1928 to 1929, and from 1932 to 1933.

The periods showing increases in rates were also characterized by increased activity in the industry, indicating that expansion in operations has been an important factor in the rise of injury rates, possibly augmented by changes in methods.

During the course of the 27-year period covered by the present review the number of accidents per 1,000,000 man-hours worked had been reduced 75.6 percent (from 82.06 to 20.06), while the time lost through accident, per 1,000 man-hours, had been cut 65.6 percent (from 6.90 to 2.38 days). The year 1932 witnessed the attainment of an all-time low mark as regards frequency of accident in this industry. The lowest point yet recorded for severity of accidents occurred in 1928 when only 2.15 days per 1,000 man-hours worked were lost as a result of accident; the year 1932, while not equaling the record of 1928, was very close to it, with a time loss of 2.19 days per 1,000 hours' exposure.

While these changes were taking place in the accident record of the industry as a whole, the trends in the individual departments of the industry were by no means uniform, even though generally in the downward direction. The best record in lowering the number of accidents was shown by the Bessemer converters, where the frequency rate was reduced from 134.09 in 1907 to only 3.25 in 1929 (a year when the rate for the industry as a whole rose sharply). While the rate for that department had since that time advanced to 11.62 in 1932, it dropped to 9.69 in 1933, so was still 92.8 percent below the 1907 level. Other remarkable declines in frequency rates had taken place in the plate mills (from 113.64 in 1907 to 11.93 in 1930 and 13.63 in 1933) and in unclassified rolling mills (from 113.74 in 1910 to 17.46 in 1930 and 20.58 in 1933).

Because of lack of detailed data during the earlier years, the changes in rates from 1907 to 1933 can be determined for only 10 departments. Table 1 shows the frequency and severity rates for these and for the other departments for the earliest available years and for 1933.

TABLE 1.—FREQUENCY AND SEVERITY RATES IN THE IRON AND STEEL INDUSTRY—COMPARISON OF CURRENT AND EARLIEST RATES AVAILABLE

Department and year	Frequency rates (per 1,000,000 hours' exposure)	Severity rates (per 1,000 hours' exposure)	Department and year	Frequency rates (per 1,000,000 hours' exposure)	Severity rates (per 1,000 hours' exposure)
The industry:			Woven wire fence:		
1907.....	82.06	6.90	1915.....	65.29	1.72
1933.....	20.06	2.38	1933.....	12.66	3.02
Blast furnaces:			Nails and staples:		
1907.....	101.32	16.03	1915.....	41.83	3.32
1933.....	15.14	5.65	1933.....	7.19	1.82
Bessemer converters:			Axle works:		
1907.....	134.09	5.35	1915.....	38.39	3.39
1933.....	9.69	4.11	1933.....	28.79	.76
Open-hearth furnaces:			Car wheels:		
1907.....	104.45	14.49	1915.....	22.28	.98
1933.....	14.52	4.10	1933.....	40.28	2.38
Foundries:			Docks and ore yards:		
1907.....	64.96	3.46	1915.....	26.08	2.41
1933.....	44.25	3.20	1933.....	2.86	.03
Heavy rolling mills:			Puddling mills:		
1907.....	65.26	4.85	1917.....	47.07	1.65
1933.....	10.18	1.69	1933.....	62.93	1.45
Plate mills:			Forge shops:		
1907.....	113.64	9.08	1917.....	80.30	4.40
1933.....	13.63	3.12	1933.....	27.84	2.37
Sheet mills:			Power houses:		
1907.....	42.81	4.10	1917.....	16.40	4.40
1933.....	20.27	2.29	1933.....	5.11	.25
Tube mills:			Hot mills:		
1907.....	96.32	3.12	1923.....	43.45	1.51
1933.....	15.84	1.15	1933.....	17.26	1.77
Fabricating shops:			Cold rolling:		
1907.....	94.34	9.50	1926.....	38.92	1.21
1933.....	42.76	3.74	1933.....	21.36	1.92
Mechanical departments:			Crucible furnaces:		
1907.....	84.05	3.96	1930.....	39.21	1.18
1933.....	11.66	2.43	1933.....	10.74	.45
Yards:			Electric furnaces:		
1907.....	66.72	7.50	1930.....	35.12	3.07
1933.....	10.51	1.96	1933.....	62.87	.67
Unclassified rolling mills:			Wire springs:		
1910.....	113.74	4.98	1930.....	29.91	2.32
1933.....	20.58	2.11	1933.....	34.26	.87
Wire drawing:			Stampings:		
1910.....	77.53	4.28	1930.....	23.58	2.02
1933.....	13.23	2.24	1933.....	41.67	2.58
Electrical departments:			Galvanizing and tinning:		
1910.....	62.69	4.20	1932.....	6.23	.75
1933.....	7.41	3.01	1933.....	9.33	.81
Bar mills:			Cold drawing:		
1915.....	60.33	1.91	1932.....	26.82	3.99
1933.....	8.77	1.37	1933.....	23.45	1.21
Rod mills:			Bolts and nuts: 1933	22.59	1.44
1915.....	38.63	1.21	Miscellaneous:		
1933.....	14.29	5.34	1907.....	75.59	5.17
			1933.....	18.18	2.18

While the exposure for the individual years is of considerable volume, it is naturally affected by local and temporary conditions, such as a catastrophic occurrence. A more satisfactory picture of the trend in accident rates, therefore, is presented by combining exposures and accidents for several years. Table 2, which shows a 5-year moving average for the industry as a whole and for specified important departments from 1907 to 1933, affords a comparison of the relation between these departments and the industry.

Comparison of the first period, 1907-11, with that of 1929-33 shows that the industry as a whole and all of the specified departments, except foundries, present a notable reduction in frequency rates. Practically continuous decreases were shown by the industry as a whole and by all the departments covered, except foundries.

Foundries show a relatively low rate for the early period (53.17), but the rate advanced during the next six periods and reached 70.12 in 1913-17. While it declined again, the decrease did not keep pace with that of other departments, and the 1933 rate was more than double the average rate for the entire industry.

Severity rates declined from 1907-11 to 1928-33 in the industry as a whole and also in all of the specified departments.

The period 1929-33, as compared with the period 1928-32, shows an increase in frequency rates for the industry as a whole and for 3 departments, but with decreases for the other 4 departments and increases in severity rates for the industry as a whole and for all the specified departments.

TABLE 2.—ACCIDENT RATES FOR THE IRON AND STEEL INDUSTRY AND FOR SPECIFIED IMPORTANT DEPARTMENTS, BY 5-YEAR PERIODS

Frequency rates (per 1,000,000 hours' exposure)

Period	The industry	Blast furnaces	Bessemer converters	Open-hearth furnaces	Foundries	Heavy rolling mills	Plate mills	Sheet mills
1907-11	69.2	70.69	104.88	83.12	53.17	61.31	69.71	47.92
1908-12	65.1	56.21	101.20	80.52	58.74	56.51	91.08	51.83
1909-13	62.1	61.48	95.70	76.57	63.14	60.98	55.90	51.34
1910-14	59.22	59.16	89.79	76.42	63.59	46.02	49.94	51.02
1911-15	54.85	51.97	77.71	69.28	65.21	39.41	44.66	48.07
1912-16	53.84	50.35	76.13	68.16	67.69	37.25	41.54	47.37
1913-17	49.92	45.63	68.27	60.11	70.12	32.14	36.61	41.32
1914-18	44.28	41.24	60.43	54.05	64.74	31.13	39.81	35.81
1915-19	41.66	38.96	57.66	50.56	62.81	33.95	39.25	32.72
1916-20	41.04	37.72	55.11	47.35	63.18	31.41	38.43	33.72
1917-21	39.67	35.54	46.94	44.85	63.11	29.87	37.58	33.43
1918-22	36.73	34.03	36.98	41.56	60.44	27.63	36.65	35.21
1919-23	35.21	32.74	30.55	36.33	61.76	24.24	31.44	35.75
1920-24	33.83	30.61	24.90	32.82	62.72	21.45	29.33	34.88
1921-25	31.45	28.96	18.32	30.14	63.12	18.61	26.77	33.03
1922-26	30.74	28.65	16.74	28.43	62.70	17.06	25.59	30.40
1923-27	27.70	27.37	14.96	25.57	61.19	15.15	21.33	25.29
1924-28	25.04	25.23	11.97	22.32	57.82	13.05	18.49	23.93
1925-29	24.22	22.80	8.66	20.06	57.19	10.81	16.91	22.82
1926-30	22.27	22.38	8.71	17.57	51.02	9.94	15.28	19.39
1927-31	21.08	20.84	7.06	16.24	47.60	9.76	14.35	18.15
1928-32	21.06	19.77	7.42	15.62	45.78	9.78	15.11	18.58
1929-33	21.21	18.72	7.54	15.59	45.59	10.04	15.26	18.02

Severity rates (per 1,000 hours' exposure)

1907-11	5.0	8.55	7.54	7.47	3.16	4.60	5.11	2.83
1908-12	4.3	7.88	6.86	7.32	3.51	4.32	6.18	2.72
1909-13	4.4	7.67	6.74	6.98	3.71	4.01	3.90	2.75
1910-14	3.79	7.04	6.43	6.68	3.65	3.78	3.78	2.58
1911-15	3.49	6.37	5.30	5.98	3.86	3.42	3.14	2.21
1912-16	3.57	6.10	6.18	5.83	3.76	3.46	2.85	2.27
1913-17	3.60	5.75	7.15	5.39	4.01	3.61	2.59	2.10
1914-18	3.49	5.53	6.96	6.14	3.74	3.82	2.61	1.78
1915-19	3.58	6.03	7.01	6.56	3.56	4.14	2.57	1.60
1916-20	3.45	5.67	6.28	6.09	3.23	3.47	2.59	1.82
1917-21	3.32	5.45	5.42	5.82	3.17	3.28	2.53	1.75
1918-22	3.07	5.49	3.95	5.33	2.69	2.85	2.47	1.88
1919-23	2.87	4.98	3.25	4.67	2.66	2.46	2.44	2.09
1920-24	2.76	4.50	2.74	4.16	2.74	2.37	2.35	2.16
1921-25	2.69	4.64	3.24	4.03	3.03	2.64	2.53	1.95
1922-26	2.74	4.72	4.05	4.66	3.16	2.68	2.60	1.82
1923-27	2.62	4.62	4.20	4.78	3.18	2.65	2.54	1.50
1924-28	2.49	4.51	4.18	4.42	2.98	2.51	2.25	1.43
1925-29	2.41	3.92	4.05	4.43	3.02	2.22	2.39	1.48
1926-30	2.39	3.95	3.79	4.43	2.90	2.08	2.23	1.42
1927-31	2.35	3.74	2.60	3.93	2.86	2.08	2.12	1.51
1928-32	2.34	3.53	2.92	3.80	2.82	1.99	2.11	1.73
1929-33	2.39	3.51	3.35	3.94	3.09	2.05	2.40	1.79

Experience of Selected Group of Establishments

A DECIDED contrast to the experience of the industry as a whole is presented by the data covering the special group of establishments for which separate frequency rates have been published yearly, as these show an increase in frequency rates from 5.3 in 1927 to 9.1 in 1933.

Except for 1916, the frequency rates for this group showed a continuous decline from 1913 to 1927, and it is therefore somewhat surprising that gradual increases have occurred since then in this special group that embodies the best practices and the most pronounced success in accident prevention. Even in 1933, however, after slight increases in 6 successive years, the frequency rate for this group was only 9.1, as against 18.1 for the industry as a whole.

Table 3 presents the experience of the six companies included in the group, by the principal product of each company and for the entire group, by years, from 1913 to 1933.

TABLE 3.—ACCIDENT FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) FOR A SELECTED GROUP OF PLANTS, 1913 TO 1933, BY PRODUCT AND YEAR

Year	Fabricated products	Sheets	Wire and its products	Tubes	Miscellaneous steel products		Total
					Group A	Group B	
1913	100.3	61.6	59.3	27.2	70.9	41.3	60.3
1914	59.0	47.2	46.2	12.5	50.7	27.6	43.5
1915	53.5	37.3	52.4	10.8	51.9	23.0	41.5
1916	52.1	34.0	48.2	12.4	67.6	28.2	44.4
1917	51.3	33.9	32.5	10.2	51.3	20.5	34.5
1918	38.2	28.9	18.8	9.1	42.0	31.4	28.8
1919	32.8	25.8	12.5	9.1	39.7	23.0	26.3
1920	35.3	22.7	12.0	8.9	35.3	18.6	23.1
1921	28.4	17.5	7.5	6.1	15.8	12.1	13.2
1922	33.8	16.9	7.9	7.1	14.5	10.8	13.1
1923	32.6	17.2	7.9	7.0	13.9	9.8	12.8
1924	33.4	10.3	6.2	5.1	11.8	7.9	10.2
1925	27.4	11.4	4.2	4.0	9.8	3.7	8.2
1926	24.3	9.4	3.9	3.6	6.6	3.8	6.8
1927	18.0	8.4	3.5	2.5	5.1	2.7	5.3
1928	19.7	8.7	4.0	2.3	5.3	2.4	5.6
1929	21.4	10.7	3.1	3.0	5.3	3.2	6.2
1930	21.3	6.0	5.0	3.8	9.0	7.3	7.7
1931	24.0	7.4	4.4	5.0	8.4	7.4	7.8
1932	24.5	8.2	5.2	3.8	10.1	6.7	8.1
1933	18.8	10.0	7.2	3.9	11.2	8.7	9.1

In order to get a more intimate view of the changes which have occurred in these establishments since the safety movement was inaugurated, it is necessary to consider not only the frequency rates for the various companies but also the changes in the rates for causes of accidents. As shown in table 4, a notable decline occurred in the rate of accidents for each of the general-cause groups from 1913 to 1933.

TABLE 4.—ACCIDENT FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) IN A SELECTED GROUP OF PLANTS, 1913 AND 1933, BY CAUSE OF ACCIDENT

Cause of accident	Frequency rates (per 1,000,000 hours' exposure)		Percent of decrease
	1913	1933	
All causes.....	60.3	9.1	84.9
Machinery.....	7.3	2.1	71.2
Vehicles.....	2.3	.4	82.6
Hot substances.....	5.4	.6	88.9
Falls of persons.....	4.5	1.0	77.8
Falling material, not handled by injured.....	1.2	.1	91.7
Hand tools and handling of objects.....	26.7	4.0	85.0
Miscellaneous.....	12.9	.9	93.0

Handling of objects was responsible for nearly half of the injuries in both 1913 and 1933. During the interval the frequency rate for this principal cause group dropped from 26.7 to 4.0 injuries per 1,000,000 hours' exposure, a decrease of 85.0 percent. The decreases for the other cause groups ranged from 71.2 to 93.0 percent, while the general average reduction was 84.9 percent.

A more extended analysis of the accident causes is presented in table 5 which shows the frequency rates in detail, by cause, for 1913 (the earliest year for which data are available) and by year from 1920 to 1933. An analysis of this kind is extremely valuable for accident-prevention purposes. It indicates the relative importance of the causes, points out the special channels for corrective measures, and also helps to determine whether the accident-reduction effort has been successful in all phases of the various processes.

TABLE 5.—ACCIDENT FREQUENCY RATES (PER 1,000,000 HOURS' EXPOSURE) FOR A SELECTED GROUP OF IRON AND STEEL PLANTS, 1913 AND 1920 TO 1933, BY YEAR AND CAUSE OF ACCIDENT

Cause of accident	1913	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
All causes.....	60.3	23.1	13.2	13.1	12.8	10.2	8.2	6.8	5.3	5.6	6.2	7.7	7.8	8.1	9.1
Machinery.....	7.3	3.4	1.9	2.3	2.3	2.0	1.6	1.6	1.3	1.3	1.3	1.5	1.7	1.9	2.1
Other than cranes.....	3.5	1.5	.9	1.1	1.0	.8	.7	.7	.5	.5	.5	.5	.8	.8	.9
Caught in.....	2.5	1.0	.6	.7	.7	.6	.5	.5	.4	.4	.4	.4	.5	.5	.7
Breaking.....	.1	.1	.1	.1	.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Struck by load.....	1.2	.4	.2	.3	.2	.2	.2	.2	.1	.1	.1	.1	.2	.2	.2
Hoisting apparatus.....	3.5	1.9	1.0	1.2	1.3	1.2	.9	.8	.8	.8	.8	1.0	.9	1.1	1.2
Overhead cranes.....	2.8	1.5	.8	1.0	1.1	1.0	.7	.6	.6	.6	.6	.7	.8	.8	1.0
Locomotive cranes.....	.3	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.1	.2	.1
Other.....	.4	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	(1)	(1)	.1	.1
Vehicles.....	2.3	1.1	.5	.4	.6	.5	.3	.3	.2	.2	.2	.3	.2	.3	.4
Hot substances.....	5.4	2.4	1.2	1.1	1.2	.9	.6	.5	.5	.3	.4	.4	.5	.6	.6
Electricity.....	.5	.3	.1	.1	.1	.1	.1	.1	.1	(1)	(1)	(1)	.1	.1	.1
Hot metal.....	3.6	1.7	.9	.7	.9	.6	.4	.3	.3	.2	.3	.3	.3	.4	.4
Steam, hot water, etc.....	1.3	.4	.2	.3	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1
Falls of persons.....	4.5	2.5	1.7	1.5	1.4	1.3	1.1	1.0	.7	.7	.8	1.0	1.0	1.0	1.0
From ladders.....	.3	.1	.1	.1	.1	.1	.1	.1	(1)	(1)	(1)	(1)	.1	.1	.1
From scaffolds.....	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	(1)
Into openings.....	.2	.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	.1
Slipping or stumbling.....	3.8	2.1	1.4	1.3	1.1	1.1	.9	.8	.6	.6	.7	.9	.8	.9	.8
Falling material, not handled by injured.....	1.2	.2	.1	.1	.1	.1	.1	.1	(1)	.1	(1)	.1	.1	(1)	.1
Hand tools and handling of objects.....	26.7	10.4	6.5	5.8	5.4	3.8	3.4	2.9	2.0	2.3	2.7	3.6	3.6	3.5	4.0
Objects dropped in handling.....	11.2	4.4	2.6	2.6	2.3	1.9	1.6	1.2	.9	.9	1.2	1.9	1.8	1.6	1.7
Caught between material.....	3.4	1.3	.7	.6	.7	.5	.4	.3	.2	.3	.3	.7	.7	.8	.7
Hand trucks, etc.....	1.9	.6	.4	.4	.4	.2	.2	.2	.1	.2	.2	.2	.1	.1	.3
Strain in handling.....	2.5	1.1	.8	.8	.5	.3	.3	.3	.2	.2	.2	.2	.2	.2	.3
Objects flying from tools.....	.2	.1	.1	.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Slivers, sharp edges, etc.....	3.8	1.5	1.1	.6	.6	.3	.4	.4	.3	.4	.4	.2	.2	.2	.4
Hand tools.....	3.7	1.4	.8	.7	.8	.6	.5	.5	.3	.3	.4	.4	.6	.6	.6
Miscellaneous.....	12.9	3.1	1.3	1.9	1.8	1.6	1.1	.4	.6	.7	.8	.8	.7	.7	.9
Asphyxiating.....	.3	.1	(1)	(1)	.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	.1
Objects flying from material, striking body.....	.8	.3	.1	.1	.3	.2	.1	.1	.1	.1	.1	(1)	.1	(1)	.1
Objects flying from material, striking eye.....	2.9	1.1	.5	.4	.2	.3	.2	.1	.1	.1	.2	.2	.1	.2	.1
Heat.....	.9	.1	.1	.1	.1	.1	(1)	(1)	.1	.1	.1	.1	.1	(1)	.1
Other.....	8.0	1.5	.5	1.3	1.1	1.0	.8	.2	.3	.4	.4	.5	.5	.4	.5

¹ Less than 1/10 of 1 percent.

Metal Mines

THE United States Bureau of Mines in its report on metal-mine accidents for the year 1932⁸ states that in the calendar year 1932 the metal-mining industry made a more favorable accident-prevention record than in any other year since 1911, when the Bureau first began to publish yearly records of accidents. The accident-frequency rate covering nonfatal injuries was the best ever recorded, and the fatality rate was lower than for any other year except 1928 and 1931.

Due to the unfavorable economic conditions that prevailed during 1932 the number of men employed at the mines was smaller than in previous years, as were also the average number of workdays per man and the total number of man-hours worked by all employees.

The number of workers killed in 1930 was 271, which was 79 less than in 1929, while the actual number of nonfatal injuries was 15,594, or 7,498 less than in 1929. Accidents during 1931 resulted in 158 deaths and 8,709 nonfatal injuries. In 1932, 107 deaths and 5,014 nonfatal lost-time accidents were reported. The fatality rate (per 1,000,000 man-hours worked) was lowered from 1.17 in 1930 to 1.01 in 1931, and increased again to 1.16 in 1932. The nonfatal-injury rate diminished steadily from 67.07 in 1930 to 55.76 in 1931 and 54.48 in 1932.

The fatality rate for men employed underground increased slightly in 1932 as compared to 1931, and the injury rate remained stationary; both the fatality and injury rates for open-cut mining increased; the fatality rate for surface employees increased and the injury rate declined.

The following table shows the number of workers employed, the number killed and injured, and fatal and nonfatal injury rates in the different groups of metal and nonmetallic-mineral mines (except coal mines) in 1930, 1931, and 1932.

EMPLOYMENT AND ACCIDENTS IN METAL MINES AND NONMETALLIC-MINERAL MINES (EXCEPT COAL), 1930 TO 1932

Type of mine	Average days active	Men employed		Men killed		Men injured	
		Actual number	Equivalent number of 300-day workers	Number	Per 1,000 300-day workers	Number	Per 1,000 300-day workers
All types..... 1930	270	103,233	92,900	271	2.92	15,594	167.86
Copper.....	298	27,692	27,501	76	2.76	5,321	193.48
Gold, silver, and miscellaneous metal.....	269	27,045	24,252	109	4.49	5,813	239.69
Iron.....	263	29,410	25,744	69	2.68	2,096	81.42
Lead and zinc (Mississippi Valley).....	215	8,524	6,123	10	1.63	1,081	176.55
Nonmetallic mineral.....	264	10,562	9,280	7	.75	1,283	138.25

⁸ United States Bureau of Mines. Bulletin 377: Metal Mine Accidents in the United States During the Calendar Year 1932, by William W. Adams. Washington, 1934.

EMPLOYMENT AND ACCIDENTS IN METAL MINES AND NONMETALLIC-MINERAL MINES (EXCEPT COAL), 1930 TO 1932—Continued

Type of mine	Average days active	Men employed		Men killed		Men injured	
		Actual number	Man-hours worked	Number	Rate per 1,000,000 hours' exposure	Number	Rate per 1,000,000 hours' exposure
1931							
All types.....	231	80,940	156,177,859	158	1.01	8,709	55.76
Copper.....	258	19,687	41,019,314	51	1.24	2,580	62.90
Gold, silver, and miscellaneous metal.....	248	24,343	48,632,722	58	1.19	3,825	78.65
Iron.....	202	21,786	39,121,025	28	.72	774	19.78
Lead and zinc (Mississippi Valley).....	189	6,175	9,463,502	10	1.06	689	72.81
Nonmetallic mineral.....	227	8,949	17,941,296	11	.61	841	46.88
1932							
All types.....	208	53,288	92,038,326	107	1.16	5,014	54.48
Copper.....	240	9,555	18,608,421	23	1.24	859	46.16
Gold, silver, and miscellaneous metal.....	237	21,094	40,165,270	61	1.52	2,988	74.39
Iron.....	148	11,954	15,908,514	7	.44	264	16.59
Lead and zinc.....	171	3,999	5,531,228	9	1.63	375	67.80
Nonmetallic mineral.....	201	6,686	11,824,893	7	.59	528	44.65

In 1932 South Dakota employed 1,473 men for 3,829,054 man-hours without a fatal accident. The best nonfatal-injury record for 1932 was achieved in Minnesota, where the frequency rate was 14.06 injuries per million man-hours of exposure. The total number of men employed in mining in that State was 3,511, and they worked 6,258,736 man-hours with only 88 lost-time accidents.

Metallurgical Works

ACCORDING to a report by the United States Bureau of Mines on accidents in the metallurgical industry,⁹ the safety activities of the operating companies resulted in 1932 in a reduction of industrial accidents which exceeded the decrease in employment. The average death rate for the industry in 1932 was 0.43 per thousand 300-day workers, as against 0.56 in 1931 and the average nonfatal-injury rate was reduced from 48.36 per thousand 300-day workers in 1931 to 45.31 in 1932.

The following table shows the number of workers employed, the number killed and injured, and fatal and nonfatal-accident rates in 1931 and 1932, by type of plant. Ore-dressing plants include stamp mills, sampling works, slime plants, lixiviation, leaching, cyanide, and flotation mills. Smelting plants include blast, reverberatory, and roasting furnaces, converters, casting department, and refineries. Iron blast furnaces are not included. Auxiliary works include yards, shops, construction, etc.

⁹ United States Bureau of Mines. Technical Paper 557: Accidents at Metallurgical Works in the United States During the Calendar Year 1932, by William W. Adams. Washington 1934.

EMPLOYMENT AND ACCIDENTS AT METALLURGICAL PLANTS IN THE UNITED STATES, 1931 AND 1932

Industrial group and year	Average days active	Men employed		Men killed		Men injured	
		Actual number	Equivalent number of 300-day workers	Number	Per 1,000 300-day workers	Number	Per 1,000 300-day workers
Ore-dressing plants:							
1931.....	260	8,867	7,699	6	0.78	439	57.02
1932.....	215	5,925	4,248	0	-----	259	60.97
Smelting plants:							
1931.....	315	11,993	12,595	6	.48	601	47.72
1932.....	276	8,920	8,197	7	.85	330	40.26
Auxiliary works:							
1931.....	316	8,078	8,513	4	.47	353	41.47
1932.....	269	6,719	6,029	1	.17	248	41.13

Petroleum

THE annual summary of injuries in the petroleum industry for 1932, published by the Department of Accident Prevention of the American Petroleum Institute, states that in the previous 6 years the frequency rate (the number of disabling injuries per million hours worked) had been reduced 60 percent, and the severity rate (the number of days lost, as a result of such injuries, per thousand hours worked) had been reduced 28 percent.

It is clearly shown that this reduction was a decided financial saving to the industry. The total number of injuries reported in 1932 was 6,949, but, had injuries occurred in 1932 at the rate prevailing in 1927, the number would have been increased by 10,698. It is estimated that the average cost of a disabling injury in the petroleum industry is \$300, and on that basis the 60-percent reduction in the number of injuries means a saving of \$3,209,400 in the year 1932 alone.

An aggregate of 565,760,000 man-hours worked during 1932 was reported to the institute by 101 companies, with a total of 6,949 disabling injuries and a time loss of 1,078,629 days. Consequently, the average frequency rate for 1932 was 12.28, as compared with 14.14 for 1931, a decrease of 13 percent, while the severity rate for 1932 was 1.91, as compared with 2.06 for 1931, a decrease of 7 percent.

The departments included by the institute under its classification of the industry consist of refining, marketing, production, natural gasoline, pipe line, marine, and miscellaneous, and the figures obtained by it cover the clerical help as well as the wage earners. The following table shows the number of fatal and nonfatal disabling injuries reported by the 101 companies in 1932, with frequency and severity rates, by departments:

FATAL AND NONFATAL DISABLING INJURIES IN THE PETROLEUM INDUSTRY, 1932, BY DEPARTMENTS

[Frequency rates based on 1,000,000 hours' exposure, severity rates on 1,000 hours' exposure]

Department	Number of man-hours	Fatal cases ¹			Nonfatal cases			Total cases		
		Number	Frequency rates	Severity rates	Number	Frequency rates	Severity rates	Number	Frequency rates	Severity rates
All departments.....	565,760,000	125	0.22	1.33	6,824	12.06	0.58	6,949	12.28	1.91
Refining.....	146,082,000	43	.29	1.77	1,273	8.72	.53	1,316	9.01	2.30
Marketing.....	231,178,000	27	.12	.70	2,007	8.68	.26	2,034	8.80	.96
Production.....	91,930,000	36	.39	2.35	2,292	24.93	1.38	2,328	25.32	3.73
Natural gasoline.....	9,885,000	3	.30	1.82	149	15.08	1.49	152	15.38	3.31
Pipe line.....	35,241,000	8	.23	1.36	602	17.08	.87	610	17.31	2.23
Marine.....	15,843,000	5	.32	1.89	232	14.64	.67	237	14.96	2.56
Miscellaneous.....	35,598,000	3	.08	.50	269	7.56	.22	272	7.64	.72

¹ Includes permanent total disability.² Not exact sum of items, but as given in report.

Portland Cement Manufacturing

STATISTICS of injuries occurring in the cement manufacturing industry in 1932, compiled by the Portland Cement Association and published in its Accident Prevention Magazine for the second quarter of 1933, shows a reduction in both frequency and severity rates in 1932 as compared with 1931.

Table 1 shows the accident experience for the industry, by years, for the 5-year period 1928 to 1932, converted to conform to the standard measurement of 1,000,000 man-hours' exposure for frequency rates and 1,000 man-hours' exposure for severity rates.

TABLE 1.—NUMBER OF INJURIES AND ACCIDENT FREQUENCY AND SEVERITY RATES IN CEMENT MANUFACTURING, 1928 TO 1932, BY YEARS

[Frequency rates are based on 1,000,000 hours' exposure, severity rates on 1,000 hours' exposure]

Year	Number of establishments reporting	Number of man-hours	Fatal cases			Nonfatal cases			Total cases		
			Number	Frequency rates	Severity rates	Number	Frequency rates	Severity rates	Number	Frequency rates	Severity rates
1928.....	136	85,796,645	33	0.38	2.31	877	10.23	1.41	910	10.61	3.72
1929.....	138	75,739,429	37	.49	2.93	686	9.06	1.28	723	9.55	4.21
1930.....	128	69,727,954	18	.26	1.55	420	6.02	.92	438	6.28	2.47
1931.....	100	38,069,084	17	.45	2.68	197	5.17	.63	214	5.62	3.31
1932.....	112	27,939,634	5	.18	1.07	125	4.47	.73	130	4.65	1.80

The average frequency rate for the industry shows a constant decline throughout the period and, like the average severity rate, dropped to an all-time low level in 1932. The severity rate, however, fluctuated considerably from year to year, indicating that minor injuries are being controlled at a faster rate than the more severe accidents.

A total of 57 out of the 112 establishments reporting for 1932 completed the year without a disabling injury, while 30 others reported only 1 injury each.

A distribution is shown in table 2, by nature of injury and by cause, of the injuries given for 1932 in table 1, together with 10

other injuries listed on reports that were not included in the former tabulation.

TABLE 2.—DISTRIBUTION OF INJURIES IN CEMENT MANUFACTURING, 1932, BY NATURE OF INJURY AND CAUSES OF ACCIDENTS

Item	Number of cases	Item	Number of cases
All injuries.....	140	Causes of accidents—Continued.	
Nature of injury:		Explosions.....	7
Fatalities.....	6	Falling objects.....	21
Permanent partial disabilities.....	16	Falls.....	30
Fractures.....	33	Flying material.....	9
Severe cuts, bruises, burns, etc.....	46	Heat.....	2
Infections.....	9	Hot substances.....	8
Eye injuries, temporary.....	8	Machinery.....	8
Minor cuts, bruises, burns, etc.....	22	Objects handled.....	14
Causes of accidents:		Strains from lifting.....	5
Caught between objects.....	13	Trucks, rolling stock, etc.....	1
Cement dust.....	3	Other causes.....	14

Quarries

THE quarry industry, according to the most recent report on quarry accidents issued by the Bureau of Mines,¹⁰ is making fair progress in accident prevention and safety work in spite of serious economic difficulties experienced by most companies during 1932. By reducing the fatality rate to a figure below that for 1931 the quarry industry established the best accident rate thus far achieved for fatal accidents. The rate for nonfatal accidents was also more favorable than that in any year for which complete records are available.

Employment as measured by number of workers declined 18 percent, and as measured by man-hours 30 percent, between 1931 and 1932. Average working time during 1932 was 195 days or 1,648 man-hours. Fatal accidents numbered 32, and nonfatal lost-time injuries, 3,574, giving a fatality rate of 0.34 and an injury rate of 38.14 per million man-hours of exposure.

Table 1 gives fatality and injury rates by severity of injury, from 1923 to 1932. As accident rates per million man-hours of exposure are not available for years prior to 1931, rates in this table are shown per thousand 300-day workers. Average figures for the 5-year period 1923-27 reveal an accident rate for the quarry industry of 170.6 per thousand 300-day workers, a rate which for the 5-year period 1928-32 had been reduced 30.7 percent, or to 118.1.

TABLE 1.—FATALITY AND INJURY RATES IN QUARRY INDUSTRY, PER THOUSAND 300-DAY WORKERS, BY SEVERITY OF INJURY, 1923 TO 1932

Severity of injury	Total 1923-27	1928	1929	1930	1931	1932	Total 1928-32
All injuries.....	170.586	131.411	129.782	109.761	106.038	97.336	118.138
Fatal.....	1.720	1.463	1.646	1.532	1.179	.884	1.406
Permanent total.....	.165	.160	.065	.175	.309	.054	.152
Permanent partial ¹	5.004	4.279	3.853	3.692	3.652	2.915	3.785
Temporary ²	163.697	125.509	124.218	104.362	100.898	93.503	112.795
Average number of 300-day workers per year.....	83,607	81,325	76,559	68,531	51,755	37,047	63,043

¹ Permanent total disability: Loss of both legs or arms, 1 leg and 1 arm, total loss of eyesight, paralysis or other condition permanently incapacitating workman from doing any work of a gainful occupation.

² Permanent partial disability: Loss of 1 foot, leg, hand or eye, 1 or more fingers, 1 or more toes, any dislocation where ligaments are severed, or any other injury known in surgery to be permanent partial disability.

³ Disability for more than remainder of day of accident.

¹⁰ United States Bureau of Mines. Bulletin 376: Quarry Accidents in the United States During the Calendar Year 1932, by William W. Adams. Washington, 1934.

Table 2 shows the number of men employed, number killed, and the number injured in the quarry industry, 1911-30 by 5-year periods, and 1926-32 by years.

TABLE 2.—NUMBER OF MEN EMPLOYED, NUMBER KILLED AND INJURED, AND FATAL AND NONFATAL INJURY RATES IN QUARRIES, 1911 TO 1932

Period or year	Average days active	Men employed		Men killed		Men injured	
		Actual number	Equivalent number of 300-day workers	Number	Per 1,000 300-day workers	Number	Per 1,000 300-day workers
1911-15 (average).....	240	103,803	83,206	182	2.19	7,438	89.39
1916-20 (average).....	259	80,682	69,630	146	2.10	11,161	160.29
1921-25 (average).....	263	86,967	76,377	136	1.78	13,247	173.44
1926-30 (average).....	268	87,705	78,277	128	1.64	10,891	139.13
1926.....	271	91,146	82,361	154	1.87	13,201	160.28
1927.....	271	91,517	82,609	135	1.63	13,459	162.92
1928.....	272	89,667	81,325	119	1.46	10,568	129.95
1929.....	268	85,561	76,559	126	1.65	9,810	128.14
1930.....	255	80,633	68,531	105	1.53	7,417	108.23
1931.....	224	69,200	51,755	61	1.18	5,427	104.86
1932.....	195	56,866	37,047	32	.86	3,574	96.47

The apparently low rate for nonfatal injuries in the period 1911-15 is attributed to incomplete data for the years 1911-13 concerning minor injuries.

Falls or slides of rock or overburden were the leading cause of fatal injuries, but ranked seventh as a cause of nonfatal injuries. Other principal causes of death were explosives, machinery, and falling objects. Nonfatal injuries were chiefly due to handling material, flying objects, machinery, falls of persons, and haulage.

Table 3 shows the percentage of fatalities and nonfatal injuries for 1932, by causes, segregated according to place of occurrence.

TABLE 3.—PERCENTAGE DISTRIBUTION OF CAUSES OF FATAL AND NONFATAL INJURIES IN THE QUARRY INDUSTRY, 1932, WITH FREQUENCY RATES

Cause of accident	Number killed				Number injured			
	Percent of—		Per million man-hours		Percent of—		Per million man-hours	
	Grand total	Class total	Grand total	Class total	Grand total	Class total	Grand total	Class total
Open quarry:								
Fall or slides of rock or overburden.....	18.75	35.29	0.064	0.171	5.79	10.18	2.209	5.894
Handling material.....					17.15	30.14	6.541	17.454
Hand tools.....					2.74	4.82	1.046	2.790
Explosives.....	12.50	23.52	.043	.114	1.09	1.92	.416	1.111
Haulage.....	6.25	11.77	.021	.057	4.70	8.26	1.793	4.783
Falls of persons.....	6.25	11.77	.021	.057	4.69	8.06	1.750	4.670
Falling objects (other than 1 and 2).....					1.87	3.29	.715	1.902
Flying objects.....					7.41	13.03	2.828	7.545
Electricity.....	6.25	11.77	.021	.057	.34	.59	.128	.342
Drilling and channeling (by machine or hand).....					2.83	4.96	1.078	2.876
Machinery.....	3.12	5.88	.011	.028	3.81	6.68	1.451	3.872
Stepping on nails, etc.....					.31	.54	.117	.313

TABLE 3.—PERCENTAGE DISTRIBUTION OF CAUSES OF FATAL AND NONFATAL INJURIES IN THE QUARRY INDUSTRY, 1932, WITH FREQUENCY RATES—Continued

Cause of accident	Number killed				Number injured			
	Percent of—		Per million man-hours		Percent of—		Per million man-hours	
	Grand total	Class total	Grand total	Class total	Grand total	Class total	Grand total	Class total
Open quarry—Continued.								
Boiler and air-tank explosions.....					0.08	0.15	0.022	0.085
Burns.....					.45	.79	1.171	.456
Other causes.....					3.75	6.59	1.430	3.815
Total.....	53.13	100.00	0.181	0.484	56.91	100.00	21.705	57.914
In outside works:								
Haulage.....					2.24	5.63	.854	1.451
Machinery.....	15.63	38.46	.053	.091	5.35	13.43	2.038	3.464
Hand tools.....					3.02	7.59	1.153	1.958
Stepping on nails, etc.....					.70	1.76	.267	.453
Electricity.....	9.38	23.08	.032	.055	.63	1.34	.203	.345
Falls of persons.....	3.12	7.69	.011	.018	3.97	9.99	1.515	2.575
Falling objects (rocks, timbers, etc.).....					2.91	7.31	1.110	1.886
Flying objects.....	3.12	7.69	.011	.018	6.27	15.75	2.390	4.062
Handling materials.....					7.36	18.49	2.807	4.769
Burns.....	6.25	15.39	.021	.036	2.18	5.49	.832	1.414
Other causes.....					5.26	13.22	2.006	3.409
Total.....	40.62	100.00	.139	.236	39.79	100.00	15.175	25.786
Underground quarry:								
Fall of rock from roof or wall.....					.28	8.47	.107	2.905
Rock while loading at working face or chute.....	3.12	50.00	.011	.290	.75	22.88	.238	7.844
Hand tools.....					.25	7.63	.096	2.615
Explosives.....					.03	.85	.011	.290
Haulage.....	3.12	50.00	.011	.290	.31	9.32	.117	3.196
Falling down chute, winze, raise, or slope.....					.14	4.24	.053	1.453
Run of rock from chute or pocket.....					.17	5.08	.064	1.743
Drilling.....					.25	7.63	.096	2.615
Electricity.....					.03	.85	.011	.290
Machinery (other than locomotives or drills).....					.20	5.93	.075	2.034
Mine fires.....								
Suffocation from natural gases.....								
Inrush of water.....								
Stepping on nails, etc.....								
Handling materials (other than rock).....					.25	7.63	.096	2.615
Other causes.....					.64	19.49	.245	6.682
Total underground (excluding shaft).....	6.25	100.00	.021	.581	3.30	100.00	1.259	34.282
Total underground (including shaft).....	6.25	100.00	.021	.581	3.30	100.00	1.259	34.282
Grand total.....	100.00		.341		100.00		38.139	

Steam Railways

ACCORDING to a summary and analysis of railway accidents, published by the Bureau of Statistics of the Interstate Commerce Commission, for the calendar year 1932, 4.19 persons were killed and 15.89 were injured per 1,000,000 locomotive-miles in train and train-service accidents on steam railways in the United States during 1932, as compared with 3.71 persons killed and 15.32 injured during 1931.

Train accidents were responsible for 183 deaths and 997 nonfatal injuries, including 63 deaths and 326 nonfatal injuries to employees on duty. Train-service accidents accounted for 4,341 deaths and 16,160 nonfatal injuries, of which 367 deaths and 6,861 nonfatal injuries were sustained by employees on duty. Nontrain (including industrial) accidents resulted in 223 deaths and 12,062 nonfatal injuries, of which 127 deaths and 10,227 nonfatal injuries occurred to employees on duty. Nonfatal injuries to employees include only those causing disability of more than 3 days.

The total number of deaths in all types of accidents was 4,747 in 1932, as against 5,099 in 1931, a decrease of 6.9 percent. The total number of nonfatal injuries in all types of accidents was 29,219 in 1932, as against 35,656 in 1931, a decrease of 18.05 percent. Locomotive-miles dropped from 1,308,807,762 in 1931 to 1,079,670,099 in 1932, a decrease of 17.51 percent, a larger decline than shown for fatalities but smaller than shown for nonfatal injuries.

The number of employees killed while on duty in either train, train-service, or nontrain accidents declined from 488 in 1931 to 430 in 1932, or 11.89 percent, while the number injured declined from 9,433 in 1931 to 7,187 in 1932, a decrease of 23.81 percent. Man-hours for all employees are not available, but man-hours for class I roads dropped from 2,930,657,000 in 1931 to 2,286,561,000 in 1932, a decrease of 21.98 percent.

Part of the summary, showing the total number of persons and the number of employees on duty killed and injured in 1931 and 1932, by type of accident and cause, is shown in the following table:

PERSONS KILLED AND INJURED IN STEAM-RAILWAY ACCIDENTS IN THE UNITED STATES, 1931 AND 1932

Type of accident, and cause	Total persons				Employees on duty			
	Killed		Injured		Killed		Injured	
	1931	1932	1931	1932	1931	1932	1931	1932
Train accidents:								
Collisions.....	39	34	485	358	33	30	169	117
Derailments.....	108	77	583	526	42	26	189	171
Locomotive-boiler accidents.....	8	3	8	5	8	3	8	5
Other locomotive accidents.....	0	1	6	3	0	1	3	3
Miscellaneous.....	74	68	126	105	9	3	45	30
Total, train accidents.....	229	183	1,208	997	92	63	414	326
Train-service accidents:								
Coupling or uncoupling cars or locomotives.....	12	20	394	307	12	20	394	307
Coupling or uncoupling air hose.....	13	9	175	123	13	9	175	123
Operating locomotives.....	7	6	1,406	1,042	7	6	1,406	1,042
Operating hand brakes.....	18	12	824	593	18	12	824	593
Operating switches.....	0	2	245	210	0	2	245	210
Contact with fixed structures.....	60	71	335	284	18	17	232	165
Getting on or off cars or locomotives.....	447	520	4,096	3,946	28	34	1,879	1,549
Accidents at highway grade crossings.....	1,720	1,445	4,533	3,911	13	9	33	36
Struck or run over, not at public crossings.....	1,730	1,590	1,022	911	165	128	179	139
Miscellaneous.....	617	666	5,819	4,833	122	130	3,652	2,697
Total, train-service accidents.....	4,624	4,341	18,840	16,160	396	367	9,019	6,861
Total, train and train-service accidents.....	4,853	4,524	20,057	17,157	488	430	9,433	7,187
Accident rate (train and train-service) per 1,000,000 locomotive-miles.....	3.71	4.19	15.32	15.89	0.37	0.40	7.21	6.66
Total nontrain (including industrial) accidents.....	246	223	15,599	12,062	156	127	13,521	10,227
Grand total, all accidents.....	5,099	4,747	35,656	29,219	644	557	22,994	17,414
Percent of decrease in total accidents, 1931-32.....	6.90	6.90	18.05	18.05	13.51	13.51	24.14	24.14

Telegraph Messengers ¹¹

THE Advisory Committee on Employment of Minors in Hazardous Occupations, appointed in connection with the White House Conference on Child Health and Protection, requested the United States Children's Bureau to make a special inquiry into the accident experience of messengers and errand boys. The inquiry was confined to telegraph messengers in view of the practical difficulties of obtaining such information for errand and delivery boys, most of whom are employed by small grocery stores and similar establishments, of which few, if any, keep records adequate for the purpose of such a study. All of the telegraph messengers are employed by two large companies, the Western Union Telegraph Co. and the Postal Telegraph Co., both of which have a complete and accurate system of records relating to their injured employees.

The Western Union Co. tabulates annual statistics of accidents to messengers and calculates the ratio of accidents per 100 messengers employed, grouping together all accidents, including those as a result of which no time is lost from work. The Postal Telegraph Co. compiles an annual summary of accidents occurring to all its employees but does not distinguish between messengers and others. As the information compiled by the companies was insufficient for the purpose of the present inquiry, an analysis of the records of accidents occurring in 1 year to messengers employed by the two companies was made by the Children's Bureau. The most recent year for which complete records were available (1931) was selected for study. The selected year is not in all respects representative, however, for conditions for street safety appear to have been unusually favorable in 1931.

According to information furnished by the two telegraph companies together they employed in the United States in the early part of 1932 some 17,000 messengers. Of these, the companies stated, approximately two-thirds were bicycle messengers, 30 percent were foot messengers, and 4 percent used motorcycles or automobiles as a method of transportation.

Lost-time Accidents in 1931

Number of injuries and extent of disability.—According to the analysis of the records of the companies made by the Children's Bureau, 1,570 lost-time accidents occurred to telegraph messengers during 1931—1,067 to Western Union messengers and 503 to Postal Telegraph messengers. A little more than half of the injuries resulted in disability of 7 days or less; the rest (735) involved longer and more serious disabilities. These included 6 deaths, at least 12 permanent injuries, and 192 disabilities of at least 1 month's duration (table 1).

¹¹ Abstract of article on Accidents to Telegraph Messengers, by Ellen Nathalie Matthews, of the United States Children's Bureau, in the Monthly Labor Review, January 1934, p. 14.

TABLE 1.—EXTENT AND DURATION OF DISABILITY FROM LOST-TIME INJURIES SUSTAINED BY MESSENGERS EMPLOYED BY THE WESTERN UNION AND POSTAL TELEGRAPH COS. DURING 1931

Extent and duration of disability	Lost-time injuries					
	Western Union Co.		Postal Telegraph Co.		Total	
	Number	Percent	Number	Percent	Number	Percent
All lost-time injuries.....	1, 067		503		1, 570	
Extent and duration reported.....	1, 044	100	500	100	1, 544	100
Disability of 7 days or less.....	541	52	268	54	809	52
Disability of 8 days or more.....	503	48	232	46	735	48
Fatal.....	4	(¹)	2	(¹)	6	(¹)
Permanent partial disability.....	8	1	4	1	12	1
Disfigurement.....	2	(¹)	3	1	5	(¹)
Other.....	6	1	1	(¹)	7	1
Temporary disability.....	491	47	226	45	717	46
8 days and under 1 month.....	361	35	164	33	525	34
1 month and under 3 months.....	114	11	56	11	170	11
3 months or more.....	16	2	6	1	22	1
Extent and duration not reported.....	23		3		26	

¹ Less than 1 percent.

Injuries and types of service.—Foot messengers suffered the fewest accidents in proportion to the number employed; motorcycle messengers, the most. The ratio of lost-time accidents to Western Union messengers in 1931 was 4 per 100 for foot messengers, 11 per 100 for bicycle messengers, and 44 per 100 for motorcycle messengers. Such information as is available for the Postal Telegraph Co. indicates the same trend. According to officials of the latter company, the accident rate for motorcycle messengers (based on all accidents, including those in which no time was lost) has been found to be as high as 75 per 100, in consequence of which the use of motorcycles was being eliminated as fast as possible and automobiles substituted.

Not only in frequency, but also in severity, accidents to foot messengers are the least serious. All the six fatalities shown in the Children's Bureau analysis occurred either to bicycle messengers (4) or to motorcycle messengers (2). These groups were the worst sufferers also in the length of time the messengers were disabled following their accidents.

Causes of accidents.—Motor vehicles were the most frequent causes of accidents to messengers in general, and also to all groups of mounted messengers. All the fatalities, half of the permanent injuries, and all but 2 of the 22 temporary injuries lasting 3 months or more were caused by automobiles or trucks. Falls caused the largest number of accidents to foot messengers. Fifty-five percent of the injuries to bicycle messengers, the largest occupational group, resulted from the bicycle's being struck by or colliding with an automobile or truck, and 38 percent resulted from the messenger's being thrown from his bicycle through some accident occurring to the bicycle itself, such as skidding on a wet pavement, catching in car tracks, or breaking of some part of the machine. However, where the bicycle itself was reported as the cause of accident, motor vehicles were at times indirectly responsible, as the accidents occurred as a result of the messenger being forced out of his course or having to change his course quickly in order to get out of the way of a larger and faster-moving vehicle.

Amounts received by injured messengers.—The average sum paid in accident benefits or compensation by the Western Union Co. was \$19.30. The compensation for 37 percent of the injuries was less than \$5; for 80 percent, less than \$25; and for only 3 percent, \$100 or more. In considering these figures it should be borne in mind that a large proportion of the injured messengers receiving benefits from this company had not been incapacitated for more than 7 days. The average payments made to Postal Telegraph messengers were somewhat larger, because the company paid benefits only to those whose disability lasted 7 days or longer.

The benefits paid reflect, of course, the low wages paid immature workers in an occupation requiring no skill, special training, or previous experience. A weekly wage of less than \$10 was received by 61 percent of the Western Union messengers and by 53 percent of the Postal Telegraph messengers injured in 1931.

Relation Between Accidents and Cost of Building Construction

AN ESTIMATE that the total cost of industrial accidents in the construction industry amounts to over a quarter of a billion dollars a year was presented at the general meeting of the National Conference on Construction, held in Washington, October 13–14, 1932, in a report of the Committee on Elimination of Waste and Undesirable Practices.

The direct losses for which employees are compensated were figured by the committee as over \$54,000,000 a year, based on \$7,000,000,000 worth of new construction yearly, allowing 40 percent as the cost of labor and applying the average insurance premium rate and the average paid-claim ratio. The additional cost of the indirect losses—loss of employee's time, stoppage of work, shifting of men and foremen, investigating the accidents, loss in morale, repairing property damage, minor noncompensable injuries, etc.—were placed at four times the direct losses, the ratio ordinarily accepted for industry, though it was stated that certain checks on construction accidents indicated it to be even higher.

It was pointed out that the costs of building operations are seriously affected, in addition to the human misery and suffering involved and the burden imposed on society by these accidents, and that the number of both fatalities and less serious injuries has been growing. The trouble, according to the committee, is that progress in mechanical methods has not been accompanied by a corresponding development in supervisory methods. The real causes of the accidents are not known, and the industry has no practical plan for accident prevention. While this industry has an excellent educational safety program, it does less actual accident-prevention work than some other industries, such as steel, textile, food, clothing, and mining, although the hazards equal or even exceed the hazards of such industries.

The committee advised that the remedy consists in the systematic and orderly combination of accident-prevention work with supervisory routine, on a basis of facts recorded in a more intimate, regular, and effective manner. It stated that faulty instruction, lax discipline,

unsafe practices, inattention, and physical and mental impairment, or inefficiency are some of the real causes, and produce 88 percent of all injuries. According to a survey, faulty instruction alone (no instruction and instruction not enforced) is responsible for nearly 50 percent of the injuries. These causes, the committee declared, are the very things which construction executives are able to control, and do control in relation to quality, speed, and volume of the work. It was suggested that safety practices be made a part of the task of foremen and superintendents, not simply in the passive role of reporting accidents but in the active role of preventing them, and that they should be rated with some reference to their safety records.

The report referred to the efforts of some associations, which have resulted in gratifying reductions of accidents for their members, but stated that, in the last analysis, the problem calls for specific action by the individual employer himself. He must, through cooperation with his insurance carrier, analyze accident-producing conditions, determine the real cause of the predominating injuries, place responsibility upon his executive and supervisory staff for the correction of such causes, make an issue of the matter, and follow through until satisfactory improvement is made.

Safety Codes and Standard Safe Practices

AMONG the most important developments in the promotion of accident prevention and safety in industry is the movement to establish and enforce safety codes and standard safe practices.

Early laws dealing with industrial accidents concerned themselves in most instances with specific hazards, generally in relation to machine operation. The scope of safety legislation was limited to requiring the installation of mechanical safeguards on certain types of machines or to the regulation of power transmission. This left an enormous field of potential accidents still unprotected, and while perhaps injuries resulting from dangerous machines decreased in number, industrial accidents as a whole not only did not decrease but steadily increased with the growth of industry and increased production. The rigidity of the prevailing type of law, dealing as it did only with mechanical safeguards, made it impossible to keep pace with changing equipment and standards, and at the same time tied the hands of the enforcing agents whose jurisdiction was limited to the administration of a specific statute.

That condition still exists in many States, but most of the leading industrial States have adopted a plan which permits flexibility and progress, and are thus freed from the deterring effects of specific legislation. This plan is the conferring of legislative authority upon the State agency administering the labor laws as a whole or the workmen's compensation act, granting to that agency power to adopt and enforce safety rules and regulations and to issue orders having the same force as legislative enactments. This is done by the passage through the State legislature of an enabling act which confers wide powers upon the State department in dealing with industrial safety.

Authority to issue regulations complementing the labor laws is held to some degree by a number of State labor agencies, but its

importance in relation to accident prevention is especially marked in California, Massachusetts, New Jersey, New York, Ohio, Pennsylvania, and Wisconsin, where authority is exercised by the formulation, promulgation, and enforcement of safety codes, and the development of safe practices.

A variation of this plan, which might be considered a midway stage in the evolution from the early practice of fixed legislation to the new idea of promulgating flexible codes, was adopted by the 1932 session of the Virginia Legislature. A safety code commission was created, consisting of a commissioner of labor, a member of the industrial commission (administering the workmen's compensation act) and the State health commissioner. The duty of the code commission as set forth in the law is to study and investigate all phases of safety in industry and to make recommendations to the legislature, for enactment into law, of industrial safety measures.

General advisory committees composed of employers, employees, and representatives of the State labor agency constitute the code-making bodies in the States using the code method. If possible, technical experts and safety engineers are included. Where a scientific staff is employed by the State department of labor, as in New York, Ohio, and Pennsylvania, these technically trained men serve in an advisory and consultative relation to the code-making bodies. Research work and analysis of actual accidents in the fields to be covered are also assigned to the scientific bureaus, to aid in the determination of proper measures and standards.

Research work in connection with code-making and accident-prevention programs is carried on by a number of agencies, both Federal and State. Accident investigations are primarily research to determine causes as a means of prevention—to establish, for example, whether a guard failed or why it failed, whether the guard provided was inadequate or in itself constituted a hazard. The accident investigations made by the Interstate Commerce Commission, the United States Bureau of Mines, and the United States Steamboat Inspection Service, are directed primarily toward determination of causes and location of danger points and failures; fixing responsibility is a secondary consideration. Similarly, accident statistics as compiled by the Bureau of Labor Statistics, the Interstate Commerce Commission, the Bureau of Mines, and the various statistical bureaus of State labor agencies, have a definite place in planning safety codes and in furnishing a basis for intensive work on the danger spots shown by the figures.

Another important phase of research is the laboratory and experimental work conducted by scientific agencies. Much of the safety efforts of the Bureau of Mines center around its work in the experimental field. Studies and tests of explosives used in mining have resulted in the development of "permissible explosives" which reduce the danger of fire and dust explosions. Surveys and experiments involving mine equipment, lighting, ventilation, and safe practices in general are constantly conducted by and through the 11 experiment stations of the Bureau of Mines throughout the country, and in the experimental mine which it owns and operates.

Dust explosions in manufacturing plants, grain elevators, flour mills, and other establishments subject to dust hazards, have been extensively studied by the Bureau of Chemistry and Soils of the

United States Department of Agriculture, which has developed methods of prevention.

National Safety Codes

OUT of the diversity of safety codes and regulations as adopted locally by the code-making States grew the movement for national codes which is promoted by scientific, engineering, and industrial organizations, acting through the American Standards Association and the American Society of Safety Engineers, which is the engineering section of the National Safety Council, and by the International Association of Industrial Accident Boards and Commissions and the International Association of Governmental Labor Officials, which are semipublic organizations composed of officials of State compensation commissions and State labor departments.

The American Standards Association is a national industrial standardization body composed of representatives of trade associations, technical societies, and departments of the Federal Government. The chief purpose of the organization is to bring together manufacturers, distributors, consumers, technical specialists, regulatory bodies, and any others directly concerned with a particular standardization project, providing a procedure under which these agencies may work together to establish standards satisfactory to all. A large part of the work of the American Standards Association has been in the safety code field.

The Bureau of Labor Statistics, chiefly through its membership in the associations of administrators of safety laws, takes an active part in the effort to secure general recognition and adoption of the national safety codes. While in no case have the codes promulgated by unofficial agencies been accepted as standard for State use in entirety, several States have adopted such of the provisions, in whole or in part, as meet their needs. Oklahoma and Utah, for example, make fairly wide use of the American Standards Association codes. New Jersey and Pennsylvania accept national codes as standard, and modify them in drafting their own codes to meet local conditions and needs. In a few less industrial States—Iowa and Kansas among them—where legislation or lack of it leaves the inspectors considerable latitude in issuing safety orders, the standards set by the national codes are used as the basis for the corrections and improvements in existing working conditions which the factory inspectors direct. In still others the use of the national program by State agencies is confined to the educational value attached to scientifically constructed standards.

Industrial safety codes developed by the American Standards Association have been published by the Bureau of Labor Statistics of the United States Department of Labor. The practice in the past in this connection has been to publish codes drawn up by committees on which the Bureau or the Department of Labor holds membership.¹²

¹² Safety codes published as bulletins of the Bureau of Labor Statistics are: No. 336, Safety Code for the Protection of Industrial Workers in Foundries; no. 350, Rules Governing the Approval of Headlighting Devices for Motor Vehicles; no. 351, Safety Code for the Construction, Care, and Use of Ladders; no. 375, Safety Code for Laundry Machinery and Operations; no. 382, Code of Lighting: School Buildings; no. 410, Safety Code for Paper and Pulp Mills; no. 430, Safety Code for Power Presses and Foot and Hand Presses; no. 447, Safety Code for Rubber Mills and Calenders; no. 451, Safety Code for Forging and Hot-Metal Stamping; no. 463, Safety Code for Mechanical Power-Transmission Apparatus—first revision; no. 509, Textile Safety Code; no. 512, Code for Identification of Gas-Mask Canisters; no. 519, Safety Code for Wood-working Plants, as revised 1930; no. 527, Safety Code for the Use, Care, and Protection of Abrasive Wheels; no. 556, Code of Lighting: Factories, Mills, and Other Work Places (revision of 1930); no. 562, Safety Codes for the Prevention of Dust Explosions.

The Bureau of Standards of the United States Department of Commerce, which has been active in promoting a national safety program, and has been represented on code-drafting committees, particularly in connection with electricity and gas appliances, has published some of the American standard codes affecting workers which the American Standards Association has adopted.

Code Standards for Safety and Health in Manufacturing Industries and in Mercantile Establishments

THE codes adopted under the National Industrial Recovery Act generally contained provisions requiring employers to provide safe and healthful conditions of employment. The customary clauses regulating this obligation were the following:

Every employer shall provide for the safety and health of his employees during the hours and at the place of their employment.

Standards for safety and health shall be submitted by the code authority to the Administrator for approval within 6 months after the effective date of the code.

In office order 71 of March 14, 1934, the manner in which the provision is to be executed was outlined. To assist the individual code authorities in meeting these requirements the Committee on Standards for Safety and Health in the National Recovery Administration¹³ approved the following minimum standards for safety and health in manufacturing industries, to which were to be added any additional standards required for the specific hazards of the individual industry, and in mercantile establishments.

Minimum Standards for the Safety and Health of Workers in Manufacturing Industries

General provisions.—These requirements shall not supersede any legal requirement which stipulates higher standards.

The minimum requirements set forth shall apply to all installations made after the date of adoption of these regulations, and to all existing installations and conditions which are not in accordance with these regulations, provided that where safety equipment has been provided, such equipment may remain in use until such time as it needs to be replaced, upon a proper showing to the Administrator that the devices afford adequate protection.

The code authority, subject to the approval of the Administrator, may modify these requirements in particular cases only where the regulations are shown for any reason to be impracticable and/or not warranted by the protection afforded, provided equivalent or better protection is secured by other means.

In all cases where a specific safety code is cited as minimum requirements, it is understood that such a code is subject to revision according to subsequent developments, and that any changes shall be acted upon by the code authority within 30 days after the receipt of such revision. All action shall be reported to the Administrator for approval.

In practically all establishments certain special operations are necessary which are not actual operations belonging to the individual industry. Where this occurs, the safety and health standards for the specific industries of which they are a part shall be observed for such operations.

1. *Lighting.*—Minimum requirements for the illumination of manufacturing operations shall be in accordance with the suggested regulations in part 3 of the Code of Lighting: Factories, Mills, and Other Work Places (A-11), approved by the American Standards Association.

¹³ For the appointment, purpose, and make-up of this committee, see *Monthly Labor Review*, April 1934 (p. 805).

2. *Ventilation, temperature, humidity, and air space.*—Suitable atmospheric conditions shall be maintained in workrooms, by natural or artificial means, to avoid stagnant or vitiated air, excessive heat or cold, too rapid variations of temperature, excessive humidity or dryness, and insufficient air supply, as well as harmful drafts. Specific rules shall be provided for each industry.

3. *Sanitation.*—Minimum requirements for drinking water, cleanliness of workrooms, disposal of waste, personal-service rooms, toilet facilities, washing facilities, dressing rooms, and lunch rooms shall be in accordance with the provisions of the Safety Code for Industrial Sanitation in Manufacturing Establishments (Z-4), approved by the American Standards Association.

4. *Fire prevention and protection.*—(a) All factory buildings shall be provided with at least two exits from each floor. These shall be remote from each other and be clearly marked.

(b) Buildings of more than two stories in height and having only one inside stairway shall be provided with an outside stairway. All wall openings along the stairway or directly below it shall be protected by self-closing solid doors or wire-glass windows.

(c) Inside stairways should preferably be enclosed for their entire length with walls of masonry or other fire-resistive material.

(d) Exit doors shall remain unlocked during working hours.

(e) Fire doors shall be kept free from all obstructions.

(f) Buildings constructed after the effective date of these regulations shall be provided with exits in accordance with the Building Exits Code (A-9), approved by the American Standards Association.

(g) All factory buildings shall be provided with some means for fire extinguishment. Such equipment shall conform to the standards of the National Fire Protection Association.

(h) All processes involving serious explosion and flash-fire hazards shall be conducted in segregated buildings, where the equipment should be arranged so that only a few employees are exposed to the hazard at one time—except as prescribed in regulations for particular industries.

(i) Flammable liquids having a flash point less than 100° F., in quantities exceeding 5 gallons, shall be stored only in separate buildings of fire-resistive construction, or in rooms of fire-resistive construction isolated from the remainder of the building by fire walls and self-closing fire doors, except as prescribed in regulations for particular industries.

(j) Electric wiring and equipment shall be installed in conformity with the National Electrical Code (C-1), approved by the American Standards Association.

(k) Tall brick or concrete chimneys, and buildings housing large quantities of explosives, shall be equipped with lightning rods conforming to the Code for Protection Against Lightning (C-5), approved by the American Standards Association.

5. *Dust, fumes, and gases.*—All dust, fumes, and gases incident to industrial operations shall be removed at the source whenever possible, and discharged in such manner that injury to persons or property is averted and no nuisance is created. Minimum requirements for such removal from workrooms shall be in accordance with the provisions of Rules Relating to the Removal of Dust, Gases, and Fumes, adopted by the New York Department of Labor, November 20, 1930.

6. *Contact with poisonous or harmful materials or substances.*—All workers exposed to possible external or internal contact with poisonous or other harmful material or substances shall be furnished suitable personal protective equipment, such as gloves, boots, aprons, special garments, tight-fitting goggles, respirators, or hoods. Where possible injury to the heads or eyes is involved, the mechanical protection of such parts shall be in accordance with the Safety Code for the Protection of the Heads and Eyes of Industrial Workers (X-2), approved by the American Standards Association.

7. *Machine guarding.*—(a) Minimum requirements for the safeguarding of moving parts of equipment used in the mechanical transmission or power, including prime movers, intermediate equipment, and driven machines, but excluding points of operations, shall be in accordance with the provisions of the Safety Code for Mechanical Power Transmission Apparatus (B-15), approved by the American Standards Association.

(b) Points of operation of working machines shall be properly safeguarded, not only to protect the operator but also to protect others who might come in contact with same, including careless or thoughtless persons. Hand tools, for

the purpose of eliminating hazards at points of operations, shall be provided when practical, and in such event the use of such hand tools shall be mandatory. Specific rules shall be provided for each industry.

8. *Machines and hand tools.*—(a) Machines shall not be operated with guards or shields removed, nor when any protective equipment is not functioning properly. Employees shall be instructed to report promptly any defective machinery.

(b) Handles of hand tools shall be sound, tight, and free from splinters, sharp edges, and roughness.

(c) The use of defective tools, such as mushroomed chisels, and wrenches with sprung jaws is prohibited.

9. *Protective clothing against physical injuries.*—(a) Suitable types of protective clothing in good condition shall be furnished to workers exposed to injury hazards from physical contact with materials, such as goggles for protection against flying objects or metal splashes, safety hats or helmets, and safety shoes for protection against falling objects, fire-resisting leggings for protection against molten metal, leather or asbestos aprons for protection against fire, gloves for protection against sharp edges, splinters, or electric shocks, etc.

(b) Safety belts shall be furnished for protection against falls during dangerous overhead work.

10. *Safeguarding of other working equipment.*—(a) Minimum requirements for the installation, operation, and maintenance of electrical wiring and equipment, aside from the fire hazard, shall be in accordance with the provisions of the National Electrical Safety Code (C-2), approved by the American Standards Association.

(b) Minimum requirements for the construction, operation, and maintenance of elevators, dumbwaiters, and escalators shall be in accordance with the provisions of the Safety Code for Elevators, Dumbwaiters, and Escalators (A-17), approved by the American Standards Association.

(c) Minimum requirements for the construction and use of ladders shall be in accordance with the provisions of the Safety Code for the Construction, Care, and Use of Ladders (A-14), approved by the American Standards Association.

11. *Housekeeping and operating rules.*—(a) Aisles and passageways shall be kept clean, and free of materials, containers, rubbish, or other obstructions. If not otherwise obvious, aisle limits shall be plainly marked.

(b) Foremen shall be instructed to utilize artificial light before daylight fades to the intensity of the artificial light.

(c) Lighting fixtures shall be cleaned often enough to keep the intensity of illumination above the prescribed minimum values. Where dependence is placed on daylight, windows shall be kept clean enough to fulfill their purpose.

(d) Floors and other walkway surfaces shall be kept in good repair, free from accumulations of oil and water. All dangerous projections from walkways shall be eliminated.

(e) Materials shall be piled so that they will not easily fall, or be displaced by vibration or jolts.

(f) Fire extinguishers shall be kept in operable condition, and protected from freezing. If of the soda-acid type they shall be recharged at least once a year.

(g) Discarded material of an inflammable nature shall be placed in self-closing metal containers which shall be emptied at least once daily.

(h) Flammable material shall not be stored under stairways.

(i) Fire drills should be held periodically in buildings of three or more stories, to avoid panic in the event of fire.

(j) Smoking shall be prohibited in all workrooms or stockrooms of any establishment in which explosives or readily combustible material is used, handled, or stored, and in other places where there is an equal fire hazard.

12. *Building equipment and/or construction.*—(a) Wall openings, floor openings, platforms, runways, and other places from which objects or persons might fall shall be equipped in conformity with the Safety Code for Floor and Wall Openings, Railings and Toeboards (A-12), approved by the American Standards Association.

(b) Where passageways are located over conveyors or moving machinery, bridges with railings shall be provided.

(c) On stairways, ramps, elevator landing platforms, and similar places where slipping may be especially hazardous, the walkway surface shall be provided with a nonslip surface.

(d) Aisles and passageways shall be sufficiently wide to permit the operation of hand trucks without likelihood of striking walls, columns, materials or other objects.

(e) Sufficient space shall be provided around the individual machines or process units to allow for normal operation, adjustments, ordinary repairs, and for materials supplied, in process, or completed.

(f) Suitable seats, with backs where practicable, shall be provided for all workers whose duties can be performed in a sitting posture. Such seats shall be adjusted to provide comfort for the workers.

(g) Requirements relating to steam boilers shall be in accordance with the Boiler Codes of the American Society of Mechanical Engineers.

(h) It is recommended that machinery which might cause unusual vibration or excessive noise be mounted on foundations especially designed for the purpose, as by the use of shock-absorbing material.

13. *Instruction of employees.*—(a) All employees shall be instructed in the hazards incidental to the work engaged in, both in regard to the individual and to fellow workers. Workers who are transferred to other unaccustomed tasks shall be instructed in the hazards incidental to the new class of work.

(b) Workers shall be instructed in the use of and the necessity of using the personal protective equipment provided in these minimum requirements, and employers shall take steps to require the employees to use such equipment.

14. *Medical aid.*—(a) In every establishment where one or more persons are employed, suitable first-aid equipment shall be provided free of expense to the employees and available for use in case of injury.

(b) Employers shall require all employees to apply promptly for first-aid treatment for all injuries sustained at work.

(c) In every establishment one or more persons, in proportion to the size and needs of the establishment, shall have a complete course in first aid, at least equivalent to that prescribed by the United States Bureau of Mines or the American Red Cross, and all employees, so far as practical, shall likewise be given such a course.

(d) In every establishment where 100 or more persons are employed suitable accommodations, for which a physician or a trained nurse shall be responsible, shall be provided for the treatment of persons injured or taken ill on the premises.

15. *Physical examination.*—(a) If exposed to substances hazardous to health, the worker shall be given physical examination at such intervals as to insure that precautions can be taken to safeguard his health. The physical examination shall be performed by some impartial person or agency mutually acceptable to the employers and employees and subject to the disapproval of the Administrator, and means should be taken to insure that conditions found in this physical examination after employment shall not be used to the detriment of the worker.

(b) All workers should be given a physical examination previous to employment and at intervals of not exceeding a year during employment.

16. *Report of injuries.*—(a) Every employer shall keep a record of all injuries which cause death or disability, or require medical attention other than first-aid treatments, received by his/her employees in the course of their employment, on standard forms approved by the Administrator.

(b) Reports of such injuries shall be sent to the code authority on standard forms approved by the Administrator, to be used for analysis of causes and prevention of similar injuries. Reports shall be made available to the Administrator at his request.

Minimum Standards for the Safety and Health of Workers in Mercantile Establishments

General provisions

THESE requirements shall not supersede any legal requirement which stipulates higher standards.

The minimum requirements set forth shall apply to all installations made after the date of adoption of these regulations, and to all existing installations and conditions which are not in accordance with these regulations, provided that where safety equipment has been provided, such equipment may remain in use until such time as it needs to be replaced, upon a proper showing to the Administrator that the devices afford adequate protection.

The code authority, subject to the approval of the Administrator, may modify these requirements in particular cases only where the regulations are shown for any reason to be impracticable and/or not warranted by the protection afforded, provided equivalent or better protection is secured by other means.

In all cases where a specific safety code is cited as minimum requirements, it is understood that such a code is subject to revision according to subsequent developments, and that any changes shall be acted upon by the code authority within 30 days after the receipt of such revision. All action shall be reported to the Administrator for approval.

Special provisions

1. *Lighting.*—The illumination shall be in accordance with the suggested regulations given in part 3 of Code of Lighting: Factories, Mills, and Other Work Places (A-11), approved by the American Standards Association.

2. *Ventilation and sanitation.*—The sanitation and ventilation shall be in accordance with suggested requirements in the Safety Code for Industrial Sanitation (Z-4.1), approved by the American Standards Association.

3. *Manufacturing processes.*—If any manufacturing process is carried on upon the premises of a mercantile establishment, the standards of safety and health applicable to the corresponding manufacturing industry shall be complied with.

4. *Fire prevention and protection.*—(a) All mercantile buildings of more than 2 stories in height shall be provided with at least 2 exits from each floor, 1 of which may be an elevator. These shall be remote from each other and be plainly marked. Exits should be located so that no point on a floor is more than 150 feet from an exit. Exception: Buildings of fire-resistive construction or equipped with automatic sprinklers, with ground plan not exceeding 6,000 square feet.

(b) Inside stairways should preferably be enclosed for their entire length with walls of masonry or other fire-resisting material.

(c) Exit doors shall remain unlocked from the inside during working hours.

(d) Fire doors shall be kept free from all obstructions.

(e) Every hinged door which serves as an exit for more than 30 persons shall open outward, but shall not obstruct the passageway of other exits or from other floors.

(f) Mercantile buildings of more than two stories in height, if not of fire-resistive construction, or equipped with automatic sprinklers, shall be provided with exits and stairways conforming to the requirements of section 22 in the Building Exits Code (A-9), approved by the American Standards Association. All store buildings constructed after the effective date of these regulations shall comply with the above code.

(g) Mercantile buildings shall be provided with some form of fire extinguishment in conformity with the standards of the National Fire Protection Association.

(h) Electric wiring and equipment shall be installed in conformity with parts 1 and 30 of the National Electrical Code (C-1), approved by the American Standards Association.

5. *Elevators and escalators.*—Construction, installation, maintenance, and operation of elevators, dumbwaiters, and escalators shall be in conformity with the requirements of the Safety Code for Elevators, Dumbwaiters, and Escalators (A-17), approved by the American Standards Association.

6. *Building construction and equipment.*—(a) On stairways, ramps, elevator landing platforms, and other places where slipping may be especially hazardous, the walkway surface shall be provided with a nonslip wearing surface.

(b) Steam boilers and other heated pressure vessels shall be in accordance with the Boiler Code of the American Society of Mechanical Engineers.

(c) It is recommended that machinery (such as elevator machines) which might cause unusual vibration or excessive noise be mounted so as to avoid such a condition, as by the use of shock-absorbent material.

(d) Suitable seats, with backs where practicable, shall be provided for all workers whose duties can be performed in a sitting position. Such seats shall be of a type to provide comfort for the workers.

7. *Operating rules.*—(a) Aisles and passageways shall be kept clean and free of materials, containers, rubbish, or other obstructions.

(b) Artificial light meeting the requirements of section 1 shall be turned on before daylight fades to the specified intensity.

(c) Lighting fixtures shall be cleaned often enough to keep the intensity of illumination above the prescribed minimum values. Where dependence is placed on daylight, windows shall be kept clean enough to fulfill their purpose.

(d) Floors and other walkway surfaces shall be kept in good repair, free from accumulations of oil and water. All dangerous projections from walkways shall be eliminated.

(e) Materials shall be piled so that they will not easily fall, or be displaced by vibration or jolts.

(f) Fire extinguishers, fire hose, and automatic sprinklers shall be kept in operable condition. Fire extinguishers shall be protected from freezing, and if of the soda-acid type they shall be recharged at least once a year. The approach to fire hose and fire extinguishers shall be kept free from obstructions. Fire doors shall not be obstructed.

(g) Discarded material of a flammable nature shall be placed in self-closing metal containers which shall be emptied at least once daily.

(h) Flammable material shall not be stored under stairways.

(i) No unnecessary accumulation of combustible materials shall be permitted.

8. *Auxiliary occupations.*—The standards of safety and health established by other code authorities for particular industries shall apply to such work in mercantile establishments as would be included in such other industry if carried on alone, such as packing and unpacking goods, crating, shipping, motor trucking, repair work, storage and warehousing, and public services.

9. *Reports of injuries.*—Records of all injuries or illnesses occurring while at work, which cause death or disability, or require medical attention other than first aid, shall be kept by the employer on standard forms approved by the Administrator, and reports of same made monthly to the code authority, to be used for analysis of causes and accident prevention. Such reports shall be available to the Administrator.

NOTE.—The specific safety codes for individual operations, referred to in these standards, may be obtained from the American Standards Association, 29 West Thirty-ninth Street, New York, N. Y.

INDUSTRIAL DISPUTES

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Strikes and Lockouts in the United States

THE Bureau of Labor Statistics has been compiling statistics of strikes and lockouts in the United States since 1916. As there is no legal requirement for the reporting of such disputes, certain ones undoubtedly escape the Bureau's attention, but it is believed that all the larger and more significant disputes are recorded. The Bureau's compilations do not include strikes or lockouts involving less than 6 persons or lasting less than 1 day. As a matter of recording, it is impossible to treat strikes and lockouts separately.

In November 1934 the Bureau reorganized its work on statistics of strikes and lockouts, changes being made in the collection of source data and in method of interpretation and classification. For purposes of comparison, a revision of the data for all strikes and lockouts since 1927 is being made. Reclassification for the year 1934, which was completed too late for inclusion herein, was published in the January 1936 Monthly Labor Review.

Table 1 indicates the number of strikes and lockouts, number of workers involved, and total man-days idle during each year since 1916. Indexes using 1929 as the base year are also given.

TABLE 1.—STRIKES AND LOCKOUTS, 1916-34

Year	Number of strikes and lockouts		Workers involved in strikes and lockouts		Total man-days idle during strikes and lockouts	Index (1929=100.0)		
	Begin-ning in year	In prog-ress dur-ing year	Begin-ning in year	In prog-ress dur-ing year		Number of strikes and lockouts begin-ning in year	Workers involved in strikes and lockouts begin-ning in year	Total man-days idle during strikes and lockouts
1916.....	3,755	(1)	(1)	(1)	(1)	415.8		
1917.....	4,438	(1)	(1)	(1)	(1)	491.5		
1918.....	3,344	(1)	(1)	(1)	(1)	370.3		
1919.....	3,568	(1)	(1)	(1)	(1)	395.1		
1920.....	3,290	(1)	(1)	(1)	(1)	364.3		
1921.....	2,380	(1)	(1)	(1)	(1)	263.6		
1922.....	1,088	(1)	(1)	(1)	(1)	120.5		
1923.....	1,553	(1)	(1)	(1)	(1)	172.0		
1924.....	1,240	(1)	(1)	(1)	(1)	137.3		
1925.....	1,298	(1)	(1)	(1)	(1)	143.7		
1926.....	1,032	(1)	(1)	(1)	(1)	114.3		
1927.....	734	(1)	349,434	(1)	37,799,394	81.3	* 151.6	378.9
1928.....	629	687	357,145	438,374	31,556,947	69.7	155.0	316.4
1929.....	903	934	230,463	266,305	9,975,213	100.0	100.0	100.0
1930.....	653	674	158,114	160,457	2,730,368	72.3	68.6	27.4
1931.....	894	901	279,299	284,443	6,386,183	99.0	121.2	64.0
1932.....	808	829	242,826	244,144	6,462,973	89.5	105.4	64.8
1933.....	1,562	1,574	812,137	813,134	14,818,846	173.0	352.4	148.6
1934 ¹	1,740	1,770	1,353,608	1,392,860	19,308,650	192.7	587.3	193.6

¹ No information available.

² Preliminary, subject to change as additional information becomes available.

Geographical Location of Strikes and Lockouts

THE State in which disputes occurred and their number by State and geographical region, 1927 to 1933, are given in table 2:

TABLE 2.—STRIKES AND LOCKOUTS BEGINNING IN EACH YEAR, 1927-33, BY STATE AND SECTION OF COUNTRY

State and section	1927	1928	1929	1930	1931	1932	1933	State and section	1927	1928	1929	1930	1931	1932	1933
United States.....	734	629	903	653	894	808	1,562	New Mexico.....	1	---	---	---	1	1	2
Alabama.....	1	---	1	1	1	4	22	New York.....	181	131	179	149	237	220	201
Alaska.....	---	3	---	---	2	---	---	North Carolina.....	7	1	17	5	2	22	25
Arizona.....	1	2	---	---	2	---	2	North Dakota.....	---	---	---	---	---	---	1
Arkansas.....	---	---	---	1	2	---	7	Ohio.....	21	27	41	33	54	36	85
California.....	20	16	28	14	23	24	42	Oklahoma.....	3	3	3	1	6	4	1
Colorado.....	5	5	1	---	4	3	4	Oregon.....	10	6	7	2	7	4	8
Connecticut.....	27	11	13	13	18	21	52	Pennsylvania.....	123	113	184	113	149	109	366
Delaware.....	2	---	3	3	1	---	2	Rhode Island.....	23	9	17	10	20	11	46
District of Columbia.....	---	2	6	4	6	6	14	South Carolina.....	---	---	16	2	1	6	35
Florida.....	6	2	2	3	4	2	7	South Dakota.....	---	---	1	---	1	---	---
Georgia.....	1	1	3	2	3	2	18	Tennessee.....	4	7	6	1	6	4	17
Idaho.....	---	---	2	1	---	---	1	Texas.....	9	5	5	6	12	5	4
Illinois.....	44	40	52	37	38	42	90	Utah.....	1	---	1	---	---	1	1
Indiana.....	16	13	34	20	18	16	18	Vermont.....	1	1	1	1	---	---	4
Iowa.....	6	8	5	5	13	6	9	Virginia.....	1	3	5	3	2	1	18
Kansas.....	1	2	5	1	---	3	3	Washington.....	9	13	10	6	17	7	21
Kentucky.....	12	4	7	29	4	10	8	West Virginia.....	3	---	2	13	32	8	12
Louisiana.....	2	3	8	5	2	6	9	Wisconsin.....	3	8	6	9	13	8	12
Maine.....	3	5	7	7	3	3	6	Wyoming.....	---	3	---	1	---	1	2
Maryland.....	9	8	13	10	8	7	8	Interstate.....	6	10	7	1	2	3	3
Massachusetts.....	70	95	77	45	61	76	157	North of the Ohio and east of the Mississippi.....	587	520	728	524	715	650	1,225
Michigan.....	7	7	16	14	9	9	25	South of the Ohio and east of the Mississippi.....	49	18	60	60	57	61	170
Minnesota.....	11	3	9	6	9	5	9	West of the Mississippi.....	92	81	108	68	120	94	164
Mississippi.....	2	---	1	1	2	2	8	Interstate.....	6	10	7	1	2	3	3
Missouri.....	14	8	17	11	17	13	37								
Montana.....	3	2	4	7	2	5	1								
Nebraska.....	2	---	2	---	---	---	---								
Nevada.....	1	---	---	---	1	1	---								
New Hampshire.....	4	4	3	---	3	8	23								
New Jersey.....	59	46	76	55	77	78	111								

The number of disputes in cities in which 25 or more disputes occurred in any year, 1927 to 1933, is shown in table 3:

TABLE 3.—STRIKES AND LOCKOUTS IN CITIES IN WHICH 25 OR MORE OCCURRED IN ANY YEAR, 1927-33

City	1927	1928	1929	1930	1931	1932	1933	City	1927	1928	1929	1930	1931	1932	1933	
Baltimore, Md....	7	7	10	8	7	6	6	New York, N. Y....	127	90	113	89	167	135	113	
Boston, Mass....	22	24	19	9	11	17	22	Paterson, N. J....	5	10	23	7	12	14	22	
Bridgeport, Conn.	5	3	1	---	2	1	6	Philadelphia, Pa.	23	22	73	33	36	34	98	
Buffalo, N. Y....	3	8	8	2	3	3	21	Pittsburgh, Pa....	8	6	11	9	19	10	17	
Chicago, Ill....	29	11	32	18	21	23	53	Providence, R. I.	9	2	4	5	3	5	11	
Cincinnati, Ohio	---	1	4	3	4	6	5	Rochester, N. Y..	11	2	5	2	5	3	5	
Cleveland, Ohio..	5	10	11	11	3	2	23	San Francisco, Calif.	---	7	2	5	3	4	6	3
Denver, Colo....	2	3	1	---	3	1	3	St. Louis, Mo....	10	5	12	4	10	10	22	
Detroit, Mich....	5	3	10	10	2	3	13	Seattle, Wash....	1	4	2	1	6	3	6	
Fall River, Mass.	8	17	2	5	4	5	14	Springfield, Mass.	---	---	2	2	---	3	3	
Hartford, Conn..	1	1	2	3	---	2	6	Toledo, Ohio.....	---	1	2	2	3	3	7	
Holyoke, Mass..	---	---	3	---	2	1	4	Trenton, N. J....	2	1	6	3	---	2	4	
Jersey City, N. J.	2	3	3	7	6	8	3	Wilkes-Barre, Pa.	8	8	3	3	1	2	7	
Kansas City, Mo.	2	1	2	4	2	5	8	Worcester, Mass..	2	2	1	1	2	2	2	
Lynn, Mass.....	3	15	8	3	3	6	8	Youngstown, Ohio.....	---	1	1	5	5	3	1	
Milwaukee, Wis..	---	2	1	4	7	3	4									
Newark, N. J....	4	9	13	16	8	9	24									
New Orleans, La..	1	2	5	4	1	5	4									

Sex of Workers in Strikes and Lockouts

TABLE 4 shows the number of strikes each year, 1927 to 1933, by sex of workers involved:

TABLE 4.—STRIKES AND LOCKOUTS BEGINNING IN EACH YEAR, 1927-33, BY SEX OF EMPLOYEES

Sex of persons involved	Number of strikes and lockouts beginning in—						
	1927	1928	1929	1930	1931	1932	1933
All persons.....	734	629	903	653	894	808	1,562
Males only.....	587	450	590	488	634	562	732
Females only.....	15	15	22	15	14	15	33
Both sexes.....	132	164	291	150	246	231	797

Causes of Strikes and Lockouts

THE principal causes of the disputes beginning in each year, from 1927 to 1933, are given in table 5:

TABLE 5.—PRINCIPAL CAUSES OF STRIKES AND LOCKOUTS BEGINNING IN EACH YEAR, 1927-33

Cause of dispute	Number of strikes and lockouts beginning in—						
	1927	1928	1929	1930	1931	1932	1933
All causes.....	734	629	903	653	894	808	1,562
Increase of wages.....	142	98	101	62	52	54	309
Decrease of wages.....	57	53	72	122	264	307	136
Increase of wages and decrease of hours.....	43	27	75	53	10	14	107
Decrease of wages and increase of hours.....	1	1	2	4	7	2	2
Other causes involving wages.....	85	113	125	62	157	148	372
Decrease of hours.....	20	6	16	5	6	4	1
Increase of hours.....	3	3	3	1	2	2	2
Other causes involving hours.....	9	5	23	8	6	3	6
Recognition of unions.....	119	71	92	120	116	101	168
Recognition and wages.....	20	22	50	24	36	15	82
Recognition and hours.....	2	2	1	3	3	2	4
Recognition, wages, and hours.....	7	14	26	18	20	7	70
Recognition and other conditions.....	23	16	100	5	37	5	30
General conditions.....	47	17	95	30	18	32	31
Discharge of employees.....	50	53	41	46	42	42	91
Unfair products.....	3	7	2	3	1	—	2
Sympathy.....	23	8	20	12	21	6	10
Jurisdiction and protest.....	13	33	21	28	19	17	16
Other conditions.....	—	75	41	47	77	47	123
Not reported.....	67	—	—	—	—	—	—

Size of Strikes and Lockouts

THE size of disputes classified by number of persons involved is shown in table 6:

TABLE 6.—STRIKES AND LOCKOUTS BEGINNING IN EACH YEAR, 1927-33, CLASSIFIED BY NUMBER OF PERSONS INVOLVED

Number involved	Number of strikes and lockouts beginning in—						
	1927	1928	1929	1930	1931	1932	1933
Total involved.....	734	629	903	653	894	808	1,562
6 to 10 persons.....	83	61	63	64	116	96	74
11 to 25 persons.....	158	155	188	146	181	178	229
26 to 50 persons.....	137	126	160	135	169	162	209
51 to 100 persons.....	112	82	156	88	151	129	268
101 to 250 persons.....	106	71	151	107	137	119	328
251 to 500 persons.....	60	47	86	60	73	61	213
501 to 1,000 persons.....	45	34	46	27	29	31	118
1,001 to 10,000 persons.....	31	49	52	25	34	29	114
Over 10,000 persons.....	2	4	1	1	4	3	9
Not reported.....							

The term "establishment" as used in this report is a working place as distinguished from "company", since the latter term frequently involves many individual or distinct units. Even on this basis such information is very difficult to obtain. Such data as the Bureau has been able to obtain on this subject is shown in table 7:

TABLE 7.—DISTRIBUTION OF STRIKES AND LOCKOUTS BEGINNING IN EACH YEAR, 1927-33, BY NUMBER OF ESTABLISHMENTS INVOLVED

Number of establishments involved	Number of strikes and lockouts beginning in—						
	1927	1928	1929	1930	1931	1932	1933
Total establishments.....	734	629	903	653	894	808	1,562
1.....	453	427	639	460	686	580	1,129
2.....	36	24	38	42	41	45	97
3.....	18	20	37	12	24	23	46
4.....	16	18	9	10	13	19	36
5.....	14	17	46	20	19	12	23
Over 5.....	163	95	134	109	111	129	231
Not reported.....	34	28					

Termination of Strikes and Lockouts

THE number of disputes ending in each year, 1927 to 1933, and the result of their termination is shown in table 8:

TABLE 8.—RESULTS OF STRIKES AND LOCKOUTS ENDING IN EACH YEAR, 1927-33

Result	Number of strikes and lockouts ending in—						
	1927	1928	1929	1930	1931	1932	1933
Total.....	639	656	913	667	880	817	1,544
In favor of employers.....	169	272	367	294	410	353	464
In favor of employees.....	235	197	267	167	241	218	475
Compromise.....	129	160	226	159	186	218	571
Employees returned pending arbitration.....	29	3	3				
Jurisdictional or protest.....		14	33	27	21	16	15
Not reported.....	77	10	17	20	22	12	19

¹ Result of 7 strikes undetermined. ² Results of 16 strikes undetermined. ³ Results undetermined.

Duration and Results of Strikes and Lockouts

A CLASSIFICATION, by States, of disputes beginning in 1933, together with workers affected, and their average duration and results, is shown in table 9. From this table it may be readily ascertained where most strikes occurred, and also how they were settled, as well as their average duration.

TABLE 9.—STRIKES AND LOCKOUTS IN 1933 AND AVERAGE DURATION AND RESULTS, BY STATES

State	Beginning in 1933			Terminated in 1933			
	Number	Workers affected	Average duration (days)	In favor of employers	In favor of workers	Compromised	Otherwise
All States	1,562	812,137		464	475	571	34
Alabama	22	4,313	16	6	7	8	
Arizona	2	307	38			2	
Arkansas	7	595	13	1	1	5	
California	42	19,694	16	13	5	24	
Colorado	4	398	5	3		1	
Connecticut	52	14,239	13	15	15	21	
Delaware	2	310	4	2			
District of Columbia	14	854	11	3	6	1	5
Florida	7	9,105	10	2	2	2	
Georgia	18	6,186	13	10	4	1	1
Idaho	1	13	8			1	
Illinois	90	30,841	17	35	34	18	4
Indiana	18	4,168	12	12	2	4	
Iowa	9	3,608	35	2	3	4	
Kansas	3	40	11	1		2	
Kentucky	8	1,440	17	2	4	2	
Louisiana	9	2,740	12	1	3	5	
Maine	6	405	5	1	3	2	
Maryland	8	5,648	12	4	2	2	
Massachusetts	157	79,619	10	51	45	58	3
Michigan	25	14,209	13	9	10	6	
Minnesota	9	3,648	15	5	1	3	
Mississippi	8	1,957	5	3	2	3	
Missouri	37	11,361	19	14	12	8	2
Montana	1	18	41			1	
New Hampshire	28	16,006	15	5	9	13	1
New Jersey	111	60,977	19	34	34	38	4
New Mexico	2	788	44	1		1	
New York	201	197,908	16	46	71	80	4
North Carolina	25	9,788	13	11	5	8	
North Dakota	1	175	15			1	
Ohio	85	14,952	10	27	32	26	
Oklahoma	1	800	3	1			
Oregon	8	2,691	27	4	1	3	
Pennsylvania	366	255,746	16	82	127	138	8
Rhode Island	46	9,672	12	9	9	26	1
South Carolina	35	10,965	8	17	4	14	
Tennessee	17	2,196	14	9	3	5	
Texas	4	112	11	1	1	2	
Utah	1	20	6	1			
Vermont	4	411	8	3	1		
Virginia	18	3,980	7	4	4	10	
Washington	21	1,608	13	6	5	9	1
West Virginia	12	4,462	9	2	4	6	
Wisconsin	12	867	11	3	3	6	
Wyoming	2	512	11	1		1	
Interstate	3	1,850	19	2	1		

Table 10 is a corollary to table 13, giving the same data by industrial groups that appear in table 13, by States. This table will enable the reader to analyze the severity of industrial disturbances in any particular group.

TABLE 10.—AVERAGE DURATION AND RESULTS OF STRIKES AND LOCKOUTS IN 1933, BY INDUSTRY OR OCCUPATION

Industry or occupation	Beginning in 1933		Average duration (days)	Terminated in 1933			
	Number	Workers affected		In favor of employers	In favor of workers	Compromised	Otherwise
All industries or occupations.....	1,562	812,137	-----	464	475	571	34
Auto, carriage, and wagon workers.....	18	13,048	17	7	3	7	-----
Bakers.....	38	10,769	15	13	14	10	3
Barbers.....	4	1,574	5	-----	2	-----	-----
Brewery workers.....	3	66	20	2	-----	1	-----
Brick and tile workers.....	9	1,399	10	3	3	3	-----
Broom and brush workers.....	2	121	33	1	-----	-----	-----
Building trades.....	113	21,556	15	32	31	39	13
Car builders.....	1	50	5	-----	-----	1	-----
Chauffeurs and teamsters.....	40	26,802	13	18	9	13	-----
Clerks and salesmen.....	4	549	38	-----	1	-----	-----
Clothing.....	347	279,835	16	70	150	118	8
Coopers.....	8	243	14	2	3	1	-----
Electric- and gas-appliance workers.....	13	5,512	9	5	4	4	-----
Farm labor.....	23	16,032	9	10	2	10	2
Fishermen.....	2	84	7	-----	-----	2	-----
Food.....	29	7,353	8	11	7	10	1
Furniture.....	57	10,546	15	17	15	24	1
Glass.....	7	2,231	8	1	1	5	-----
Hotel and restaurant workers.....	8	307	31	3	2	1	1
Iron and steel.....	10	3,532	9	2	3	5	-----
Jewelry.....	8	5,008	24	2	3	2	-----
Laundry.....	8	1,575	8	2	3	3	-----
Leather.....	36	19,012	17	13	14	9	-----
Light, heat, power, and water.....	1	300	3	-----	-----	1	-----
Longshoremen.....	8	2,591	8	2	1	5	-----
Lumber.....	12	1,535	14	4	3	5	-----
Metal.....	91	15,885	16	27	29	32	2
Miners.....	113	167,465	17	41	29	39	2
Motion-picture operators and theatrical workers.....	21	1,211	23	8	2	9	2
Oil and chemical workers.....	4	702	14	-----	1	2	-----
Paper manufacturing.....	11	5,579	14	2	5	4	-----
Pottery.....	3	121	12	1	2	-----	-----
Printing and publishing.....	17	1,014	3	10	1	6	-----
Rubber.....	16	4,622	7	5	3	8	-----
Shipbuilding.....	3	3,666	15	-----	3	-----	-----
Slaughtering, meat cutting and packing.....	11	5,385	8	5	3	3	-----
Steamboatmen.....	1	14	2	1	-----	-----	-----
Stone.....	8	1,010	16	5	2	1	-----
Municipal employees.....	22	6,687	4	11	7	4	-----
Teachers.....	2	229	17	-----	2	-----	-----
Textiles.....	315	135,660	16	91	80	139	2
Tobacco.....	21	10,392	15	4	7	9	-----
Other occupations.....	94	20,335	11	33	24	36	2

The way in which strikes were settled as related to the length of the disputes is given in table 11.

TABLE 11.—NUMBER OF STRIKES AND LOCKOUTS TERMINATED IN 1933, BY RESULT AND PERIOD OF DURATION

Duration	In favor of employers	In favor of employees	Compromised	Otherwise settled	Total
Total.....	464	475	571	34	1,544
1 to 6 days.....	232	223	248	8	711
7 to 14 days.....	99	116	143	8	366
15 to 28 days.....	79	81	99	10	269
29 days and over.....	54	55	81	8	198

Table 12 indicates the average duration of disputes each year, 1927-33, although on a basis not strictly comparable throughout the years.

TABLE 12.—TOTAL AND AVERAGE DURATION OF STRIKES AND LOCKOUTS ENDED IN EACH YEAR, 1927-33

Year	Disputes for which duration is reported	Duration (days)	
		Total	Average per dispute
1927.....	639	15,865	24
1928.....	656	17,997	27
1929.....	913	18,507	20
1930.....	667	12,292	18
1931.....	880	14,154	16
1932.....	817	13,246	16
1933.....	1,544	21,695	14

The classified period of duration of disputes, 1927-33, is shown in table 13.

TABLE 13.—STRIKES AND LOCKOUTS ENDING IN EACH YEAR, BY CLASSIFIED PERIODS OF DURATION, 1927-33

Duration	Number of disputes ending in—							Duration	Number of disputes ending in—						
	1927	1928	1929	1930	1931	1932	1933		1927	1928	1929	1930	1931	1932	1933
Total disputes.....	639	656	913	667	880	817	1,544	14 days.....	10	7	15	17	13	14	40
1 day.....	61	95	139	66	99	127	142	15 to 18 days.....	30	36	42	43	45	54	100
2 days.....	38	56	72	53	75	64	160	19 to 21 days.....	21	13	29	14	37	36	60
3 days.....	49	50	67	54	74	68	104	22 to 24 days.....	18	12	19	18	39	26	50
4 days.....	22	39	46	39	47	33	107	25 to 28 days.....	23	21	28	22	43	42	59
5 days.....	29	27	44	27	52	33	92	29 to 31 days.....	22	14	17	14	17	19	26
6 days.....	45	44	48	32	52	36	106	32 to 35 days.....	26	9	19	15	14	14	28
7 days.....	17	14	37	36	27	34	61	36 to 42 days.....	19	21	26	18	25	28	38
8 days.....	18	13	29	36	28	17	48	43 to 49 days.....	20	11	28	14	16	17	28
9 days.....	19	11	25	19	28	17	47	50 to 63 days.....	28	23	19	25	32	27	43
10 days.....	13	21	21	20	27	26	43	64 to 77 days.....	16	12	19	18	12	9	15
11 days.....	24	15	19	15	25	25	55	78 to 91 days.....	5	14	13	14	5	6	8
12 days.....	29	21	43	14	21	17	40	92 to 200 days.....	15	30	25	12	14	14	12
13 days.....	16	12	17	10	13	14	32	Over 200 days.....	1	15	7	2	-----	-----	-----

Since 1926 the Bureau has omitted from tabulation strikes of less than 6 workers and those lasting less than 1 day. A general summary of these minor strikes for 1933 shows 79 involving less than 6 workers, 28 of which occurred in the bakery trades and 11 in the building trades, the remainder being scattered among 15 other trade groups. Of the 56 disputes lasting less than 1 day, the largest number in any one group was 9, which occurred in textiles; the others were distributed among 22 other groups.

Report of Board of Inquiry for Cotton Textile Industry, 1934

A BOARD of Inquiry for the Cotton Textile Industry was appointed on September 5, 1934, 2 days after the beginning of the textile strike, called September 3. The strike was formally voted at the convention of the United Textile Workers in New York about the middle of August. Later in August the Cotton Textile National Industrial Relations Board offered its services as mediator.

This offer was rejected by the union, which stated that it had no further confidence in the ability of that Board to meet the situation. The National Labor Relations Board, undertaking to bring about an agreement before the strike was called, invited representatives of the union and of the Cotton Textile Institute to a joint conference in Washington. The union accepted the invitation, but the Cotton Textile Institute declined to attend. Later the National Labor Relations Board held a series of conferences with each side separately in the hope of finding a formula that would avert the strike. In this it was unsuccessful.

The fundamental issues involved in the strike were as follows:

1. Recognition of the union and methods of collective bargaining.
2. Machinery for handling complaints of violation of section 7 (a) and other labor provisions of the code.
3. Hours and wages.
4. The stretch-out.

The Board of Inquiry, composed of John G. Winant, chairman; Marion Smith; and Raymond V. Ingersoll, was "authorized and directed to inquire into complaints of the workers and the problems of the employers in the cotton, wool, silk, rayon, and allied textile industries; to consider ways and means of meeting such problems and complaints; and, upon request by the parties, to act as a board of voluntary arbitration."

The Board held its first meeting on September 7. On September 8 the United Textile Workers offered to submit all issues in controversy to arbitration by the Board on certain terms and conditions. The Board immediately called the heads of the Cotton Textile Institute to Washington to consider the possibilities of this proposal. On September 11 and 12, the Board conferred with a group of representative employers, and urged the employers to agree to arbitration, offering to attempt to work out terms for such arbitration that would be mutually satisfactory. The employers refused to arbitrate, whereupon the Board proceeded to complete its inquiry into the basic issues involved.

The Board conferred with representatives of parties to the controversy; it received such statistical data and other information as any of the parties desired to submit to it; it conferred with officials of the National Recovery Administration, the Cotton Textile National Industrial Relations Board, the Bureau of Labor Statistics, and other governmental agencies; it collected through this and other means available information bearing on the issues of the strike and the problems of the industry; it engaged a committee of technical experts to make an independent study of the technical features of the stretch-out system.

The following is a summary of the recommendations of the Board.

1. For the more adequate protection of labor's rights under the collective bargaining and other labor provisions of the code, there shall be created under Public Resolution No. 44 an impartial board of three to be known as the "Textile Labor Relations Board" which shall be provided with an adequate staff and other facilities. This Board shall have powers and duties in the textile field similar to those exercised by the National Labor Relations Board and the Steel Labor Relations Board in their respective fields, and shall have authority to administer, in addition to section 7 (a), other labor provisions of the cotton, silk, and wool codes.

2. In order to obtain necessary data upon the ability of the cotton, silk, and wool textile industries to support an equal or greater number of employees at higher wages, it is recommended that the President direct the Department of Labor and, in accordance with section 6 (a) of the Recovery Act, the Federal Trade Commission to investigate and report on these matters at the earliest possible time.

3. For the purpose of regulating the use of the stretch-out system in the cotton, wool, and silk industries it is recommended that the respective codes be amended to provide that a special committee be created under the Textile Labor Relations Board to supervise the use of the stretch-out; that until February 1, 1935, no employer shall extend the work load of any employee, except in special circumstances with the approval of the stretch-out committee; that the stretch-out committee shall have power to investigate present work assignments and where it finds improper speeding up of work require reduction accordingly; that the stretch-out committee shall recommend to the President not later than January 1, 1935, a permanent plan for regulation of the stretch-out, under which employers shall be required to secure approval of an impartial agency prior to increasing the work load of the employees, which plan when approved by the President after such notice and public hearing as he may prescribe shall become effective as part of the code.

4. To aid in the enforcement of code provisions relating to wages above the minimum and to serve as an aid and guide in making collective agreements, it is recommended that the Department of Labor be directed to study definitions and classifications of occupations and existing wages for such occupations, and that the information thus collected be made available to labor and management in the industry.

Conclusion.—The findings and recommendations here submitted to you are based on as comprehensive and careful a survey as the situation permitted. The Board is confident that these findings and recommendations are fair and reasonable, that they meet the basic sources of the difficulty and that they offer the possibility of a just and lasting settlement. We believe further that they provide a sound basis for that "united action of labor and management" contemplated by the Recovery Act and the recovery program.

We therefore earnestly hope that the United Textile Workers will call off the strike on the basis of these recommendations. At the same time we request the employers in the industry to take back the workers now on strike without discrimination.

Upon the report of the Board, the United Textile Workers called off the strike. The President appointed the Textile Labor Relations Board (see p. 16), the Bureau of Labor Statistics began a survey of hours, earnings, and occupations in the principal textile industries,¹ and the Federal Trade Commission initiated a survey of the financial condition of the textile plants, to ascertain their ability to grant shorter hours and higher wage rates.

¹ See pp. 921, 1021, and 1051 for summaries of studies by the Bureau of the cotton-textile industry, the silk and rayon industry, and woolen and worsted goods manufacturing.

INDUSTRIAL HEALTH

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Federal and State Agencies Concerned with Problems of Industrial Health

THE principal divisions of the Federal Government concerned with harmful working conditions and the health of industrial workers are the Public Health Service, United States Treasury Department; the Bureau of Mines, Department of the Interior; and the Bureau of Labor Statistics and the Division of Labor Standards, Department of Labor. These organizations have made extensive studies and issued numerous reports dealing with different phases of industrial health, with special emphasis upon protective and preventive measures.

Public Health Service and United States Bureau of Mines

THE work of the Industrial Hygiene Division of the United States Public Health Service and the investigation of industrial hazards by the United States Bureau of Mines which has been carried on by the health division of that Bureau were centered in the United States Public Health Service in the summer of 1933. Owing to decrease in funds available to the Bureau of Mines, the Health Division was recessed at the end of the fiscal year 1933. However, investigations and research by the Bureau on the dustiness of mine air and its effect on health were subsequently carried out.

Recent studies by the Public Health Service include investigation of industrial dermatitis among the employees in the rubber, canning, cigar-making, cotton-milling, sirup-manufacturing, and rayon industries, with a view to determining the irritants causing the outbreaks. Studies of industrial dusts in relation to the health of workers in dusty trades have included surveys in the marble-, talc-, slate-, and granite-quarrying and anthracite industries, air abrasive blasting, and the size frequency of industrial dusts, while industrial-poisoning studies have dealt with the lead hazard in a storage-battery plant, the health hazard of radium-dial painting, the toxicity of osmium tetroxide, and the effect of inhalation of benzol vapors. During 1933 a study was begun to determine the effect of the dust of anthracite mines on the health of workers. The study of the frequency of sickness among industrial employees was continued for the twelfth consecutive year.

The Bureau of Mines studied during 1933 the toxicity and health hazards of the vapors of 10 chemicals, most of which represent new developments in the production of organic chemicals from coal and petroleum products. The information obtained was a basis for promoting safety in the manufacture, distribution, and use of these products. Studies also were made of injury from industrial dusts, and two reports on the Picher (Okla.) investigation of silicosis among miners of the tri-State district of Oklahoma, Kansas, and Missouri, were published. This study, which had been carried on for a number of years, was discontinued June 30, 1933.

United States Bureau of Labor Statistics

THE Bureau of Labor Statistics was one of the first organizations in this country to study occupational hazards and diseases and to endeavor to reduce the casualties from the use of hazardous processes and substances among workmen. In the attempt to safeguard the workers, investigations have been made of special hazards in different industries and active steps have been taken in a number of instances to secure the desired reforms in the processes employed or the materials used. The field for research in hazards connected with industrial processes is almost unlimited, as new uses for known hazardous substances or the use of new chemical combinations may present unrealized or unknown dangers.

Among the special studies published in the industrial accidents and hygiene series are included the various bulletins on lead poisoning in different industries, and studies of the poisons used in the rubber industry, in the manufacture of explosives, and in the manufacture of coal-tar dyes and dye intermediates, as well as studies of the hazards from dusts and fumes, from phosphorus in the manufacture of fire-works, from the anthrax bacillus, etc. These and other bulletins have formed the contribution of the Bureau to existing knowledge in regard to the specific hazards of industry and to the safeguarding of workers who are exposed in the course of their employment to contact with these dangerous substances. One report relating to hazardous occupations was published in 1933—Bulletin No. 582: Occupation hazards and diagnostic signs. This bulletin deals with the hazards involved in exposure to abnormalities of temperature and humidity, compressed air, dampness, defective illumination, dust, infections, radiant energy, repeated motion, pressure, and shock, and a large number of poisonous substances.

United States Division of Labor Standards

The Division of Labor Standards is issuing a series of brochures on occupational diseases which contain a list of the occupations in which there is exposure to a specific hazard and a brief summary of the symptoms produced by exposure and of preventive measures.

State Bureaus

A FEW of the States have industrial hygiene divisions equipped to study the effect of employment upon health. Included in such bureaus are the division of industrial hygiene which is under the department of labor in New York, and in Ohio the bureau of occupational diseases which is a part of the department of health. The Ohio bureau was established December 1, 1932, to take over the functions of the former division of industrial hygiene, but its activities have been much curtailed. New Jersey has a bureau of hygiene and sanitation in the labor department; in Pennsylvania there is a hygiene and sanitation section in the bureau of industrial standards, which is part of the State department of labor. The work carried out by these bureaus includes in New York the publication of articles on specific industrial hazards in the Industrial Bulletin published monthly by the department, while reports of special investigations are also published from time to time. Among the hazards to which the division of industrial hygiene has directed its attention are dust

hazards, including studies of silicosis, poisoning from carbon monoxide, wood alcohol, lead, and lacquers, and various chemicals. The division of women in industry has also made studies of the hazards to which women are exposed in different industries. The Pennsylvania hygiene and sanitation section was formed to deal with the problem of health as affected by employment. It receives reports of cases of industrial diseases, investigates such reports, and supplies suggestions for removing the conditions producing these diseases in individual cases. It also receives information on health hazards in general, studies conditions producing such hazards, or initiates studies of related problems. If such studies require technical knowledge and equipment not available in the department, organizations or individuals are called upon to assist in the necessary research. The results of such investigations are published in special bulletins and if the investigation reveals definite dangers the hygiene and sanitation section recommends methods of eliminating them by means of regulations based on the findings and developed and issued by the department.

Recent Studies of Industrial Diseases and Poisons

THE Bureau of Labor Statistics follows developments in the field of industrial hygiene through the medium of the Monthly Labor Review, digests appearing in this publication of investigations by scientific organizations and of articles appearing in the various medical and scientific journals. Summaries are given below of the more important articles which have appeared since the publication of the 1931 edition of the Handbook of Labor Statistics (Bul. No. 541).

Cadmium Poisoning

A STUDY of cadmium poisoning, made by Dr. Leon Prodan at the Harvard School of Public Health, covers the history and uses of cadmium and its pathologic effects. The results of the study were published in the April and May 1932 issues of the Journal of Industrial Hygiene.

Although cases of cadmium poisoning were reported more than 70 years ago, extensive industrial use of cadmium did not develop until after the World War when cadmium plating was introduced. Cadmium occurs usually with zinc and, until 1817, no distinction was made between the two metals. Up to the time of the present study, attempts by investigators to produce cadmium poisoning in animals have been made generally by oral administration of cadmium or by subcutaneous or intravenous injections, although all the cases of cadmium poisoning reported in the literature on industrial poisoning have occurred by absorption through the respiratory system.

Cadmium is a white metal, having a bluish tinge and a bright luster, which is capable of taking a high polish. It is harder than tin but softer than zinc and is insoluble in water but soluble in acids. Upon being heated in the air it burns readily and gives off a brown fume of cadmium oxide. The principal compounds of cadmium are the oxide, sulphate, sulphide, chloride, iodide, and bromide. Cadmium does not occur in nature in an uncombined condition but is nearly always found in relatively small quantities in zinc ores, and is a byproduct in the reduction of these ores. Cadmium is used as a constituent in many alloys with low melting point for

the preparation of amalgams and the preparation of its salts. Cadmium plating is in several respects superior to nickel and other metal plating. In addition to its use for plating, cadmium is used in the manufacture of alkaline storage batteries, standard cells (as mercury-cadmium alloy), high-temperature resistors, and cadmium vapor lamps. It is also used in certain pigments called lithopones.

The principal health hazards are found in the manufacture of cadmium and the handling of the compounds; these hazards arise in the processes which produce exposure to dust and fumes. It is not known yet how great a hazard is presented by plating after the cadmium is in solution. So far, no effect of the solution has been observed except that upon coming in contact with the skin it causes the skin to turn black.

Prior to the present study the published results regarding experimental cadmium poisoning showed that relatively small doses were fatal to various experimental animals, and that the metal had a direct paralyzing effect on the central nervous system and on the vasomotor system, induced vomiting, and had a general toxic effect when given orally or introduced into the general circulation. When cadmium is taken into the body, the experiments also showed, it has a tendency to be stored in the liver and kidneys, and its elimination by way of the kidneys and gastrointestinal tract is very slow. When absorbed through the respiratory system, cadmium was found to cause pneumonia and sometimes pleural effusion. The blood showed a decrease in hemoglobin content in the feeding experiments and an increase when the cadmium was absorbed through the respiratory system, while in both cases there was an increase in the polymorphonuclear leukocytes.

As has been stated, cadmium used industrially is absorbed principally through the respiratory system and to a certain extent through the gastrointestinal tract. The most common form of poisoning is the acute respiratory form arising from exposure in manufacturing and handling cadmium compounds. Due to the emetic effect of cadmium, serious gastrointestinal poisoning probably does not occur in man. Direct contact with cadmium does not cause poisoning, since it is not absorbed through the unbroken skin.

Carbon Tetrachloride as an Occupational Hazard

THE health hazards resulting from the industrial use of carbon tetrachloride were discussed in an article by Dr. Elizabeth B. Bricker in *Labor and Industry*, August 1931, published by the Pennsylvania Department of Labor and Industry.

The types of injury arising from exposure to carbon tetrachloride include skin injuries and injuries to the general health, the kind of injury depending on the method of use of the compound and the kind and degree of the exposure of the individual.

The principal uses for carbon tetrachloride are as a fire-extinguishing agent and as a solvent. Because it is nonflammable and its vapors are very heavy it is used for extinguishing small fires, where it acts as a smothering agent by shutting off the supply of oxygen to the fire. When used as a fire extinguisher in small enclosed spaces, gases are generated which cannot escape easily and may be concentrated in dangerous quantities. Fatalities from the use of carbon tetrachloride under such conditions have been reported.

The risk of fire from flammable solvents is greatly reduced by the mixture of such solvents with carbon tetrachloride. The health hazards when it is used in this way are those arising from the various constituents of the compounds. Carbon tetrachloride is used as a solvent to remove fats, oils, and other materials from their combinations, a principal use of this kind being in the dry-cleaning industry, where it is used for the preservation or the restoration of the cloth or other material, or it may be used in the separation of desirable constituents, such as oils, from seeds or bones, the oils being recovered later from the carbon tetrachloride.

The other important use as a solvent is to hold together the ingredients of compounds such as rubber cements, floor and furniture waxes, shoe polishes, etc., so that they may be easily applied, leaving the polish, cement, or other compound in the desired location after the carbon tetrachloride has evaporated.

The affinity for fats, inherent in carbon tetrachloride as a result of its solvent properties, is shown by its effect on the skin of workmen where the work requires contact with this material for any length of time. These effects depend both upon the length of the exposure and the susceptibility of the individual. The effect of carbon tetrachloride on the skin is to cause it to become red and dry, and, if the contact is long continued, to cause cracks in the skin which open the way to infections.

Injuries to the general health from the inhalation of air containing large amounts of carbon tetrachloride range from temporary ill effects to prolonged illness or death. The most common symptoms of exposure to carbon tetrachloride are irritation of the eyes, nose, and throat; nausea; dizziness; headache; confusion; excitement; and, with prolonged exposure, loss of appetite and mental dullness.

The extent of the danger of exposure to small amounts to carbon tetrachloride over long periods of time is not fully determined but until more is known about these effects Doctor Bricker recommends that the following precautions should be used in its handling:

1. It should be used in completely enclosed systems as far as practicable. This is a simple problem in some processes, as in the extraction of fats for their eventual recovery, but more difficult of attainment in others.
2. When completely enclosed processes are not feasible an exhaust system should be installed with at least one outlet near the floor (as the vapors are heavier than air). This system should be kept in operation constantly as long as the liquid is exposed to the air and for some time after such exposure has ceased so that the room or compartment may be rid of all residual vapors.
3. A careful watch should be kept on all persons who are, in the slightest degree, exposed to the breathing of these vapors. They should preferably be under the care of a physician who is accurately informed on the nature of the material in question. On the slightest indication of ill health arising from the use of this compound, the worker should be transferred to a job in which he is in no way exposed to it.

Ethylene Oxide: Effects of Exposure to Vapors

A STUDY of the effects of ethylene-oxide gas, one of the newer chemical products coming into industrial use, was made by the United States Bureau of Mines.¹

¹ United States Public Health Service. Public Health Reports, Aug. 8, 1930, pp. 1332-43: Acute response of guinea pigs to vapors of some new commercial organic compounds. IV. Ethylene oxide, by C. P. Waite and others.

Ethylene oxide is used as an intermediate in the synthesis of other compounds such as methyl, ethyl, and butyl cellosolve and as a fumigant either alone or mixed with carbon dioxide. A fumigant was being marketed at the time of the study under the trade name "Carboxide", which contained 1 part ethylene oxide and 8 parts carbon dioxide.

Ethylene oxide is a colorless gas at ordinary room temperature. It possesses a mild sweetish odor and is readily soluble in water.

The study showed only the acute effects produced upon guinea pigs by a single exposure and the experiments were planned to give information relative to the concentration and periods of exposure which produce slight, moderate, or serious response.

The symptoms exhibited by the animals subjected to the test were, in the order of occurrence, nasal irritation; eye irritation; blood-tinged, frothy, serous exudate from nostrils; unsteadiness on feet, and staggering; inability to stand; respiratory disturbances; dyspnea and gasping; and death. Most of these symptoms were produced with exposure to concentrations of 8.5 to 0.3 percent by volume. Exposure to 0.13 and 0.06 percent caused eye and nose irritation and no distinct symptoms resulted from exposure to 0.025 percent. In animals dying within a few hours following exposure the principal pathological findings were marked irritation of the respiratory system, while in those dying 2 to 6 days after exposure lobar and lobular pneumonia and parenchymatous changes in the kidneys were found. Death occurred in a few minutes in animals exposed to 5 to 10 percent. While exposure to 0.3 to 0.6 percent of the vapor for 30 to 60 minutes was found to be dangerous to the life of the animals exposed, 0.3 percent was the maximum which could be borne for 60 minutes without serious disturbances, and 0.025 was found to be the maximum allowable concentration for several hours without serious effects. From the standpoint of relative toxicity for concentrations causing acute injury, ethylene oxide is said to be less harmful than hydrogen chloride and sulphur dioxide and more harmful than chloroform and carbon tetrachloride, and similar to ammonia. The odor of ethylene oxide is not strong enough to give distinct warning of harmful concentrations in the air but it causes intolerable irritation to the eyes and nose when present in high concentrations, and moderate though distinct irritation in comparatively safe concentrations. In order to avoid serious injury, however, this irritation must be taken as warning of a dangerous atmosphere.

Hydrocyanic-Acid Gas Absorption Through the Skin

ATTENTION was called to the possibility of poisoning from hydrocyanic gas by absorption through the skin, in an article by Philip Drinker, in the *Journal of Industrial Hygiene*, January 1932.

Although a few writers have mentioned the possibility of cutaneous absorption of the gas, in general little attention has been given to the danger of poisoning in this way. To show the necessity, therefore, for taking precautions in the use of this fumigant against the possibility of skin absorption, the following case in which three men narrowly escaped serious poisoning is cited:

Three men were wearing gas masks in an atmosphere containing approximately 2 percent of hydrocyanic-acid gas and the masks were given excellent respiratory protection. After 8 or 10 minutes, however, the men felt symptoms of marked dizziness, weakness, and throbbing pulse. They immediately left the poisonous atmosphere and were just in time to avoid collapse and unconsciousness. Marked weakness and high pulse rate, together with a headache, persisted for several hours after exposure, and the men were incapacitated for 2 or 3 days. However, recovery was apparently complete at the end of that time.

In several instances the medical literature on industrial diseases mentions the possibility of absorption of the gas through the skin, the writer states, although four of the well-known works on this subject do not refer to such a hazard. The absence of information in these four generally used books is regarded as proof that this action of the gas is generally unknown. Since 1928, however, the United States Bureau of Mines has required a label to be placed on canister masks approved for use against hydrocyanic-acid gas, stating that while the canister will give respiratory protection in atmospheres containing 2 percent hydrocyanic-acid gas, it is not safe to submit to such high concentrations, since the gas is absorbed through the unprotected skin of the body and in that manner will produce poisoning.

Miners' Nystagmus: Third Report of British Committee²

THE first Miners' Nystagmus Committee in Great Britain was dissolved in 1926 after having made two reports, which were published in 1922 and 1923. That committee found that the principal symptom of miners' nystagmus—involuntary oscillation of the eyeballs—was the result of deficient illumination and that the most important measure of prevention, therefore, was to secure adequate lighting for the miner at work. It was shown, also, that there was a definite psychoneurotic condition in most cases. The present committee agreed with these conclusions, but in view of the fact that there has been no reduction in the number of cases receiving compensation for this disability, greater attention was given in the study to the nervous or psychological factors connected with the development of the disease.

In Great Britain the incidence of new cases of miners' nystagmus to the number of men employed underground has risen, although not steadily, from 0.049 percent of the total number employed below ground at coal mines in 1908 to 0.41 percent in 1930. In the latter year there were 10,638 persons (both old and new cases) who were receiving compensation for this cause out of a total of 742,000 workers employed below ground in coal mines.

The term "miners' nystagmus", as used for purposes of certification for compensation, includes conditions other than those directly referable to the oscillations of the eye, and it was the opinion of the committee that the standard of incapacity is not easily determined. The oscillation of the eyeballs is not in itself a trustworthy test of incapacity, since in many cases men with this symptom are efficient workmen, and on the other hand the absence of this symptom, if there are symptoms of a nervous or psychological kind present, is not adequate proof of fitness for work.

² Great Britain. Medical Research Council. Third Report of the Miners' Nystagmus Committee. London, 1932.

In the discussion of the illumination factors in the causation of the disease, it is stated that when the human eye loses the power to adapt itself to seeing objects in a very dim light the individual suffers from so-called "night blindness." While this is a frequent early symptom of miners' nystagmus it is by no means certain that night blindness is always due to loss of dark adaptation, as it may be a nervous symptom. It has been found in laboratory experiments that the point at which the vision of the normal eye changes to adapt itself to dim illumination is at a light equivalent to 0.0068 foot-candle, a foot-candle denoting the illumination derived from one standard candle at a distance of 1 foot. As it is the amount of light reflected into the eye that determines clearness of vision, and as coal absorbs from 88 to 97 percent of all incident light, the standard brightness of 0.0068 foot-candle must be increased 10 times for coal absorbing 90 percent, and 20 times for coal absorbing 95 percent of the light. From the experiments it is concluded that, considering varying conditions, the degree of illumination to be aimed at should be one of 0.25 foot-candle.

The ocular symptoms of nystagmus noted among miners include defect of visual acuity, night blindness, intolerance of light, and forced ocular movements with tremors of the head and limbs, together with disordered action of the heart. All of the ocular conditions, with the exception of oscillation of the eyeballs and the subjective movement of objects, are described in the literature on the psychoneuroses, many cases occurring as hysterical symptoms in soldiers during the World War. The neurasthenic symptoms noted among miners which are most common are sleeplessness, headache, depression, and fear of the dark. The obsessional symptoms, however, which are the most serious, are frequently withheld for fear of ridicule.

In safety-lamp pits oscillation of the eyeballs is present in men who are working efficiently and who make no complaint, in some instances the incidence of such oscillations being as high as 34 percent of the men employed. In typical cases the first symptom of disability is the apparent movement of objects, the miner complaining that lights dazzle him and dizziness and headache result. The question of psychoneurotic factors is not present at this stage but, if the disability develops further, what at first sight appeared to be purely an ocular disorder takes on the aspect of a psychoneurosis. The oscillation may then disappear and the condition becomes similar to that known during the war as "shell shock." In the latter disorder, the report states, the assumption, on insufficient evidence, that physical forces produced nervous symptoms did so much harm that the term "shell shock" was prohibited; in miners' nystagmus it is not sufficiently recognized that the attribution of nervous symptoms to a physical cause is a probable factor in the evolution of the compensated disease. Recent work carried out by the British Industrial Health Research Board has shown that the problem of psychoneurotic illness in industry is a general one and it is of the utmost importance that the psychological aspects not only of this disability among miners but of similar conditions in other occupations should be fully recognized.

In regard to suitable treatment, it is said, the first step is to combat the belief that the psychoneurotic symptoms are a direct physical result of the oscillation of the eyeballs, and that recognition of the

validity of the mental symptoms will aid in the removal of their expression in the physical sphere. This will give the patient the confidence which is necessary for relief of his symptoms.

Nitrocellulose Lacquers and Their Hazards

AN ARTICLE in the April 1932 issue of the Industrial Bulletin, published by the New York Department of Labor, describes the composition of nitrocellulose lacquers and shows the relative hazards of the different constituents.

The general use of nitrocellulose or pyroxylin lacquers for spray painting and dipping has revolutionized the painting industry and has resulted in a change in working conditions, with new health hazards and possible fire hazards from the volatile ingredients.

The ordinary lacquer contains five basic parts, having the following uses in the production of the lacquer: (a) Nitrocellulose, forming about 10 percent of the lacquer, gives a waterproof quality, hardness, and durability; (b) solvents and diluents, 77 percent, dissolve the nitrocellulose and gums and give quick-drying properties; (c) gums or resins, 5 percent, thicken the lacquer and increase its adhesive properties; (d) softeners or "plasticizers", 5 percent, prevent brittleness; (e) pigments or coloring materials, 3 percent, give color and add to the durability of the coating. It is seen from the percentages given for the different materials that the volatile ingredients form about 77 percent, by weight, of the material, and the amount of volatile matter is still further increased before use by the addition of other solvents or diluents of the same nature, called "thinners", in the proportion of 1, 2, or 3 parts of thinner to 1 part of lacquer.

Nitrocellulose, prepared by treating cotton or some other form of cellulose with nitric acid, is made up in different types of compounds which vary as to solubility, viscosity, and nitrogen contents. These different types of nitrocellulose are used for coating different kinds of materials. They are highly flammable, are unstable, and if subjected to high temperatures, are liable to spontaneous ignition. The danger of fire forms the principal hazard from the nitrocellulose.

The pigments in most lacquers do not form a special hazard as they are free of lead, with the possible exception of the yellow, green, and orange lacquers, and some metal primers and surfacers. Some of the more common pigments in use are zinc oxide, titanium oxide, whiting, barium sulphate, aniline lake colors, aluminum or bronze powders, and prussian blue.

The gums and resins most used are rosin, elemi, dammar, copal, kauri, and ester resins. These products offer no industrial hazard. "Plasticizers" or softeners such as the nondrying castor or rapeseed oils, or high boiling phosphate, phthalate, or tartrate esters are practically nonvolatile and are also considered free from health hazards.

The solvents and diluents in lacquers present the chief hazards to be found in the use of these coating products. The principal solvents used are: Acetone, amyl acetate, butyl acetate, ethyl acetate, ethylene glycol monoethyl ether, ethylene glycol monomethyl ether, ethylene glycol monoethyl ether acetate, iso amyl acetate, iso propyl acetate, methyl acetate, mythyl oxybutrate, pentacetate, secondary butyl acetate. The diluents used include amyl alcohol, wood alcohol, denatured ethyl alcohol, benzol, butyl alcohol, petroleum naphtha, secondary butyl alcohol, toluol, and xylol.

The solvents are mainly esters produced by the combination of the various alcohols with acetic acid. In general, these liquids are lighter than water, colorless, volatile, varying in boiling point from about 134° F. to 338° F., and the majority of them have a choking effect when breathed. The hydrocarbons and alcohols are diluents and in general, are, like the solvents, readily volatile liquids, which are colorless, lighter than water, and vary in boiling point, and are considered the most harmful of the different constituents of the lacquers. Until a few years ago benzol was the principal diluent, but with an understanding of its extreme toxicity it has been largely replaced by others, the principal one in use now being petroleum naphtha. However, all lacquer vapors are toxic, or at least narcotic, if inhaled in a sufficiently concentrated state for a long enough period of time.

Osmium Tetroxide (Osmic Acid) Hazards

AN ARTICLE on the toxicity of osmium in the May 1933 issue of the *Journal of Industrial Hygiene* gave the results of various animal experiments with this metal which, it was said, has comparatively few uses in the industries and the arts at present, but may possibly develop much wider industrial use.

The element osmium has, at present, four principal uses, which are, in the order of their importance, in the manufacture of pen tips, as a fixing and staining agent in pathological and histological work, in the manufacture of electrical contacts, and in fingerprinting. In addition to the exposure of persons engaged in these activities, there is a rather limited group of chemists and metallurgists who are engaged in refining the natural alloys and preparing the compounds of osmium for commercial purposes.

The metal is extremely hard and, because of this and its high melting point, it is used in making pen tips and electrical contacts, while the tetroxide is employed in its other uses. Metallic osmium when heated in air or oxygen or acted upon by oxidizing agents forms osmium tetroxide. When the metal is in the form of osmium sponge or powder, osmium tetroxide, the so-called "osmic acid", is developed slowly at room temperature. This oxide is highly volatile, is somewhat soluble in water, and the solution gives off osmium tetroxide without application of heat. All the hazards connected with the use of osmium are the result of this tendency to form the toxic volatile osmium tetroxide.

There are two types of poisoning—the acute and subacute forms—but this study dealt only with acute poisoning. The objective symptoms are produced by the action of the irritant gas directly upon the exposed mucous surfaces and skin and upon the entire respiratory tract, and by its indirect action on the kidneys. The principal effects in man are acute conjunctivitis, inflammation of the cornea, ulcer of the cornea, inflammation of the trachea, bronchitis, pneumonia, nephritis, and dermatitis.

As already stated, the metallic osmium, when exposed to the air in the form of sponge, forms the toxic tetroxide even at room temperature, and the metal in the form of a natural osmium-iridium alloy or the prepared alloy also gives off osmium tetroxide at the slight heat required for annealing.

The experimental study proved the serious effects of the poison upon the respiratory system, pulmonary lesions being the cause of death in the experimental animals, although it is said that from the standpoint of industrial medicine the eye effects are of much greater importance. Cases of permanent blindness have been reported, and visual defects have been attributed to the vapor, but the majority of the cases present only the condition produced by minute amounts.

The effect of exposure of the experimental animals to varying amounts of the osmic acid was to cause death in periods varying from 30 hours to 4 days, according to the degree of exposure. All of the animals showed evidence of acute irritation shortly after the beginning of exposure, soon becoming semicomatose, but recovering to an apparently normal condition soon after exposure ceased. However, after varying intervals, evidence of pulmonary involvement developed which lasted until death occurred.

It is stated that, in view of the hazard connected with heating metallic osmium or its oxides in air, adequate protective measures should be taken. Ordinarily protection can be afforded, it is said, by a reliable down draft, preferably through a spray of 10 percent sodium hydroxide, which absorbs the oxide and recovers enough of the osmium to make it economically worth while. If there is exposure to minute quantities only, airtight goggles protect the eyes sufficiently, while for larger quantities a good gas mask with an "allservice" canister gives adequate protection.

Pneumoconiosis: Danger of Delayed Development

THE danger of the delayed development of silicosis, either with or without tuberculosis involvement after short exposure to silica dusts, was pointed out in an article in the *Journal of the American Medical Association* for June 6, 1931.

It has been the general conclusion that, although there is great variation in individual susceptibility and consequently in the length of exposure necessary to produce clinical and roentgenographic evidence of the existence of silicosis, it is rare for the disease to develop in persons who have not been exposed for many years. This conclusion is due to the fact that practically all of the studies of silicosis have been made among groups of men still employed in dusty trades. Such studies have shown an average duration of exposure of approximately 10 years. Statistics of this kind, however, do not show the late effect of short exposures; that is, among men who change to nondusty trades without having developed symptoms of the disease. Several isolated cases of silicosis or silicosis and tuberculosis which developed long after the original exposure ceased have been reported by different writers, among them being a number of South African miners, who showed no evidence of silicosis when they left work to go to war but had definite symptoms of silicosis when they returned several years later.

In this article the writers reported four cases of silicosis or silicosis and tuberculosis which developed many years after exposures which were relatively short. In the first case there had been an exposure of only 4 months in drilling in a lead mine 23 years before. Although the roentgenograms showed spots throughout both lungs, there was no definite evidence of tuberculosis and many examinations of the sputum failed to show tubercle bacilli. The rapid development of severe

symptoms which included an afternoon fever, epigastric distress after meals, and progressive loss of weight followed a bad cold which settled in the chest.

The second case was that of a hotel porter who had been employed for 2 years, 16 years before the beginning of symptoms, in a foundry in which his job was cleaning bathtubs with a sand blast. His symptoms, which began with a slight cough, were typical of silicosis and tuberculosis. As in the previous case an infection seemed to be the precipitating factor. The roentgenogram was characteristic of third-stage pneumoconiosis and the infection was definitely tuberculous.

In the next case a laborer developed symptoms of silicosis 14 years after an exposure of 4 years during which he had worked as a grinder in a knife shop without taking any precautions against the dust hazard. Since that employment he had been engaged in nondusty work. He had been in good health throughout the years since his first employment until he developed an acute upper respiratory infection of the influenza type. This developed into an extensive bronchitis and X-rays taken at this time showed extensive pneumoconiosis, but there was no evidence of tuberculosis. As in the other two cases the onset of symptoms coincided with an acute respiratory infection.

The remaining case was that of a laborer who had worked as a knife grinder on a sandstone for 10 years, after which he had been employed in work which did not present a dust hazard. But at the end of 10 years, during which he had shown no symptoms of silicosis, he was exposed to a tubercular infection, the onset of his symptoms coinciding with the infection with the tubercle bacillus.

In conclusion, the writers stated that while most of the clinical and statistical studies of silicosis have been made on persons still employed in dusty trades, the present report of four cases of silicosis or tuberculosis and tuberculosis which developed many years after the occurrence of relatively short exposures to silica dust suggests the necessity of revising the opinion as to the length of exposure necessary to produce the disease.

Pulmonary Asbestosis

AN ARTICLE on the clinical, radiological, and pathological features of pulmonary asbestosis, by Dr. Philip Ellman, published in the *Journal of Industrial Hygiene*, July 1933, presents evidence of the greatly increased risk of tuberculosis among persons suffering from asbestosis. Until recently it has been rather generally believed that complication of tuberculosis with asbestosis was somewhat rare and that this was a significant difference from the situation as regards silicosis, in which the danger of the development of tuberculosis has been fully recognized.

The clinical features of the disease are given as the slow development of a characteristic type of fibrosis in which the patient may be comparatively free from symptoms for several years, usually from 5 to 15, although the writer has had cases following exposure of 1 to 3 years or less. The delayed effects of exposure to asbestos dust are also pointed out, in some cases years elapsing after the worker has left the industry before symptoms occur. The chief symptoms are dyspnea (difficult breathing), which is one of the earliest evidences, occurring at first only on exertion; cough of a harsh, nonproductive character often associated with fleeting chest pains; loss of appetite; cyanosis, amounting in these cases to a pronounced deadening of the

skin, varying from mild bronzing to slight blueness; emaciation, with a loss of weight out of all proportion to the physical signs; and clubbing of the fingers in the more advanced cases. Asbestos corns form a characteristic skin lesion. These are produced by asbestos fibers which penetrate the skin and form corns on the hands and arms and even the legs.

Upon examination the chest shows limited expansion, even below 1 inch, the movement being especially limited at the bases, where the fibrosis commences. The fibrosis extends upward in the more advanced cases, but is usually confined to the lower and middle zones of the lungs, and the apices are frequently retracted.

Radiography, which the writer thinks the most reliable diagnostic aid, generally discloses the presence of a fine diffuse fibrosis. When tuberculous infiltration complicates asbestosis, it can usually be detected and distinguished from the underlying fibrosis just as in cases of silicosis.

The highly characteristic golden-yellow asbestosis bodies found in the sputum and fibrosed lungs of asbestos workers have bulbous enlargements at the extremities somewhat resembling dumbbells and have been found by various observers to vary in length from 20 to over 200 microns.³ An asbestos fiber forms the core of each body and the golden-yellow material covering each fiber contains an iron substance derived from body tissues. The writer stated these bodies were found at all autopsies upon cases of pulmonary asbestosis. The bodies are found either singly or in clumps in the lung tissue, but in the sputum they are usually found singly or in groups of 2 or 3. It is a remarkable fact that the asbestosis bodies persist in the sputum for years even after short periods of exposure.

Although the question of the complication of silicosis with tuberculosis has been rather an open one, it has been shown recently in animal experiments that silica and asbestos dusts belong to a group of active substances which produce lesions when introduced into the subcutaneous tissues. Both produce serious pulmonary fibrosis and both assist the growth of tubercle bacilli. Clinical evidence, the writer states, would seem to support this experimental work, as there is little doubt that an increasing number of cases of tuberculosis are being seen in persons exposed to asbestos dust. These cases, it is said, may not be met with in an examination of workers at work with no symptoms, but are found oftener among persons who have left work and are attending clinics. The writer states that among 17 of his own definite cases of asbestosis, the majority of whom were not at work, 6 had tuberculosis, 4 of these cases being active, and that his own limited experience tends to show that tuberculosis, as a complication of asbestosis, is by no means uncommon. The existence of this risk leads him to conclude "that no person with tuberculosis in any form should be allowed to enter the industry, nor should any one in whom tuberculosis at a later stage is detected be permitted to continue in the industry. The risk here is to the other workers, as well as to themselves."

In regard to the probable course of the disease it is said the period between exposure to the dust and a fatal termination is only about one-half of that of silicosis. The asbestos dust taken into the lungs

³ Micron = 1/25400 inch.

produces the pulmonary fibrosis as the result either of actual mechanical trauma or of a toxic effect similar to that exerted by silica in cases of silicosis. The disease is a progressive one and, if sufficient dust is present, ends fatally, usually from some intercurrent complication such as acute bronchopneumonia or phthisis. The difficult breathing present in persons with established cases of asbestosis is usually out of proportion to the clinical evidences of the disease, while in silicosis in general the dyspnea becomes manifest only upon exertion even in cases of advanced fibrosis. In conclusion it is said the pulmonary asbestosis is a progressive disease with a bad prognosis and that its treatment can be only symptomatic.

Radioactive Substances as a Cause of Malignant Growths

VARIOUS studies of the effects of the industrial uses of radioactive materials were made following the discovery in 1924 of a new occupational disease occurring in radium-dial painters in New Jersey. The occupational aspects of the disease have been covered fairly completely through the study by the United States Bureau of Labor Statistics⁴ and other investigations. Dr. Harrison S. Martland, chief medical examiner of Essex County, N. J., who has been associated with the treatment and examination of many of these cases and has published numerous discussions of the findings in the cases, published an article⁵ on the occurrence of malignancy in radioactive persons, which includes a general review of data gathered in the study of the radium-dial painters.

The method of poisoning in these cases was by ingestion as a result of the general practice of pointing the brushes in the mouths. The girls affected by the radium had swallowed the paint for periods of from 1 to 4 years or more. Most of this paint was rapidly eliminated through the gastro-intestinal tract, but a small amount "was continually absorbed and eventually stored as an insoluble sulphate in particulate or colloidal form in the main organs of the reticulo-endothelial system and, above all, in the bones." The deposits in the bones were spread over the entire body, but there has been shown to be an irregular distribution in the individual bones with often a concentration especially in the dense outer layer of the bone. Once deposited in the bones, the radioactive material discharged its radiations year after year with practically no diminution. Autopsies in these cases have shown that lethal amount of radioactive substances ranged from 10 to 180 micrograms estimated as radium element, distributed over the entire skeleton. Because of the fact that dial painters usually lived several years after leaving this work, the radioactive substances found at death were limited to the bones, the organs (like the liver and the spleen) which store the substance having eliminated practically all these deposits. In former dial painters who are still living and who are suffering from the radium poisoning, it is estimated that the amounts of radium in the body are from 2 to 15 to 20 micrograms. It is possible to detect such small amounts in the living person only by the use of electrometers.

⁴ Monthly Labor Review, June 1929, pp. 20-61. A study of these cases by the U. S. Public Health Service was also made.

⁵ The Occurrence of Malignancy in Radioactive Persons, by Harrison S. Martland, M. D. Reprinted from the American Journal of Cancer, New York, October 1931.

The rays emitted by the deposits in the bones are about 92 percent alpha and only 8 percent beta and gamma. The injury in these occupational cases, therefore, is from the alpha rays, a type of radiation which has never before been known to occur in human beings. Alpha particles are said to be the most potent and destructive agent known to science. They are discharged from the nuclei of the parent radioactive atoms at an initial velocity equal to 12,000 to 18,000 miles per second. Biologically these rays are more destructive than either beta or gamma rays, the relation being 10,000 to 100 to 1, so that radioactive elements in such small quantities that the beta and gamma rays are practically harmless will produce intense physiologic effects through their alpha radiations. Mesothorium, which was largely used in luminous paint, in equilibrium with radiothorium emits five alpha particles as compared to four from radium, and also the alpha rays have a greater velocity and penetration than those of radium. In order to show the infinitesimal amount of radioactive substance necessary to destroy life, the following illustration is given: "A milligram of radium bromide is not much larger than a small grain of sand. One microgram is only one-thousandth as large, is invisible, and cannot be detected by any known chemical method. It is necessary to have only 10 micrograms, or one one-hundred-thousandth of a gram, distributed over the entire skeleton to produce a horrible death years after it has been ingested."

In addition to the 18 fatalities, there are said to be some 30 former employees of the New Jersey plant who were either suffering from typical symptoms of radium poisoning in 1931 or who because of their radioactivity might develop crippling or fatal lesions at any time. It is not known, of course, how many girls who have gone to other parts of the country may have died as a result of this poisoning, as the symptoms are so insidious and confusing that it is probable the cases would not be properly diagnosed.

Differences Between the Early and Late Cases

THERE appears to be a decided difference in the effects of the radioactivity between what Dr. Martland designates as the early and the late cases. In the first 13 deaths, which occurred from 1922 to 1928 and which had developed in from 4 to 6 years after the girls had left employment, the cases were characterized by the development of jaw necroses and anemias. In these cases the preponderance of mesothorium is considered to have been the cause of the intense radiation osteitis (inflammation of the bone) which most often appeared in the mouth, where the added possibility of bacterial infection aided the development of extensive and intractable necrosis of the jaw. In these cases there was also a leukopenic anemia of the regenerative type. In the late cases, in which from 6 to 7 years have elapsed since the termination of exposure, the patients seem to have escaped the extensive necroses of the jaw and the fatal anemias, but instead show chronic crippling bone lesions. These lesions are most frequently present in bones which are most subject to weight, pressure, and trauma. In these cases, while the anemias are of the same regenerative type, they are milder. The difference in the symptomatology of the early and late cases appears, from the electroscopic studies on radioactive persons during life and after death, to be

due to the preponderance of mesothorium or of radium. In the early cases mesothorium predominated, while in the late cases only radium has been detected in the post-mortem examinations. This is an interesting point, since there is said to have been at first a strong tendency among some of those interested in the production and therapeutic use of radium to place the entire blame on mesothorium.

The occurrence of two deaths from bone sarcomas, one in 1924 and the other in 1927, were reported in 1929. Since the end of 1929 there have been three more deaths from bone sarcomas, and three other cases have been reported. One of these cases is that of a dial painter who in 1925 was described as a healthy case, but who since then sustained a spontaneous fracture of the femur, at the site of which an osteogenic sarcoma developed. In another case in which a similar fracture was sustained, the fracture failed to unite and a sarcoma was suspected, while in the third case an osteogenic sarcoma was found in one of the pelvic bones. Dr. Martland states that "it would now appear that we have reached a point when we will no longer encounter the anemias and jaw necroses seen in the earlier cases, but instead the girls will appear with terrible, usually rapidly growing, embryonal or anaplastic osteogenic sarcomas, the result of radioactivity."

In describing radiation osteitis, the author says:

In a radioactive dial painter who has, for example, 10 micrograms of radioactive substances deposited as insoluble sulphates in the entire skeleton, there are constantly being ejected about 370,000 space-occupying alpha particles a second, with a speed approximating 18,000 miles per second. This bombardment which I have designated as an internal bombardment is continuous, and will last for an indefinite period. For instance, in the year 3491 A. D., the skeleton will still be giving off 185,000 alpha particles per second.

The effect of this bombardment is to cause successive changes in the bone and the marrow. In the first stage, owing to the change in the type and character of the blood cells, a hyperplastic red marrow is formed and the change in the type of the blood cells thrown into the blood stream causes a blood picture similar to Addisonian anemia. The second stage of the radiation osteitis is the formation of patchy areas over the skeleton which can with difficulty be distinguished from sarcoma and in which areas the sarcoma arises, while finally in the third stage the marrow is replaced by a noncellular fibrous tissue and the bones become soft, partially decalcified, and bone deformities and spontaneous fractures are likely to occur.

Other Cases of Radium Poisoning

IN ADDITION to the fact that the internal alpha radiation has this effect upon the development of malignancy in bones, an interesting point was brought out in connection with the incidence of primary carcinoma of the lungs in the cobalt miners of Schneeberg, Saxony, and in the pitchblende mines of Joachimsthal, Bohemia. About 1930 or 1931 the possibility had been suggested that the radioactive element in the ores mined in these localities was responsible for the lung cancer in these workers. The fact that an occupational disease existed among these workers has been recognized for centuries. An official investigation was made several years ago in which 154 miners were subjected to modern methods of diagnosis. During the period of study (3¼ years) 21 of the miners died, and in 13 cases, or 62 per cent, a diagnosis of carcinoma of the lung was established at the

autopsy. Many theories have been advanced as to the cause of these cancers, but in view of the fact that the ore is radioactive and there is a certain amount of radioactivity in the air of these mines, together with the points of similarity between the carcinomas of the miners and the sarcomas of the radium-dial painters, it is now believed that the radioactive emanation is the causative factor.

Conclusions

IN SUMMING up the studies Dr. Martland states that the findings indicate that it is important to have proper medical supervision over the use of radium and X-rays for therapeutic purposes, and governmental control over industries and occupations in which there is exposure to radioactive substances. The use of these substances for treatment, he believes, should be confined to hospitals and institutions which specialize in and are competent to handle such treatments, while in their industrial use there should be strict control and, if the exposure cannot be reduced to a safety minimum, the procedure should be changed, or, if this cannot be done, the industry should be discontinued.

Silicosis Among Underground Miners as an Engineering Problem

ANY or all dusts may be injurious to health, and the principal factor in dust disease is the quantity breathed, so that, while some damage may be caused by solution or chemical processes, the main cause is physical rather than chemical. These conclusions were expressed in a paper presented before the construction section of the National Safety Council at Chicago, Ill., on October 2, 1933, by Daniel Harrington, chief, Health and Safety Branch, United States Bureau of Mines.⁶

It is asserted that the solution of this serious and wide-spread industrial health problem is consequently an engineering problem and should be readily accomplished through cooperative efforts of the engineer, the worker, and the employer.

The paper discusses both quality and quantity of dusts in showing the possible injury from any kind of dust if present in the air in minute form and breathed in large quantity over long periods of time, though it is admitted that hard, sharp, and insoluble material, such as flint or silica, may be more harmful than coal, limestone, or shale dust, if present in similar quantities. Reference was made to examinations of coal miners, disclosing nasal, throat, or bronchial trouble, and even miners' consumption.

Attention is also called to the attitude of some employers, who deny the existence of any dust diseases among their employees, and of the miners themselves, who frequently oppose all attempts at physical examinations or the use of any remedial equipment or methods. It is claimed that there appears in many instances a concerted effort to hide the facts.

⁶ Occupational Disease Hazard of Silicosis in Construction Operations, and Its Prevention. Published by permission of the Director, United States Bureau of Mines. Washington, 1933. (Mimeographed.)

Measures listed as essential for the prevention of dust diseases are: Use of water in drilling, or in sprinkling surfaces, or in connection with processes; adequate ventilation to remove fine dust particles in the air; installation of best available equipment for the prevention of dust formation; physical examination of workers and transfer of affected persons to nondusty operations; and disinterested investigations to obtain dependable data for use in the regulation of conditions.

Silicosis: Three Acute Cases

ALTHOUGH the danger of the development of chronic silicosis after long-continued exposure to silica dust has been known for many years, it is only within a recent period that the hazard of short exposure to dusts containing silica has been recognized. Three cases of acute silicosis were reported,⁷ which developed in a factory manufacturing scouring soaps or powders.

The first case reported is that of a young man who was employed in November 1928 to mix dry silica and soap in an open machine. No protective measures were taken and he worked, therefore, in a very dusty atmosphere. He continued at this work without protection and in the summer of 1930 an irritative dry cough and labored breathing developed. These symptoms became rapidly worse, and in January 1931, 26 months after beginning employment in this plant, he was incapacitated for work. An X-ray of the chest at that time showed advanced silicosis. The case was reported to the authorities and in March the machines in the plant were condemned and production stopped. Upon admission of the patient to the hospital in October 1931, tests for the presence of tubercle bacilli were negative but the roentgenograms showed that the middle four-fifths of both lung fields were obliterated and that only the apexes of the lungs and the portions just above the diaphragm were receiving air. The patient was placed in an oxygen tent to relieve the labored breathing but lived only 18 days after entering the hospital. At autopsy the lungs were found to be about half the normal size, the middle portions of the lungs being shrunken and fibrotic and of almost the hardness of stone. Upon being cut, these parts of the lung were found to be very firm and gritty.

The second case was that of a middle-aged workman who had been employed for 10 years as a foreman in the same plant prior to being placed in charge, in December 1926, of two new machines used to mix silica and soap. He assisted in the operation of these machines but spent several hours daily in other parts of the plant. Eight months later difficult breathing and a cough developed, which progressed until he was capable of only a limited amount of work. In June 1930, he was seriously ill with pneumonia, his case requiring a long period of convalescence, and in December 1931, after contracting an ordinary cold, he was admitted to the hospital. No tubercle bacilli were found in the sputum, but an X-ray of the chest showed that the upper two-thirds of the right lung were dense and slightly mottled, and that there were also areas of denseness in the left lung. The findings of the examination indicated advanced silicosis. Death occurred about a week after admission to the hospital but an autopsy was not obtained.

⁷Journal of the American Medical Association, Apr. 23, 1932, pp. 1439, 1441: Acute Silicosis, by Earle M. Chapman, M. D.

The third case, that of a man aged 27, was first seen in November 1931. This man had worked at the same mixing machines as the other two for about 9 months in 1927, and from March 1928 until the latter part of 1930. During the last year that he worked in the plant he suffered from dyspnea and a cough with mucopurulent sputum which was profuse in damp weather. The clinical examination indicated that the patient had acute silicosis although the X-ray picture failed to establish a positive diagnosis. Hypertrophy of the heart was revealed, however, by the radiograph and this was considered to be due to the increased resistance and loss of elasticity in the pulmonary vascular bed. This finding was important in arriving at a diagnosis of the disease in this patient.

In commenting upon the three cases, Dr. Chapman said that the appearance of respiratory symptoms after 8, 21, and 29 months' exposure to an alkaline dust of high silica content shows a more rapidly severe silicosis than is usual, although a fully developed case of the disease after 8 months' exposure has been reported in a lens grinder who was exposed to pure quartz dust for this length of time. The rapidly fatal cases of two young girls who were employed in England in packing a similar cleaning powder are also cited.⁸ The severity of the respiratory symptoms is said to be shown by the marked decrease in the vital capacity in the three cases, in the first of which the loss was greater than is usually seen in cases of uncomplicated cardiac failure.

Silicosis in the Granite and Foundry Industries of Massachusetts

A SPECIAL commission established by the Legislature of Massachusetts and approved by the Governor on July 12, 1933, to investigate the problems of diseases caused by dust in the granite and foundry industries, of protection against such diseases, and of compensation insurance in these industries and for industrial diseases in general, submitted its report⁹ to the general court of Massachusetts on February 1, 1934.

The commission found that conditions in the three-hundred-and-odd granite establishments of the State with regard to control of harmful dusts were extremely bad and that, with the exception of one building in a single plant, a safe workplace could not be found anywhere. It concluded that the dust-control installation in this building proved that the dust hazard can be almost eliminated in practically any type of granite-cutting operation through intelligent engineering principles combined with adequate maintenance and supervision. Proper exhaust ventilation is advocated.

While conditions were found generally better in the foundry industry, the survey showed that the recognized methods of dust control were not followed in many of the 227 plants, and were inadequately maintained in even the best-equipped establishments. The committee recommended substitution of nonhazardous processes where possible, isolation of the hazardous processes, and the use of approved respiratory devices.

⁸ See Monthly Labor Review, December 1930, pp. 93-95.

⁹ Massachusetts. Special Industrial Disease Commission. Report to the General Court. Boston, February 1934. (House No. 1350.)

In accordance with the resolve providing for the investigation, the committee recommended that legislation be enacted—

1. Authorizing the department of labor and industries to prepare and issue preventive rules and regulations.
2. Requiring operators in the granite and foundry industries to procure revocable certificates of compliance.
3. Making workmen's compensation compulsory in the granite, foundry, and other hazardous industries.
4. Requiring carriers writing workmen's compensation insurance to accept undesirable but insurable risks, and providing equitable distribution of occupational disease losses among such companies.
5. Providing for physical examination of workers in the granite and foundry industries, and for financial and other assistance for such workers found physically unfit to continue in such employment.
6. Restricting compensation coverage for pulmonary disability.
7. Authorizing the department of labor and industries to make investigations.
8. Authorizing payment of fees to physicians for reports of disease.
9. Authorizing the commissioner of insurance to approve merit rating and restricting the cancelation of workmen's compensation insurance policies.
10. Establishing a division of occupational hygiene in the department of labor and industry.
11. Adding a medical staff to the division of adult hygiene of the department of public health.
12. Establishing a medical board of review.
13. Authorizing the department of industrial accidents to prepare statistics on occupational injuries.

The committee had been created as a result of the realization of the silicosis menace. A constant increase in claims for disability from silicosis in the granite industry of the State had caused advances in compensation-insurance premium rates from \$2.84 per \$100 of pay roll before December 5, 1927, to \$10 in 1930 and later to \$12. Even this rate was inadequate. By the spring of 1933 nearly every insurance company had withdrawn from the field, and (with the exception of a few firms) coverage could be obtained only at a rate based on expected total incapacity of the workers then employed within a 10-year working period. This rate was regarded by the employers as beyond their means, and the employees were consequently deprived of insurance against the results of occupational disease and of the means of reimbursement through the workmen's compensation law in cases of injury through accident.

A partial investigation of granite establishments had been made in 1932 by the department of labor and industries. This was extended, dust counts were made, equipment was inspected, and operations were analyzed. Physical examinations were made of 961 of the 2,100 granite workers and of 1,614 of the 6,700 foundry workers in the State.

The survey disclosed that 146, or 15.2 percent, of the 961 granite workers examined suffered from silicosis; 73, or 7.6 percent, from silicosis complicated with tuberculosis; 13, or 1.4 percent, from tuberculosis. Additional silicosis suspects numbered 122, or 12.7 percent; and 4 others, or 0.4 percent, were considered as tuberculosis suspects; leaving 603 workers, or 62.7 percent of the total examined, classed as negative, but including 71 workers whose X-ray films were unsatisfactory.

X-ray examinations of foundry workers showed 143, or 8.8 percent, with silicosis; 42, or 2.6 percent, with silicosis and tuberculosis; 14, or 0.9 percent, with tuberculosis; 175, or 10.9 percent, as silicosis suspects; and 10, or 0.6 percent, as tuberculosis suspects; leaving 1,230, or 76.2 percent, negative.

It was found the presence of silicosis, uncomplicated or combined with tuberculosis, is positively correlated with the duration of exposure and dust concentration among the granite workers; and that tuberculosis was the final cause of death in more than one-third of all granite workers, a proportionate mortality three times that in foundry workers and four times that in all males of 20 years or over.

Among foundry workers silicosis was found to be less frequent and also less advanced in degree; but, while the proportionate mortality from tuberculosis was above the general average, the final cause of death in about one-fourth of all foundry workers was pneumonia.

Silicosis and Tuberculosis Among Miners in Oklahoma, Kansas, and Missouri¹⁰

A STUDY of the prevalence of silicosis and tuberculosis among miners in the tri-State mining district, located in southwestern Missouri, southeastern Kansas, and northeastern Oklahoma, was made by the United States Bureau of Mines in cooperation with the Metropolitan Life Insurance Co. and the Tri-State Zinc and Lead Ore Producers Association.

Two reports, issued in 1933, dealt with the data obtained by physical examination of men employed in the lead and zinc mines of the Picher mining district of Oklahoma and Kansas. A small clinic was established at Picher in 1924, and in 1927 the facilities of the clinic were enlarged so that the necessary examinations and treatment could be given.

The reports cover the years ended June 30, 1928 and 1929, the number of men given physical examinations in the 2 years being 7,722 and 8,853, respectively. In 1928, 1,647, or 21.3 percent of those examined, were definitely diagnosed as having silicosis, while 267 were diagnosed as having silicosis complicated with tuberculosis, and 104 as having tuberculosis without silicosis. Of the 5,113 men examined in 1929, 1,116, or 21.8 percent, were found to be suffering from silicosis, 138 from silicosis complicated with tuberculosis, and 46 from tuberculosis alone. Only 2,999 of the men examined in 1928 were at work in the mines in 1929.

Silicosis has been divided arbitrarily into various stages in different countries. In the United States it is divided into three stages: (1) That in which there are definite physical signs of damage to the lungs from the dust; (2) that in which the capacity for work is impaired by the disease, though not seriously; and (3) that in which the capacity for work has been seriously and permanently impaired.

The subjective symptoms of the disease, particularly in the early stages, are vague and less frequent than would be expected from the X-ray findings. The incidence of cases with a cough increases with advance in silicosis or in silicosis and tuberculosis. Difficult or labored breathing has long been considered the major symptom of silicosis. The presence of this symptom is noticeable in the first and second

¹⁰ U. S. Bureau of Mines. Technical Papers Nos. 545 and 552: *Silicosis and Tuberculosis Among Miners of the Tri-State District of Oklahoma, Kansas, and Missouri*. Washington, 1933.

stages; it is always present in third-stage cases, and many show distress on the least exertion. The incidence of dyspnea increases when silicosis becomes complicated with tuberculosis. With the advance in the silicosis the dyspnea becomes more severe and in the final stage the fight for breath overshadows all other symptoms. In uncomplicated cases of silicosis there is little expectoration but this increases if the silicosis becomes complicated with tuberculosis or other infection. Hemorrhage is more general in silicotics than would be expected, amounting to 3.12 percent in advanced cases, but although the men believe the blood is from the lungs, in many cases it comes from the nose and throat. The incidence of this symptom increases when the silicosis becomes complicated with tuberculosis. Loss of strength in silicotics is believed to be due to the dyspnea and not to muscular weakness as is the case in tuberculosis. Various gastro-intestinal symptoms, such as are commonly grouped under the term "indigestion", are common, but the symptom of this type most frequently mentioned is loss of appetite. Pain in the anterior part of the chest is a common symptom although the pain is vague and flitting. Night sweats are reported occasionally but it is considered doubtful if they are associated with uncomplicated silicosis. Head and chest colds are frequent in cases of silicosis, the percentage of those complaining of frequent colds ranging from 24.23 in first-stage silicosis to 48.85 in third-stage silicosis. None of these symptoms are constant findings but one or more are usually present, especially in the later stages of the disease.

It is stated in the report that "the appearance of perfect health with marked pathology revealed by X-ray examination is a symptom of considerable diagnostic importance. Silicotics appear healthy, have ruddy complexions and red lips, are unusually muscular, and stand more erect than the average person. The data obtained tend to confirm these observations and further to show that even after silicosis becomes complicated with tuberculosis marked emaciation and anemia are not noted as frequently as in tuberculosis uncomplicated with silicosis."

An interesting point brought out by the examinations was the relation of coal dust to the development of silicosis. It has been thought by some authorities that coal dust is not only harmless but prevents silicosis. Of the men examined in the 2-year period, 1,244 had formerly worked in coal mines. It was found that there was "a definite increase in the incidence of silicosis among former coal miners and a small increase in silicosis plus tuberculosis and in uncomplicated tuberculosis for both years. The total number of years the former coal miners worked in coal and hard rock before silicosis developed approximates closely the number worked by hard-rock miners, but the period the ex-coalminers worked in hard rock before silicosis developed was much shorter than for men who had worked in hard rock only."

Skin Disease from Brazilian Walnut Wood

AN OUTBREAK of dermatitis early in 1931, in a cabinetmaking plant employing about 100 men, led to an investigation ¹¹ of the causes by

¹¹ U. S. Public Health Service. Public Health Reports, Aug. 14, 1931. Dermatitis Venenata Due to Contact with Brazilian Walnut Wood, by Louis Schwartz, senior surgeon.

the United States Public Health Service. At the time the cases occurred the men were working on Brazilian walnut.

The cases, 11 in all, developed in from 2 days to 2 weeks from the beginning of exposure. The workers who were mainly affected were those who came in contact with the sawdust and those who sandpapered the wood. In addition to those who developed the dermatitis, many of those working in the room developed a coryza and sneezing while at work. The first symptoms were burning and itching of the face and eyelids, which in some cases were limited to those parts but in others spread to the hands, neck, and other exposed parts of the body. In general, the men were not incapacitated for work but recovered after a few weeks, from which it appeared that a tolerance to the wood might be developed in susceptible individuals. In some cases there was swelling of the face and eyelids and the itching and burning was accompanied by a papular, scaly eruption. The dermatitis was so severe in three cases that work had to be given up for a time.

Patch tests of the irritative quality of the sawdust were made on three volunteers. There was a positive reaction under the patch at the end of 24 hours in each case, which varied from a mild redness of the skin with a few small blisters, which lasted only 1 day, to a very marked erythema lasting more than a week.

Sulphur Dioxide—Effects of Prolonged Exposure

THE common use of sulphur dioxide as a refrigerant, with its consequent introduction into the household, together with the continual or frequent exposure of workers to sulphur dioxide in certain trades, notably the refrigerator industry, led to a study¹² designed to show the extent of residual or permanent damage, if any, occurring among persons subject to such exposures. The study was carried out in the factory of one of the large manufacturers of electric refrigerators. Conditions for the study were found to be highly satisfactory, since there was a large number of workers who had had long exposure to a known basic concentration of the gas as well as frequent exposure to high concentrations for short periods.

One hundred subjects were chosen for examination on the basis of severity and duration of exposure, 47 of whom had had from 4 to 12 years of exposure. The majority of these workers came from the sulphur storage and distributing department, the refrigerating-unit charging department, and the repair department.

The charging department, from which a large proportion of the exposed subjects were taken, had had an effective ventilating system and a system of air analysis since 1927, and since that time the concentration of gas in the atmosphere had been lower and subject to smaller fluctuations. An analysis of the air of this room during August 1929 showed a range of about 8 to 45 parts per million parts of air, while in the winter months when the windows are closed the concentrations were somewhat higher. The average concentration was also increased during periods of rush production and when inexperienced workers were being trained. The concentrations were generally higher in the storage and distributing department than in the charging department, with an average of about 30 parts per million. In the charging

¹² The Journal of Industrial Hygiene, May 1932, pp. 159-173: On the Effects of Prolonged Exposure to Sulphur Dioxide, by Robert A. Kehoe, Willard F. Machle, Karl Kitzmiller, and T. J. LeBlanc.

and discharging departments and particularly in the repair department there was liability, also, to brief but temporarily unendurable exposure to sulphur dioxide from which the operator was obliged to escape.

Exposure to sulphur dioxide results generally in acclimatization; that is, the acquirement of the ability to endure the customary basic exposure without great increase in the initial symptoms. The time necessary for acclimatization varied considerably but in the exposed group it was found that about 80 percent had become acclimatized. The symptoms among the exposed group were divided into three classes: Initial symptoms which developed before acclimatization, symptoms arising from the minimum or usual exposure either with or without acclimatization, and the symptoms arising from heavy exposure.

The initial symptoms are confined to the respiratory tract, the most frequent symptoms being irritation of the upper respiratory tract, followed by coughing, hemorrhage from the nose, constriction in the chest, and spitting of blood, the clinical importance of the symptoms being almost the exact reverse of the order in which the symptoms appear. A comparison of the general symptoms among the two groups showed that many symptoms had no significance but there was a significant increase among the exposed group of shortness of breath upon exertion, increased fatigability, altered sense of taste or smell, and increased sensitivity to other irritants.

It was found that exposure to the sulphur dioxide under the conditions prevailing in the plant produced two separate sets of symptoms; first, irritation of the upper respiratory tract, which is first acute, becoming subacute or chronic; and second, systemic symptoms of a mild type such as are associated with any type of increased acid absorption or production in the tissues. In this connection "the high degree of correlation shown between the systemic symptoms and the frequency of severe exposures indicates that the human organism has a high degree of adaptability to a regular moderate exposure, and that it suffers no apparent injury from such an exposure. In the case of intense exposures, even though they occur frequently, there is no evidence of damage of a serious or permanent type."

There was no evidence that the persistent chronic rhinitis and pharyngitis which was present in many of the exposed group caused the development of chronic disease of the lungs and bronchi and it was considered, from the absence of such results, that the irritation of the upper respiratory tract was not regularly associated with infectious processes but that the persistent "colds" reported by many of the subjects were not colds in the ordinary sense but a chronic catarrh due to chemical irritation.

The roentgenograms showed that there was no appreciable residual injury to the lungs and bronchi resulting from inhalation of the sulphur dioxide, although there can be no doubt that there is injury to the pulmonary epithelium when high concentrations are inhaled. On the basis of the numbers examined and the variety of exposure to which they were subjected, it was concluded that there is no appreciable health hazard in frequent or more or less continuous exposure to endurable concentrations of sulphur dioxide, and that the effects of exposure to unendurable concentrations under conditions which allow of quick escape are negligible.

Vitreous Enameling Hazards

A STUDY¹³ of the hazards to which women are exposed in vitreous enameling in the stove industry, made by the United States Women's Bureau, covered the enamel departments of 45 factories employing a total of 1,330 women.

The facts in the study were brought out through an inspection of the work places; the determination of the lead content in the enamel used, whenever this was possible; and interviews with a large number of women in their homes to determine, if possible, the effect the work had had upon their health. Altogether 686 women were interviewed. The women employed in enamel work fell into two groups—those applying an enamel spray, not all of which contained lead, and those employed as brushers who remove the excess of enamel after it has dried. The sprayers are subjected to the greatest lead exposure, as much of their work is done on cast iron which is covered with lead enamel, while the brushers are chiefly employed on sheet iron on which a leadless enamel is used. Comparisons were made, therefore, between the sprayers and brushers, as it seemed probable that if there was any marked difference between these two groups of women employed in the same establishments it could be assumed that the lead was largely responsible. It must be remembered, however, that the comparison is not between a perfectly normal group and a group exposed to lead but between two groups of varying degrees of exposure. In spite of this fact, it was considered that the figures were decidedly significant. Thus, the report states:

Over 50 percent more sprayers than brushers complained of a metallic or sweetish taste, indigestion, constipation, and menstrual disturbance. Other findings are that illness among the sprayers with symptoms suggestive of lead poisoning was more prevalent than any other form, although in general industrial experience the common cold always leads in frequency. The sprayers had a higher rate of absences due to ill health than had the brushers, 18.5 percent of the sprayers who left work doing so because of illness, while only 8.8 percent of the brushers gave illness as the cause. A rather ominous finding is this: That among the sprayers, those between 16 and 18 years yielded the highest percentage of illness suggestive of lead poisoning.

It has been shown by studies in this country and abroad that there is greater susceptibility to lead poisoning among young persons. In the industry studied it was found that more than one-fourth of the women covered were under 20 years of age and more than half were between 20 and 30 years; also an unusually large proportion of the women were married, which is regarded as a serious feature of the report as it has been known for more than a century that lead is a race poison.

Of a total of 670 women reporting on whether or not they had symptoms indicative of lead poisoning, 198 reported that they had one or more symptoms. About one-third of these women reported a single symptom, but more than one-fourth reported five or more. Among those reporting 3 or more symptoms the 3 occurring most frequently were loss of weight, indigestion, and metallic or sweet taste. There was a considerable difference in the relative frequency of certain symptoms among the sprayers and among the brushers, a very much larger proportion of sprayers having constipation, indiges-

¹³ U. S. Women's Bureau. *The Employment of Women in Vitreous Enameling*, by Ethel L. Best. Washington, 1932.

tion, nervousness, menstrual disturbance, metallic or sweet taste, and loss of appetite. Among the brushers the two symptoms which were most common were loss of weight and headache.

Dr. Alice Hamilton in the preface to the report states:

We may as well face the fact that the enameling of stoves, an industry of rapid growth and with probably a great future expansion, is one which subjects a large number of women to the danger of lead poisoning and that these women are not under present conditions efficiently protected against the danger. Even under the best conditions and supervision there will always be some danger; and therefore the most practical suggestion which can be made to the men at the head of the industry is that they substitute leadless enamel for lead enamel, a change which is greatly facilitated by the change from cast iron to sheet metal, which has already been made by a number of manufacturers.

Wood Industry: Occupational Diseases

AN ACCOUNT of the effects of exposure of workers to the dusts or resin of different woods was given in the September-October 1931 issue of the Bulletin of the International Union of Woodworkers (Berlin).

Although it has been demonstrated repeatedly that many species of wood, especially those growing in the Tropics, contain active poisons, the actual number of cases of disease reported from this cause has always been relatively small. The relative infrequency of diseases reported as due to this cause is accounted for by the slow action of many of the poisons, with the result that the cause of the disease is lost sight of, and also by the fact that many physicians are not familiar with the occupational conditions under which the disease was contracted and do not, therefore, associate it with the occupation. It has been difficult to carry out systematic research, because many tropical woods have not been accurately classified and also because many of these woods, although they are quite different botanically, are marketed under the same commercial name either because their appearance is similar or they are alike in some specific technical quality. There is also a difference in individual susceptibility to the poisonous properties in these woods, some persons being entirely immune to their effects, while in others the susceptibility is either constitutional or is gradually acquired by working with the woods.

The most frequent symptoms of poisoning from wood are the various forms of skin diseases. The skin affection may vary from a slight reddish irritation to a general eczema. Eruptions resembling measles or scarlet fever are often accompanied with intense itching and pain, and when healing takes place there is scaling of the skin, which may be repeated several times. Local lesions generally appear first on all directly exposed parts of the body, but may spread to other parts of the body either through absorption through the skin or by being carried by the hands. In the more serious cases there may be discharge of pus and scab formation, and in such cases there may be digestive disturbances, including diabetes, kidney complaints, etc., and tuberculosis. Among the other general effects of the poisonous woods are palpitation of the heart, shortness of breath, and dizziness. Persons who have once suffered from eczema may develop a hypersensitiveness, so that even working in a room where the poisonous woods are being handled may cause a return of the disease. In some cases even working with ordinary harmless woods will cause a recurrence, and in such cases the only remedy is complete change of work.

The harmful effect of the poisonous woods is due to the volatile poisonous oils and alkaloids which they contain.

Among the woods which are recognized as being poisonous or which are considered potentially harmful because of the elements they contain are the following:

The wood of the date and coconut palms, which has dark stripes on a white ground, and the almost black wood of the Tabago palm are all marketed under the name of "zebra wood." These woods are used in mosaic work and for buttons and walking sticks. They are believed to be poisonous but may have been confused with zebrano or zebra wood, which comes from Jamaica.

Moule wood (also known as "iroko", "odum wood", "bang wood", or "momangi") is decidedly poisonous, causing irritation of the skin and eyelids. This wood is considered one of the best building and furniture woods from West Africa, being used as a substitute for teak.

Ironwood coming from the West Indies causes vomiting and inflammation of the skin.

The fibrous inner bark of various members of the magnolia family, including the wood of the tulip tree, contains a poisonous alkaloid.

West Indian greenheart, a very hard wood resembling *lignum-vitae*, contains an alkaloid called "bebeerine" which causes nausea, diarrhea, and spasms.

A hard yellowish-red wood called "*Hydrangea paniculata*", used in making tobacco pipes, is considered to contain a poison which has an irritating effect on the mucous membranes.

Red gum, sometimes called "amber wood", or "satin walnut", causes blisters on the skin which, however, neither itch nor smart.

A large number of trees belonging to the Leguminosae family contain poisonous properties. These include Indian rosewood or blackwood, one of the most valuable cabinet woods, which causes itching and urticarial eruption; a hard, yellowish-brown wood—*cytiscus alpinus*—which comes from central Europe and contains a powerful poison, cytisine, which may cause inflammation of the throat, nausea, stomach and head aches, retention or suppression of urine, giddiness, and unconsciousness; and partridge or panako wood coming from Brazil and Guiana, which contains an element irritating to the skin. Saponine, which causes inflammation of the skin and general functional disturbances, is found in an East Indian variety of ebony known as "sirir" (or "sirsa") wood, in Indian "purple" or "violet" wood, and in African "rose" or "black" wood. From West Africa comes a wood of reddish color used for veneering, which is called "red-water tree", "ordeal tree", or "sassy bark." This wood contains a strong poison which affects the heart. This poison is used by the natives for ordeals or for poisoning arrows. It causes nausea, headache, shortness of breath, a slowing down of the heart action, dizziness, and loss of sensation in mucous membranes which are directly exposed to it. The dark coccoloba from Central America used in the manufacture of knife handles, brush tops, and similar articles, may cause irritation of the skin with intense itching.

Satinwood from Guiana and the Antilles and ironwood from Jamaica cause papulo-vesicular eruptions. Other trees of the *Xanthoxylum* or rue family are poisonous, arresting the sensory powers of organic tissues and causing heart paralysis. One of the best known of this species is zebrano or zebra wood from Jamaica. Aus-

tralian moa or moha wood, a hard kind of teak, is suspected of being poisonous, but there is a possibility of its having been confused with certain Ceylon and Malabar varieties of teak which are also marketed under the name of moa. Indian satinwood is said to be probably the first wood to have received scientific study of its toxic effects. This is a heavy wood of sandy color containing an alkaloid called "chloroxylinin", which causes intensely itching papulovesicular eruptions. The dermatitis may be accompanied by nervous irritability.

The white wood of *Excoecaria agallocha*, belonging to the Euphorbia family, contains a corrosive milky juice which may cause dangerous ocular irritation.

A beautiful reddish Indian wood called "renghas wood" contains a strong poison which causes itching eruptions and even wounds. Severe cases of eruptions have been reported in persons using chairs made from this wood which were several years old. The resin of this wood contains caustic cardol compounds. Another member of this species (*Melanorrhea curitisii*) causes burning pain, inflammation, pustules, fever, and general disturbances within 24 hours from the beginning of exposure, and its toxic action is so strong it may even cause death. In workers handling the timber it causes ulcers which are difficult to heal. The sumach species of North America, which belong to this family, are also extremely poisonous.

Amboyna wood, a very valuable cabinet wood of reddish-yellow color, causes itching skin lesions.

Teak from Ceylon, which is sometimes marketed as moa or bassia wood and which resembles mahogany, may cause very painful inflammations of the skin, accompanied by swelling and the formation of scabs. The poisoning is the result of the action of the nonsaturated resinous acids which are present in a free state. Teak, or djati, which is the color of chocolate, causes severe skin lesions which may last some weeks.

Ebony from Bombay, Makassar, and Ceylon, belonging to the *Diospyros* group, is likely to cause vesicular eruptions.

African boxwood, which is used in the manufacture of shuttles and musical instruments, contains an alkaloid which causes paralysis of the nerve cells; inflammation of the conjunctiva, respiratory passages, nasal mucous membrane, and larynx; and shortness of breath, headache, and mental depression.

West Indian greenheart, also called "green ebony", is used for making walking sticks and for high-grade cabinetwork. Inflammation of the skin in those handling this wood is caused by the nonsaturated resinous acids which are present in the wood in a free state. Other species of this wood are harmful on account of the alkaloids which they contain.

Other woods which are suspected of being poisonous are East Indian ironwood and the valuable brownish-red ironwood, or king's wood, which comes from Sumatra.

Health of Workers in Dusty Trades

GRANITE cutters showed by far the highest disability rate, especially for pulmonary tuberculosis; respiratory disease rates were relatively high for anthracite miners and for employees of the Portland cement plant studied. The 8-day and longer respiratory disease rates were not much above the average for male industrial workers generally in the studies of other types of dust; that is, soft-coal mining, a textile plant, silverware manufacturing, and street cleaning.

The above facts are shown in a series of six studies on the effects of specific types of dust on the health of workers, completed in 1933 by the United States Public Health Service, the results of which were briefly summarized in the November 17, 1933, issue of Public Health Reports. The dusts covered in the studies include cement dust, siliceous dust in the granite-cutting industry, carbon dust in the anthracite and bituminous coal industries, vegetable dust in cotton-cloth manufacturing, dusts from silverware manufacturing processes, and municipal dust to which street cleaners are exposed.

Physical examinations and X-rays were made of groups of workers who were observed over a considerable period of time in order to determine the character and severity of sickness they experienced so that the illnesses could be correlated with occupational environment. Dust determinations were of a uniform character so that it was possible to obtain a fairly accurate estimate of the dustiness of the occupations, the upper and lower limits, and the changes which might take place especially at different seasons of the year. Sickness records were kept for each person in a group, and workers who showed any evidence of lung pathology were placed in a special group for further examination. In most of these special cases X-rays were made of the chests and sputum examinations were made where necessary.

The frequency of cases of respiratory disease causing disability for more than 1 week was used as an index of the effect of dust exposure, as it placed the emphasis upon the more serious disabilities and facilitated comparison with other industrial groups.

The nature of the respiratory diseases differed among persons exposed to different types of dust. Thus, in granite-cutting plants the rate for pulmonary tuberculosis was very high, in the hard-coal group the rates were highest for influenza and bronchitis, and there was an unusual frequency of influenza among employees of the cement plant, in spite of the fact that there was no epidemic of consequence during the periods in which records were kept.

An association between the amount and character of dust in the working atmosphere and the health of the workers was shown by the physical examinations and the X-ray findings. Serious physical impairment was found where the workers were exposed for long periods to large amounts of dust containing a high percentage of quartz. In industries where the dust concentration and quartz percentage were relatively low only a mild fibrosis was found which in most cases could not be regarded as due to the particular dust.

The following table gives estimates of the degree of the dust hazard in the different studies.

SUMMARY OF DEGREE OF DUST HAZARD AS SHOWN IN SIX STUDIES BY THE UNITED STATES PUBLIC HEALTH SERVICE

Study	Average dust count in millions of particles, per cubic foot of air	Average percentage of free silica (quartz)	Other characteristics of dust	Degree of hazard (under conditions as observed in each study)
Granite cutting:				
(a) Hand pneumatic operators	59	35	Remainder mostly combined with silica.	Great excess of pulmonary tuberculosis after 15 years or more exposure; silicosis in from 2 to 10 years. Silicosis after prolonged exposure; no excess of tuberculosis. Negative except for occasional non-disabling silicosis.
(b) Surface-machine operators, etc.	36			
(c) General air	20			
(d) Less than general air	9			
Anthracite:				
Rock drillers	82	31	Siliceous rock	Data insufficient; other studies show severe hazard.
Miners and miners' helpers	232	1.5	Carbon and inorganic matter.	Dyspnea and other signs of pneumoconiosis; excess sickness from respiratory conditions; excess mortality from influenza, pneumonia and possibly tuberculosis.
Bituminous coal:				
Rock drillers	78	54	Sandstone	Data insufficient; other studies indicate severe hazard.
Loaders and machine men	112	1.2	Carbon	Generalized fibrosis chiefly linear in character; excess mortality from influenza and pneumonia.
Cement	26	6-8	Primarily lime	Some early pneumoconiosis; excess of diseases of upper respiratory tract and of influenza.
Cotton-cloth manufacturing	7	-----	Vegetable and silica.	Negative.
Silverware manufacturing	5	1.7	Metal and other	Do.
Municipal	4	-----	Not determined	Do.

Effects of Different Temperatures on Health and Efficiency

A PAMPHLET issued by the Metropolitan Life Insurance Co.¹⁴ deals with the air conditions and temperatures which contribute to the comfort and efficiency of workers.

The harmful effects of air conditions on the human body are the result of abnormal deviations in its physical properties, such as air pressure, gaseous constituents, and the presence of impurities such as dusts, disease-producing bacteria, and toxic gases. The physical properties of the air which determine the comfort or discomfort felt by the human body are the temperature, the moisture content, and the rate of air movement. Formerly it was believed to be necessary to control the air temperature only, without regard to its moisture content or rate of movement, and certain degrees of temperature were, therefore, recommended as standards. But it is now understood that the moisture and air movement are also important. In order that the human body may maintain a constant temperature, the clothing must provide adjustable insulation for downward temperatures, or provision must be made for adjusting the temperature of rooms, while for the upward range of temperature the body must be able to give off to the environment the excess of body heat. Practically all the excess of body heat is given off by radiation, by con-

¹⁴ Metropolitan Life Insurance Co. Policyholders Service Bureau. Industrial Health Series No. 5: Air Conditions and the Comfort of Workers. New York [1932].

vection—that is, by diffusion through the motion of currents of air—and by evaporation. The amount lost in each of these ways is determined by the temperature, the moisture content of the air, and the amount of air movement. When the temperature of the environment rises the radiation and convection decrease until, when the outside temperature reaches that of the body, all loss by radiation and convection is stopped and evaporation of water from the body surface alone remains. When the surrounding temperature is higher than that of the body the conditions are reversed and heat passes from the air to the body.

It seems impossible to maintain a temperature for a group of individuals which is acceptable to everyone, so that within a certain range it is desirable to maintain the temperature of the work place or other location at a point which is satisfactory to the larger number, leaving the others to accommodate themselves to the selected conditions by adjustment of clothing.

In winter it has generally been considered that a temperature range between 68° and 72° F. is desirable for sedentary workers. It is also considered advisable to provide a fair percentage of moisture in the air, both because air low in moisture content tends to dry up the mucous membranes of nose, throat, and lungs, thus lowering the resistance of these organs to infection, and because it has been demonstrated that comfort demands higher temperatures when the percentage of moisture is low. Excessive humidity, on the other hand, is undesirable because it interferes with the normal evaporation of moisture from the skin. A range of relative humidities between 40 and 60 percent is considered to be practicable and acceptable and an air movement of about 25 to 35 linear feet per minute is regarded as usually satisfactory. In summer the maintenance of such temperatures indoors is undesirable whenever the out-of-door temperature is excessively high, because of the sensations of intense heat or of chill experienced on leaving such a building. On this account the indoor temperature should not be reduced more than 10° to 15° below the outside temperature under maximum outside conditions.

Engineers have correlated the physiologic responses of the body to a great variety of environmental temperature conditions and have decided upon the temperature, humidity, and air-motion combinations which give equal sensations of warmth or cold. The index of these conditions has been named the "effective temperature."

Experiments on human subjects exposed to unusual temperatures and humidities under accurately controlled conditions have shown that these persons lost physiological efficiency beyond certain temperature limits. The upper limit for a man at rest and in still air is about 90° F., saturated or effective temperature. This upper limit is raised to about 95° if an air circulation equal to 200 feet per minute is set up, due to the cooling effect of air motion, and the limit is raised still higher if the air velocity is doubled. If physical work is done it was found that the limit of heat which can be endured physiologically falls considerably below 90° and if muscular work of 90,000 foot-pounds an hour is performed the limit is about 80° effective temperature. These temperature limits will be slightly modified by seasonal variations and differences in clothing. Above these temperature limits the mechanism of the body becomes affected by the overheating; while the body makes strenuous efforts to resist the rise

in its temperature by evaporation from the surface through perspiration, the limit of the effect of this action is reached in temperatures exceeding the above limits, with the result that physiological reactions occur.

The most apparent of these reactions occurs in the circulatory systems, evidently starting with the rise in skin temperature. There is an increase in the heart rate, flushing of the skin, and profuse sweating, and as sweating continues the volume of the circulatory blood supply may be substantially reduced through loss of water from the blood. As this results in insufficient blood returning through the veins, the heart compensates for the loss by beating faster. It is considered probable that under these circumstances the surface blood vessels fail to maintain their tension as shown by the fall of the diastolic (dilation) blood pressure and the rise in the systolic (contraction) blood pressure. A rise in the body temperature accompanies these changes in the circulation.

The degree of discomfort felt by the subjects of the experiments appeared to be better determined by the increase in the pulse rate than by the rise in body temperature. When the pulse rate exceeded 135 beats a minute, the subjects complained of discomfort, headache, palpitation of the heart, and extreme thirst, and became restless and irritable. With an increase in the pulse rate to over 160 beats a minute, the condition became distressing and unbearable, with dizziness and confusion, followed frequently by nausea and numbness or soreness of the face. Increase in the severity of the test beyond this point caused a feeling of "floating in the air" and the experiments were stopped because of fear of heat stroke.

There was a slight increase in internal temperature when the subjects left the test chamber, but the pulse rate dropped rapidly and there was immediate improvement in their condition which returned to normal in a short time. The principal after effect was lassitude and extreme thirst, although the free drinking of water during the exposures apparently had little or no effect on delaying the other physiological reactions.

The necessity for controlling unfavorable temperature conditions is shown by these few examples of the many changes which occur within the human body when subjected to conditions which prevent the usual loss of surplus body heat. Even when these body changes are very slight it has been found that the disturbances of the body functions exert a marked effect on human efficiency. The experiments showed that the maximum amount of work was performed between the effective temperature limits of 40° and 75°. At a temperature of 100° with a relative humidity of 30 percent, subjects could perform four times as much work as they could when the humidity was 100 percent, while with the ordinary summer-day humidity, 60 percent, five times more work was performed in a temperature of 90° than in one of 120°. When the effective temperature of the environment is below the temperature of the body, air movement has a beneficial effect, but when it is above body temperature air movement increases the discomfort.

If comfortable working conditions are to be maintained in industries where various sources of heat exist, such as furnaces, power-driven machinery, etc., the air within the building must be carried off and replaced by cooler air. The use of hoods or exhausts for the removal of local heat at the source is desirable or it is possible to locate many

of the sources of heat, such as boiler or fire rooms and hot-water or steam pipes, away from the working places of employees not concerned in such operation, or heat radiation can be minimized sometimes by insulation—a satisfactory method in the case of furnaces. In the case of other sources of heat, artificial ventilation may be required to supplement natural ventilation, but the problems differ in different places and may require the services of engineers qualified in the science of ventilation and air conditioning. The report states that the proper distribution of air within the occupied area is very important, and reliable information on the subject, especially as regards avoidance of drafts, is lacking, so that further research along this line is desirable. Measures for the removal of dusts and smoke or toxic fumes or gases from work places are required, such measures depending upon the particular hazard in the different industries.

Test of a Dust Eliminator

AN ACCOUNT of a test of a dust eliminator to be used in rock drilling was given in the Industrial Bulletin, June 1931, published by the Industrial Commissioner of New York State. The test was made under the joint auspices of the State department of labor, Metropolitan Life Insurance Co., Harvard School of Public Health, and the George J. Atwell Corporation, one of whose engineers is the inventor of the device. The test was carried out in the rock formation at Fourth Avenue and Twenty-fourth Street, New York City.

As silicosis has been an increasingly important hazard in New York City, owing to the large amount of excavation which is being carried on at all times, a committee was appointed by Miss Frances Perkins, State industrial commissioner, in 1929, for the purpose of making a scientific study of the subject. The invention of the dust eliminator was the outgrowth of the work of this committee. In commenting on the test, Miss Perkins stated that silicosis is a prevailing disease among a certain class of workers in New York, and that no other place except perhaps the diamond mines of South Africa has so great a silicosis hazard. The rock formations in New York and the vicinity contain varying amounts of silica, samples taken from eight localities in Manhattan where excavating was being done showing a total silica content varying from 56 to 94 percent, and a free silica content ranging from 1 to 84 percent.

The new machine is planned to remove the dust of 60 drills at one time and represents the first attempt to reduce the rock-dust hazard by suction, masks and wet drilling having previously been the methods of protection used. The device has a metal hood through which the drill passes and the dust caused by the bite of the drill is sucked through a pipe into metal reservoirs where it is settled by water sprays and is washed away with the water. The machine not only protects the workers from the inhalation of dust, but is also a measure of economy, as it allows the operation of the drills at full power instead of the reduced power which is necessitated without the eliminator on account of the great amount of dust created. Experimental tests have shown that with the use of the dust-eliminating machine not more than 4 percent of the silica dust remains in the air, which is not enough to create a hazard for the workers.

Occupational-Disease Legislation in the United States

WHILE workmen's compensation laws are in operation in 46 of the 48 States,¹⁵ only 12 States compensate for occupational disease. In addition, however, such coverage is extended to employees under the workmen's compensation law of the District of Columbia, Hawaii, Puerto Rico, and the Philippine Islands, and to employees covered by the Federal Employees' Compensation Act and the Longshoremen and Harbor Workers' Act. Thus, although no provision was made in the workmen's compensation acts as first adopted in the United States, by gradual liberalization of the laws, 18 jurisdictions now compensate for occupational diseases by one method or another. In the remainder of the jurisdictions occupational diseases are excluded from compensation by express language in the act or by interpretation of the courts. In four jurisdictions (Minnesota, New Jersey, Ohio, and Puerto Rico) specific occupational diseases which are compensable are listed, following the method used in the workmen's compensation laws of several European countries while the New York law now compensates for all occupational diseases instead of covering a definite list of diseases as it formerly did. In Illinois certain lead processes are covered. Kentucky, while it excludes diseases except where the disease is the natural and direct result of a traumatic injury by accident, covers "injuries or death due to inhalation in mines of noxious gases or smoke." By an act of the 1934 legislature of Kentucky, employers and employees engaged in certain industries may voluntarily subject themselves with respect to the disease of silicosis caused by the inhalation of silica dust.

Another method of compensating occupational diseases is to include such diseases generally, while a third way is using the word "injury" instead of "accident" in the law. The Massachusetts Legislature adopted the word "injury" for "accident", and the courts have held that an injury may be anything that disables a man for work. Several other jurisdictions have followed the Massachusetts adoption of the word "injury" rather than "accident" in their compensation laws.

The Philippine act allows compensation when an employee contracts any illness directly caused by the employment or which is the result of the nature of the employment.

The details of the laws were given in the *Monthly Labor Review*, June 1934 (pp. 1349-1363).

¹⁵ No workmen's compensation laws in Arkansas and Mississippi.

**INSURANCE AND BENEFIT PLANS (OTHER
THAN UNEMPLOYMENT INSURANCE)**

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Types of Insurance or Benefit Plans

COMPREHENSIVE insurance or benefit plans for the protection of the working people against various physical hazards such as sickness, accident, unemployment, old age, and death have been established or fostered by the governments in many countries. Prior to the enactment of the Federal Social Security Act in August 1935, social legislation in the United States was confined principally to the laws providing for compensation for industrial accidents and for care of the indigent aged. The protection of the workers against the other contingencies of life and employment had been left in the past to voluntary action, either through actual insurance or through benefit plans of various kinds. Following is a brief summary of the status of certain of the more important phases of this subject in the United States.

State Systems

ALMOST all of the States, as well as the Federal Government, have established comprehensive plans for compensation for injuries due to industrial accidents, including, in a number of States, occupational diseases. These are described in detail in the section on Workmen's Compensation (p. 1117). In a majority of the States, old-age pensions have been provided for by State legislation, this relief, however, being extended to the indigent aged without reference to industrial employment. This subject is covered in the section on Old Age Pensions and Retirement (p. 593).

Establishment Plans

MANY industrial establishments have provided for their employees in case of death, sickness, or other misfortune, while a number have maintained unemployment-benefit plans during and prior to the depression. A discussion of the latter systems is given in the section on Unemployment Insurance and Relief (p. 815).

Trade-Union Benefit Plans

VARIOUS trade-unions make provision for the payment of fixed benefits to their members in case of death, sickness, etc. In addition, the International Brotherhood of Electrical Workers has its own insurance organization, known as the Union Cooperative Insurance Association, and the American Federation of Labor has established a cooperative insurance company known as the Union Labor Life Insurance Co.

The following articles in this section contain certain recent data on the subject of insurance or benefit plans, pensions for the blind, industrial pensions, and teachers' retirement systems, not included in the references cited above.

Public Provision for Pensions for the Blind in 1934

Experience Under State Acts in 1934

OF 24 blind-pension systems provided for by State laws at the end of 1934, those of 7 (Arkansas, Connecticut, Maine, Minnesota, Missouri, New Jersey, and Pennsylvania) were in State-wide operation and the coverage in 4 others (California, Colorado, New York, and Wisconsin) was 95 percent or more.

In 5 States (Kansas, Kentucky, Maryland, Nevada, and Utah) the coverage was less than 20 percent. In the States with optional acts only one-third of the counties, having 35.6 percent of the States' population, had adopted the system, as contrasted with about seven-eighths of the counties, having 92.8 percent of the States' population, under mandatory acts. These counties had paid blind allowances to 31,093 persons, in a total amount, during 1934, of \$6,724,876. The allowances averaged \$20.01 per person per month, and ranged in the various States from 83 cents to \$33.12.¹

The maximum monthly amounts allowed ranged in the various States from \$12.50 in New Hampshire to \$50 in California, Kansas, Nevada, and Utah. It was found, however, that in no State did the average allowance approach the maximum. In 8 States the grants averaged less than half of the maximum payable under the act, in 8 States the average paid was between one-half and two-thirds of the maximum, and in 6 States it was more than two-thirds of the largest amount allowable. California appeared to have been the most generous, its average allowance of \$33.12 being about 30 percent higher than that of Illinois, whose pensions were next in size. The industrial States of California, Illinois, Missouri, New Jersey, New York, and Pennsylvania all paid allowances of more than \$20 per month. On the other hand, Ohio, also important in industrial development, paid benefits averaging only \$10.04, or less than half that of the rest of the industrial group. Arkansas, where the pensions averaged only 83 cents per month, could not be said to be paying "pensions." In that State blind persons receive a flat allowance of \$10 per year.

Comparison with the census figures shows that slightly over four-fifths of the blind population in the States with pension acts were in receipt of allowances in 1934.

The above data were collected in the course of a survey by the Bureau of Labor Statistics covering all of the 24 States which had blind-pension acts on the statute books at the end of 1934. Where possible the information was obtained through the cooperation of State officials, but in 12 States² having county systems and requiring no reports to any State office the data were secured directly from the counties. Reports were received for 1,153 (83.4 percent) of the 1,382 counties, of which 915 had adopted the pension system.

The territorial extent of the system, the pension roll, and the amount spent in 1934 are shown, by States, in table 1.

¹ In Connecticut, where the act authorizes the State board of education for the blind to assist blind persons in any way that it sees fit, \$22,820 was disbursed to 374 persons in allowances during 1934. In Minnesota the State board of control has similar authorization; during the year ending June 30, 1934, the sum of \$149,175 was spent for the care of 442 blind persons. The information for these 2 States was received too late for incorporation into totals and averages.

² Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Nebraska, Nevada, New Hampshire, Ohio, Utah, and Washington.

TABLE 1.—SUMMARY OF OPERATIONS UNDER BLIND-PENSION LAWS, 1934

State	Year of passage of law	Counties in State		Counties having pension system		
		Total	Number reported for	Number at end of 1934	Number of pensioners, end of 1934	Amount spent in pensions, 1934
Arkansas.....	1931	75	75	75	1,165	\$11,650
California.....	1929	58	58	53	3,179	1,085,408
Colorado.....	1925	63	63	53	701	140,287
Idaho.....	1917	44	38	21	186	116,989
Illinois.....	1903	102	73	64	4,484	1,323,615
Iowa.....	1915	99	78	73	956	158,562
Kansas.....	1911	105	73	18	66	8,996
Kentucky.....	1924	120	50	13	383	42,129
Louisiana.....	1928	64	64	54	420	63,000
Maine.....	1915	16	16	16	922	148,317
Maryland.....	1929	24	16	7	62	7,817
Missouri.....	1923	115	115	115	4,336	1,265,832
Nebraska.....	1917	93	80	45	325	46,108
Nevada.....	1925	17	14	4	3	800
New Hampshire.....	1915	10	5	5	79	8,797
New Jersey.....	1931	21	21	21	372	92,103
New York:						
New York City.....	1922	62	62	55	1,490	400,000
Rest of State ¹²					710	183,670
Ohio.....	1898	88	71	71	5,152	620,393
Pennsylvania.....	1933	67	67	67	4,142	651,228
Utah.....	1931	29	15	3	21	2,105
Washington.....	1933	39	28	15	185	25,808
Wisconsin.....	1907	71	71	67	1,854	422,467
Total ¹⁷		1,382	1,153	915	31,093	6,724,876

¹ 17 counties.
² 62 counties.
³ 72 counties.
⁴ 1 additional county paid pensions during part of year.
⁵ 14 counties.
⁶ Approximate.
⁷ Reenacted in 1933.
⁸ Includes 2 counties which had adopted system and were maintaining persons at State school or workshop for blind, but paid no pensions during year.
⁹ 4 counties.

¹⁰ 44 counties.
¹¹ 42 counties.
¹² 2 counties.
¹³ Year ended June 30, 1934.
¹⁴ Partly estimated.
¹⁵ As of June 30, 1934.
¹⁶ June-December 1934.
¹⁷ Does not include 374 pensioners and disbursements amounting to \$22,820 in Connecticut nor 442 pensioners and disbursements of \$149,175 in Minnesota, as reports for those States were received too late for inclusion.

Development Under Optional and Mandatory Systems

As would be expected, blind pensions are more widely in use in those States having mandatory acts than in those where adoption is optional with the county officials. The coverage (i. e., the proportion of the State population in counties with the system) was considerably greater under the mandatory laws—92.8 as against 35.6 percent. Five of the mandatory plans were State-wide and in four others there was a coverage of 95 percent or more. In contrast, among the States in which the adoption of the plan is optional with the counties, not one had a coverage of as much as 75 percent and in two States it was under 15 percent. The details are shown, by States, in table 2.

TABLE 2.—EXTENT AND COVERAGE OF BLIND-PENSIONS SYSTEMS IN 1934, BY TYPE OF LAW

State and type of law	Population of State, 1930	Number of counties in State	Counties with pension system in 1934 ¹		
			Number	Population	Percent of State population
<i>County optional</i>					
Iowa.....	2,470,939	99	73	1,761,747	71.3
Kansas.....	1,880,999	105	18	297,874	15.8
Kentucky.....	2,614,589	120	13	389,245	14.9
Maryland.....	1,631,526	24	2 7	249,478	15.3
Nebraska.....	1,377,963	93	44	962,589	69.9
Nevada.....	91,058	17	4	9,784	10.7
Utah.....	507,847	29	3	94,255	18.6
Total.....	10,574,921	487	162	3,764,972	35.6
<i>Mandatory</i>					
Arkansas.....	1,854,482	75	75	1,854,482	100.0
California.....	5,677,251	58	53	5,653,144	99.6
Colorado.....	1,035,791	65	53	1,002,499	96.8
Idaho.....	445,032	44	21	279,593	62.8
Illinois.....	7,630,654	102	67	6,575,730	86.2
Louisiana.....	2,101,593	64	54	(²)	(³)
Maine.....	797,423	16	16	797,423	100.0
Missouri.....	3,629,367	115	115	3,629,367	100.0
New Hampshire.....	465,293	10	5	185,889	39.9
New Jersey.....	4,041,334	21	21	4,041,334	100.0
New York.....	12,538,066	62	55	4 11,948,755	4 95.0
Ohio.....	6,646,697	38	71	5,589,976	84.1
Pennsylvania.....	9,631,350	67	67	9,631,350	100.0
Washington.....	1,563,396	39	14	602,409	38.5
Wisconsin.....	2,939,006	71	67	2,839,438	98.3
Total.....	61,046,735	895	754	54,681,389	89.8
Grand total.....	71,621,656	1,382	916	58,446,361	81.6

¹ Includes those which had adopted system and those in which pensions had been paid at some time during year, even though not paying at end of year.

² Includes 2 counties which had adopted system and were maintaining persons at State school or workshop for blind, but which paid no pensions during year.

³ No data.

⁴ Estimated.

⁵ Not including Louisiana.

Average Allowances Paid in 1934

THE blind pensions paid in 1934 averaged \$20.01 per month, or \$240.12 per year. In 8 States the grants averaged less than half of the maximum payable under the act, in 8 States the average paid was between one-half and two-thirds of the maximum, and in 6 States it was more than two-thirds of the largest amount allowable. Arkansas, where the pensions averaged only 83 cents per month, cannot be said to be paying "pensions." In that State blind persons receive a flat allowance of \$10 per year.

TABLE 3.—COMPARISON OF AVERAGE PENSIONS ACTUALLY PAID IN 1934 WITH MAXIMUM PAYABLE UNDER LAW

State	Average pension		Maximum payable under law		Range of individual monthly grants
	Per month	Per year	Per year	Per month	
Arkansas.....	\$0.83	\$10.00	\$300.00	\$25.00	\$0.83
California.....	33.12	397.44	600.00	50.00	\$5.00-50.00
Colorado.....	15.47	185.64	300.00	25.00	(1)
Idaho.....	16.46	197.55	240.00	20.00	10.00-25.00
Illinois.....	25.75	308.97	365.00	30.42	1.00-30.42
Iowa.....	13.89	166.73	300.00	25.00	4.00-25.00
Kansas.....	11.36	138.30	600.00	50.00	5.00-25.00
Kentucky.....	9.17	110.00	250.00	20.83	1.33-20.83
Louisiana.....	12.50	150.00	300.00	25.00	(1)
Maine.....	13.33	160.00	300.00	25.00	(1)
Maryland.....	11.84	142.13	250.00	20.83	3.33-20.00
Missouri.....	24.33	291.94	300.00	25.00	(1)
Nebraska.....	11.77	141.28	300.00	25.00	5.00-25.00
Nevada.....	16.67	200.00	600.00	50.00	(1)
New Hampshire.....	9.28	111.35	150.00	12.50	8.00-12.50
New Jersey.....	21.98	263.76	480.00	40.00	(1)
New York.....	21.93	261.15	300.00	25.00	(1)
Ohio.....	10.04	120.42	400.00	33.33	1.25-35.00
Pennsylvania.....	23.30	279.60	360.00	30.00	(1)
Utah.....	8.35	100.24	600.00	60.00	3.00-20.00
Washington.....	11.63	139.50	400.00	33.33	3.00-40.00
Wisconsin.....	19.40	232.80	360.00	30.00	(1)
Total (weighted).....	20.01	240.12	-----	-----	1.00-50.00

¹ No data.

Extent and Cost of Pensions

ACCORDING to the census of 1930, there were 38,045 blind persons in the 22 States listed in table 4. The reports to the Bureau of Labor Statistics show that in 1934 there were in those States 31,093 blind persons who were receiving assistance under the acts. In other words, 81.7 percent of those so afflicted were receiving public aid.

Table 4 shows, for individual States, the proportion of total population and of blind population who were receiving pensions in 1934. It will be noted that in several States the number of pensioners in 1934 exceeds the total blind population reported in 1930. As to this the Committee on Economic Security commented as follows: "The 1930 census listed 63,489 people as being blind. The Census Bureau itself, however, recognizes that this is an understatement of [the number of people who are blind. In all probability there are not less than 100,000 people in the United States who are blind in the sense that they have no useful vision whatsoever."³ Also, it is undoubtedly true not only that the number of blind persons has increased somewhat in the period since 1930, but that the whereabouts of many more blind have been discovered who were not heretofore known or reported in the census. In Wisconsin, where a State office has made periodic censuses, it is reported that the known blind population increased 24 percent from 1930 to 1934.

In some States the low percentage of blind persons receiving allowances may be due partly to the fact that some blind are being cared for in other ways, as through old-age pensions or public relief.

³ U. S. Congress. Senate Report No. 628, to accompany H. R. 7260 (74th Cong., 1st sess.). Washington, 1935, ip. 22.

TABLE 4.—INCIDENCE OF BLIND PENSIONERS IN TOTAL POPULATION AND IN BLIND POPULATION, 1934

State	Number of pensioners, 1934	Pensioners per 10,000 of population ¹	Blind population, 1930 ²	Percent pensioners formed of blind population
Arkansas.....	1,165	6.3	1,101	105.8
California.....	3,179	5.6	2,597	122.4
Colorado.....	701	7.0	751	93.3
Idaho.....	86	3.1	156	55.1
Illinois.....	4,484	6.9	4,490	99.9
Iowa.....	956	5.4	1,577	60.6
Kansas.....	66	2.2	1,246	5.3
Kentucky.....	383	9.8	1,977	19.4
Louisiana.....	420	(³)	1,252	33.5
Maine.....	922	11.6	626	147.3
Maryland.....	62	3.0	799	7.8
Missouri.....	4,336	1.2	3,879	111.8
Nebraska.....	325	3.5	552	59.0
Nevada.....	3	3.9	64	4.7
New Hampshire.....	79	4.2	251	31.4
New Jersey.....	372	.9	1,222	30.4
New York.....	2,200	1.8	⁴ 4,418	⁴ 16.1
Ohio.....	5,152	9.2	4,154	124.0
Pennsylvania.....	4,142	4.3	4,373	94.7
Utah.....	21	2.2	238	8.8
Washington.....	185	3.1	792	23.4
Wisconsin.....	1,864	6.4	⁵ 1,530	121.2
Total.....	31,093	5.3	38,045	81.7

¹ Figures relate only to counties having pension system.² Census data.³ No data.⁴ Exclusive of New York City.⁵ State report gives 3,742 as number of blind in Wisconsin in 1934.

Blind pensions cost an average of 11 cents per capita of population in 1934. The per capita cost ranged from sixth-tenths of 1 cent in Arkansas to 35 cents in Missouri.

TABLE 5.—PER CAPITA COST OF BLIND PENSIONS IN 1934

State	Cost per capita of population in counties with system	State	Cost per capita of population in counties with system	State	Cost per capita of population in counties with system
Arkansas.....	(¹)	Maine.....	\$0.19	Ohio.....	\$0.11
California.....	\$0.19	Maryland.....	.04	Pennsylvania.....	.12
Colorado.....	.14	Missouri.....	.35	Utah.....	.02
Idaho.....	.06	Nebraska.....	.05	Washington.....	.04
Illinois.....	.21	Nevada.....	.08	Wisconsin.....	.15
Iowa.....	.09	New Hampshire.....	.05	Total.....	.11
Kansas.....	.03	New Jersey.....	.02		
Kentucky.....	.11	New York.....	.05		

¹ $\frac{1}{10}$ of 1 cent.² Computed on basis of full year of operation.

Table 6 shows the sources from which pensions were paid in 1934.

TABLE 6.—SOURCES FROM WHICH BLIND PENSIONS WERE PAID IN 1934

State	Amount paid in pensions in 1934 from—			Percent of State aid provided for by State law	Percent actually paid in 1934 from—	
	State funds	County funds	Total		State funds	County funds
Arkansas.....	\$11,650		\$11,650	100.0	100.0	-----
California.....	542,704	\$542,704	1,085,408	50.0	50.0	50.0
Colorado.....	65,000	75,287	140,287	50.0	46.3	53.7
Idaho.....		16,989	16,989	-----	-----	100.0
Illinois ¹	486,402	823,343	1,309,745	50.0	37.1	62.9
Iowa.....		158,562	158,562	-----	-----	100.0
Kansas.....		8,996	8,996	-----	-----	100.0
Kentucky.....		42,129	42,129	-----	-----	100.0
Louisiana.....		63,000	63,000	-----	-----	100.0
Maine.....	148,317		148,317	100.0	100.0	-----
Maryland.....		7,817	7,817	-----	-----	100.0
Missouri.....	² 1,265,831		² 1,265,831	100.0	100.0	-----
Nebraska.....		45,103	45,103	-----	-----	100.0
Nevada.....		600	600	-----	-----	100.0
New Hampshire.....	6,064	2,733	8,797	-----	68.9	31.1
New Jersey.....	³ 1,013	91,090	92,103	-----	³ 1.1	98.9
New York.....		583,670	583,670	-----	-----	100.0
Ohio.....		620,393	620,393	-----	-----	100.0
Pennsylvania.....	651,228		651,228	100.0	100.0	-----
Utah.....		2,105	2,105	-----	-----	100.0
Washington.....		25,808	25,808	-----	-----	100.0
Wisconsin.....	50,000	372,467	422,467	33.3	11.8	88.2
Total.....	3,228,209	3,482,796	6,711,005	-----	48.1	51.9

¹ Data are for 60 counties which reported as to amounts furnished by State and counties.

² Includes oculist's fees.

³ Cost of administration.

State Legislation Relating to Pensions for the Blind, as of August 1, 1935

ALLOWANCES for the blind, provided for by legislative enactment and payable out of public funds, considerably antedate old-age pensions in the United States. No workable act for old-age pensions was passed in any jurisdiction until 1915 (Alaska) nor in any State until 1923⁴ whereas the first blind-pensions act (that of Ohio) was passed in 1898 and is still on the books. Illinois was the next to act, passing its blind-pensions law in 1903; Wisconsin passed one in 1907; Kansas in 1911; and Minnesota in 1913. In 1915 three States passed measures providing assistance to the blind. From that time until 1930 laws were passed as follows: 2 in 1917, 1 in 1921;⁵ 1 each in 1922, 1923, and 1924; 2 in 1925, 1 in 1928, and 2 in 1929. Three acts were passed in 1931, 2 in 1933, and 3 during the first 7 months of 1935. By the end of July 1935 there were 27 laws providing for the payment of either pensions or relief allowances to the blind. In most of the acts, the allowances are termed pensions, but those of Maryland, New York, and Washington provide for relief.

The Kansas act only incidentally provides for benefits to the blind. Under its terms allowances are to be paid to persons totally disabled. For the purposes of the act total disability is that caused by the loss of both hands, both feet, or both eyes, or by any other condition wholly disabling the person from performing any manual labor.

Of the 27 acts, 18 are of the mandatory type, 2 merely empower a State body to pay allowances if it chooses to do so, while 7 leave the adoption of the system to the discretion of the county authorities.

Table 7 shows the principal provisions of the State laws.

⁴ Arizona passed an old-age pension act in 1914 but it was declared unconstitutional before it could go into effect.

⁵ Connecticut; act providing for education of blind was passed in 1918, but section authorizing pensions was not added until 1921.

TABLE 7.—PRINCIPAL PROVISIONS OF STATE LAWS PROVIDING FOR ALLOWANCES FOR THE BLIND AS OF AUG. 1, 1935

State	Type of law	Maximum pension	Eligibility requirements				Maximum property limitation	Definition of blindness	Administered by—	Funds provided by—	Citation
			Age	Required period of—		Citizenship					
				State	County						
Arkansas.....	M a n d a t o r y.	\$25 per month.	21	Yr.	5	Yr.	Means insufficient for support.	Chancery court of district under State Confederate pension board.	State.....	Castle's Ann. Supp. to 1931, ch. 140, secs. 8189a-8189ml.	
California.....	..do.....	\$600 per year.	16	10	1	Income, \$1,000 a year; assets \$3,000. ²	County board of supervisors under department of social welfare.	State, half; county, half.	Gen. Laws, 1931, Act No. 775.		
Colorado.....	..do.....	\$300 per year.	40	(³)	5	1	Means insufficient for support.	County board of supervisors under State commission for blind.	..do.....	Acts of 1925, ch. 60 (as amended, 1927, ch. 66).	
Connecticut.....	Optional.	\$30 per month.				..do.	State board of education for blind.	State.....	Gen. Stat., Rev. of 1930, sec. 1043.		
Idaho.....	{ M a n d a t o r y.	{ \$20 per month.	{ [{] 21 { [{] 18	{ 7	{ 3	..do.	County probate court.	County.....	{ Code, 1932, secs. 30-3201 to 30-3206. { Smith-Hurd, 1931, ch. 23, secs. 279-287a (as amended, 1933, p. 210).		
Illinois.....	..do.....	\$365 per year.	[{] 21 [{] 18	(⁴)	10	3	{ Income, \$465 per year (\$1,000 if married).	{ County commissioners. ⁷	{ State, half; county, half.	{ Acts of 1935, ch. 164.	
Indiana.....	..do.....	\$300 per year.	21	* 15	5	Means insufficient for support.	Vision so defective as to prevent self-support.	State board of industrial aid for the blind.	State.....		
Iowa.....	Optional.	..do.	[{] 21 [{] 18		5	1	Income, \$300 per year.	{ County board of supervisors.	{ County.....	Code, 1931, ch. 272.	
Kansas.....	..do.....	\$50 per month ⁸	21		10	2	Loss of sight of both eyes.	County commissioners.	..do.....	Rev. Stat., 1923, ch. 19, secs. 244, 245.	
Kentucky.....	..do.....	\$250 per year.	(⁵)		10	5	Income, \$400 per year; assets, \$2,500.	Destitute of useful vision.	..do.....	Carroll's Stat., 1930, secs. 1893-a10 to 1893-a13.	
Louisiana.....	M a n d a t o r y.	\$300 per year.	60		5	¹⁰ 1	Income, \$300 per year.	County police jury, under State board for blind.	Parish.....	Gen. Stat., 1932, secs. 9592, 9593.	
Maine.....	..do.....	..do.	21		10		Means insufficient for support.	Less than 1/10 of normal vision.	State.....	Acts of 1933, ch. 1, secs. 218-225.	
Maryland.....	Optional.	\$250 per year ¹¹ .	18	(⁶)	7		..do.	Vision so defective as to prevent self-support.	County.....	Ann. Code, Supp. 1929, art. 30, secs. 15-23.	

Minnesota	do	No limit ^b	(3)	6 5			do	State board of control	State	Mason's Minn. Stat., 1927, secs. 4616-4617-1.
Missouri	M a n d a t o r y	\$300 per year	21	6 10		Income, \$600 per year; assets, \$5,000.	Light perception only	County judge of probate court, under State commission for blind.	State	Rev. Stat., 1929, secs. 8893-8905.
Nebraska	Optional	\$25 per month	{ ⁴ 21 ⁵ 18 }			{Means insufficient for support.	Destitute of useful vision.	County commissioners.	County	{Comp. Stat., 1929, secs. 68-126, 68-127 (as amended, 1933, ch.21).
Nevada	do	\$600 per year		6 2		do	do	do	do	Comp. L., 1929, secs. 2313-2321.
New Hampshire	M a n d a t o r y	\$150 per year		5	1	do	do	do	do	Pub. L., 1926, p. 422.
New Jersey	do	\$480 per year	21	5		do	do	State department of institutions and agencies.	do ¹³	Acts of 1931, ch. 17.
New York	do	\$300 per year	(3)	6 5	1	do	Vision so defective as to prevent self-support.	State commission for blind.	do	Acts of 1922, ch. 185 (as amended, 1923, ch. 129).
Ohio	do	\$400 per year		(13)	1	do	do	County commissioners.	do	Code, 1932, secs. 2965-2967.
Oklahoma	do	\$300 per year	21	6 5		do	Vision so defective as to prevent self-support.	State commission for adult blind.	State, reimbursed in full by county.	Acts of 1935, ch. 24.
Pennsylvania	do	\$30 per month	21	10		do	Less than 3/60 of normal vision.	Mothers' assistance fund of county, under State department of welfare.	State	Acts of 1933 (1st spec. sess.), Act No. 61.
Utah	Optional	\$600 per year	16	6 7	1	Income, \$1,000 a year.	do	County commissioners.	County	Rev. Stat., 1933, secs. 19-5-68 to 19-5-77.
Washington	M a n d a t o r y	\$400 per year ¹⁴	18	6 4		Means insufficient for support.	Vision so defective as to prevent self-support.	do	do	Acts of 1933, ch. 102.
Wisconsin	do	\$360 per year ¹⁵	18	6 10	1	Income, \$480 per year. ¹⁶	do	do	State, 1/6; county, 2/4.	Wis. Stat., 1931, secs. 47.08 to 47.09.
Wyoming	do	\$30 per month ¹⁷	21	10		Means insufficient for support.	Less than 3/60 or 1/200 of normal vision.	County department of public welfare, under State department.	State	Acts of 1935, ch. 129.

¹ 6 months, if a resident of State when became blind.

² Clear of encumbrance.

³ Required, but no period specified.

⁴ Males.

⁵ Females.

⁶ Or have lost sight since becoming a resident.

⁷ Bureau of public welfare in counties having over 500,000 population.

⁸ But any amount over \$25 must be specifically authorized by vote of electorate.

⁹ "Adults."

¹⁰ Residence in parish.

¹¹ But may be raised to \$350 in special cases.

¹² But the State pays all of the cost of administration.

¹³ Must have lost sight since becoming a resident.

¹⁴ \$600 in case of couple, both blind.

¹⁵ \$480 if both blind and deaf.

¹⁶ \$780 if both blind and deaf.

¹⁷ \$50 if head of a family.

¹⁸ Required period of residence in United States.

¹⁹ Except in case of husband and wife, both blind, not over \$30 per month.

²⁰ But counties with population of 150,000 are authorized to contribute.

In several States the application for an allowance must be supported by sworn statements from other persons testifying that the facts are as set forth in the application. In Maine and Washington two such witnesses are required; in Wisconsin two "freeholders" of the county; in New York two "disinterested witnesses" who have resided in the county for 1 year; in Illinois, Iowa, Kentucky, and Utah, by two "reputable citizens of the county"; and in California, Idaho, Nevada, and New Hampshire, by two reputable citizens of the county, one of whom must be a physician.

The payment of blind allowances to persons having relatives able to support them is prohibited under the acts of Colorado, Indiana, Kansas, Louisiana, Maryland, Missouri, Nebraska, New Jersey, Utah, Washington, and Wisconsin.

Inmates of public charitable institutions are excluded from benefits in California, Colorado, Illinois, Indiana, Iowa, Kentucky, Maine, Minnesota, Missouri, Oklahoma, Pennsylvania, Utah, and Wisconsin. Colorado also excludes inmates of private charitable institutions, Maine and Wisconsin inmates of penal institutions, Oklahoma and Pennsylvania persons confined in houses of correction, and Missouri inmates of either penal or insane institutions. The Maine and Oklahoma laws, however, specifically provide that after leaving the institution a person may receive an allowance. The law of Washington excludes "wards of the United States Government."

Professional beggars are denied assistance in California, Indiana, Kentucky, Maryland, Minnesota, Missouri, Oklahoma, Utah, Washington, and Wisconsin. Persons who refuse training or other measures designed to make them self-supporting are ineligible for benefits in Missouri.

Relief is discontinued in New York if the pensioner marries another blind or partially blind person. In Minnesota, in cases of husband and wife, both of whom are blind and whose marriage took place after the passage of the act, the amount of the allowance is limited to \$30 per month.

Provision of Funds

OF THE 27 laws providing for allowances for the blind, only 10 contain specific provisions regarding the source of the funds necessary to finance the system.

By county.—In eight States (Idaho, Illinois, Kentucky, Louisiana, New Hampshire, New Jersey, Ohio, and Oklahoma) the counties are authorized to pay blind allowances from the general county funds, and in Iowa from either the general funds or from the poor funds. A special tax on taxable property is authorized in five States (California, Maryland, Nevada, Utah, and Washington). While the Maryland act permits a tax on such property at whatever rate is necessary to raise the funds needed, in the other four States the levy is limited to a certain rate based on the assessed valuation—in California and Washington to 0.2 mill per dollar of the assessed valuation, in Nevada to 5 cents per \$100, and in Utah to 0.1 mill per dollar.

By State.—In 15 States the counties must bear all of the cost. State aid for the system of blind allowances is provided for in the acts of eight States. In Wisconsin the law provides that the State shall contribute one-third of the cost; in California, Colorado, and Illinois, one-half; and in Arkansas, Connecticut, Indiana, Maine, Missouri,

Pennsylvania, and Wyoming, all. While the act of Maine provides that all of the cost of the allowances specified shall be met by the State, it also specifically permits the counties to augment these allowances from their own funds. In Minnesota the cost of aid to the blind is met from funds appropriated by the State, but counties with population of 150,000 and an assessed valuation of over \$300,000,000 are authorized to meet part of the expenditures from their general funds.

In New Jersey no State aid is given, but the entire cost of the administration is borne by the State.

Only five acts detail the method to be used in raising the funds: Arkansas by a tax of \$10 per table per year on the operation of billiard and pool rooms, Illinois by a tax of 0.1 mill per dollar on the assessed valuation of taxable property, Missouri by a similar tax of 3 cents per \$100, Wisconsin by a property tax at a rate sufficient to raise the funds necessary, and Wyoming by taxes on liquor. In the other States the money presumably comes from the general funds of the State.

National Provision Under Social Security Act

THE Federal Social Security Act, approved August 14, 1935, provides for Federal grants in aid to States having approved blind-pension systems. For a summary of the provisions of that act regarding blind pensions, see page 779.

Amount of Life Insurance in the United States

A REPORT issued in 1932 by the Committee on the Costs of Medical Care⁶ gave data on the extent of life-insurance protection in the United States. The study was undertaken in order to show the extent to which American families are attempting to protect themselves from uncertain financial burdens through the various forms of life insurance and by means of Christmas savings plans.

At the close of 1929, the latest year for which information was available, the report stated, the face value of policies in force totaled almost \$113,000,000,000, which was approximately three times the total amount carried in all other countries. The premiums collected on these policies by the life-insurance companies from their 67,000,000 policyholders amounted to about \$3,500,000,000, or 4 percent of the national income, while more than \$2,000,000,000 was paid in that year to policyholders and their beneficiaries. In 1926 payments were made on account of the deaths of about 500,000 policyholders, which was about one-third of the total deaths in the United States.

Life insurance is primarily a measure of family protection, by means of which the family hopes to bridge over the period of adjustment following the loss of earnings of the holder of the policy. There are many forms of life-insurance policies which combine this basic principle with various provisions covering other contingencies, but in most cases family protection is the basic motive in the purchase of the insurance. The three main types of life-insurance policies—ordi-

⁶ Committee on the Costs of Medical Care. *The Extent and Adequacy of Life-Insurance Protection in the United States*, by Mary Dublin. Washington, 910 Seventeenth Street NW., 1932.

nary, group, and industrial—in their different variations accounted for approximately 90 percent of the total insurance in force at the time of the study. The major part of this insurance was written by commercial “old line” companies, less than 9 percent being carried by fraternal and assessment companies.

Ordinary insurance includes term, endowment, and whole-life policies. This type of insurance formed only about 24 percent of the total number of policies, but the value of the policies amounted to 67 percent of the total for all policies. Group insurance, which provides for blanket coverage of an industrial group, was in force for approximately 5,500,000 workers, and its value amounted to about 9 percent of the value of all the insurance in force. Industrial insurance is sold in small amounts, and the premiums are paid in small weekly or monthly installments. Such policies formed 68 percent of all the policies issued, but their value was only about 16 percent of the face value of all insurance. All these types of insurance carried by the commercial companies are organized on a legal reserve basis; that is, in conformity with the State laws, which require such companies to maintain an adequate reserve fund at all times. Much of the fraternal insurance also is now reorganized on a legal-reserve basis. This insurance amounts to about 8 percent of the face value of all policies, while assessment insurance constitutes less than 1 percent.

An idea of the adequacy of the insurance provisions can be obtained only by ascertaining the amount of insurance purchased by individual families of different income classes. Few such studies have been made, but one carried out by the Metropolitan Life Insurance Co. in 1924 covered 11,649 families, averaging 4.6 persons, in which industrial insurance was carried by some member of the family. These families were considered fairly representative of the insured working classes of the country. In this group the average coverage on the head of the family, including nearly 1,400 fathers who carried no insurance, was \$1,276; and excluding the heads of families not carrying insurance, the average was \$1,450. Of the total number carrying insurance, 20.9 percent had less than \$500 of insurance; 37.7 percent, less than \$1,000; and 88.6 percent less than \$3,000. Approximately one-third of the insured fathers carried only industrial insurance, amounting to an average coverage of \$485. From these figures it is seen that these families had very small amounts of insurance to substitute for the earnings of the father in the event of his death.

In discussing the adequacy of the insurance carried, as disclosed by the average amounts of policies, the writer quotes Dublin and Lotka in *The Money Value of a Man*, in which they state:

Where the insured is a breadwinner, it is the value of the future income to the family that is lost, and life insurance is intended in a measure to compensate this loss. * * * Under ideal conditions, the amount of the insurance should be equivalent to the value to his family of the man's net future earnings; that is, the sum of money which, invested at current rates of interest, would be sufficient, by the use of part of the principal, as well as the interest each year, to keep his family on the same, or nearly the same, level after his death as it would have been during his normal lifetime. In actual practice it is quite impossible to have such complete coverage.

A table computed by the same authors, taking into account the changes in earning power with the passage of time, the relative percentage of persons gainfully occupied, the expectation of life, the cost of the man's own support, and other factors, shows that a normally

healthy man of 50 years of age whose annual earnings during his period of greatest earning were \$1,000 should be worth \$5,700 to his family, exclusive of his living expenses for the rest of his life. On the same basis a man whose maximum earning capacity was \$1,500 should be worth \$9,900 at the age of 50; one whose earning capacity was \$2,000 should be worth \$13,800; and \$2,500, \$17,450. These figures show how inadequate the insurance protection is in most cases.

Although Christmas savings plans would not appear to have much relationship to investment in life insurance, as a matter of fact, very large sums are accumulated in this way, a large part of which is invested in permanent savings or insurance. In December 1930, 8,000 banking institutions distributed \$632,000,000 to about 11,000,000 members of the Christmas savings clubs, of which it is estimated only 38 percent was used for Christmas purchases, most of the remainder being used in the payment of debts, taxes, etc., or invested in insurance or savings funds.

Life Insurance of Organized Labor

THE Union Labor Life Insurance Co. was organized by the American Federation of Labor in 1925 and is owned by the unions affiliated to the federation.

Its report for 1933 ⁷ shows the following:

Income for year.....	\$872, 857
Payments to policyholders during year.....	507, 845
Insurance in force:	
Individual policies.....	6, 978, 601
Group policies.....	44, 567, 700
Capital.....	375, 000
Surplus.....	460, 336
Total assets Dec. 31, 1933.....	1, 852, 166
Increase in assets during year.....	220, 915
Increase in surplus during year.....	22, 383

Industrial Group Insurance in 1933

THE total value of group-insurance policies in the United States at the end of 1933 was estimated to be nearly \$10,000,000,000, according to a study ⁸ published by the National Industrial Conference Board in 1934. The estimate was based on the records of eight of the large life-insurance companies which had written more than 90 percent of all the group policies then in force, the value of the group life insurance outstanding in these companies at the close of 1933 amounting to \$8,951,000,000. Included in this total were policies amounting to \$744,000,000 for accidental death and dismemberment, while in addition these companies had policies outstanding for \$16,000,000 of weekly benefits for group accident and health insurance and monthly retirement incomes aggregating \$8,500,000.

⁷ Given in official organ of the United Association of Journeymen Plumbers and Steamfitters of the United States and Canada, March 1934.

⁸ National Industrial Conference Board. Recent Developments in Industrial Group Insurance. New York, 1934.

Group insurance was first introduced in 1911, and the periods of greatest increase in the volume of insurance written were in 1914, when the country was getting organized to meet war production, and in 1917, when the United States entered the war. Decreases in the amount of insurance in force took place in the depression years of 1921, and 1932 and 1933, although for the entire period from 1912 to 1933 the average annual rate of increase was 11.8 percent.

The total number of policies carried by the 8 companies at the end of 1933 was 15,125, 14,488 of which were in companies employing 1,000 or fewer employees, with an average coverage in these companies of 121 employees per policy. There were 506 policies in force in companies employing between 1,000 and 5,000, with an average coverage of 2,056 per policy; 115 policies in companies employing from 5,000 to 25,000, with an average coverage of 8,959; and 16 policies in companies employing more than 25,000 workers, with an average number of 41,029 covered per policy. The total number of employees covered by the 15,125 policies was 4,487,377. These figures show the surprisingly large number of relatively small companies which have purchased group life insurance. However, while the number of policies and amounts of insurance in force decline fairly steadily with the increase of company size, the average amount of insurance per employee increases with the increase in the size of the establishments. Thus, it appears that the average protection afforded to employees of very large establishments is 55.4 percent greater than that given to employees in plants of less than 1,000 workers. The average insurance protection for all groups combined was \$1,828, while the range in the four groups was from \$1,577 in the group of small plants to \$2,451 in the group of largest plants.

Although there were a large number of cancellations resulting from the depression, the value of policies in force at the end of 1933 totaled 51.7 percent more than in 1926 and more than in any year prior to 1929. As there is a direct relation between pay rolls and employment and the volume of group life insurance, it was to be expected that the unprecedented depression would result in drastic reductions in the amount of such insurance carried by the companies. Though the cancellations of policies amounted to more than 3 billion dollars in the past 3 years, new sales held up so well that the net loss in policies between 1930, the peak year, and 1933 amounted to only about 14 percent. One insurance company reported that financial troubles of insured employees were the cause of 60 percent of its group life cancellations, while 20 percent were transfers of policies to another company or to another type of plan; another insurance company stated that among the small companies it was found that cancellations were frequently caused by reductions in the number of employees below the minimum of 50 eligible employees required for a group life policy.

In addition to the purchase of group life insurance by industries, group policies are also issued covering accident and health insurance providing weekly benefits for temporary or permanent disability caused by nonoccupational accident or diseases, and for accidental death and dismemberment, the latter type of insurance never being sold alone but always in conjunction with group life insurance or group accident and health insurance. A fourth, and the newest development in the group-insurance field, is the provision of group annuities which have been developed to meet a growing need for con-

tractual pension plans guaranteeing a retirement income to employees during their old age. A total of 226 group annuity and pension policies was reported by the 8 insurance companies at the close of 1933, with a total of 193,796 employees covered by this form of insurance.

A form of group-insurance policies which is said to enjoy increasing popularity among employers and employees is that known as a "blanket policy" or a "package plan" in which two or more of the four types of group insurance are combined in a single contract. In such a case a single pay-roll deduction from individual employees is required for the different coverages. Although, the report says, the employer signs a contract with the insurance company to cover each type of risk to be insured, from the employee's viewpoint it is a single contract which protects him and his dependents against all his economic hazards except unemployment.

Industrial Pension Plans in the Depression

IN AN exhaustive study of industrial pension plans published by the Industrial Relations Counselors, Inc., in 1932,⁹ a section was devoted to developments since July 1, 1929. From that date up to April 30, 1932, the limit of the period studied, new plans were established at an almost unprecedented rate, the only period of greater activity having been 1916 to 1920, when war conditions prevailed. The distribution and character of the new plans were as follows:

NUMBER OF INDUSTRIAL PENSION PLANS ESTABLISHED FROM JULY 1, 1929, TO APRIL 30, 1932, BY INDUSTRY GROUP AND KIND OF PLAN

Industry group	Noncontributory	Contributory	Composite	Total
All industries.....	4	62	3	69
Public utilities.....	2	1		3
Manufacturing.....	2	34	3	39
Banking and insurance.....		18		18
All other industries.....		9		9

Employment records, secured for 59 of the 69 companies which had established these plans, showed that 3 of those having noncontributory plans normally employed 4,604 workers, 53 having contributory plans employed 22,943, and the 3 with composite plans employed 8,136.

There was a decided trend during this period from the noncontributory toward the contributory systems. Twelve companies with noncontributory systems had changed to contributory or composite plans, and 2 others had merged with companies having contributory features, so that the net result was a subtraction of 14 plans from the noncontributory group and an addition of 12 to the contributory and composite group.

Forty-five systems, 28 noncontributory and 17 contributory, were discontinued or suspended during this period. The procedure in this respect differed.

⁹ Latimer, Murray Webb. *Industrial Pension Systems in the United States and Canada*. New York, Industrial Relations Counselors, Inc., 1932.

Some had been abolished completely, payments to existing pensioners having ceased and further grants being stopped; in other instances no additional retirements would be made, but employees already retired would continue to receive their pensions, though, in certain cases, at a reduced rate. Other companies would grant pensions in the future, when eligibility requirements were met, to employees of a specified age and service at the date of change, and still others, to all employees in the service on such date. In certain companies extension of credits for service had been stopped, though employees might be retired upon an allowance equal to the credits previously earned. Finally, entire operation of their plans as to both retirements and credits had been suspended by some corporations, although the suspensions, at the latest report, were indicated to be temporary.

Apparently there has been an increased realization of the danger of maintaining a pension system from current income. In 1932 about 62 percent of the pension plans, as compared with 50 percent in 1928, had commenced funding operations. The reserves built up by 434 companies reporting on their systems were estimated as having reached \$625,000,000 by January 1, 1932. Also, there had been an increased use of insurance to safeguard the plans.

General Trends

THERE have thus been two tendencies, apparently contradictory, since 1929. An unusually large number of new plans had been established, pension funds had been accumulated, and pension rights had been insured, so that the status of employees with reference to their rights under pension systems had been perceptibly improved. On the other hand, schemes already in existence had been given up at a more rapid rate than ever before, and numerous companies had reduced the scale of pension benefit or otherwise deliberalized their plans. This contradiction, however, it is pointed out, is more apparent than real. The new plans had been adopted in the main by small companies which in the early stages of the depression were comparatively unaffected. Also, they were so planned as to lighten, as far as possible, the burden upon the employer.

The tendency toward making pension plans less expensive for the employer, while accentuated by the depression, is, in part at least, due to a growing realization of the burden a system imposes. It is usually estimated that it takes from 30 to 40 years, or even more, according to the terms of the plan, for a pension system to reach its maximum of expense. With some 8 or 10 exceptions, no existing systems antedate 1900, so that what they mean in terms of cost is only beginning to make itself felt.

Also, guaranteeing the future pensions demands the setting aside of large sums. By the beginning of 1932 it was estimated that funds to the amount of probably \$625,000,000 had been accumulated for this purpose, of which 90 percent was trustee or held by insurance companies.

Attitude of Employees

THE most significant aspect of the movement toward deliberalization is held to be "the success obtained in enlisting the cooperation of employees accustomed to the offer of pensions without any direct contributions from themselves." Employees, it is reported, will

support plans much less favorable to themselves than the earlier type if a few features on which they lay special stress are embodied. Prominent among these are the return with interest of their deposits in the event of withdrawal, the guaranty of the pension, and a stipulation that funds paid into the pension system shall not in any case revert to the employer. Also, they specially favor the inclusion of a benefit for total and permanent disability, a gradation of contributions according to age at entry, and a provision of optional annuity forms at retirement.

While this is true, it is also apparent that employees are desirous of securing some more inclusive form of pension system than one offered by an individual company.

Teachers' Retirement Systems in the Depression

THE continuance and stability of State retirement systems for teachers were threatened during the depression by proposals advanced in State legislatures and by other groups, while decreased school resources or attempts to revise school finance systems hindered the introduction of new retirement legislation and the revision of unsatisfactory systems. A report by the National Education Association¹⁰ describes the effects of the depression on the operation and organization of teacher-retirement systems between 1930 and 1934, as reported by secretaries of 16 State teacher-retirement systems, as well as significant trends in retirements, income, and investment experience of State systems.

Prior to 1930 there were 22 State-wide teacher-retirement systems in effect. Since that time legislation has been enacted in New Mexico establishing a retirement system and a very restricted teachers' pension law has been enacted in Florida. The Territory of Alaska which formerly had a retirement system has discontinued it.

The charge has been made in recent years, it is stated in the report, that in some instances school boards have used retirement regulations as a means of removing from the active pay roll the older, more experienced, and higher-salaried teachers in order to substitute younger, less experienced teachers at lower salaries. From the reports received in this inquiry it appeared that there was some foundation for the charge, although it is pointed out that this does not constitute any argument against a retirement system, since without such a system the situation of experienced teachers who are unjustly dismissed would be worse than under a pension system. While a number of retirement systems reported that attempts to reduce salary budgets had resulted in the retirement of teachers earlier than would normally be the case, the report states that it is not safe to conclude that all increases in the number of retirements during the past 4 years have resulted from economic pressure on school budgets, since in systems recently established there will naturally be an increase from year to year. An increase in the number of retirements since 1930 on the age basis was reported by 10 systems, two secretaries reporting definitely that older teachers had been forced out of the service.

¹⁰ National Education Association. Committee on Retirement Allowance. *Retirement Systems in the Depression*. Washington, 1934.

Eight systems reported an increase in the number of disability retirements, while one system reported a decrease in such retirements, and one secretary reported that disabled teachers seemed reluctant to give up even when it would be to their advantage and that of their pupils.

In general, there were few legislative changes in the systems during the 4-year period. In Washington the period of service which must be rendered within the State as a basis for ordinary retirement was lengthened. The Minnesota system was revised to permit a relatively early retirement age. Bills to establish a compulsory retirement age or to lower existing retirement ages, which were introduced in several States, failed of enactment.

Two State systems are entirely supported by public funds, but in the others the teachers pay either a specified amount or a percentage of their salaries toward their future annuities. In 1934, it is said, the average salary of teachers, principals, and supervisors was probably about 26 percent below the average salary received in 1930. Salary arrears were reported in a number of cities and States. In all of these States and cities the teachers contribute to the support of the retirement plan, but the systems financed wholly by teachers' contributions were naturally most adversely affected by the salary reductions. As annuities are in some cases related to the teacher's average salary over a few years immediately preceding retirement, the benefits of teachers nearing retirement were in such systems affected by the reduction in salaries which had taken place. Two State legislatures in 1933, however, provided that temporary salary reductions should not affect benefits or contributions.

While the retirement funds receive support from public funds in all but 3 of the State systems, it was found that public expenditures in the case of 8 systems for which this information was available did not constitute much over 1 percent of the cost of government. Lowered incomes from members' deposits or contributions were reported by several of the systems, due to the retrenchment program in the schools, decrease in the rate of assessment, or to reduced salaries.

It is pointed out in the report that as the accumulated reserve increases in States operating under the actuarial-reserve plan, increasing difficulty will be met in convincing State legislatures of the necessity for making further State appropriations. One State in which the accumulated reserve amounted to more than \$95,000,000 had met with this difficulty and stated that "as the reserve increases, it becomes increasingly necessary to educate State legislators in regard to the necessity for the accumulation of these large reserves." However, bills to postpone or eliminate payment of public funds to established teacher-retirement systems were unsuccessful in legislative sessions in California, Ohio, Pennsylvania, Washington, and Wisconsin.

Work of Employees' Mutual Benefit Associations

THE National Conference on Mutual Benefit Associations, which was organized in the spring of 1928 by representatives of industrial and business establishments throughout the country, conducted a

study in 1931¹¹ of the activities of these associations, the results of which were tabulated and analyzed by the United States Public Health Service. The information was collected through questionnaires sent 1,500 firms which were thought to have employees' organizations for sickness insurance. Replies were received from 602 companies. Of these, 223 stated that they had no form of mutual benefit association; 27 reported that the association had been discontinued; 23, that there had never been an association but that sickness insurance was being purchased by these firms from life insurance companies; and 14, that they had relief departments or sick-benefit plans operated and financed entirely by the company. The information furnished by the remaining 315, therefore, formed the basis for this report.

The possibilities in the mutual benefit association for usefulness in the field of preventive medicine have been realized to a certain extent in recent years, and the primary purpose of the study, therefore, was to ascertain how much had been done for members beyond the simple payment of cash benefits in case of sickness.

Mutual benefit associations are not new. The average age of 312 associations was 21 years, while 2 percent of them were established more than 50 years ago. The largest number in any one group was found in the 10- to 14-year-old group. It is evident, therefore, that benefit associations have had a sufficiently long experience to have passed the experimental stage.

The scale of benefits paid by the associations ranged from less than \$3 per week to \$25 and over, while several paid a fraction of the wages ranging from one-half to full pay, only two associations, however, paying the latter amount. Many associations have more than one class of benefit, and the rate of payment to female members is frequently less than that paid to males. About one-fourth of the benefit classes in the different funds paid less than \$7 per week; approximately one-half, from \$7 to \$13; and the remainder, more than \$13 per week. Benefits of \$9 to \$11 per week were more frequent than any other amounts. Few of the associations considered the cash benefits adequate when they were less than \$5 per week, but a majority of those in the different benefit classes paying from \$5 to \$13 per week stated that the benefits appeared to be sufficient. However, of those replying to the questionnaire and giving their title or position, about 67 percent appeared to belong to the executive branch of the company, so that these opinions in general represent those of company officers rather than those of the wage earners.

The benefit periods also varied widely, ranging from 5 weeks to 2 years for those reporting the maximum period for which benefits were paid. The report stated that from the wide amount of variation in the plans it appeared that the establishments in working out their systems for sickness relief exercised too much individualism and that a moderate amount of standardization might be advantageous from several points of view.

¹¹ United States Public Health Service. Public Health Report, Sept. 4, 1931: A Survey of the Work of Employees' Mutual Benefit Associations, by Dean K. Brundage.

Suggested Changes in Benefit Scales

WHILE a majority of those reporting did not favor a change in the scale of benefits, it appeared from the comments on this point that a fairly wide difference between the benefit scale and the wage scale was desirable in order to prevent malingering. It was regarded as somewhat surprising, in view of the importance apparently attached to the question of malingering, that only two companies suggested the advisability of payment of part of the cost of hospitalization without changing the weekly rate of cash benefits.

The principal changes in benefits proposed related to the amount under a single scale of dues and benefits, the amount in proportion to wages either as a definite percentage or in classes according to wages, the maximum period for which benefits may be paid, and the size of the death benefit. Many of the companies were in favor of paying benefits in proportion to wages, either as a definite percentage of the wage or according to a classification corresponding to the principal wage groups.

Opinions as to Effectiveness of Associations in Improving Employees' Health

IN REPLY to the inquiry regarding any improvement in employees' health which could be ascribed to the mutual benefit association, 5 percent of the companies stated that the association was not organized for health improvement. It was the opinion of 32 percent of the total number of 227 replying to this question that there had been no improvement or important health results, while 20 percent stated that there were no data available by which improvement could be measured. Ninety-seven firms, or 43 percent, thought that the work of the association had been instrumental in improving health conditions.

A smaller proportion of the companies thought that absences on account of illness had been reduced as a result of the work of the benefit association. Two companies, on the other hand, reported an increase in absenteeism due to sickness. In companies which found there had been a reduction in absences it was ascribed to the provision of proper medical attention and care, or to a reduction in the unnecessary absences and in malingering through the work of visiting nurses or investigators.

To improve the health of its members was not regarded as a function of the society by 6 reporting funds, but 118 offered suggestions for increasing its effectiveness in this regard. Among the suggestions were included the provision of periodic health examinations and institution of a program of health education, including lectures and periodic bulletins. Several thought that dues should be increased to cover necessary surgical operations and dental, optical, and other corrective services.

In summing up the results of the study it was stated that there was some evidence in recent years of a tendency to develop new fields of usefulness for the members of the association, such as securing for them better surgical and medical care, and the institution of preventive measures. However, only a small fraction of the benefit associations were making any attempt to improve health conditions among their members. They were still in the main insurance organizations, and

as such, it is said, seldom erred on the side of over-insurance. Practically no attempt had yet been made to insure against uneven costs of treatment of different diseases, and ordinarily a serious surgical case, or one requiring radium treatment, for example, received no larger cash benefits than other cases which involved the same loss of time. If, however, insurance was adjusted to the uneven costs of treating different diseases, the report stated, the fear of malingering would be dispelled.

Status of Industrial Mutual Benefit Associations in 1931

THE effect of the development of the newer agencies of relief for employees, such as workmen's compensation and group insurance, upon the activities of industrial mutual benefit associations formed the subject of a study in 1931 by the National Industrial Conference Board.¹²

In spite of the fact that these newer forms of insurance against the contingencies of accident, sickness, and death have had such a decided growth in recent years, the study showed that they have exerted only a slight effect upon the activities of the benefit associations. The investigation covered 398 companies with active associations, 388 of which furnished total employment and association membership data. These companies employed approximately 1,119,000 workers, of whom 824,940, or about 74 percent, were members of the mutual benefit associations. As many of the associations covered in the study were included in one made in 1922, it was possible to compare tendencies in 1931 with conditions in the earlier year.

It appeared probable, with the rapid development of group insurance, that the mutual benefit association would be forced to surrender its place to the commercial insurance company, but from the study it did not seem that this had occurred. The insurance companies have made considerable progress in the field of industrial life insurance, but benefit associations continue to carry the sickness and accident risks, and even where insurance companies have entered this field the benefits provided by them supplement rather than take the place of those provided by the association. Nothing in the information secured in connection with the study indicated, it was stated, that mutual benefit associations were losing the important place they have held for years in the industrial relations program, and the fact that they have held their own "through a period that has witnessed the rise and fall of a variety of industrial-relations theories and projects bears witness to their success in filling a recognized need."

In response to altered economic conditions there was a general tendency to increase benefits in those associations providing fixed benefits, while a method of adjusting the benefits in a measure to individual needs is found in the graduated scale based on the normal wages or earnings.

A trend toward the contraction rather than the expansion of the activities of benefit associations was shown, so that instead of taking a part in the control or direction of other industrial relations activities

¹² National Industrial Conference Board, Inc. *The Present Status of Mutual Benefit Associations*. New York, 1931.

it is more and more becoming the practice for the associations to confine their activities to the provision of insurance against disability. The study also showed that associations were giving increasing consideration to the actuarial aspects of their plans, with the result that their finances showed increasing soundness.

Savings and Stock-Ownership Plans

Effect of the Depression on Employee Stock Ownership ¹³

THE Industrial Relations Section of Princeton University has followed the trend of employee stock ownership since 1926, when its first report on the movement was issued. The sharp declines in stock prices after the crash in 1929, when hundreds of thousands of employees were involved in the purchase of more than a billion dollars of stock, necessitated rapid readjustment in the administration of stock-purchase programs, and this study was made to ascertain what effect the depression had had on the form of the plans or their continuance.

Fifty plans, from among the large number regarding which material had been collected for several years up to 1933, were selected for study, these plans providing, it is said, a fair cross section of the stock-purchase movement. The general conclusion drawn from the study is that few plans have been successful. It is said that "even at this time it is a safe conclusion that both employers and employees have lost more from the movement as a whole than has been gained in improved morale and dollars saved."

During the years immediately preceding the depression employee stock ownership attracted much attention, and it was the rather general opinion of employers and students of the subject that these plans offered the worker a generous opportunity to share in the prosperity of the industry and to identify himself with it as an investor as well as an employee—an opportunity which was generally regarded as being to the employee's advantage. It was even thought by certain writers and observers of social and economic trends "that company stock-purchase plans might bring about such increased ownership and control of industry by the workers as would amount to an economic revolution." It became apparent, however, that for various reasons it was improbable that employees could or would care to secure any effective control of their employing companies, the principal reason being the narrow margin for saving possessed by the majority of employees even in ordinary times and, consequently, the small amount which individual employees could invest in the purchase of shares. It was said to be probable, on the other hand, that the increasing diffusion of the ownership of stock served to promote the centralization of control in industry.

The rapid increase in the number of employee stock-ownership plans was due first of all to the desire to stimulate employee thrift at a time when earnings, even in terms of real wages, had risen considerably, so that it was possible for at least the better-paid groups to save with some degree of regularity. Employers were sincere in believing that stock-ownership plans offered a desirable means for

¹³ Princeton University. Industrial Relations Section. *Employee Stock Ownership and the Depression*, by Eleanor Davis. Princeton, 1933.

employees to save, particularly as they offered the possibility of increased value of the investment, and in years as prosperous as those preceding the end of 1929 it seemed improbable that any considerable part of the original investment would be lost or that it would be impossible to liquidate securities quickly and without loss. Among other and less important reasons for the inauguration of these plans was the tendency, in industrial relations as elsewhere, toward imitation.

The growth of the stock-participation movement was not without opposition, however, as organized labor has always opposed it and writers and students of economic developments—both opponents and friends of the movement—pointed out the necessity for caution regarding the kinds of stock to be sold to employees and the safeguards which should be thrown around such an investment.

Effect of the Decline in Security Prices

EXAMINATION of the market prices of the stocks sold under the 50 plans covered in the study shows that in most cases they had fallen below—in some cases very much below—the selling prices to employees. The median July stock-market quotations of 35 stocks sold to employees by 31 of the 50 companies showed an average of 98½ in 1926, 107 in 1927, 108½ in 1928, and 115 in 1929, from which time the prices dropped to 107 in 1930, 72 in 1931 and 14½ in 1932. By the end of December this price had risen to 18¼ but was still 80 points below the 1926 median selling price. The losses to employees represented by these figures were very large and to such losses must be added lay-offs, part-time employment, and lower wage rates also suffered. While employee stockholders included many who were not wage earners in manufacturing industries and who might be able to hold their stock during a period of low prices, in general the greatly reduced wages made it difficult, if not impossible, for such employees to hold their stock for better prices. The loss of savings had been shown to have been one of the serious elements in the unemployment situation and this, together with reduced earnings, was reflected in company action with regard to stock-ownership plans. Of the 50 plans on which the study is based, 31 had been given up or suspended, due to a large extent to the falling prices of securities sold to employees and the reductions in employee income.

Provisions Protecting Employees' Investments

THE plans for stock purchase by employees usually contain one or more provisions for the protection of funds invested in them against declines in price. During the years 1930–32 these safeguards in some cases proved inadequate; in other cases they cost the companies a great deal or involved them in heavy risks; and in a few cases they afforded genuine protection up to the time of the study and to that extent justified the sale of company stock to employees.

Provisions for cancelation of subscriptions are very important in a period when market prices are declining. These provisions depend to a large extent upon the methods by which the company secured the stock for sale to the employees. If the usual method of purchase of stock by the trustees at the outset to fill the total subscription is followed, the loss in case of a decline is much greater than it would be if stock is purchased only as it is paid for. Thirty of the fifty plans

covered provided for the cancelation of the subscription on the request of the employee, but in some cases it was provided that cancelation must be for reasons satisfactory to the trustees and in others it was apparent that withdrawals by those remaining in service were not looked upon with favor.

Other measures taken to protect the employee investors included temporary suspension of payments in case of lay-off or part-time employment; loans to employees on stock or subscription payments as collateral; and guaranty of the return of the purchase price of paid-up stock. The repurchase guaranty or the contribution of a substantial percentage of the cost of the stock sold to employees, it is said, involves a company in large liabilities or expenditures, but "may well be considered the minimum protection to be afforded the rank and file employee investing his savings in industrial stocks under a company-sponsored plan."

Conclusions

IT WAS found, as a result of the study, that comparatively few changes of importance had been incorporated in employee stock-ownership plans as a result of the depression. There were, however, some fairly perceptible trends apparent. The clearest and perhaps the most important was the tendency toward plans limited to selected groups of executive employees. This was shown by the fact that 15 of the plans were more or less clearly limited to higher-paid or executive groups, and that 8 of these were established fairly recently. In two of these cases earlier general plans were given up and this plan substituted, while in several other instances the general plan had been retained but had been temporarily suspended.

Employee Savings and Investment Plans

A STUDY of savings and investment plans for employees of industrial establishments was made in 1932 by the industrial relations section of Princeton University.¹⁴ The beneficial effects of such plans were evident during the depression when the possession of savings, which had been acquired through the encouragement of the employing companies, furnished a degree of security to employees temporarily laid off or put on part time. It is believed that the realization of the extent to which such savings aided employees suffering from the depression will stimulate renewed interest in the establishment of such plans when employment conditions improve. Although industrial planning and the regularization of production and employment offer the best assurance against unemployment, in many industries it is impossible so to stabilize production as to be able to guarantee employment or to provide unemployment benefits. Company savings plans, either with or without employer contributions, therefore, are said to provide flexible, effective machinery for helping employees to protect themselves against economic hardships and thus in a measure offset the lack of stable employment conditions.

In general, the companies have been largely responsible for the development of the thrift plans, although employees have often co-

¹⁴ Princeton University. Industrial Relations Section. Company Plans for Employee Savings and Investment. Preliminary draft, mimeographed. Princeton, 1931.

operated from the beginning and shared in the operation of the plans. The support of the plans by the companies has ranged from written and verbal endorsements to regular company contributions to the savings fund. The interest of the employees in the funds has been maintained through carrying out carefully planned campaigns at regular intervals, the payment of additional interest to employees who continue their savings over a specified time, and pay-roll deductions to encourage regularity of payments.

Credit for the growth of industrial thrift plans in the past decade is due, also, to the efforts of the employees themselves, since saving is not easy when the margin above necessities is small. Installment buying has developed rapidly and has made it easy for the American workingman to spend beyond his means. In spite of the difficulties in the way of saving, however, the number of thrift plans has grown steadily although attitudes toward saving have changed. Saving for the sake of saving is no longer advocated, but, instead, saving with a view to being able to purchase the things one really wants and needs instead of spending on things that really do not matter.

The experience with thrift plans especially during the depression period has shown that there is danger of encouraging employees to undertake too much or to make investments in which there is too large an element of risk. Employees whose financial situation and prospects make it unwise to take risks should be encouraged to invest only in plans in which safety is assured, even though the return is lower.

Savings Plans in Cooperation with Banks

THE most easily operated and most popular type of savings plan is operated in connection with local savings banks. In this type of plan participation by employees is made easy through the deduction of the amount the employee wishes to save from his weekly wages and the deposit of this sum to his account in the savings bank. The success of the savings plan also demands that deposits in the fund shall be made with as great regularity as possible.

In general, savings plans conducted in cooperation with banks have the very definite advantage of putting a minimum of responsibility on the company and of leaving the care of the funds to the bank, which specializes in the care of money.

Employer-Employee Savings Funds

IN THE second type of industrial thrift plan, the savings are accumulated in a fund handled by the employer alone, or by the employer and employees jointly. These plans usually concern savings rather than investment funds and aim at the encouragement of short-term accumulation of means to meet unusual expenses or to make special purchases rather than at the investment of funds on a longer term basis. In addition to enabling employees to meet such expenses, this type of savings plan protects long-term investments toward which employees are making regular payments, such as the purchase of a home or of company stock.

Long-Term Savings Funds Receiving Contributions from Employers

PLANS for long-term investment by employees generally take the form of building and loan associations, extra pension or insurance plans, purchase of company stock, or purchase of diversified securities by means of an investment trust, or in some cases long-term savings funds to which contributions are made by the employer. There are two general types of the latter class of plans—those in which the employer's contribution is a fixed percentage of the amount deposited by the employee, and those in which the employer deposits a set amount or a set percentage of the profits of the business, this amount being credited to the accounts of members according to their deposits. The latter type is a combined thrift and profit-sharing plan, but if the employee receives stock of the company in return for his deposits and as his share of the company's contribution the plan should be classified as a stock-purchase plan rather than a savings plan.

Investment by Industrial Employees in Building and Loan Associations

A STUDY published in 1932 by the industrial relations section of Princeton University, on the use of building and loan associations in company programs for employee savings and investment, discussed these systems from the standpoint of the need for financial security among American workmen. The long-continued period of unemployment through which we have been passing has shown the necessity for assisting employees to provide reserves sufficient to meet protracted curtailment or entire loss of earnings. "During the past two decades", the report states, "workmen's compensation and minimum wages have been definitely allocated to the fields of legislation and private initiative, respectively. The next decade will probably see the test whether the financial security of the individual employee can remain outside the field of legislative action. The results of that test, while much influenced by the length of the present depression, are largely in the hands of American employers."

Building and loan associations are well adapted to the needs of employees earning a moderate salary or wage, as payments for association shares may be made in small amounts, which, however, amount to substantial sums when carried out over a long period. Assistance to employees in keeping up their payments is rendered by many companies through pay-roll deductions. The earnings on shares, which are automatically credited and compounded on divided dates in the majority of building and loan associations, add materially, over a period of years, to the value of the investment.

A twofold service may be offered to employees by the building and loan association, as it provides opportunity to accumulate a substantial reserve and it makes loans to members for the purchase or construction of homes which may be repaid in small but regular amounts. The association thus assists in the solution of two problems in which the employer has an interest—the promotion of habits of thrift among employees and home ownership.

There are several types of building and loan association plans, and those established in connection with individual enterprises follow the same general plans as those of independent associations. All types of associations include, as their basic operation, the sale of shares

of the association at a fixed par value, for which the subscribers make regular payments, called "dues." The associations' earnings are derived from membership fees, fines for failure to pay dues on time, and interest on investments, and in some cases from premiums charged on loans.

While the main features of the different plans are similar, the details vary considerably. The plans may be divided into the serial plan, in which stock is issued in series at regular intervals and in which all the dues are pooled and loans made from the common fund; the permanent plan, in which subscriptions to shares may be made at any time and the earnings are credited and accounts kept on an individual basis instead of in series; the Dayton plan, which differs from the permanent plan in the provision for optional payment of dues, no fines or forfeitures, and the introduction of paid-up shares; the permanent capital plan, which provides for issuance of a special type of share, subscribed and paid for by the founders of the association, which guarantees a definite stipulated return upon the regular shares of the association.

The associations, whatever the type of plan, usually sell one or more of the following types of shares: (1) Installment shares, which are paid for in regular installments as in the serial and permanent plans, or varying amounts as in the Dayton plan; (2) prepaid shares, sometimes called "single payment" shares, in which the investor pays a lump sum for each share considerably less than its par value and allows the money to remain with the association until the earnings bring it up to its par value; (3) paid-up or full-paid shares, which were originally shares upon which all payments had been made and which were left with the association; from this developed the sale of shares for a single cash payment, upon which dividends are paid, but commonly at a lower rate than on installment shares; (4) juvenile shares, which are sold to minors in a large number of States; (5) guaranty stock or permanent contingent-reserve stock on which no dividends are paid until the stipulated rate is paid on the regular shares.

While the provisions in regard to withdrawal of funds before the end of the investment period vary in the different types of plans, in general there is some limitation on the right of withdrawal either through the practice (authorized by law) of requiring varying periods of notice of the intention to withdraw deposits or through the imposition of a fee or forfeiture of some share of the earnings of the fund. Early withdrawals, therefore, have two principal effects—a loss to the investor and the difficulty which the association may have in paying withdrawal requests during a period of depression. In associations having a large proportion of members exposed to the risks of unemployment, part time, or reduction in wages, the members may need their savings badly, but the associations may be in no position to meet wholesale withdrawal requests, since their regular income from dues is likely to be greatly reduced.

"Those interested in building and loan associations as a medium for employee savings should recognize the fact", the report states, "that during a time of financial strain dues paid on installment shares may be unavailable for some time. This is not to argue that building and loan associations are not exceedingly safe institutions,

but to conclude that they are better suited to the savings needs of those employees who are in a position to make long-term rather than demand deposits."

Benefit Payments by Standard National and International Unions

UNIONS as well as the Government have had to face the problem of relief for the unemployed as a public responsibility. The shrinking incomes of the employed make their former generous fraternal contributions a most difficult problem. Between 1932 and 1933, and again between 1933 and 1934, the total amount paid out in benefits of all types by standard trade unions decreased approximately \$11,000,000.

The expenditures for the various types of benefits for 1934 as compared with the 5 preceding years are reported in the following table. The outstanding feature of this table is the tremendous increase in the sums spent for unemployment relief, rising from about one-quarter of a million dollars in 1929 to over \$19,970,000 in 1932; a figure which, because of continued loss of income on account of increased unemployment, could not be maintained, as evidenced by the sharp drop in 1934.

BENEFITS PAID BY NATIONAL AND INTERNATIONAL TRADE UNIONS 1929-34, BY TYPE OF BENEFIT¹

Type of benefit	1929	1930	1931	1932	1933	1934
All types of benefit.....	\$32,242,446	\$36,697,980	\$39,961,873	\$51,448,349	\$40,092,113	\$28,840,644
Sickness.....	2,831,937	3,649,703	2,220,975	2,308,040	1,665,266	1,023,314
Death.....	17,598,287	18,527,095	17,132,023	17,674,384	14,780,206	15,011,044
Unemployment.....	276,718	3,311,280	9,146,724	19,970,557	13,734,043	4,467,802
Old-age.....	4,883,028	5,910,995	6,090,743	6,148,302	4,678,636	3,912,940
Disability.....	2,707,188	3,234,067	3,671,330	4,006,891	4,837,730	3,176,014
Miscellaneous.....	3,945,288	2,064,840	1,700,028	1,340,175	946,231	1,409,530

¹ Figures are given to the nearest dollar. Data are from the report of the executive council of the American Federation of Labor to the conventions of the specified years.

² Not the sum of the items, but as given in the report.

INTERNATIONAL LABOR ORGANIZATION

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

The International Labor Organization

Affiliation of the United States with the International Labor Organization

THE Congress of the United States passed a joint resolution in June 1934, authorizing the President to accept membership in the International Labor Organization on behalf of the United States Government. Under this authorization, the President on August 20, 1934, formally accepted the invitation of the International Labor Organization to become a member of that body.

Purpose of the International Labor Organization.—The International Labor Organization was created at the close of the World War for the purpose of securing improved and more uniform labor standards for the workers of various countries. The animating reasons as then set forth were: First, that injustice and hardship to large numbers of workers are potent causes of unrest and are thus perils to world peace; and, second, that the failure of any nation to adopt humane conditions of labor is an obstacle in the way of other nations which desire to improve their own conditions.

The general conference of the Organization, which for a number of years has met annually, is composed of delegates designated by each of the member States. Each State is entitled to 4 delegates, 1 representing employers, 1 the workers, and 2 the government concerned. Representation is thus essentially tripartite, and this tripartite character carries through all the work of the conference, its committees, and also the Governing Body.

The function of the conference is to formulate proposals regarding labor standards. The proposals are referred to as draft conventions. It requires a two-thirds majority of the conference to adopt a draft convention. If such adoption takes place, the proposal is submitted to the competent authorities of the member States for their attention. If a State approves a draft convention it is, of course, bound by its terms. If it disapproves, no obligation at all rests upon it. In other words, the conference acts as a meeting ground for discussing and drafting proposals. The only obligation resting on the participating governments is that of formally transmitting any proposals on which the conference can agree by a two-thirds vote to the competent national authorities for their approval or disapproval. The conference has, however, an additional significance in that, representing as it does the various economic groups in a very large number of countries, any agreement arrived at by substantial majorities may be assumed to reflect in some degree the current of world opinion and may also have an influence upon such opinion, and thus ultimately upon State action.

The International Labor Office (often referred to simply as the Office) is the secretarial and research branch of the International Labor Organization. The Office is under the control of a Governing

Body of 32 members, consisting of 16 government representatives and 8 representatives each for employers and workers. This body meets four times a year and, among other duties, establishes, subject to the ultimate control of the conference, the items to be placed on the agenda of the conference.

United States observers at the 1933 and 1934 conferences.—Prior to the affiliation of the United States, this country had on two occasions—1933 and 1934—accepted the invitation of the International Labor Organization to send “observers” to the annual conferences of the organization. These observers were given the privilege of participating in the conference discussions but, of course, had no vote on any of the matters which came up for discussion.

The 1933 delegation of observers consisted of Miss Mary Anderson, Director of the United States Women’s Bureau, chairman; Edwin S. Smith, the Commissioner of Labor of Massachusetts; William H. Stead, then secretary of the Minnesota Employment Stabilization Institute; and Hugh Frayne, general organizer of the American Federation of Labor. The delegation of observers to the 1934 session of the conference was composed of the following persons: Elmer F. Andrews, Industrial Commissioner of New York State; Hugh S. Hanna, of the United States Department of Labor; E. Arthur Baldwin, vice president of the International General Electric Co.; John L. Lewis, president of the United Mine Workers of America; and Mrs. Arthur Bullard, woman representative.

Representation at the 1935 conference.—The 1935 conference was attended by representatives of 52 member States, including for the first time the United States of America, the Union of Soviet Socialist Republics, and Afghanistan. Germany withdrew from the Organization some 2 years ago and is now the only important industrial State which is not a member of the International Labor Organization.

Of the 52 States represented, 34 had complete delegations; that is to say, the delegation consisted of 2 government representatives and 1 representative each of employers and workers. Practically all countries of major industrial importance were included in this group. The incomplete delegations were largely from more distant and less industrially developed countries.

The United States delegates were: For the Government, Miss Grace Abbott, former Chief of the United States Children’s Bureau, and Walton H. Hamilton, member of the National Industrial Recovery Board; for the employers, Sam A. Lewisohn of the Miami Copper Co. (substitute for Henry Dennison, president of the Dennison Manufacturing Co., who was unable to attend); and, for labor, Daniel W. Tracy, president of the International Brotherhood of Electrical Workers. A limited number of technical advisers were attached to each of these groups.

The 1935 conference had before it an unusually full program or agenda, covering such a wide range of subjects as the 40-hour week, prohibition of employment of females in underground mines, the maintenance of the pension rights of migrant workers, the revision of an earlier coal-mine convention, of 1931, the special problems of unemployed young persons, protective measures in the recruitment of native labor, and the matter of holidays with pay.

Accomplishments of 1935 Conference

THE results of the 1935 conference may be briefly summarized as follows:

1. A draft convention approving the general principle of a maximum working week of 40 hours, with maintenance of wage standards.

2. A draft convention establishing a maximum work week of 42 hours in automatic glass-bottle making.

Similar draft conventions concerning the 40-hour week in public works, building construction, iron and steel manufacture, and coal mining failed to secure the necessary two-thirds vote, but, by special action, all four industries were placed on the agenda of the 1936 conference.

3. A draft convention establishing an international system for the maintenance of pension rights for migrant workers.

4. A draft convention prohibiting the employment of females in underground work in mines of all kinds.

5. A partial revision, on certain technical points, of the hours of labor (coal mines) convention of 1931.

6. A recommendation¹ regarding the unemployment of young persons, the most significant feature being the proposal that the school-leaving age and the age of entering employment be fixed at not less than 15 years.

7. Preliminary discussion of the subjects of (a) holidays with pay and (b) labor recruitment in colonial and similar territories.

Both of these items were placed on the agenda of the 1936 conference for the framing of draft conventions, and questionnaires on these subjects were drafted for the purpose of securing the attitudes of governments as a basis for consideration at the next conference.

8. A number of resolutions, introduced by individual delegates, were approved. Several of these provided for placing certain items—such as workers' right to association—on the agenda of subsequent conferences. Three were requests that the International Labor Office make special studies of (a) the truck system and similar wage-deduction practices; (b) nutrition, as regards its importance as a matter of adequate feeding of the workers and also as regards its influence on agricultural production; (c) agricultural conditions, i. e., conditions of rural life and labor generally.

9. Acceptance by the Organization of an invitation of the Chilean Government to hold a regional labor conference, covering the Western Hemisphere, at Santiago, Chile, in the latter part of 1935.

International Labor Office

AS NOTED above, the International Labor Office is the secretarial and research division of the International Labor Organization. Article 396 of the constitution of the International Labor Organization provides that the functions of the International Labor Office shall include:

The collection and distribution of information on all subjects relating to the international adjustment of conditions of industrial life and labor, and particularly the examination of subjects which it is proposed to bring before the con-

¹ A "recommendation" differs from a "convention" in that formal ratification is not requested. The recommendation form is used in cases, such as the present one, where the proposals made are of a character that do not lend themselves to the precision of formulation necessary in the case of conventions.

ference with a view to the conclusion of international conventions, and the conduct of such special investigations as may be ordered by the conference.

It will prepare the agenda for the meetings of the conference.

It will carry out the duties required of it by the provisions of this part of the present treaty in connection with international disputes.

It will edit and publish in French and English, and in such other languages as the Governing Body may think desirable, a periodical paper dealing with problems of industry and employment of international interest.

Generally, in addition to the functions set out in this article, it shall have such powers and duties as may be assigned to it by the conference.

From the foregoing, the functions of the Office are construed as falling into four main groups:

1. It prepares the agenda of the Governing Body and the conference, and attends to the execution of their decisions.

2. It conducts research into a wide field of industrial and economic problems.

3. It issues a series of periodical and other publications containing information on social and industrial affairs, including international comparative studies on various questions.

4. It maintains relations with associations and institutions concerned with industrial and social affairs, collects information with regard to current events and movements in the world of labor, and supplies such information to inquirers.

Before the International Labor Organization began the promotion of international standards, preparation for action in the field of labor legislation with special regard to unemployment had been established in Europe through broadening from local to national effort in the principal industrial countries in the latter years of the last century. The first efforts were directed to the improvement of the statistics of unemployment through the work of the International Statistical Institute, and later an international congress on unemployment held at Milan in 1906 recommended periodic reports of work and unemployment by all industries, the establishment of free public employment agencies, the provision of optional or compulsory unemployment insurance, and governmental subsidies to employment bureaus established by workers. International conferences on legislation for the protection of workers had resulted in the establishment of an International Labor Office at Basel in 1901. This unofficial movement toward cooperation was made official by the inclusion of a labor section in the peace treaty and the establishment of the International Labor Organization.

International Labor Conventions ²

THE conventions of the International Labor Organization are a form of treaty by which governments belonging to the Organization may mutually commit themselves to adopt specified minimum standards for the treatment of labor. Each government ratifying a convention engages to secure observance of certain standards within its own immediate territory and to extend their application, in complete or modified form, to colonies and other areas under its control, as conditions of life and labor in those places warrant.

The conventions are adopted in draft form by conferences of the Organization and subsequently communicated, for presumptive ratification, to all member governments. By the terms of membership the governments are required to submit them to their treaty-

² Summary of article by Alice S. Cheyney, of the Washington branch of the International Labor Office, in the April 1934 Monthly Labor Review.

making authorities for consideration, but are not required to ratify them. Each convention comes into effect when it has received the number of ratifications which it specifies as necessary to bring it into operation or at the end of a given time after receiving such ratifications. It is binding both among the governments that ratify it before it comes into effect and those that ratify it at any subsequent time.

After a specified trial period any government may, after due notice, withdraw its ratification, and the operation of each convention, in all countries that have ratified it, must be reviewed at intervals with special reference to the desirability of general revision. The standards established are minimum standards only and it is expressly stated in the constitution of the International Labor Organization that no government shall "be asked or required, as a result of the adoption of any recommendation or draft convention by the conference, to lessen the protection afforded by its existing legislation to the workers concerned."

Each member government is entitled to send four delegates to the conferences of the Organization in which draft conventions are adopted. Two of these delegates are spokesmen for the government and are appointed entirely at the discretion of the government itself; the other two speak for employers and workers respectively and are "chosen in agreement with the industrial organizations, if such organizations exist, which are most representative of employers or work people, as the case may be, in their respective countries." Each delegate has one vote; spokesmen for governments may vote under all circumstances, but if in any government's delegation there is a spokesman for the employers but not one for the workers, or vice versa, the one "nongovernment" delegate may take part in discussion but may not cast a vote. While the representatives of employers' and workers' organizations are spoken of as nongovernment delegates, for convenience in distinguishing groups in the conference they, no less than government delegates, must hold credentials from their government, since governments alone have direct and responsible membership in the Organization.

In the first 15 years of the existence of the International Labor Organization its conferences adopted 40 draft conventions. Of these, 14 deal with various types of social insurance for industrial workers, agricultural workers, and others; 7 with regulation of child labor of various sorts; 5 with limitations on hours and times of work; 4 with the prevention of industrial accidents and diseases; 3 with provision of public employment offices; 2 with the engagement and repatriation of seamen; and 1 each with the subjects of industrial employment of women at night, the right of agricultural workers to organize, inspection of emigrants, minimum wage-fixing machinery, and forced or compulsory labor.

At the end of 1933, 33 of these 40 conventions had received a combined total of 578 ratifications. A series of 6 conventions dealing with old-age, invalidity, and widows' and orphans' insurance, and 1 convention dealing with employment agencies, all adopted in June 1933, had been before member governments too short a time to have received ratification; the 1 convention adopted in 1931, and 1 of the 2 adopted in 1932, had received but 1 ratification each, and while the other 1932 convention had received the 2 ratifications necessary to bring it into operation, the year's waiting period required before it

can take effect had not elapsed since the second ratification. Consequently there were at that time 30 international labor conventions actually in effect.

Of these 30 conventions, 15, or an even half, had each been ratified by from 20 to 30 governments; 6, or an even fifth, had been ratified by from 15 to 19 governments; and of the remaining 9, 6 had each been ratified by from 10 to 14 governments, and 3 by less than 10 governments. Of the 66 ratifications given during the last half of 1933, 10 were of conventions which, although adopted more than 10 years ago, are still receiving ratifications.

In addition to the ratifications already in effect, there had been registered 11 "conditional" or "delayed" ratifications. A conditional ratification is one that is registered to take effect when and if ratification is accorded by certain specified governments. By registering a conditional ratification a government may indicate its willingness to enforce the observance of a given standard without committing itself to inaugurate such enforcement in advance of similar action by commercial competitors. A delayed ratification is one registered to come into effect at the end of the period which the ratifying government thinks will be necessary for adjustment of its own law and practice to the maintenance of the standards defined in the convention.

Twenty-nine more ratifications had been approved by national treaty-making authorities but had not been formally registered, while 92 ratifications had been recommended to treaty-making authorities by other branches of governments.

The total of 578 ratifications consummated is almost exactly one-third of the 1,740 ratifications which would have been given if every one of the 58 governments belonging to the Organization had ratified each of the 30 conventions on which there has been full time for action—the conventions adopted before 1931. But the subject is not one for simple arithmetic. While no conventions are adopted by the conference with special reference to a limited number of countries, all standards adopted being minimum standards for universal observance wherever applicable, some convention standards have no practical relevance to the life of some member countries.

There are, for example, 7 conventions which deal with some aspect of the employment of seamen or with control of employment of young persons in seagoing service and 2 which deal with prevention of accidents to dockers—a total of 9 conventions which apply in one way or another to seafaring or work about ships. And there are 7 countries belonging to the Organization which have no coast either on the ocean or on any inland sea; these are Austria, Bolivia, Czechoslovakia, Hungary, Luxemburg, Paraguay, and Switzerland. Ratification of conventions referring to seafaring by coastless countries can have no practical effect whatever on observance of the standards set up by such conventions. Two of these countries have, as a matter of fact, given a total of 9 ratifications to conventions relating to seafaring—thus giving them their platonic approval. But the absence of the other 54 ratifications hypothetically due from the coastless countries obviously does not represent any gap in the application of the internationally approved minima. This is the extreme instance of irrelevancy. Various degrees of irrelevancy of other conventions to the conditions of particular countries are in various degrees responsible for failure to ratify.

There are, indeed, 10 governments belonging to the Organization which at the end of 1933 had not ratified any conventions whatever. These governments are those of Ethiopia, Guatemala, Haiti, Honduras, Iraq, Nicaragua, Panama, Peru, Salvador, and Siam. While they might find some of the minimum standards set up by the conventions to be applicable in their countries, these are, in the main, relatively undeveloped industrially, with a relatively primitive integration of economic life; the absence, up to that time, of the 300 ratifications which might have come from them does not represent a failure of coverage for convention standards in the ratio suggested by 300 to 1,740.

Finally, some of the countries belonging to the International Labor Organization are federal countries in which social legislation is the affair of the constituent States and cannot ordinarily be made the subject of international commitment on the part of the federal government. Up to the end of 1933 Canada and Australia had ratified respectively only 4 and 5 conventions—dealing with matters within the competence of the central government—although the terms of other conventions are generally met by the laws of their several Provinces.

Making allowance for irrelevancies and for obstacles to ratification which are due to forms of government, the number of consummated ratifications and of pending ratifications already approved by treaty-making authorities would seem to be about one-half of the number which could be registered and could take practical effect. But the proportion is of little significance except as indicating in a general way the part played by international commitments in establishing minimum legal standards for the treatment of labor.

No strict arithmetical calculation is possible as to the degree of coverage thus far secured for the minimum standards set up by the conventions. Plainly, even a strict accounting in terms of ratification given to applicable conventions and of provincial legislation in federal countries would fail on two points to give a significant reckoning. First, from an international point of view, ratifications by large and small countries are of different importance. Secondly, from any practical point of view the significance of ratification depends entirely on the enforcement which follows it. Moreover, conventions vary in the importance of their provisions accordingly as these affect large or small proportions of the population of any country, as they affect conditions of life and labor in minor or in major ways, and as they affect the costs of production which are reflected in terms of international competition. On none of these points is any statistical generalization possible, but on all of them some light is thrown by the complex record of ratification.

Ratification by a large country which plays an important part in world markets is more important both in its direct effect as measured by the number of people living under the laws of that country and in its indirect effect through the conditioning of international trade, than is ratification by a little country with a smaller population and less external trade. Large contributions to the total of ratifications have been given by countries which do not play important roles on the international stage; at the end of 1933 Bulgaria and Luxemburg, for example, had each ratified 27 conventions. On the other hand, countries industrially and commercially important have not been backward in ratification; Great Britain and France had each ratified

18 conventions; Germany had ratified 17, and Italy 19. The Scandinavian countries, Holland, and Poland, had ratified from 10 to 17 each, and Czechoslovakia had ratified 12. In the Orient, Japan had ratified 12 conventions and India 13. The more important countries of South America were in general not among the early ratifiers, but in the last few years they have been registering ratifications at an increasing rate; at the end of 1933 Uruguay had given 30 ratifications, Colombia 24, Chile 19, Argentina 9, and Venezuela 4, and in Brazil and Mexico ratification or preliminary legislation had been in process.

The matter of enforcement is naturally difficult to assay, but, generally speaking, the countries most highly developed industrially are the best prepared to enforce social legislation, and complaints of nonenforcement most often come from within countries where industrial organization is comparatively rudimentary.

The relative importance of the conventions may vary with the type of effects under consideration, whether these are national or international, social or political, immediate or long range. Figures are here altogether useless.

**LABOR CONDITIONS IN OUTLYING
AREAS**

**U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition**

Wages and Labor Conditions in Alaska

THE following information regarding industrial conditions in Alaska is taken from the Governor's reports for 1930-31, 1931-32, 1932-33, and 1933-34.

Fishing Industry

IN 1933 there were 21,695 persons employed in the Alaskan commercial fisheries. Of this industrial group, 11,359 were whites, 5,562 natives, 2,214 Filipinos, 969 Japanese, 905 Mexicans, 597 Chinese, 57 Negroes, and 32 miscellaneous (Kanakas, Koreans, and Puerto Ricans). The persons employed in these fisheries in the 3 preceding years numbered in 1930, 27,568; in 1931, 22,577; and in 1932, 20,122.

The fishing industry is carried on almost entirely in the coastal sections of the first and third judicial divisions. The work season lasts from 4 to 8 months, being dependent upon the nature and situation of the fishery.

In the first judicial division, which includes all of the southeastern part of the Territory, from 35 to 50 percent of the labor supply is secured from residents of the Territory, approximately 10 percent of those so secured being native Indians. Further labor needs are met by importation from the States for the fishing season only.

The reduced scale of wages adopted in the fishing industry in 1931 was again effective in the 1932 season. Daily wages in general cannery labor secured locally were as follows:

DAILY WAGES OF GENERAL CANNERY LABOR IN FISHING INDUSTRY, 1930-32, BY DISTRICT AND SEX

District and sex	1930	1931-32
First judicial district:		
Men.....	\$3. 50-\$5. 00	\$3. 00-\$4. 25
Women.....	2. 00- 3. 50	1. 70- 3. 00
Third judicial district:		
Men.....	2. 50- 5. 00	2. 15- 4. 25
Women.....	2. 00- 4. 00	1. 70- 3. 40

All other labor in the fishing industry is on a monthly or seasonal basis.¹

Mining Industry

IN 1932 there were about 3,754 men employed in the mining industry, or approximately 216 over the number reported for 1931. This was accounted for by the greater activity in gold mining and the reopening of the Tokeen marble quarry. Operations at copper mines, however, were further curtailed, only 143 men being employed in 1932 compared with 208 in the preceding year.

¹ In connection with the 1930-31 figures it was stated that in most cases board was furnished in addition to wages.

During 1932 about 2,180 men were engaged in connection with placer mining, 1,496 in lode mining, and 78 in coal mining.

The following table shows the wage scales for the more important lode mines of the coastal regions in 1930-31.

WAGES IN CERTAIN ALASKAN LODI MINES, 1930-31

Occupation	Per 8-hour shift	Occupation	Per 8-hour shift
Machine-drill men.....	\$4.00-\$6.00	Blacksmiths.....	\$5.75-\$7.00
Machine helpers.....	4.00- 5.00	Carpenters' helpers.....	4.00- 5.00
Muckers.....	4.10- 5.25	Blacksmiths' helpers.....	4.00- 5.50
Timbermen.....	5.00- 6.00	Hoisting engineers.....	4.00- 5.75
Trackmen.....	4.50- 5.25	Cagers.....	4.35- 5.25
Pipemen.....	5.00- 5.50	Laborers.....	3.50- 5.00
Carpenters.....	5.50- 7.00		

From the above wages deductions of \$1 to \$1.50 per day were made for board, and of \$1.50 to \$2.40 per month for hospital and medical care.

According to the Governor's report for the fiscal year 1932-33, labor conditions in the mining industry in Alaska differ greatly with the location of the mines and the character of the work. General labor in placer mining received board and from 50 to 80 cents per hour, 8 to 10 hours constituting a shift. The cost of board per day ranged from \$1.50 in the Cook Inlet region to \$4 in the remote parts of the Territory such as Koyukuk and Shushana. Skilled workers' wages ranged from \$5 per day and board for oilers to \$13 per day and board for dredge masters.

Coal miners' wages were quite uniform.

Underground coal miners and timbermen received \$8.60 per day; underground laborers, trammers, and rope riders, \$7.80 per day; and outside labor, \$5.50 per day. Fire bosses were paid \$250 per month and foremen from \$250 to \$300 per month. Deductions from the above wages were made for board at rates of from \$1.50 to \$2 per day.

Strikes in 1934

ON JUNE 9, 1934, Alaskan shipping, which had been tied up for about a month as a result of a strike of shipping employees and long-shoremen, was released in time to load the cannery ships and move them to their destinations. Another Alaskan shipping tie-up, as a result of a strike, began on June 22, 1934. Operations were resumed on July 6 through Tacoma, and the strike ended on July 31.

Unemployment and Unemployment Relief

IN REVIEWING conditions in Alaska in 1931 and 1932 the Governor reported many workers unable to secure normal employment. A survey of the larger communities showed an exceptional number of jobless persons, and in the summer the situation was made more acute by the migration of workers from the Pacific Coast States. A concerted attempt was made to check this influx, but many of these job seekers paid no attention to warnings.

Over 1,200 barrels of flour were allotted by the American Red Cross for distribution through various Alaskan chapters, and some of the local authorities prepared additional requisitions.

Every community was reported as strenuously endeavoring to meet its own particular relief problem. A number of projects for the improvement of Alaskan rivers and harbors had been approved. Some of these undertakings were not completed at the time of the report and others had not been begun.

The unemployment situation in the Territory during 1932 and 1933 was declared to be "one of the major problems confronting Federal and Territorial officials, as well as local communities."

Local public welfare programs were inaugurated in several districts during the winter of 1932-33 to relieve this condition. Unsatisfactory market conditions for fishery products and for base metals caused widespread unemployment among persons usually engaged in these industries. However, toward the latter part of the fiscal year, an upward trend of prices for products from these industries gave promise of enabling them again to operate on a profitable basis with a normal supply of labor employed. By the National Reforestation Act passed by Congress March 31, 1933, funds were allotted for emergency conservation work in the States and Alaska. Allotments to employ 325 men in Alaska were made, and the matter of organizing and supervising this work was delegated to the Forest Service.

The benefits of the Civil Works Administration became effective in Alaska on December 8, 1933, and continued until April 26, 1934. Slightly over \$526,000 was expended in this connection. Less than 10 percent of this amount was expended for materials and a little over 1 percent for administrative purposes. In December 1933, 2,144 men were employed on civil works; the next month 3,326 men were employed; but by April 1934 the number was reduced to 1,004.

According to the Governor's report for the fiscal year ending June 30, 1934, "not since boom placer-gold days did Alaska begin a season with as rosy an outlook as that begun this last spring." Information from practically all sections of the Territory on employment was favorable.

Labor Conditions in Hawaii

IN COMPLIANCE with the organic law of the Territory of Hawaii, entitled "An act to provide a government for the Territory of Hawaii", the United States Bureau of Labor Statistics in 1930 made a study of the commercial, industrial, social, and sanitary conditions of the laboring classes in the Territory. A summary of the results was given in the 1931 edition of the Handbook of Labor Statistics (Bul. No. 541), and the full report was published as Bulletin No. 534 of this Bureau. No first-hand investigation in these islands has since been made. However, the Bureau has published data for Honolulu since 1930 in its regular reports on retail prices and building permits, the reports on retail prices also including figures for other localities in the Territory.

The following table, taken from the annual report of the Governor of Hawaii for the fiscal year ending June 30, 1934, shows distribution by race, sex, and citizenship, of the workers on 38 Hawaiian plantations.

DISTRIBUTION OF EMPLOYEES ON PAY ROLLS OF 38 HAWAIIAN PLANTATIONS IN JUNE 1934, BY RACE, SEX, AND CITIZENSHIP

Race	American citizens	Noncitizens	Total employees on pay rolls
Men:			
Anglo-Saxon.....	891	86	977
Chinese.....	114	504	618
Filipino.....	93	29,228	29,321
Hawaiian.....	857		857
Japanese.....	4,183	6,534	10,717
Korean.....	55	467	522
Portuguese.....	1,971	292	2,263
Puerto Rican.....	736	98	834
Spanish.....	38	53	91
All other.....	37	18	55
Total men.....	8,975	37,280	46,255
Women:			
Japanese.....	516	826	1,342
All other.....	163	103	266
Total women.....	679	929	1,608
Minors:			
Regular, male.....	1,010	49	1,059
Regular, female.....	101	3	104
School and vocational.....	4,864	6	4,870
Emergency, part time.....	93	277	370
Total minors.....	6,068	335	6,403
Grand total.....	15,722	38,544	54,266

Labor Conditions in the Philippine Islands

A GENERAL report on industrial conditions in the Philippine Islands was published by the United States Department of Commerce in 1927. Excerpts from the part of that report which dealt with labor conditions were given in the 1929 edition of the Handbook of Labor Statistics. For the 1931 edition of the Handbook data were taken from the Statistical Bulletin of the Philippine Islands, 1928 and 1929, the annual report of the Governor General of the Islands, and Bulletin No. 27 of the Philippine Bureau of Labor, published in 1930. The sources of the following article, unless otherwise specified, are the unpublished twenty-fourth and twenty-fifth annual reports of the Philippine Bureau of Labor.

Wages, 1933

WHILE 50.7 percent of the industrial and commercial workers in Manila were reported as receiving daily wages of 1 peso or less in 1933, approximately 85 percent of these classes of workers in the Provinces were being paid such wages.

The distribution by wage groups of industrial and commercial workers in the Philippines in 1933 is given in table 1.

TABLE 1.—DAILY WAGES IN INDUSTRIAL AND COMMERCIAL ESTABLISHMENTS IN THE CITY OF MANILA AND PROVINCES OF THE PHILIPPINE ISLANDS IN 1933

[Peso=about 50 cents in United States currency]

Wage group	City of Manila				Provinces			
	Number of adult wage earners			Percent of total wage earners	Number of adult wage earners			Percent of total wage earners
	Males	Females	Total		Males	Females	Total	
All wage groups.....	29,297	6,607	35,927	100.00	15,053	189	15,242	100.00
1 peso and under.....	12,974	5,232	18,229	50.74	12,838	183	13,021	85.43
Over 1 to 1.50 pesos.....	6,542	725	7,267	20.23	2,037	6	2,043	13.41
Over 1.50 to 2 pesos.....	5,299	561	5,860	16.31	102	-----	102	.67
Over 2 to 2.50 pesos.....	1,973	56	2,029	5.65	36	-----	36	.24
Over 2.50 to 3 pesos.....	940	30	970	2.70	8	-----	8	.05
Over 3 to 3.50 pesos.....	729	-----	729	2.03	9	-----	9	.05
Over 3.50 to 4 pesos.....	165	-----	165	.45	4	-----	4	.03
Over 4 pesos.....	675	3	678	1.89	19	-----	19	.12

1 Includes 23 minors.

The working hours which prevailed in commerce and industry in the city of Manila in 1933 are recorded in table 2.

TABLE 2.—PREVAILING HOURS OF LABOR IN INDUSTRIAL AND COMMERCIAL ESTABLISHMENTS IN THE CITY OF MANILA, 1933

Daily hours	Wage earners		Daily hours	Wage earners	
	Number	Percent		Number	Percent
All hours.....	35,927	100.00	9 hours.....	22,042	61.35
6 hours and under.....	614	1.71	10 hours.....	3,634	10.12
7 hours.....	202	.56	11 hours.....	263	.73
8 hours.....	7,172	19.96	12 hours and over.....	2,000	5.57

In the third session of the ninth Philippine Legislature a law was enacted (Act No. 4123) limiting the number of working hours per day to 8 for wage earners habitually doing hard labor which requires great physical effort or performing labor under normally difficult, dangerous, or unhealthful conditions.

Table 3 shows that the average daily wages, in 1933, of skilled and semiskilled laborers in the engineering and public works of the city of Manila ranged from 1.30 to 6 pesos.

TABLE 3.—AVERAGE DAILY WAGES OF SKILLED AND SEMISKILLED LABORERS EMPLOYED IN THE ENGINEERING AND PUBLIC WORKS OF THE CITY OF MANILA, JUNE 30, 1933

[Peso=about 50 cents in United States currency]

Occupation	Daily wage	Occupation	Daily wage	Occupation	Daily wage
Assistant inspectors.....	Pesos 3.30	Drivers.....	Pesos 2.20	Machinists.....	Pesos 2.45
Assistant masons.....	1.75	Firemen.....	1.69	Masons.....	2.03
Assistant mechanics.....	2.66	Foremen.....	3.33	Mechanics.....	2.70
Assistant storekeepers.....	1.70	Foremen-carpenters.....	3.33	Operators.....	1.90
Assistant tanners.....	1.40	Foremen-masons.....	3.50	Painters.....	1.88
Blacksmiths.....	2.16	Foremen property inspectors.....	3.60	Plumbers.....	2.33
Caretakers.....	2.13	Foreman storekeepers.....	4.00	Plumber-tinners.....	2.04
Carpenters.....	2.14	Gardeners.....	1.90	Prison guards.....	1.94
Chainmen.....	2.37	Grave diggers.....	1.53	Storekeepers.....	2.40
Chauffeurs.....	2.17	Inspectors.....	4.28	Subforemen.....	1.87
Checkers.....	2.40	Instrument men.....	3.20	Tinners.....	1.87
Chief auto mechanics.....	6.00	Janitors.....	3.60	Toolkeepers.....	1.90
Divers.....	3.50	Laborers.....	1.53	Truckmen.....	2.00
Dog catchers.....	1.30	Leathermen.....	2.60	Watchmen.....	1.58
Draftsmen.....	2.00				

Average daily wages of agricultural laborers in the Provinces of the Philippine Islands in 1933 were as follows:

	Number of laborers	Average daily wage (pesos)
Adults:		
Males.....	846, 666	0. 52
Females.....	324, 982	. 36
Minors:		
Males.....	232, 474	. 34
Females.....	123, 561	. 26

Salaries in the Philippine Civil Service, 1928-32

THE average salaries of the regular permanent personnel of the Philippine civil service, 1928 to 1932, are recorded in table 4, taken from the Statistical Handbook of the Philippines, 1932.

TABLE 4.—SALARIES OF REGULAR AND PERMANENT PERSONNEL OF THE PHILIPPINE CIVIL SERVICE, 1928-32

[Peso=about 50 cents in United States currency]

Year	Officers and employees			Average salaries			
	Americans	Filipinos	Total	Americans		Filipinos	
				Pesos	United States currency	Pesos	United States currency
1928.....	494	19, 606	20, 100	4, 298. 25	\$2, 149. 13	1, 279. 20	\$639. 60
1929.....	471	20, 332	20, 803	4, 471. 75	2, 235. 88	1, 283. 98	641. 99
1930.....	456	21, 248	21, 704	4, 502. 06	2, 251. 03	1, 241. 75	620. 88
1931.....	446	21, 720	22, 166	4, 418. 64	2, 209. 32	1, 285. 09	642. 60
1932.....	427	21, 823	22, 250	4, 342. 00	2, 171. 00	1, 280. 00	640. 00

Retail Prices and Cost of Living in Manila, 1933

THE average retail prices of various articles of food in the markets of the city of Manila for 1933 and the 4 preceding years are reported in table 1.

TABLE 1.—AVERAGE RETAIL PRICES OF FOODSTUFFS IN THE MARKETS OF THE CITY OF MANILA, 1929-33

[Peso=about 50 cents in United States currency]

Article	Unit	1929	1930	1931	1932	1933
		Pesos	Pesos	Pesos	Pesos	Pesos
Cereals and grains:						
Coffee.....	Liter ¹	0. 93	0. 79	0. 65	0. 49	0. 41
Mongo.....	do.....	. 17	. 15	. 11	. 11	. 11
Rice.....	Ganta ².....	. 42	. 32	. 24	. 21	. 21
Fish and other sea products:						
Bangos.....	One.....	. 40	. 44	. 42	. 34	. 28
Candole.....	do.....	. 37	. 36	. 28	. 19	. 23
Crab.....	do.....	. 24	. 27	. 13	. 16	. 26
Shrimp.....	Hundred.....	3. 30	3. 75	3. 86	3. 38	3. 40
Fowls:						
Chicken.....	One.....	. 46	. 47	. 39	. 31	. 27
Hen.....	do.....	1. 04	1. 01	. 92	. 74	. 71
Rooster.....	do.....	1. 07	. 98	. 91	. 73	. 56
Fruits:						
Bananas "latundan".....	Hundred.....	. 80	. 75	. 72	. 62	. 50
Coconut.....	One.....	. 06	. 06	. 04	. 03	. 03
Lemons.....	Hundred.....	1. 00	. 49	. 42	. 38	. 40
Papaya.....	One.....	. 12	. 11	. 09	. 05	. 04

¹ Liter=0.908 dry quart.

² Ganta=2.71 quarts.

TABLE 1.—AVERAGE RETAIL PRICES OF FOODSTUFFS IN THE MARKETS OF THE CITY OF MANILA, 1929-33—Continued

Article	Unit	1929	1930	1931	1932	1933
Meat:		<i>Pesos</i>	<i>Pesos</i>	<i>Pesos</i>	<i>Pesos</i>	<i>Pesos</i>
Beef, fresh.....	Kilo ¹	0.96	0.90	0.88	0.76	0.64
Pork.....	do.....	.83	.83	.79	.68	.59
Vegetables:						
Armogosa.....	One.....	.02	.02	.02	.02	.02
Beans, native.....	Bunch.....	.04	.05	.06	.06	.05
Eggplant.....	Hundred..	1.87	1.69	1.51	1.25	1.00
Onions, Bombay.....	Five.....	.09	.07	.05	.05	.06
Potatoes.....	Kilo ².....	.12	.12	.11	.09	.10
Potatoes, sweet.....	Hundred..	1.00	.87	.94	.83	.90
Squash, red.....	One.....	.26	.19	.17	.09	.10
Squash, white.....	do.....	.22	.19	.15	.10	.10
Miscellaneous:						
Eggs, Chinese.....	Hundred..	4.00	3.48	2.55	2.27	3.00
Eggs, duck.....	do.....	4.00	4.03	3.18	3.00	3.00
Eggs, native hens.....	do.....	5.00	4.88	4.51	4.36	4.00
Milk, condensed.....	Can.....	.37	.37	.36	.35	.32
Sugar, brown.....	Kilo ².....	.32	.26	.19	.16	.14
Salt, white.....	Liter ¹.....	.05	.04	.03	.02	.02

¹ Liter=0.908 dry quart.² Kilo=2.2046 pounds.

Table 2 gives data on the cost of living of laborers in the city of Manila, 1933.

TABLE 2.—AVERAGE MONTHLY COST OF LIVING OF LABORERS IN THE CITY OF MANILA, 1933

[Peso=about 50 cents in United States currency]

Item	Single	Married ¹	Item	Single	Married ¹
	<i>Pesos</i>	<i>Pesos</i>		<i>Pesos</i>	<i>Pesos</i>
All items.....	16.82	46.00	Clothing.....	2.27	3.27
Food.....	8.23	27.53	Recreation.....	.59	1.25
Shelter.....	2.44	4.04	Miscellaneous.....	2.84	4.94
Lighting.....	.45	4.12	Earnings.....	17.35	41.37
Instruction.....		.94			

¹ Earning 2 or more pesos a day.

Unemployment in the Philippine Islands, 1931 and 1933

THE reflex of the business depression in the Philippine Islands, according to the report of the Governor General for 1931, was most serious in Manila, the principal industrial center in the archipelago.

In July 1931 nearly one-fourth of the laborers in the cigar and cigarette industry were laid off. In other industries, among them the embroidery, shoe, abaca, copra, oil, and desiccated coconut industries, there had been either a big reduction in the number of workers or the factories had been completely closed.

Based on a survey of the police department, the number of jobless in Manila was estimated in the Governor's report as being 12,000. Those making the survey, it was stated, were very much handicapped by many persons refusing to state their work status.

The following factors were cited as favorable features in the Philippine unemployment situation:

1. The expansion in "the construction of substantial structures and office buildings" which furnished work for a considerable number of persons in the city.

2. The harvest season in the Provinces near Manila, which not only curtailed the movement of rural workers to the town but also attracted transient residents of Manila back to their Provinces for labor in the fields.

3. The release of funds for public works during 1931 also furnished employment for thousands who would otherwise have been jobless.

Despite the above-listed features the Governor declared at this period that "in view of the large number of people who have no work, the situation calls for the adoption of certain transient measures calculated to afford employment to those who are willing to earn their daily bread."

According to an unemployment survey of 1933, and estimates based on the returns, there were 98,109 unemployed persons in the Philippine municipalities, including the city of Manila, in which 7,554 were reported unemployed.

Adjustments of Wage Complaints, 1929-33

MORE than 22,000 pesos in unpaid wages, etc., were collected during 1933 by the Philippine Bureau of Labor in 977 cases handled by it. The table below records the activities of that bureau, 1929 to 1933, in adjusting claims and complaints with reference to unpaid wages and certain other labor difficulties coming within the jurisdiction of that office.

ADJUSTMENT OF CLAIMS AND COMPLAINTS BY PHILIPPINE BUREAU OF LABOR, 1929-33

[Peso=about 50 cents in United States currency]

Year	Number of cases	Number of wage earners involved	Adjustment		Amount collected
			Favorable	Unfavorable	
1929.....	956	1,630	560	396	<i>Pesos</i> 22,611.79
1930.....	1,125	2,172	575	550	18,967.94
1931.....	1,099	2,177	526	573	21,509.75
1932.....	919	1,734	368	551	14,858.32
1933.....	977	1,964	435	542	22,724.69

Labor Disputes, 1933

NEARLY twice as many strikes occurred in the Philippine Islands in 1933 as in 1932 and almost twice as many workers were involved as in the former year. Wages continued to be the chief cause of controversy. The following statistics on strikes and other industrial disputes in the Philippines for 1933 are from the twenty-fifth annual report (unpublished) of the Philippine Bureau of Labor for the calendar year 1933.

STRIKES AND OTHER INDUSTRIAL DISPUTES ADJUSTED THROUGH INTERVENTION OF PHILIPPINE BUREAU OF LABOR, 1929-33

Year	Number of industrial disputes	Number of workers involved	Causes of conflict		Adjustment in favor of—	
			Wages	Other causes	Workers	Employers
1929.....	26	4,939	13	13	10	16
1930.....	36	6,069	22	14	11	25
1931.....	45	6,976	25	20	17	28
1932.....	31	4,396	24	7	14	17
1933.....	59	8,066	30	29	33	26

Labor Organizations, 1929 to 1933

MORE than 83,000 persons were members of labor organizations in the Philippine Islands in 1933. From 1929 to 1933 union membership increased about one-third. Membership data are given in the accompanying table.

NUMBER AND MEMBERSHIP OF LABOR ORGANIZATIONS IN THE PHILIPPINE ISLANDS 1929-33

Year	Number of organizations	Number of members
1929.....	116	62,366
1930.....	122	78,871
1931.....	110	96,041
1932.....	116	327,149
1933.....	144	83,109

¹ No returns from 13 labor unions.

² No returns from 10 labor unions.

³ No returns from 7 labor unions.

⁴ Large increase due to membership of communist organization which for the first time reported its membership of 265,000.

⁵ No returns from 6 unions.

Migration of Philippine Labor to Hawaii, 1929-33

DURING the 5 years from 1929 to 1933 the number of Filipinos migrating to Hawaii had fallen off from over 8,000 almost to the vanishing point. The number returning to the islands from Hawaii, however, had with the exception of 1932 remained fairly constant. In 1932 the number returning was almost double that of any other year. Data for each of the 5 years are given in the table following.

MIGRATION OF FILIPINOS TO AND FROM HAWAII, 1929-33

Year	To Hawaii				From Hawaii			
	Men	Women	Minors	Total	Men	Women	Minors	Total
1929-33.....	19,568	734	932	21,234	18,872	1,509	3,478	23,859
1929.....	8,189	134	46	8,369	3,402	241	348	3,991
1930.....	7,185	263	377	7,815	2,897	192	324	3,413
1931.....	4,083	265	420	4,768	3,552	217	393	4,162
1932.....	97	58	58	213	6,211	516	1,428	8,155
1933.....	14	24	31	69	2,810	343	985	4,138

Labor Conditions in Puerto Rico

NO FIRST-HAND investigation of labor conditions in Puerto Rico has been made by the United States Bureau of Labor Statistics since the surveys in 1901 and 1905, published, respectively, in its Bulletins Nos. 34 and 61. In 1919, however, the United States Employment Service issued a report on labor conditions in Puerto Rico, and in 1923 the United States Children's Bureau published a report entitled "Child Welfare in the Insular Possessions of the United States: Part I, Puerto Rico." In 1924 Public Health Bulletin No. 138 (Tuberculosis Survey of the Island of Puerto Rico, Oct. 11, 1922, to Apr. 18, 1923) was issued by the United States Public Health Service. Bulletin No. 117 of the United States Children's Bureau, The Effect of Tropical Sunlight on the Development of Bones of Children in Puerto Rico, published in 1933, includes a section on economic conditions and diet of the Puerto Ricans, and Bulletin No. 118 of the United States Women's Bureau, The Employment of Women in Puerto Rico, gives data on wages in various industries.

The annual reports of the Governor and of the Commissioner of Labor of Puerto Rico contain important current information.

According to the 1930 census, the population of Puerto Rico was 1,543,913, of whom 1,146,719 were white. This enumeration also showed 771,761 males and 772,152 females on the island. The average number of inhabitants per square mile was 449.5; and the average number of persons to a family, 5.3. The industrial distribution of gainfully occupied persons 10 years of age and over in the same census year is shown in the following table:

NUMBER OF GAINFUL WORKERS 10 YEARS OLD AND OVER IN PUERTO RICO IN 1930,
BY GENERAL OCCUPATIONAL DIVISIONS AND SEX

General occupational division	Males	Females	Total
All occupational divisions.....	378,033	125,777	503,810
Agriculture.....	249,845	11,944	261,789
Forestry and fishing.....	934	3	937
Extraction of minerals.....	321	1	322
Manufacturing and mechanical industries.....	43,986	65,846	109,832
Transportation and communication.....	19,067	454	19,521
Trade.....	36,105	1,895	38,000
Public service (not elsewhere classified).....	4,925	49	4,974
Professional service.....	5,825	5,661	11,486
Domestic and personal service.....	9,530	37,424	46,954
Clerical occupations.....	7,495	2,500	9,995

Of 236,914 children 10 to 15 years old in Puerto Rico in 1930, according to the census of that year, 23,044, or 9.7 percent, were "gainfully occupied", 16,498 of these young workers being native whites.

The information which follows, except where otherwise noted, is taken from the annual report of the Commissioner of Labor of Puerto Rico for 1933-34.

Hours and Earnings in Various Industries, 1933-34

AVERAGE earnings and hours in various industries are presented in considerable detail in the annual report of the Commissioner of Labor of Puerto Rico for the fiscal year 1933-34, from which the following data have been selected. The highest actual weekly earnings in that year in the industries reported in the following table are \$10.05 for males in transportation for an average of 48.1 hours actually worked per week.

AVERAGE EARNINGS AND HOURS OF LABOR IN VARIOUS INDUSTRIES IN PUERTO RICO, 1933-34

Industry	Number of establishments	Number of employees	Average days (starts) per week	Average hours per week		Average earnings		
				Full time	Actually worked	Per hour	Per week	
							Full time	Actual
Building trades: Males.....	24	330	5.0	49.6	43.3	Cents 19.8	\$9.82	\$8.59
Coffee planting:								
Males.....	38	792	4.5	52.0	38.2	5.5	2.86	2.12
Females.....	28	333	4.4	48.4	33.3	4.8	2.32	1.61
Boys.....	9	25	4.0	48.4	33.3	2.9	1.40	.99
Girls.....	1	2	6.0	48.0	48.0	2.5	1.20	1.20
Fruit industry:								
Fruit planting:								
Males.....	25	994	4.3	48.5	35.0	8.3	4.02	2.93
Females.....	2	28	2.1	48.0	15.8	4.4	2.11	.70
Boys.....	5	8	3.0	54.7	27.4	4.3	2.35	1.19
Fruit packing:								
Males.....	19	343	2.7	51.5	20.5	8.2	4.22	1.68
Females.....	10	87	2.7	51.5	21.6	5.2	2.68	1.13
Boys.....	3	7	3.3	56.6	28.3	5.3	3.00	1.49
Furniture making: Males.....	2	128	5.4	45.7	41.4	13.3	6.07	5.53
Hat manufacturing:								
Males.....	4	231	4.4	44.7	32.2	26.3	11.75	8.49
Females.....	4	207	4.3	44.2	31.1	19.3	8.53	6.01
Needlework industry:								
Children's garments:								
Males.....	7	32	5.3	46.1	41.1	23.5	10.83	9.66
Females.....	11	956	4.8	47.0	37.8	8.4	3.95	3.18
Handkerchief and art linens:								
Males.....	19	166	5.3	47.6	41.5	10.7	5.09	4.42
Females.....	33	952	4.9	46.8	39.9	7.8	3.65	3.13
Ladies' underwear:								
Males.....	7	49	5.2	48.0	40.9	16.8	8.06	6.89
Females.....	24	1,558	4.9	47.6	38.0	7.9	3.76	3.02
Men's clothing:								
Males.....	18	171	4.5	43.5	35.9	18.6	8.09	6.68
Females.....	18	713	4.5	44.7	34.7	13.5	6.03	4.70
Miscellaneous:								
Males.....	26	58	4.6	47.2	36.7	15.1	7.13	5.55
Females.....	26	1,259	5.0	47.8	38.6	8.7	4.16	3.38
Sugar industry:								
Sugar factories:								
Males.....	39	8,582	5.8	76.1	64.4	14.0	10.65	9.04
Females.....	7	35	5.3	55.1	44.0	10.7	5.89	4.71
Sugar planting:								
Males.....	74	18,463	4.4	48.6	37.9	11.7	5.68	4.44
Females.....	7	25	4.7	51.5	39.5	7.6	3.91	2.99
Boys.....	26	301	5.0	47.9	39.5	8.8	4.21	3.47
Tobacco industry:								
Tobacco planting:								
Males.....	63	1,438	4.7	51.1	39.8	5.3	2.70	2.10
Females.....	57	1,338	4.4	47.9	34.9	4.4	2.11	1.53
Boys.....	10	78	5.0	48.0	39.3	3.6	1.73	1.41
Tobacco stripping:								
Males.....	35	980	5.9	53.3	52.1	10.3	5.48	5.39
Females.....	35	8,596	5.5	48.0	43.3	6.9	3.31	2.98
Cigar factories:								
Males.....	6	466	4.9	46.1	38.3	22.2	10.23	8.49
Females.....	3	255	4.6	44.4	36.2	14.2	6.90	5.16
Transportation: Males.....	3	1,556	5.9	53.2	48.1	20.9	11.12	10.05
Wharf workers: Males.....	4	735	1.6	60.2	13.9	30.1	18.12	4.20

Homework in the Needle Trades

A STUDY of home work in the island's needle trades was made in the winter of 1933-34 under the joint auspices of the United States and Puerto Rican Departments of Labor. The results are embodied in Bulletin No. 118 of the United States Women's Bureau: The Employment of Women in Puerto Rico. In the course of this survey visits were made to 252 homes, and 323 workers were interviewed. Their earnings ran from less than 25 cents to \$4 per bundle of work. Approximately one-fourth of the women reported that they had finished their last bundle of work in 2 or 3 days, and a few within a day, while another fourth took 6, 7, or 8 days for the completion of their respective bundles. The proportion of these 323 workers paid specified amounts were as follows:

<i>Earnings per bundle</i>	<i>Percent of women</i>
Less than 25 cents.....	19. 2
25 and less than 50 cents.....	23. 2
50 cents and less than \$1.....	27. 6
\$1 and less than \$2.....	22. 0
\$2 or more.....	8. 0

The finest kind of embroidery was required in some bundles; in others the work called for was coarse. Only 9 women earned \$3 per bundle, and the highest amount was \$4, earned by a girl who worked diligently for 2 weeks embroidering silk slips.

The estimated earnings per hour on the last bundle of these 323 women were reported to be as follows:

<i>Hourly earnings</i>	<i>Percent of homeworkers</i>
Less than 1 cent.....	31. 4
1 and less than 2 cents.....	31. 1
2 and less than 3 cents.....	21. 2
3 and less than 4 cents.....	10. 2
4 and less than 5 cents.....	2. 7
5 and less than 6 cents.....	2. 1
6 and less than 7 cents.....	. 3
7 and less than 8 cents.....	. 9

The foregoing estimates "must be accepted with some caution as there were no written records of time worked."

About 50 percent of the 123 women sewing on handkerchiefs were earning approximately 1 cent per hour, 30 percent were making 2 cents per hour, and a very few as much as 6 cents.

For the whole group of 323 homeworkers interviewed, including those engaged on household linens, cotton nightgowns, silk lingerie, dresses, and men's shirts and pants, the earnings were even lower than those of the handkerchief workers.

Commissions to agents, which averaged about 22 percent, substantially reduced the earnings of homeworkers.

The most amazing example of how this system can work was that of a subagent distributing work on children's dresses. The contractor was paying 41 cents a dozen for outside labor. The agent retained 10 cents as his commission, the subagent 16 cents as his commission, which left 15 cents for the homeworker.

Unfair practices were reported, among them the payment of workers in groceries, delays in furnishing work, and the retention of wage increases by the agent. On the other hand, contractors were worried by the workers' delays in returning work, by spoiled goods, and by constant rate cutting on the part of New York firms.

Standard of Living and Retail Prices of Food

IN THE investigation made in 1927 on the effect of tropical sunlight on the development of bones of children in Puerto Rico made by the United States Children's Bureau, the results of which were published in 1933 as Publication No. 217 of that office, the following statements were made:

The economic condition of the great majority of the native Puerto Ricans is extremely poor, and this fact unquestionably plays a major role in the generally poor physical condition of the people, and of the children in particular, as will be shown later. A large proportion of the men are employed in the various agricultural pursuits of the island, but they own no land and move about from plantation to plantation as the various crops need planting or harvesting. Wages for such work are very low, and the supply of laborers is very large. The standard of living, at the same time, is so low that it is possible for a family to exist on an unbelievably small income. In the rural districts the farm laborer usually lives in a hut on the plantation where he works. He may or may not be allowed to cultivate a small piece of land about his hut. If he does have the opportunity, he may raise a few banana trees or have a small truck garden. The fact, however, that these farm laborers do not own the land on which they build their houses and that they move frequently from plantation to plantation with the rotation of crops prevents them from having either the desire or the time to cultivate the land around their huts to any extent.

The economic situation is such that many families do not have common necessities, such as an adequate diet and a house equipped with beds, chairs, tables, cookstove, cooking utensils, and proper sanitary arrangements. Living is, on the whole, so simple that it requires little effort. There is no heating problem, the children need little or no clothing, and the adults need only enough to cover them; few persons in the rural districts wear shoes. A few cents a day suffices to provide the rice and beans that are the basis of the diet. The wide scattering of the rural population through the hills of the island makes the distribution of perishable foods difficult. Milk, eggs, and fresh meat are not available to the majority of people in the rural districts. In the cities the conditions are little better, for wages are low, and though milk, eggs, and meat are more easily obtained there, these foods are comparatively little used because of their high price.

The poverty of the Puerto Ricans affects the health of the children primarily through the resulting inadequacy of their diet, especially with respect to milk. The importance of milk as an indispensable part of the diet of all growing children and of pregnant and lactating mothers is well recognized everywhere today, but in Puerto Rico not nearly enough milk is either produced or imported to supply the needs of the children or of the mothers.

The table following gives the average retail prices of food in Puerto Rico for the last 6 months of 1934.

AVERAGE RETAIL PRICES OF FOOD IN PUERTO RICO, SECOND HALF OF 1934

Article	Unit	Price	Article	Unit	Price
		<i>Cents</i>			<i>Cents</i>
Annato, achiote.....	Pound.....	13.0	Milk, evaporated.....	4-ounce can.....	4.3
Bananas, large.....	100.....	49.1	Milk, fresh.....	Quart.....	8.6
Bananas, small.....	100.....	27.6	Oil, mixed.....	do.....	44.8
Beans, Mexican.....	Pound.....	7.9	Oil, olive.....	do.....	60.5
Beans, red.....	do.....	6.3	Okra.....	Dozen.....	10.0
Beans, string.....	do.....	6.0	Onions.....	Pound.....	5.2
Beans, white.....	do.....	6.2	Oranges, sour.....	1.....	1.0
Beef.....	do.....	13.9	Oranges, sweet.....	1.....	1.5
Bread.....	do.....	7.3	Peas, black-eyed.....	Pound.....	5.4
Butter.....	do.....	38.0	Peas, pigeon, dry.....	do.....	3.9
Cabbage.....	do.....	6.0	Peas, pigeon, fresh.....	do.....	4.3
Carrots.....	do.....	6.0	Peppers.....	1.....	1.0
Charcoal.....	5-gallon can.....	11.4	Plantain.....	100.....	260.0
Chicken meat.....	Pound.....	38.0	Pork.....	Pound.....	15.8
Coconuts, dry.....	1.....	3.0	Pork, salt.....	do.....	10.0
Codfish.....	Pound.....	8.4	Potatoes, Irish.....	do.....	2.4
Coffee, best grade.....	do.....	28.0	Potatoes, sweet.....	do.....	1.5
Coffee, second grade.....	do.....	24.0	Rice, broken.....	do.....	3.7
Corn.....	do.....	2.7	Rice flour.....	do.....	6.0
Cornmeal.....	do.....	3.0	Rice, whole.....	do.....	4.9
Dates.....	Can.....	18.0	Salmon.....	Can.....	12.0
Eggs.....	1.....	2.4	Salt.....	Bag.....	3.0
Flour, wheat.....	Pound.....	4.3	Soup meat.....	Pound.....	10.0
Garlic.....	Head.....	1.0	Strawberries.....	Package.....	35.0
Guava paste.....	Pound.....	16.0	Sugar, best grade.....	Pound.....	5.0
Ham.....	do.....	17.3	Sugar, second grade.....	do.....	3.9
Lard, mixed.....	do.....	8.5	Sugar, third grade.....	do.....	3.0
Lard, pure.....	do.....	9.4	Tania, Yautia.....	do.....	2.3
Lettuce.....	Head.....	5.0	Tomatoes.....	do.....	2.9
"Malanga".....	Pound.....	1.4	Vermicelli.....	do.....	8.7
Milk, condensed.....	Can.....	18.3	Yam.....	do.....	2.5

Adjustment of Wage Claims, 1933-34

THE wage protection and claims bureau of the Puerto Rican Department of Labor takes wage-claims cases to court only when its friendly offices fail. The following table gives statistics on wage claims for the fiscal year 1933-34.²

ADJUSTMENT OF WAGE CLAIMS IN PUERTO RICO, 1933-34

Results	Number of claims	Amount of claims
All claims.....	1,900	\$29,401.50
Collected.....	1,252	10,677.55
Withdrawn.....	83	1,645.00
Rejected.....	181	5,382.77
Abandoned.....	267	6,928.12
Pending (June 30, 1934).....	117	4,768.06

Industrial Disputes, 1933-34

THE Puerto Rican Mediation and Conciliation Commission was more active in the fiscal year 1933-34 than any previous 12-month period.² In that year there were 123 strikes and other industrial controversies on the island involving over 72,000 persons. Among the most important of these disputes were the general strike of long-

² Puerto Rico. Department of Labor. Annual Report of the Commissioner of Labor, 1933-34. San Juan, 1935.

shoremen, the general strike of needleworkers, and the strike of the machine operators of the Puerto Rico American Tobacco Co.

The greatest number of conflicts occurred in the bread-making industry in which there were 22 strikes and 6 controversies, none of these, however, involving over 100 workers. The greatest number of persons involved in any one of the 123 strikes was 12,000 workers in the men's clothing industry. Two of the strikes in the sugar industry involved, respectively, 9,000 and 9,500 workers. Most of the disputes were of brief duration.

As an outcome of an agreement entered into in 1933-34 by the Sugar Producers Association and the Free Federation of Workingmen in Puerto Rico, industrial peace prevailed on the sugar plantations during the entire period of the grinding season of that year, and a production of 1,100,000 tons of sugar was reported—a figure not reached in any other year in the Puerto Rican sugar industry.

Legislation in Behalf of Puerto Rican Labor

Creation of Department of Labor

A DEPARTMENT OF LABOR was created in Puerto Rico by a Federal act approved February 18, 1931 (Public, No. 677, 71st Cong.), amending the act of March 2, 1917, which provided a civil government for that island. Previous to this amendment there was a bureau of labor in the Puerto Rican Department of Agriculture and Labor.

The head of the newly created department is designated the commissioner of labor, and "is appointed by the Governor, by and with the advice and consent of the Senate of Puerto Rico", for a 4-year term. The commissioner of labor has charge of such government bureaus and branches as are now in existence or to be legally established "to foster and promote the welfare of the wage earners of Puerto Rico; to improve their working conditions; and to advance their opportunities for profitable employment."

Provision for Vocational Education and Civilian Rehabilitation

UNDER a Federal act approved March 3, 1931 (Public, No. 791, 71st Cong.), Puerto Rico is entitled to share in the benefits of the act of 1917 (and amendments) providing for the promotion of vocational education and for cooperation with the States in such promotion. In this connection authorization is given for an appropriation from the United States Treasury for the fiscal year ended June 30, 1932, and for each subsequent year the sum of \$105,000, to be available for allotment to Puerto Rico upon conditions specified in the law.

It is also provided in the same act that Puerto Rico shall be entitled to share in the benefits of the act of June 2, 1920, "to provide for the promotion of vocational rehabilitation of persons disabled in industry or otherwise and their return to civil employment." An appropriation of \$15,000 per annum was authorized for the 2 years beginning July 1, 1931, as an allotment to Puerto Rico to aid in the carrying on of activities looking to the converting of the physically handicapped into efficient wage earners.

Homestead Division in Department of Labor

ON MAY 15, 1933, a joint resolution was approved by the Legislature of Puerto Rico "to create the Homestead Division in the Department of Labor, transferring to such division all the faculties, powers, and duties which, in accordance with Act No. 53, approved July 11, 1921", were formerly vested in the Homestead Commission. The purposes of this 1921 act were:

To authorize the construction of houses for artisans and laborers with funds of the people of Puerto Rico; provide for the leasing of same, with a right to the ownership thereof; to improve the conditions of such lands of the people of Puerto Rico as may be selected for the construction of said houses and for the formation of farms; promote the creation of farms to be leased to farm laborers and to grant them title thereto, and for other purposes.

LABOR ORGANIZATIONS

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Trade-Union Membership and Organization

BOTH depression and recovery are reflected in the fluctuations in membership of American trade unions in the past few years, and an unusual fluidity has developed in the structure of the organizations themselves. The tendency is toward broadening the base of the individual unions, a trend that is finding expression in actual and proposed amalgamations and in an increasing number of independent unions, most of them organized on the principle of industrial unionism.

In the 5 years since the publication of the 1931 edition of the Handbook of Labor Statistics the average annual paid-up membership of the American Federation of Labor has varied thus:

1931.....	2, 889, 550	|	1934.....	2, 608, 011
1932.....	2, 532, 261	|	1935.....	3, 045, 347
1933.....	2, 126, 766	|		

The membership reported for 1933 was the smallest since 1916. Renewed interest in organization followed the enactment of the National Industrial Recovery Act, however, and resulted in the creation of new unions and increased membership in most of the established organizations. In some this increase was spectacular. Based on their voting strength in the 1934 convention as compared to 1933, some affiliated national and international unions showed membership gains ranging from 100 percent to a fortyfold increase. Data are not available on the membership, in the years 1931-34, of unions not affiliated with the American Federation of Labor.

The Bureau of Labor Statistics, during 1935, collected material for a revision of its Handbook of American Trade Unions, which had not been published since 1929. Authentic information is therefore available for 1935 upon the number and membership of all organizations of national scope and significance with which the Bureau could get in touch. These numbered 156, of which 110 are affiliated with the American Federation of Labor, and 46 are independent. Their aggregate membership, as reported to the Bureau, was 4,517,498, exclusive of the Canadian membership in American unions.

In presenting this figure of 4,500,000 as the approximate strength of organized labor in the United States, attention is particularly directed to the fact that it does not include the unknown factor of the numbers organized into independent local groups, which sometimes attain substantial membership. The Bureau of Labor Statistics has no foundation upon which to base an estimate of the numerical strength of organized groups that have no national entity.

Classified by major industrial groups, the membership of labor unions in 1935 was, in round numbers, as follows:

Extraction of minerals.....	694, 500
Manufacturing and mechanical industries:	
Building trades.....	692, 000
Cigar and tobacco manufacture.....	19, 000
Clay, glass, and stone.....	64, 400
Clothing industries.....	515, 500
Food and liquor.....	126, 000
Iron and steel.....	10, 000
Machinery industries (including transportation equip- ment).....	344, 800
Metal industries (except iron and steel).....	10, 300
Leather industries (except shoes and gloves).....	13, 000
Paper manufacture.....	35, 500
Printing.....	163, 500
Textile industries.....	108, 000
Other (including rubber and radio).....	19, 300
Transportation and communication.....	1, 014, 900
Professional and semiprofessional.....	183, 800
Government service.....	354, 200
Personal service and distributive trades.....	180, 200

Changing Policies and Forms of Organization

THE changes which have taken place within the past few years in organizing policies, fields, and mediums are perhaps of greater interest and significance than fluctuations in membership. Industries which have heretofore seemed impervious to the doctrine of unionism have responded to organizing campaigns conducted by both the American Federation of Labor and independent groups since 1933. A number of the old craft unions, moreover, have extended their jurisdictions and broadened their fields in the effort to combat encroachments from new organizations that have no craft boundaries or traditions.

In fact, the greatest increase in organization in the past 5 years has been among semiskilled and unskilled workers in the mass-production industries and in the rapidly developing fields such as radio, aviation, and the manufacture of heavy electrical equipment. Of the 25 national and international unions covered in the 1935 survey which were not in the 1929 edition of the Handbook of American Trade Unions (Bul. No. 506), 11 were created after the passage of the National Industrial Recovery Act in 1933. These 11 new organizations, with an approximate membership of 160,000, are:

Federation of Architects, Engineers, Chemists and Technicians
 Automobile and Metal Workers' Union of America
 International Union United Automobile Workers¹
 Federation of Flat Glass Workers¹
 National Leather Workers
 Industrial Union of Marine and Shipbuilding Workers
 American Newspaper Guild
 American Radio Telegraphists' Association
 United Rubber Workers¹
 United Shoe and Leather Workers
 Brotherhood of Utility Employees

Independent industrial organizations.—A significant development in the trade-union movement is the growth of independent industrial unionism. In the past that tendency has been definitely radical in

¹Affiliated with the American Federation of Labor.

inception, and industrial unions heretofore have in large part been the result of "left-wing" secession movements. A change in that situation is clearly indicated as an accompaniment of the impetus of the past 3 years toward organization, and several of the independent industrial unions in the foregoing list are neither secessionist nor conspicuously radical in inception. Some of them have grown out of company unions, and others seem to be an expression of dissent from the craft autonomy theory of the American Federation of Labor on the part of workers in industries in which craft unionism has not succeeded in holding a strong following. Tanneries and shipyards are among the industries in which independent industrial unions have been organized by workers previously unaffiliated with any of the older organized groups.

Industrial union movement in American Federation of Labor.—In the 1935 convention of the American Federation of Labor a minority report of the committee on resolutions which declared "for the organization of workers in mass-production and other industries upon industrial and plant lines, regardless of claims based upon the question of jurisdiction", received more than one-third of the total vote of the organizations represented at the convention. Since then, a "Committee for Industrial Organization" has been formed by supporters of the minority report, to work, within the American Federation of Labor, for the organization of the semiskilled and unskilled workers, particularly in the mass-production industries, and their identification with the labor movement through the American Federation of Labor, but as industrial and not craft-limited unions.

Trade Union Unity League.—The Trade Union Unity League, organized in 1929, was a federation of a group of "left-wing" industrial unions the organization of which began during 1927-28. The most important of these were the National Miners' Union, the National Textile Workers, the Needle Trades' Workers Industrial Union, the Marine Workers' Industrial Union, the Food Workers' Industrial Union, and the Steel and Metal Workers' Industrial Union. Organizing efforts of the Trade Union Unity League and its component industrial unions were directed chiefly toward the unskilled and semi-skilled, particularly in the mass-production industries. The basic unit of organization was the "rank and file" shop committee. The membership of the league reached its maximum early in 1934, when an affiliated membership of 125,000 was reported. The largest union was the Needle Trades Workers' Industrial Union, with 30,000 members.

In 1935 the Trade Union Unity League, in a convention held in New York, decided upon the formal dissolution of the League as a left-wing trade-union center, and the disbanding of its affiliated organizations. This movement had begun as early as 1933, when the members of the National Miners' Union returned to the United Mine Workers, and had been more generally carried out during the months immediately preceding the 1935 convention. Since then, formal announcement of the dissolution of the affiliated Trade Union Unity League organizations has been made through the official journals of those that maintained such publications, and their members have been urged to join the American Federation of Labor unions in their respective jurisdictions.

"White Collar" Organizations

ORGANIZATION among workers in the so-called "white collar" occupations is increasing both in numbers and in scope. The growth of employment in public service is reflected in expanding membership in the unions in the Federal service, and in the creation of new unions in that field. The 1935 survey of trade unions listed 18 public-service unions. The American Federation of Government Employees was organized in 1932 to supplant, within the American Federation of Labor, the National Federation of Federal Employees, which withdrew its affiliation in that year. The newer organization is now expanding its jurisdiction to include State, county, and municipal employees, who, when organized, have heretofore held membership in local unions directly affiliated with the American Federation of Labor. Dualism is to a considerable extent a characteristic of public-service organizations, particularly in the United States Post Office.

The membership of unions in the "white collar", or at least non-manual, occupations in 1935 was approximately 675,000, which was about evenly divided between independent unions and those affiliated with the American Federation of Labor. This figure represents the membership of the following groups: Railway clerks, railway telegraphers, newspaper editorial employees, public servants (exclusive of fire fighters and a few small units of manual workers in the Post Office Department), actors, musicians, radio operators, public-utility employees (telephone and telegraph), retail clerks, and stenographers and office workers (estimated).

Both in 1934 and in 1935 the unions of workers in these groups affiliated with the American Federation of Labor controlled 12 percent of the total voting strength represented by national and international unions in the conventions.

Collective Agreements, 1931-34

THERE is no requirement or practice in the United States regarding the filing of local agreements with a central agency, and therefore no central depository where such agreements may be found. The Bureau of Labor Statistics attempts to secure copies of all important collective or trade agreements entered into between employers and employees, as they are consummated. Summaries of those obtained are published from time to time in the Monthly Labor Review. It is not possible to summarize in this brief space all the agreements received by the Bureau subsequent to the publication of the 1931 edition of the Handbook of Labor Statistics (Bul. No. 541).

Legislation Regarding the Union Label

IN 1932, a Federal law was enacted (47 Stat. L. 50) authorizing associations of employees in the District of Columbia to adopt a device to designate the products of the labor of their members,

to punish illegal use or imitation of such device, and for other purposes. This act therefore provides a "union label law" for the District of Columbia very similar to the laws passed by 44 States, which secure to labor organizations the right to register, use, and protect from counterfeit or unauthorized use the trade marks or labels chosen by them to distinguish the products of union labor from other goods or manufactured articles.

The development of the use of union labels is divided by some writers into three periods. The first period was marked by the introduction of the use of a label in 1875 by the cigarmakers in California. This was a result of the keen competition between the white cigarmakers and the Chinese laborers, and it appears to have had considerable influence, for some time, in diverting trade from the Chinese to the white shops. The second period covered the adoption of the label by other trade unions (largely through the influence of the Knights of Labor) as a means of combating particular forms of competition to which the members of these unions were subject. The third stage was that in which widespread use of the labels began to be made as a matter of general union policy. The movement spread rapidly and the use of labels became popular with unions whose products were of such a nature that labels could easily be attached. Some organizations, such as those of the granite cutters, stonemasons, and glass-bottle blowers, found the use of labels difficult, but the majority of the unions found the label useful and soon adopted it.

If the union label was to be an effective instrument, it was necessary that the union be able to prevent its use by other persons not members of the union.

In some States injunctive relief against counterfeiting was denied and in others, when allowed, was not sufficient to stop the practice. Therefore agitation was made for the enactment of legislation subjecting the counterfeiter to criminal prosecution. Laws allowing criminal punishment were passed immediately in several States and other States soon followed. At the beginning of 1935, 44 of the States had enacted union-label laws, Mississippi, New Mexico, North Carolina, and North Dakota being the four States which had not done so.

Most of these laws contain similar provisions; i. e., that any union may register its label, after paying the registration fee; that any person counterfeiting such label is guilty of a misdemeanor and shall be subject to a fine varying from \$100 to \$500 or to imprisonment varying from 3 months to 1 year.

The constitutionality of legislation of this type has been repeatedly sustained.²

In *Perkins v. Heert*, where the question of unjust discrimination was raised, the New York Court of Appeals said:

The label authorized was by a general and not a local act. No particular association or union has been given the exclusive privilege of adopting a label, but every association or union of every kind of working men or women is given the right to adopt its own label, which may indicate its own workmanship. It consequently follows that whatever discrimination there may be is authorized, and, therefore, not unjust, and that the privilege granted under the general law is in accord with public policy.

² *Cohen v. People*, 149 Ill. 486, 37 N. E. 60; *State v. Bishop*, 128 Mo. 373, 31 S. W. 9; *Perkins v. Heert*, 158 N. Y. 306, 53 N. E. 13; *Commonwealth v. Norton*, 23 Pa. C. C. R. 386; *Seabold v. Comrs.*, 187 Pa. 318; *Tracey v. Banker*, 170 Mass. 266.

The courts have also held that such laws are not a violation of the fourteenth amendment to the Constitution, as there is neither a deprivation of property without due process of law nor a denial of equal protection of the laws to all citizens.

Anti-Injunction Laws and Laws Relating to Antiunion Contracts

Anti-Injunction Legislation

Federal Act of 1932

A FEDERAL anti-injunction law (Code 1934, title 29, ch. 6) was approved on March 23, 1932. The purpose of this law, which is commonly referred to as the Norris-LaGuardia Act, is "to define and limit the jurisdiction of courts sitting in equity."

The Federal law, in brief, provides as follows: Section 1 forbids any Federal court to issue an injunction except in accordance with the act. Section 2 declares the public policy of the United States in labor disputes, and assures the employee's right to collective bargaining. Antiunion contracts are outlawed by section 3, and such contracts are made unenforceable in any Federal court. Sections 4 and 5 relate to injunctions prohibiting persons from doing certain acts either singly or in concert. Officers of associations are no longer held responsible for the unlawful acts of individuals, by section 6, while section 7 prescribes the procedure, namely, that no injunction shall be issued, except after a hearing of the testimony of witnesses in open court, with an opportunity for cross-examination, and only after the findings of fact by the court. By the provisions of section 8, an effort to settle disputes must be made before injunctive relief will be granted. Section 9 provides that when an injunction has been issued it shall include only a prohibition of such specific acts as have been expressly complained of and are expressly included in the findings of fact made by the court. Sections 10 and 11 provide for the right of appeal and trial by jury. A demand for the retirement of a judge is permitted by section 12, whenever an attack has been made upon his character or conduct, or if made elsewhere than in the presence of the court. Various definitions are set forth in section 13, while sections 14 and 15 contain the usual provision relating to the constitutionality of the act and the repeal of all conflicting acts.

History of Anti-Injunction Legislation

A BRIEF chronological history may be of value in understanding the present status of this type of legislation. It is generally reported that the first injunction in the United States was issued in about 1883. It was not, however, until 1895, when the case of *In re Debs* was decided by the United States Supreme Court (158 U. S. 564) that the principle was firmly established that the power to issue injunctions and punish their violation, as for contempt, was inherent in the courts. A case of much importance to labor was the so-called *Danbury Hatters' case* (*Loewe v. Lawlor*, 208 U. S. 274), decided in 1908. This case was brought under the Sherman Antitrust Act of July 2, 1890.

The act provides among other things that "any person who shall be injured in his business or property by any other person or corporation by reason of anything forbidden or declared to be unlawful by this act may sue * * * and shall recover threefold the damages by him sustained * * *." Accordingly, a hat manufacturer of Danbury, Conn., recovered triple damages for losses due to a boycott of his goods in an interstate shipment.

While the Sherman Antitrust Act was held applicable to labor disputes shortly after its passage, it was not until the *Danbury Hatters' case* that a damaging situation for labor loomed and agitation was then made to remedy the effects of the court decision. Finally, in 1914, the so-called "Clayton Act" was passed by the Congress of the United States. By the provisions of this act the labor of a human being was declared "not a commodity or article of commerce." Labor organizations were especially exempted from the antitrust laws by the Clayton Act.

The Clayton Act, which sought to regulate the issue of injunctions, has been construed in several cases which showed the line that was drawn between the powers of the courts and the intent of Congress as expressed in the act (*Duplex Printing Press Co. v. Deering*, 254 U. S. 443; *American Steel Foundry Co. v. Tri-City Trades Council*, 257 U. S. 184).

Section 20 of the Clayton Act was before the Supreme Court in a case involving the secondary boycott in which an injunction had been granted restraining certain labor unions from maintaining a secondary boycott in New York to compel a Michigan manufacturer of printing presses to unionize his factory. The Supreme Court held that the secondary boycott was illegal and that the injunction had been properly granted. In its opinion the Court said that "the emphasis placed on the words 'lawful' and 'lawfully', 'peaceful' and 'peacefully', and the references to the dispute and the parties to it, strongly rebut a legislative intent to confer a general immunity for conduct violative of the antitrust laws, or otherwise unlawful" (*Duplex Co. v. Deering* (1921), 254 U. S. 443, 473).

In the same year, but in the following term of court, Mr. Chief Justice Taft delivered an opinion in a case involving section 20 of the Clayton Act in which an injunction had been granted enjoining, among other things, picketing of a plant in which a strike existed and said:

It is clear that Congress wished to forbid the use by the Federal courts of their equity arm to prevent peaceable persuasion by employees, discharged or expectant, in promotion of their side of the dispute, and to secure them against judicial restraint in obtaining or communicating information in any place where they might lawfully be. This introduces no new principle into the equity jurisprudence of those courts. It is merely declaratory of what was the best practice always. Congress thought it wise to stabilize this rule of action and render it uniform (*American Foundries v. Tri-City Council* (1921), 257 U. S. 184, 203).

The construction placed upon section 20 of the Clayton Act by the United States Supreme Court saved the constitutionality of the law. One week after the decision of the court in the *Tri-City Council case*, Mr. Chief Justice Taft delivered an opinion holding substantially the same provision, found in the Arizona statute, unconstitutional and void, because of the construction placed upon it by the Arizona Supreme Court. The Supreme Court, speaking through the Chief Justice, said that the construction placed upon the words by the Arizona Supreme

Court was as far from the meaning of section 20 of the Clayton Act as if they were in wholly different languages. The Supreme Court said that the effect of the ruling of the Arizona court under paragraph 1464 of the Arizona Code (Rev. Stat. 1913) was that "loss may be inflicted upon the plaintiffs' property and business by 'picketing' in any form if violence be not used, and that, because no violence was shown or claimed, the campaign carried on, as described in the complaint and exhibits, did not unlawfully invade complainants' rights", and that "a law which operates to make lawful such a wrong as is described in plaintiffs' complaint deprives the owner of the business and the premises of his property without due process, and cannot be held valid under the fourteenth amendment" (*Truax v. Corrigan* (1921), 257 U. S. 312, 324, 328).

This interpretation of the Clayton Act practically amounted to making the act a nullity as the Court held the act made no change in the law as it existed prior to the passage of the act. This construction caused agitation for a Federal law broad enough to cover the general situation arising out of labor disputes. It resulted in the enactment of the Norris-LaGuardia anti-injunction law.

State Legislation

IN THE following 21 States anti-injunction laws had been enacted by the end of 1935: Arizona, Colorado, Idaho, Illinois, Indiana, Kansas, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Montana, New Jersey, New York, North Dakota, Oregon, Pennsylvania, Utah, Washington, Wisconsin, and Wyoming. Some of the laws provide specifically that no injunction shall be issued without previous notice and an opportunity to be heard in open court—as for example the laws of Kansas and Pennsylvania. Several of the States have laws containing provisions similar to those contained in section 20 of the Clayton Act; for example, Arizona, North Dakota, or Washington.

The States which have enacted laws on this subject during the past few years have followed the major provisions of the Federal anti-injunction law. The Colorado, Idaho, Indiana, Louisiana, Maryland, Minnesota, New York, North Dakota, Oregon, Utah, and Wyoming acts define the public policy of the State relative to collective bargaining and contain specific restrictions limiting the jurisdiction of equity courts in litigation growing out of labor disputes.

Citations of the anti-injunction laws of the various States follow:

Arizona.—Code 1928, sec. 4286.

Colorado.—Acts of 1933, ch. 59.

Idaho.—Acts of 1933, ch. 215.

Illinois.—Smith-Hurd, Rev. Stats. 1931, ch. 48, sec. 2a.

Indiana.—Acts of 1933, ch. 12.

Kansas.—Gen. Stats. 1923, sec. 60-1104.

Louisiana.—Acts of 1934, ch. 203.

Maine.—Acts of 1933, ch. 261.

Maryland.—Acts of 1935, ch. 574.

Massachusetts.—Acts of 1934, ch. 381; Acts of 1935, ch. 407.

Minnesota.—Gen. Stats. 1927, sec. 4256 (as amended 1929, ch. 260), Acts of 1933, ch. 416.

Montana.—Rev. Code, 1921, sec. 9242.

New Jersey.—Acts of 1926, ch. 207.

New York.—Acts of 1935, ch. 477.

North Dakota.—Acts of 1935, ch. 247.

Oregon.—Code 1930, secs. 49-902 to 49-903; Acts of 1933, ch. 355.

Pennsylvania.—Acts of 1931, No. 311, p. 926.

Utah.—Rev. Stats. 1933, secs. 49-2-6 to 49-2-8; Acts of 1933, ch. 15.

Washington.—Rem. Rev. Stats. 1931, secs. 7612-7614; Acts of 1933-34 (ex. ses.), ch. 7.

Wisconsin.—Stats. 1931, secs. 133.05-133.08 and 268.18 to 268.30.

Wyoming.—Acts of 1933, ch. 37.

United States.—Code 1934, title 29, secs. 52, 53 (Clayton Act) and Code 1934, title 29, secs. 101-115 (Norris-La Guardia Act).

Laws Relating to Antiunion Contracts

SECTION 3 of the Federal anti-injunction law outlaws antiunion contracts. Prior to the enactment of the Federal law, the State of Wisconsin passed a law in 1929 with a similar provision; this was the first law of its kind to be enacted in any American State. In general, the acts on this subject declare that an employment contract containing an agreement whereby either party undertakes not to join, become, or remain a member of any labor organization or of any employer organization is contrary to public policy and therefore void.

Decisions of the United States Supreme Court

THREE cases have been decided by the United States Supreme Court directly involving the antiunion contract. (*Adair v. United States* (1908), 208 U. S. 161; *Coppage v. Kansas* (1915), 236 U. S. 1; and *Hitchman Coal & Coke Co. v. Mitchell* (1917), 245 U. S. 229.)

The *Adair case* involved the criminal prosecution of a railway foreman for discharging a railway employee because of his being a member of a labor organization.

The question presented to the Court was, "May Congress make it a criminal offense against the United States—as by the tenth section of the act of 1898 it does—for an agent or officer of an interstate carrier, having full authority in the premises from the carrier, to discharge an employee from service simply because of his membership in a labor organization" (208 U. S. 171)? The Court held that "as the relations and the conduct of the parties toward each other was not controlled by any contract other than a general agreement on one side to accept the services of the employee and a general agreement on the other side to render services to the employer—no term being fixed for the continuance of the employment—Congress could not, consistently with the fifth amendment, make it a crime against the United States to discharge the employee because of his being a member of a labor organization" (208 U. S. 176). In concluding its opinion the Court said that "this decision is therefore restricted to the question of the validity of the particular provision in the act of Congress making it a crime against the United States for an agent or officer of an interstate carrier to discharge an employee from its service because of his being a member of a labor organization" (208 U. S. 180).

The *Coppage case* involved a law of the State of Kansas providing a penalty for coercing or influencing or making demands upon or requirements of employees, servants, laborers, and persons seeking employment (Kansas Acts of 1903, ch. 222).

Coppage, superintendent of a railway company, requested an employee to sign an agreement to withdraw from a labor union while in the employ of the railway, and, on the refusal of the employee, discharged him from the service of the company. Coppage was charged with the violation of the statute above quoted and was found guilty. The Supreme Court of the United States pointed out the distinction between the *Adair* and the *Coppage* cases in its statement that "while the statute that was dealt with in the *Adair* case contained a clause substantially identical with the Kansas act now under consideration—a clause making it a misdemeanor for an employer to require an employee or applicant for employment, as a condition of such employment, to agree not to become or remain a member of a labor organization—the conviction was based upon another clause, which related to discharging an employee because of his membership in such an organization; and the decision, naturally, was confined to the case actually presented for decision" (236 U. S. 11). The penalty imposed in the *Adair* case was on the ground of the discharge of an employee because of his being a member of a labor organization. The *Coppage* case involved a penalty imposed "not for the discharge, but for the attempt to coerce an unwilling employee to agree to forego the exercise of the legal right involved as a condition of employment" (236 U. S. 40). The Court held the Kansas act "as construed and applied so as to punish with fine or imprisonment an employer or his agent for merely prescribing, as a condition upon which one may secure employment under or remain in the service of such employer, that the employee shall enter into an agreement not to become or remain a member of any labor organization while so employed, is repugnant to the 'due-process' clause of the fourteenth amendment, and therefore void" (230 U. S. 26). Reviewing the effect of the *Adair* and *Coppage* decisions, it must be noted that both the Federal and the State acts held unconstitutional, provided criminal punishment for the violation of the statute. Though an attempt was made to distinguish between a statute imposing a penalty for membership in a labor union and punishment for discharging an employee because of failure to agree to an antiunion contract, the cases are similar in that they both involve criminal punishment.

The *Hitchman* case affirmed a decree granting an injunction against attempts to organize employees who had agreed that they would not, while in the service of their employer, become members of a union and if they joined the union would withdraw from their employment. The case involved the application of the common law of West Virginia. No statute was involved in the decision of the case. The Court held that, upon all the facts involved in the particular case before it, the purpose to be attained and the methods resorted to by the organizers were unlawful. Apparently the conclusion as to the purpose and methods was largely influenced by the agreement of the employees that they would not, while in the service of the employer, become members of a union and if they joined the union would withdraw from their employment (245 U. S. 229, 263).

No decision has been rendered by the Supreme Court on a law which simply declares such a contract contrary to public policy, and it is assumed that such a law would be upheld as valid legislation.

State Antiunion-Contract Legislation

UP TO the close of 1935, 17 States had enacted laws providing that the agreement of an employee not to join a labor organization is contrary to public policy, and most of the laws provide in addition that the agreement shall not afford any basis for the granting of legal or equitable relief by any court. Citations of the various antiunion-contract laws follow:

- Arizona*.—Acts of 1931, ch. 19.
- California*.—Acts of 1933, ch. 566.
- Colorado*.—Acts of 1931, ch. 112; Acts of 1933, ch. 59.
- Idaho*.—Acts of 1933, ch. 215.
- Illinois*.—Acts of 1933, p. 588.
- Indiana*.—Acts of 1933, ch. 12.
- Louisiana*.—Acts of 1934, act no. 202.
- Maryland*.—Acts of 1935, ch. 574.
- Massachusetts*.—Acts of 1933, ch. 351.
- Minnesota*.—Acts of 1933, ch. 416.
- New York*.—Acts of 1935, ch. 11.
- North Dakota*.—Acts of 1935, ch. 247.
- Ohio*.—Acts of 1931, p. 562.
- Oregon*.—Acts of 1931, ch. 247; Acts of 1933, ch. 355.
- Pennsylvania*.—Acts of 1933, ch. 219.
- Utah*.—Acts of 1933, ch. 15.
- Wisconsin*.—Stats. 1931, secs. 103.46 and 268.19.
- United States*.—Code 1934, title 29, sec. 103.

LABOR STANDARDS

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Division of Labor Standards of the United States Department of Labor

THE promotional and constructive work dealing with labor standards which the United States Department of Labor has since its creation tried to carry on has been handled in various ways. For example, interstate and regional conferences on uniform labor legislation came directly under the Office of the Secretary, cooperation with agencies dealing with standards of safety and health was a function of the Bureau of Labor Statistics, while the Women's Bureau was concerned with movements toward standardizing working conditions for women.

In July 1934 a new division was created to concentrate and unify these efforts. This new agency is the Division of Labor Standards. Its primary purpose is to serve as a rallying point for the work and activities of State departments of labor, Federal agencies, organizations, and individuals interested in securing improvements in the working and living conditions of wage earners and their families.

A major objective of the Division of Labor Standards is to assist in harmonizing State labor laws, wherever practicable, in order that workers in one State may receive the same measure of protection and benefits as workers in another State. To that end the Division is regularly represented in the meetings of the Commission on Interstate Compacts Affecting Labor Legislation which was organized in 1933, the object of which is to secure compacts and agreements upon minimum standards of labor legislation and enforcement. This movement got under way with the calling of a regional conference of Southern States in January 1935 (summarized on p. 443) and, later, of the three Pacific Coast States and Nevada. A less direct approach is the advisory service which the Division offers legislators, labor and social-welfare organizations, and governmental agencies in connection with drafting bills and in analyzing bills introduced into State legislatures and other law or code-making bodies. By means of a legislative reporting service, the Division receives copies of all labor bills currently introduced into State legislatures, and thus keeps abreast of developments in all sections of the country.

Of equal importance is the work of the Division of Labor Standards in promoting safety and health among the industrial workers of the country. The aim of the Division in this capacity is to stimulate State activity in the safety and health field as a permanent function of State departments of labor. In disseminating information as to technical methods of accident control and the elimination of health hazards, the Division utilizes and adapts research findings and studies wherever possible. This work is done under the immediate supervision of an experienced safety engineer. Participation of the Department of Labor in the development and drafting of safety and health codes sponsored by the American Standards Association will be through the new Division.

Among the activities of the Division of Labor Standards since its organization in July 1934 are the initiation of a proposal for unifying and organizing accident-prevention programs within the Federal departments, some of which are engaged in extensive construction work, and surveys of safety conditions at Boulder Dam and Coulee Dam, undertaken at the request of the Interior Department.

Conferences on Uniform Labor Standards

BETWEEN January 1931 and October 1935 a series of conferences was held for the general purpose of establishing uniform standards in labor and social legislation and securing closer cooperation among State and Federal officials in the development of recovery programs. In the order of their occurrence these conferences, which were attended by governors or their representatives and State and Federal labor officials, were:

(1) Governors' conference on unemployment called by Governor Roosevelt of New York and held in Albany, January 23-25, 1931, attended by the Governors of Connecticut, Massachusetts, New Jersey, New York, Ohio, and Rhode Island and a representative of the Governor of Pennsylvania.¹

(2) Eastern interstate conference on labor legislation held at Harrisburg, Pa., June 18-19, 1931, at the invitation of Governor Pinchot of Pennsylvania and attended by representatives of the labor departments of 10 eastern States and the Federal Government. States in addition to the 7 attending the earlier conference were Delaware, Maryland, and West Virginia.²

(3) Conference called by Governor Ely of Massachusetts at Boston, January 27-28, 1933, attended by labor officials of the United States Government and the States of Connecticut, Maryland, New Hampshire, New Jersey, New York, Ohio, and Pennsylvania for the purpose of considering means of making effectual the recommendations of the Harrisburg conference.³

(4) Southeastern interstate conference on social legislation held in Atlanta, Ga., December 13, 1933. This was attended by business, industrial, political, and labor leaders and State labor officials representing Alabama, Florida, Georgia, South Carolina, and Tennessee, and by the United States Secretary of Labor and other officials of the United States Department of Labor.⁴

(5) First national conference on labor legislation called by the Secretary of Labor and held in Washington, D. C., February 14-15, 1934. This conference was composed of delegates appointed by the governors of 39 States, from the State departments of labor, and State federations of labor.⁵

(6) Michigan Labor Legislation Institute held at Lansing, Mich., March 26, 1934, attended by State government officials, industrial and civic groups, labor organizations, and the Secretary of Labor.⁶

¹ Report of proceedings in Monthly Labor Review, March 1931, p. 64.

² Idem, Aug. 1931, p. 42.

³ Idem, Mar. 1933, p. 95.

⁴ Idem, January 1934, p. 95.

⁵ Idem, April 1934, p. 779.

⁶ Idem, May 1934, p. 1047.

(7) Conference on labor standards called by the Secretary of Labor and held in Washington, D. C., December 14, 1934, attended by representatives of various State departments of labor and delegates from a great variety of civic, religious, political, and welfare organizations.

(8) Southern regional conference on State legislation and economic security held in Nashville, Tenn., January 20-21, 1935. This was attended by 50 representatives appointed by the governors of 12 States at the invitation of the Secretary of Labor and representatives of organized labor. The 12 participating States were Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.⁷

(9) Second national conference on labor legislation, convened by the Secretary of Labor at Asheville, N. C., October 4-5, 1935, attended by delegates from 40 States, and officials of Federal and State Governments.⁸

Governors' Conference on Unemployment, Albany, January 1931

PROGRAMS and procedure were similar in all these conferences. The first one, limited to governors, covered fewer problems than the others, being confined largely to discussion of measures to stabilize industry and employment, and of unemployment insurance. On the latter subject the statement issued by the governors on the closing day of the session said that while "no action was taken committing either them or their respective States to any program of unemployment insurance", it was nevertheless "unanimously felt that the subject deserves further immediate study." To that end it was decided that in future meetings the group would "examine unemployment reserves or insurance as a preventive or relief for unemployment, setting forth in their report the following information":

(a) The experience of European nations with compulsory and voluntary unemployment insurance.

(b) American experience with voluntary unemployment reserves or insurance.

(c) Possible or proposed American variations, corrections, and improvements if a general system by States should be adopted. This would cover safeguards against the dole, coverage by private insurance companies, group insurance, private industrial companies' insurance, and governmental supervision.

It would cover also both voluntary and compulsory forms.

Eastern Interstate Conference, Harrisburg, June 1931

WORKMEN'S compensation, industrial health and safety, and protective legislation for women and minors occupied much of the time at the Harrisburg conference.

The recommendations of the committee on workmen's compensation covered a number of technical points making for uniformity, such as standard measurements for permanent partial disabilities and uniform compensation rates, and the adoption of certain general principles. To liberalize workmen's compensation laws the committee recommended that they be made applicable to all occupational

⁷ Report of proceedings in Monthly Labor Review, March 1935, p. 670.

⁸ Idem, November 1935, p. 1247.

diseases and that coverage be extended to all hazardous occupations in which one or more persons are employed. To strengthen administrative procedure the committee recommended that the industrial boards or compensation commissions of the several States be given sole jurisdiction as to questions of fact, and that appeals to appellate courts be permitted only on questions of law.

The committee on industrial hygiene made both general and specific recommendations covering minimum standard requirements of ventilation, temperature, lighting, sanitary facilities, cleanliness, first-aid equipment, and the provision of protective devices and measures necessary for the prevention of any and all occupational diseases. In the determination of specific standards the committee advised that the highest standards in existing labor laws be considered, and suggested consultation with the United States Public Health Service, the American Public Health Association, the American Standards Association, the National Safety Council, and other similar organizations. The committee also recommended uniform legislation making the reporting of all occupational diseases mandatory upon physicians handling such cases, and upon all employers having knowledge of the existence of occupational diseases among their employees.

The most accepted standards governing the employment of women and minors, covering daily and weekly hours, rest periods, prohibition of night work, etc., were put forward as minimum requirements, with the additional recommendation that bureaus of women and children be established within the State departments of labor to carry on scientific investigations of the changing problems arising in industry; that each State set up and enforce minimum standards of experience and training for its inspectorial force; and that the work of enforcing the woman and child labor laws and of handling the various problems relating to the welfare of woman and child workers be assigned to inspectors especially equipped to perform those specialized tasks.

Recognition of the fact that the statistical work of a labor department is fully as important as its other functions was urged, and the need for adequate appropriations for bureaus of labor statistics was emphasized. The conference recognized also the desirability of uniform methods of collecting and presenting labor statistics, outlined fields in which statistical data should be collected in conformity with approved standards, and urged the United States Bureau of Labor Statistics "to draft a model form of law for the direction and guidance of the State bureaus."

Eastern States Conference, Boston, January 1933

EIGHTEEN months later the Governor of Massachusetts called a conference to determine what progress had been made toward carrying out the recommendations of the Harrisburg meeting, and to coordinate the various activities seeking legislation "governing the hours of employment of women and minors."

As announced in the final report, the standards adopted by the Boston conference were essentially the same as those approved at Harrisburg, "yet once again and more insistently than ever before we urge their immediate enactment into legislation. * * * We

assert that the future welfare and stability of our social order must rest upon the greater protection of our workers and the further reduction of the working day. * * * The period which has elapsed since the Harrisburg conference has made us immeasurably more conscious of the need for the adoption of the whole of the program adopted there. It has also forced us to realize the especial urgency of any measures that would tend to increase purchasing power or increase employment."

The Boston conference emphasized particularly the need for minimum-wage legislation and recommending "a mandatory minimum-wage law for women and minors", it urged "that it be adopted promptly in every State." During 1933, 5 of the 9 States represented at that conference (Connecticut, New Hampshire, New Jersey, New York, and Ohio) enacted similar laws requiring that women and minors be paid such wages as shall adequately compensate the worker for services rendered and provide proper and healthful living.

Atlanta Conference on Social Legislation, December 1933

THE conference of Southeastern States was held in December 1933, after the national recovery program had begun to take definite form. This meeting unanimously approved the nine objectives set forth by the Secretary of Labor, and created a permanent committee to "devise and propose harmonious standards of labor legislation for presentation to the legislatures of the States represented at this conference." The nine objectives are: (1) Permanent limitation of hours of labor, (2) prohibition of child labor, (3) fixing of standard minimum wages for women, (4) safe and healthful working conditions, (5) provision for the aged, (6) some form of unemployment reserves, (7) adequate workmen's compensation laws, (8) free public employment exchanges, and (9) adequate administration of labor laws and improved labor conditions.

First National Conference on Labor Legislation Washington, D. C., February 1934

THE Washington conference of February 1934 was more representative in scope than the regional conferences, as it was national in character and was attended by representatives of 39 States. It had also a more comprehensive agenda, covering, in addition to the subjects in the earlier meetings, provisions for old age and workers' housing. Among the recommendations adopted was one designed "to make permanent the social and economic advantages of the limitation of hours under which industry is operating under the N. R. A." by securing the enactment of State laws "to conform as nearly as possible to the general standards adopted in the codes."

One topic fully discussed at the Harrisburg and Boston conferences was public employment exchanges. The plan toward which efforts were then directed had since been virtually adopted in the national program set up by the United States Employment Service under the so-called "Wagner-Peyser Act" of 1933. Hence the approach to this problem at the Washington conference was, first, to secure the acceptance of the provisions of the Federal act by non-cooperating States, and secondly, to encourage and strengthen the system in the cooperating States.

Committee reports and recommendations on the most important problems discussed are fully presented in the April 1934 issue of the *Monthly Labor Review*. The conference plan of stimulating State action on labor legislation was strongly endorsed, and annual gatherings, both national, and regional, were recommended.

Michigan Labor Legislation Institute, March 1934

UNDER the stimulus of the national conference and at the instigation of the Michigan delegates to that meeting, the Michigan Labor Legislation Institute was held at Lansing on March 26, 1934. The Institute was composed of representatives of the various departments of the State government, the Michigan Federation of Labor and its affiliated local trade unions, manufacturers and business groups, the Consumers' League, and a number of women's organizations. The Secretary of Labor was invited to attend and to address the conference. As her part of the program she reviewed and summarized the discussions, and recommended additions and amendments to existing labor legislation in Michigan. The conference closed with a resolution, unanimously adopted, calling upon the Governor to direct the Michigan Department of Labor and Industry to make an intensive study of the work of the National Conference on Labor Legislation with a view to recommending to the next session of the legislature measures which would raise the labor legislation of Michigan to the level urged by the Washington conference. Reference was made specifically to several items, among them minimum-wage and unemployment-insurance legislation, a shorter workday and work week for women and minors, and administrative machinery through which the State might cooperate with the Federal Government in the enforcement of N. R. A. codes.

Conference on Labor Standards, Washington, D. C., December 1934

THE immediate objective of this conference was the establishment of cooperation between national organizations and the newly created Division of Labor Standards of the United States Department of Labor and the bringing about of higher standards for the protection of workers in the different States. The agenda covered the same questions relating to economic security as were treated in previous conferences and in her address Secretary Perkins urged the members of the conference to stick to realities, declaring that since the N. R. A. had furnished a demonstration of the practicability of the abolition of child labor, a shorter working week, and minimum wages, "no reasonable American wants to go back to the old system of unregulated hours, wages, and child labor."

The conference went on record as favoring the establishment, insofar as possible, of the following measures: The 40-hour week, 8-hour day, 5-day week; minimum-wage laws for women and minors with the hope of the eventual establishment of minimum-wage laws for both sexes; ratification of the child-labor amendment in the States which had not yet ratified it, and an immediate program for the elimination of industrial homework, liberalization of workmen's compensation acts, and prompt enactment of some form of unemployment-insurance and old-age-pension legislation.

Southern Regional Conference on State Labor Legislation and Economic Security, Nashville, January 1935

ONE of the major purposes of this conference, as of all the interstate and regional conferences, as the Secretary of Labor outlined them, was to find a general level in a labor legislative program. The Secretary of Labor and the Director of the Division of Labor Standards led the open discussion on the various problems of labor legislation with which the conference was concerned. After a series of round-table discussions led by officials of the departments of labor of several of the participating States, recommendations were adopted of which the following are summaries.

Child-labor standards.—Adoption of the Federal child-labor amendment; State acts to provide 16-year minimum work age (18-year minimum for hazardous employment); requirement of employment certificates up to 18 years; maximum 40-hour week and 8-hour day; double compensation for illegally employed minors, and provision for conservation of compensation benefits paid to minors.

Minimum wages, limitation of hours, nightwork, and industrial homework.—Enactment by the States of mandatory minimum-wage laws for women and minor workers, based on standard bill drafted by the National Consumers' League, providing that minimum rates, when set, be not less than \$12 per week; State laws fixing a maximum 8-hour day, a 40-hour week, and 1 day of rest in 7, for both men and women; requirement by States of a uniform method of keeping records of hours and wages by employers and reporting of such data as a means of enforcing hours legislation and of providing a basis for legislative studies; enactment of State legislation to abolish nightwork, with appropriate provision for continuous-process industries; that industrial homework be placed under State regulation, with the thought of ultimate abolition of homework; that the State labor departments include a division for enforcement of regulations pertaining to women in industry.

Workmen's compensation, occupational-disease legislation, safety and sanitation.—Commission form of administration as distinguished from court administration; extension of compensation insurance to all employments with three or more workers, excepting only agriculture and domestic service; provision of adequate medical staff for commissions for impartial adjudication of medical questions; provision for self-support of workmen's compensation administration through assessments against insurance carriers and self-insurers; requirement for posting ample security by authorized self-insurers; compensation insurance for occupational diseases; standard of compensation payments based on 66 $\frac{2}{3}$ percent of average weekly wage; adoption of a plan by relief administrations whereby specific payment for injury, in lieu of workmen's compensation, may be given to workers on public-works projects; appropriations to departments of labor sufficient to carry on an industrial safety educational program, in order to reduce casualties and compensation cost.

Unemployment and old-age assistance; State labor departments.—Legislation by the States represented in conference containing the principles of unemployment compensation embodied in H. R. 4142 (labor representatives at conference desired to be recorded as in favor of an unemployment-insurance system not requiring contribu-

tions from employees); State legislation adopting the principles embodied in Senate bill 1130 providing for old-age security; creation by the States now without labor departments of such administrative organizations, and the development and strengthening of those now existing.

Employment services.—Acceptance by the Southern States that have not heretofore done so of the provisions of the Wagner-Peyser Act before July 1, 1935, with adequate appropriations; employment service administrators urged to cooperate with employers' and employees' organizations.

Second National Conference on Labor Legislation, Asheville, October 1935

THE second national conference on labor legislation was held after the adoption of several of the measures toward which preceding conferences had been working—especially the Wagner-Peyser Act establishing a Federal-State employment system and the Social Security Act providing for unemployment insurance and old-age pensions. Discussion of those subjects accordingly dealt primarily with State participation and means of securing the most effective cooperation between State and Federal Governments. Administration of State unemployment compensation through the medium of the State agency responsible for the enforcement of other labor laws was recommended. Where State commissions are formed for the purpose, the conference urged that a representative of the State employment service be appointed.

Each topic on the agenda was assigned to a committee, whose recommendations were then adopted by the entire conference. Among these were:

Old-age pensions.—The committee recommended an age limit of 60 to 65 years, without property limitations, and a flexible sum of not less than \$30 a month. The committee also recommended a system of Federal annuities purchasable by persons ineligible for old-age pensions.

Minimum wage.—The committee on minimum wage reiterated previous recommendations that States having no minimum-wage legislation "make this an immediate objective", and that the minimum-wage principle and awards, where made, be applied to homework industries.

Child labor.—A series of minimum standards in the employment of young persons and redoubled efforts to secure full ratification of the Federal child-labor amendment were among the recommendations of this committee.

Industrial homework.—Legal regulation of industrial homework patterned after the homework provisions of some of the N. R. A. codes was urged. Because of evidence that the practice of sending homework across State lines is spreading, the committee recommended that the "United States Department of Labor be asked to continue to investigate the extent and nature of the passage of homework goods in interstate commerce and explore the possibilities of Federal legislation to control this practice."

Industrial health and safety.—State authorities administering labor laws should, in the judgment of the conference, have complete authority to formulate and enforce industrial rules or codes, conforming substantially to nationally approved standards, for adequate protection to the workers against hazards to health and safety.

Wage payment and wage collections.—After discussing the seriousness of the increasing problems presented by the failure of employers to pay wages owed to employees, the committee recommended that the Secretary of Labor form a committee to attempt to develop proper types of legislative remedy, including, where necessary, that of making failure to pay wages an extraditable offense.

Housing.—Declaring that the “objective in housing is an adequate supply of good dwellings, so distributed as to location, type, size, and cost as to meet the needs of the population, and, so far as possible, its desires”, the conference outlined methods for achieving that objective. These methods are: (1) Demolition of all unfit dwellings; (2) repair and proper maintenance of dwellings that are fit or that can economically be made fit; and (3) erection of an adequate supply. The function of Federal, State, and local Governments in that field was declared to be to enforce standards and facilitate development.

Federal-State cooperation.—The conference reaffirmed recommendations for cooperation between the Federal and the various State departments of labor adopted at the first national conference (Washington, February 1934). It recommended further that a method of clearing of industrial problems through the United States Department of Labor be adopted by the State departments, and that the Secretary of Labor select an advisory committee for the promotion of cooperation between the United States Department of Labor and the States.

Interstate Compacts Affecting Labor and Industries

ON MAY 29, 1934, the first interstate compact on minimum wage was signed at Concord, N. H., by seven northeastern industrial States.⁹

The first attempt to establish uniform minimum standards for employment conditions was made at a conference of northeastern officials at Albany, N. Y., on January 23–24, 1931. A second meeting at Harrisburg, Pa. (June 18–19, 1931),¹⁰ was followed by a conference in Boston, Mass. (Jan. 27–28, 1933).¹¹ At both of these meetings the possibility of forming interstate compacts affecting labor and industries was discussed. In 1933, the Massachusetts Legislature, by resolve (ch. 44), provided for a commission on interstate compacts affecting labor and industries.¹²

Under the Constitution of the United States as contained in article 1, section 10, permission may be granted to the States to enter into compacts with each other with the consent of Congress. An interstate compact is a “formal agreement or contract between two or more States on matters of mutual concern which requires for its effectiveness ratification by the legislatures of the States party to the agreement, and in addition the consent of Congress either expressed or implied.” Such compacts are not new in the United States, since this method has been resorted to many times when questions of State boundaries were involved, or when two or more States were concerned

⁹ New Hampshire. Commission on Interstate Compacts Affecting Labor and Industries. *Interstate Compacts in the Field of Labor Legislation*. Concord, 1935.

¹⁰ See *Monthly Labor Review*, August 1931 (pp. 42–49).

¹¹ *Idem*, March 1933 (p. 537).

¹² *Idem*, April 1934 (p. 835).

with waterways, bridges, etc. The compact theory in the field of labor legislation, however, is comparatively new.

In the late summer of 1933, following the conference in Boston in January, Senator Parkman, chairman of the Massachusetts Commission on Interstate Compacts Affecting Labor and Industries, addressed a communication to Governor Winant, of New Hampshire, inviting him to appoint a similar commission to negotiate with the Massachusetts commission. Later in the year, upon the recommendation of the Governor of New Hampshire, a conference was held in Boston by the governors of the New England States to discuss the matter of appointing commissions on interstate compacts in these States. As a result of this conference, Governor Winant, on November 29, 1933, appointed the New Hampshire Commission on Interstate Compacts Affecting Labor and Industries. This commission was appointed temporarily to negotiate with similar commissions in other States, until the legislature should convene.

The membership originally consisted of 5 persons, and later was increased to 7 persons in order to give representation to the shoe and textile industries of the State. In addition to these the commission included representatives of labor, industry, the legislature, and the public. The members of the New Hampshire commission received no pay, but were allowed their expenses in connection with the work. Later, similar commissions were appointed in Rhode Island and Maine, and subsequently the Governors of Connecticut, New York, Pennsylvania, and New Jersey appointed representatives to attend joint conferences and negotiate with the commissioners from the other States. The State of Vermont was represented at two meetings of the conference.

The conference grouped its objectives under two heads; namely, (1) the subjects needing immediate attention, such as minimum wages, hours of labor, nightwork, and child labor, and (2) a program for long-range action, containing such subjects as workmen's compensation, unemployment insurance, private employment agencies, and the health and safety of employees.

The report of the New Hampshire Commission on Interstate Compacts Affecting Labor and Industries shows that six meetings were held, and in addition to these meetings several members of the commission arranged a number of other conferences. Two members of the commission were in attendance at all the meetings of the interstate conferences. The first joint conference was held in Boston on December 5, 1933, and was followed by similar meetings at Providence, Albany, Concord, Hartford, Portland, Harrisburg, and again at Providence on December 14, 1934. On this date a conference of representatives of governors of the States in the compact group drafted a program for presentation to the joint conference. It included recommendations for action by the several States, provisions for an act by Congress approving compacts on labor legislation by the States, ratification of the child-labor amendment by the States, and recommendations for State laws in support of the National Industrial Recovery Act. The committee also recommended that the joint conference of commissions prepare compacts on minimum wage, child labor, nightwork, and industrial homework.

The first interstate compact for establishing uniform minimum standards for conditions of employment was on uniform minimum-wage legislation. Five of the 8 States mentioned in the Massa-

chusetts resolve had minimum-wage laws and as 4 of these 5 States already had the standard bill, it was decided to recommend this type of legislation for the compact. A minimum-wage law, therefore, was drafted to be submitted to the States as a basis for legislation on the subject.

The minimum-wage compact consists of three parts; the first gives the reasons for a compact on labor legislation; the second provides the machinery to make the compact effective; and the third outlines the principles of minimum-wage legislation to be enacted by the States. The compact on minimum wage is of the "open" type and becomes effective when ratified by two or more signatory States and approved by Congress. The conference also considered the "closed" type, that is, one requiring ratification "by a definite number of States, and possibly by certain specified States."

In recognition of Governor Winant's assistance in the compact movement, the minimum-wage compact—the first interstate compact on labor legislation—was signed at the State capitol in Concord, N. H., on May 29, 1934. The States represented at the meeting were Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, and Rhode Island. The United States Department of Labor was also represented, as well as the American Legislators' Association. Interest in the movement was manifested by President Roosevelt and the Secretary of Labor, Frances Perkins.

The compact on minimum wage has generally become known as the "Concord compact." The Legislature of Massachusetts ratified the compact in June 1934. The original compact was filed in the office of the Department of State in Washington, and a certified copy has been given to each signatory State.

The report indicates that although child labor was the next subject for compact action, definite action was deferred so that there would be no conflict with the Federal child-labor amendment presented to many of the States during 1935. The conference, the report states, is at present engaged on a compact on hours of labor. The New Hampshire group has also been in contact with the National Commissioners on Uniform State Laws and has outlined a policy for future guidance.

Interstate compacts affecting labor and industries should be a great advantage to industrial States in that the ratifying of a compact by adjacent States with similar industrial interests removes unfair differentials in the labor laws of competing States, and not only gives protection to employees and greater permanence to the labor legislation, but also prevents the migration of workers to other States or the coming of industries into the State in order to escape more stringent regulations elsewhere.

The New Hampshire report observes:

As a State that is largely industrial in character with a higher percentage of its workers employed in industry than any other State with the sole exception of Rhode Island, and with many of its industries competing with those of neighboring States, New Hampshire should find the compact method of distinct value. The migration of factories and workers from New Hampshire to other States represents a definite loss to the State. Although this may to some extent be offset by new factories that come here from outside, the general effect of such shifting of plants and workers is disrupting to the industrial life of the community and to the State.

Labor Standards for Domestic Employees

DOMESTIC service has always been peculiarly unresponsive to movements to improve standards of labor. Besides being a wholly unorganized occupation, it is almost universally excluded from the benefits of protective labor legislation. Practically the only step toward introducing standards of wages, hours, and working conditions for domestic employees has been taken by some of the placement agencies which deal with employers of household labor. This effort is the entirely informal and advisory one of making recommendations to prospective employers as to conditions they should maintain and to applicants for work as to minimum provisions for wages, hours, and living arrangements which they should accept.

The Women's Bureau of the United States Department of Labor undertook a survey¹³ to find out just what standards are recommended by these placement agencies. Much of the data received refer to standards set for girls and young women working their way through secondary schools and colleges.

Summary of Standards

A **MINIMUM** wage was set by most of the standards for full-time workers, both adult and junior. For adult workers this commonly ranged from \$13 to \$40 a month, with board and room furnished the employee in most cases. Hourly rates ordinarily varied from 35 to 50 cents. Other provisions frequently occurring were definite specifications as to the amount of time the worker should have off, the payment of carfare if the worker does not live in, and the furnishing of a private room if she does stay at the home of her employer.

For full-time adult workers a definite limit to the hours of work expected is included in only two sets of standards. For part-time workers, however, the standards deal largely with the number of hours of work, since they generally apply to girls working in return for their board and room. In most of the standards set for college students 21 to 28 hours of work a week is considered equivalent to board and room. Between 21 and 28 hours is set by seven of the nine placement agencies for girls attending secondary schools, and several require in addition a cash payment of about \$10 a month.

With reference to standards specifically for regular workers in household occupations, two commercial agencies covered by the study make definite efforts to improve working conditions for their applicants. One of these, by charging a fee to both employer and employee, assumes the responsibility of supplying reliable help to employers and secures work at a certain wage for employees. The hourly wage scale for various jobs which this agency requires is:

	<i>Hourly rate (cents)</i>
General houseworker.....	40
Expert cook (not to be employed less than 6 hours).....	60
Expert waitress (not to be employed less than 4 hours).....	50
Cook and serve (1 worker).....	50
House opening; heavy cleaning.....	50
Dressmaking.....	50

¹³ U. S. Department of Labor. Women's Bureau. Bulletin No. 112: Standards of Placement Agencies for Household Employees. Washington, 1934.

The second commercial agency not only aids household employers to solve their household problems but sets the following employment standards, and follows up placements by talks with the employer and the employee, separately, about 2 weeks after placement and by a further check about 3 months later.

1. *Wage*.—"A living wage for every employee" with additional compensation for skilled workers.

2. *Time off*.—At least 1 hour a day and 1 whole day or 2 half days or the equivalent a week. (A 54-hour week is recommended.)

3. *Living conditions*.—A private room and access to a modern bathroom.

Among State employment agencies, two reported that they investigate the homes of prospective employers before making a placement, and others reported that they make specific recommendations, while many of them undertake some follow-up work. In some cases this takes the form of personal interviews in which inquiries about wages and working conditions are made.

Conclusions

AS INTERPRETED by the Women's Bureau, the study indicates that in spite of the lack of legal regulations for household employment, some placement agencies are helping to improve the terms and conditions of employment of household employees, and that in some communities a number of employment agencies are cooperating in this respect. At the same time the Bureau points out that most of the standards which have been formulated are inadequate for the protection of domestic workers.

One of the most difficult of their problems—the length of the working day and week—is not even mentioned in several of the standards for full-time workers. However, the existence of standards of any sort is of itself encouraging and the fact that standards are used by various types of placement agencies in many parts of the country suggests that more such agencies could take action of this kind. The cooperation of several agencies in a community in the use of standards is an especially promising development. Finally, conditions in this employment show the need of legislative regulation for household employees.

MANAGEMENT POLICIES

United States Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Hiring and Separation Methods in American Factories

A SURVEY of the employment methods in use in a group of representative manufacturing establishments was made by the Bureau of Labor Statistics in 1932. The survey was limited primarily to ascertaining to what extent various employment and personnel methods were in use, and did not attempt a descriptive or critical analysis of these methods.

The inquiry covered 224 establishments having a total of 387,826 employees and representing 31 industries. However, because of the limited number of establishments covered in certain of these industries, and in order to avoid possible identification of individual establishments, the data obtained were assembled in 10 industry groups.

Table 1 shows, by industry groups, the number of establishments scheduled, and the number and percent of male and female employees in such establishments. The only industry besides clothing which employed more women than men was the textile industry in the North, in which 50.7 percent of all employees were women.

TABLE 1.—NUMBER AND PERCENT OF MALE AND FEMALE EMPLOYEES, BY INDUSTRY GROUPS

Industry group	Number of establishments	Employees				Total
		Male		Female		
		Number	Percent	Number	Percent	
All industries.....	224	309,437	79.8	78,389	20.2	387,826
Automobiles and parts.....	11	46,995	94.1	2,960	5.9	49,955
Clothing.....	13	5,915	41.8	8,240	58.2	14,155
Food products.....	23	22,390	83.3	4,490	16.7	26,880
Iron and steel and their products.....	45	107,911	92.0	9,435	8.0	117,346
Lumber and its products.....	20	9,707	96.0	407	4.0	10,114
Miscellaneous.....	41	49,972	75.8	15,912	24.2	65,884
Petroleum refining.....	9	18,590	98.5	281	1.5	18,871
Boots and shoes.....	15	20,180	66.0	12,654	34.0	32,834
Textiles—North.....	19	12,191	49.3	12,552	50.7	24,743
Textiles—South.....	28	15,586	57.6	11,458	42.4	27,044

Plant Employment Offices

AS SHOWN in table 2, 146, or 65.2 percent, of the 224 establishments visited had a central employment office. The other 78 plants had no such office, and in these plants labor was hired directly by the foremen and superintendents. The percentage of plants having central employment offices varied greatly in the different industry groups.

In most of the plants which had a central employment office the employment manager or personnel director had full power to hire employees. In a few plants, however, while it was necessary for men seeking jobs to do so through the employment office, this was merely for the purpose of an interview, such office sending them to the various

foremen who had sent in a request for help, and the latter doing the actual hiring.

TABLE 2.—NUMBER AND PERCENT OF FIRMS HAVING CENTRAL EMPLOYMENT OFFICES, BY INDUSTRIES

Industry	Number of establishments	Establishments with central employment offices		Establishments without central employment offices	
		Number	Percent	Number	Percent
All industries.....	224	146	65.2	78	34.8
Automobiles and parts.....	11	11	100.0	-----	-----
Clothing.....	13	6	46.2	7	53.8
Food products.....	23	19	82.6	4	17.4
Iron and steel and their products.....	45	41	91.1	4	8.9
Lumber and its products.....	20	12	60.0	8	40.0
Miscellaneous.....	41	29	70.7	12	29.3
Petroleum refining.....	9	8	88.9	1	11.1
Boots and shoes.....	15	3	20.0	12	80.0
Textiles—North.....	19	12	63.2	7	36.8
Textiles—South.....	28	5	17.9	23	82.1

Methods of Recruiting Labor

OF THE 224 firms visited, 68 used public or private employment agencies at least part of the time in recruiting labor. Twenty-seven of the sixty-eight firms used public employment agencies only, i. e., agencies maintained from public funds, either Federal, State, or municipal; 15 used private employment agencies only, and the remaining 26 used both public and private agencies. Very few of the firms using employment agencies depended entirely on this method for recruiting labor.

One hundred and fifty-six firms recruited their labor without the help of any established employment agencies, the majority of them hiring through applications on file in their offices, while some hired through labor unions, some used newspapers, and some obtained new employees through the medium of their regular employees.

The men's clothing industry, where unionized, hired practically all its labor through local unions.

Physical Examinations

OF THE 224 plants visited in this study, 114, or 50.9 percent, required a physical examination of all prospective employees.

The examinations differed considerably in strictness and varied with the requirements of the positions to be filled. For the most part, causes for rejection were infectious and contagious diseases, hernia, bad varicose veins, and heart disease. In most establishments prospective employees with bad eyesight were required to have their vision corrected by glasses.

Some establishments had reexaminations at stated periods and a number of establishments had their own hospitals where employees are examined and given medical service at a much lower cost than would be possible otherwise. Many firms required vaccination against smallpox. A few plants had set up an exceptionally high standard of physical requirements for employees, demanding a very rigid physical examination of the applicant and including questions

as to the personal habits and past medical history of both the applicant and his family.

TABLE 3.—NUMBER AND PERCENT OF ESTABLISHMENTS REQUIRING PHYSICAL EXAMINATIONS, BY INDUSTRIES

Industry	Establishments requiring physical examinations for—				Establishments requiring no physical examinations		Total
	All employees		Part of employees		Number	Percent	
	Number	Percent	Number	Percent			
All industries.....	114	50.9	8	3.6	102	45.5	224
Automobiles and parts.....	7	63.6	1	9.1	3	27.3	11
Clothing.....	3	23.1	0	—	10	76.9	13
Food products.....	14	60.9	0	—	9	39.1	23
Iron and steel and their products.....	37	82.2	2	4.4	6	13.3	45
Lumber and its products.....	10	50.0	0	—	10	50.0	20
Miscellaneous.....	23	58.1	2	4.9	18	39.0	41
Petroleum refining.....	9	100.0	0	—	0	—	9
Boots and shoes.....	2	13.3	1	6.7	12	80.0	15
Textiles—North.....	5	26.3	1	5.3	13	68.4	19
Textiles—South.....	4	14.3	1	3.6	23	82.1	28

Intelligence, Aptitude, and Efficiency Tests

ONLY 14, or 6.3 percent, of the plants visited had adopted any kind of intelligence, aptitude, or efficiency tests (table 4). Some of these tests were very simple, while others were quite elaborate. A New England company required intelligence tests for all applicants seeking positions in the office, and an aptitude test, such as a card-dropping test which is scored for both accuracy and speed, for jobs in the factory. For certain positions this company also required a finger-dexterity test, i. e., putting pegs in holes both by hands and with tweezers. Some establishments required aptitude tests only for positions where employees handled expensive material.

All firms which had adopted intelligence and efficiency tests stated that the results have justified their use.

TABLE 4.—NUMBER OF ESTABLISHMENTS REQUIRING INTELLIGENCE, APTITUDE, OR EFFICIENCY TESTS, BY INDUSTRIES

Industry	Number of establishments			Industry	Number of establishments		
	Using tests	Not using tests	Total		Using tests	Not using tests	Total
All industries.....	14	210	224	Lumber and its products...	1	19	20
Percent of total.....	6.3	93.7	100.0	Miscellaneous.....	8	33	41
Automobiles and parts.....	1	10	11	Petroleum refining.....	1	8	9
Clothing.....	0	13	13	Boots and shoes.....	1	14	15
Food products.....	0	23	23	Textiles—North.....	1	18	19
Iron and steel and their products.....	1	44	45	Textiles—South.....	0	28	28

Age Limit for Hiring

A MAXIMUM age limit beyond which no employees were hired had been adopted by 71, or 31.7 percent, of the plants visited. As shown in table 5, these 71 plants had a total of 108,475 employees on their pay rolls, which was 28.0 percent of the total number of employees in all plants. Four of the plants had a maximum age limit under 40; in 41 plants it was between 40 and 46; and in 26 plants, 46 or over. The other 153 plants stated that they had no definite maximum hiring age, but in practically all of these plants employment managers stated that the requirements for the job determined the age policy, and in most cases they admitted that not many men over 50 would be hired, except in cases requiring specially skilled employees where it would be impossible to secure young men.

Various reasons were given for the adoption of a maximum hiring limit. A number of firms stated that group insurance rates were higher when older employees were hired. Some felt that the older men could not meet the standards of production required. One company stated that it trained all its own employees. In southern cotton mills another factor caused older men to be given jobs. There the family is very often the hiring unit, and if an older worker has several children in such jobs, the man may be hired regardless of his age, in order to obtain the services of the other members of his family, but is usually given a sweeper's or a watchman's job.

Many of the companies which had not definitely adopted a set maximum hiring age limit stated that there was a decided tendency against hiring older men.

Whenever a pension plan had been adopted by a firm there was invariably a maximum hiring age.

TABLE 5.—NUMBER AND PERCENT OF ESTABLISHMENTS AND OF EMPLOYEES THEREIN WHICH HAVE A MAXIMUM HIRING AGE, BY INDUSTRIES

Industry	Establishments—					Employees in establishments—					Number of establishments in which age limit for employment is—		
	Having maximum age limit for hiring		Not having maximum age limit for hiring		Total	Having maximum age limit for hiring		Not having maximum age limit for hiring		Total	Under 40	40 and under 46	46 and over
	Number	Percent	Number	Percent		Number	Percent	Number	Percent				
All industries	71	31.7	153	68.3	224	108,475	28.0	279,351	72.0	387,826	4	41	26
Automobiles and parts	1	9.1	10	90.9	11	1,087	2.2	48,868	97.8	49,955	0	0	1
Clothing	6	46.2	7	53.8	13	7,487	52.9	6,668	47.1	14,155	0	2	4
Food products	6	26.1	17	73.9	23	6,050	22.5	20,830	77.5	26,880	1	3	2
Iron and steel and their products	21	46.7	24	53.3	45	37,888	32.3	79,458	67.7	117,346	0	14	7
Lumber and its products	4	20.0	16	80.0	20	2,525	25.0	7,589	75.0	10,114	0	2	2
Miscellaneous	10	24.4	31	75.6	41	17,321	26.3	48,563	73.7	65,884	1	7	2
Petroleum refining	7	77.8	2	22.2	9	12,786	67.8	6,086	32.2	18,871	0	1	0
Boots and shoes	5	33.3	10	66.7	15	8,291	25.3	24,543	74.7	32,834	1	2	2
Textiles—North	4	21.1	15	78.9	19	8,949	36.2	15,794	63.8	24,743	1	1	2
Textiles—South	7	25.0	21	75.0	28	6,091	22.5	20,953	77.5	27,044	0	3	4

¹ 35 years for women in 1 case; 45 years for men, who form majority of employees.

Separation Methods

TABLE 6 shows the number of firms that record reasons for employees quitting their jobs and the number that attempt to adjust difficulties and retain employees. It was found that 166, or 74.1 percent, of the 224 plants visited had some sort of an interview with an employee when he quit, and obtained from him, if possible, the reason for his leaving.

A number of establishments had a "works council"; that is, a body representing both the employees and the employer, the employees' representatives being elected by themselves. In plants having this system, whenever a grievance occurred that could not be settled by the foreman and the employee, the works council reviewed and decided the case. The decision in most cases, however, was not binding, being only a recommendation to the management.

Some companies stated that in the case of trouble between a good worker and the foreman they would transfer the employee to another department. Many others, however, stated that if it were impossible to smooth out the difficulties between the foreman and his employee, the employee would be allowed to quit regardless of his efficiency.

TABLE 6.—NUMBER OF ESTABLISHMENTS RECORDING REASONS FOR LEAVING JOBS AND NUMBER MAKING AN ATTEMPT TO ADJUST DIFFICULTIES AND RETAIN EMPLOYEES, BY INDUSTRIES

Industry	Number of establishments that—				Total
	Record reasons for leaving	Do not record reasons for leaving	Make an attempt to adjust difficulties	Do not make an attempt to adjust difficulties	
All industries.....	166	58	167	57	224
Percent of total.....	74.1	25.9	74.6	25.4	100.0
Automobiles and parts.....	10	1	10	1	11
Clothing.....	7	6	9	4	13
Food products.....	17	6	18	5	23
Iron and steel and their products.....	42	3	42	3	45
Lumber and its products.....	13	7	11	9	20
Miscellaneous.....	30	11	35	6	41
Petroleum refining.....	9	0	8	1	9
Boots and shoes.....	10	5	9	6	15
Textiles—North.....	14	5	15	4	19
Textiles—South.....	14	14	10	18	28

Table 7 shows the number and percent of establishments in which the power to discharge was vested in the foreman, employment manager, or higher official. In 96, or 42.9 percent, of the plants included in this study the foreman had the right to discharge employees without review by higher authority. Most of the plants in which the foreman had the right to discharge stated that unless this policy were followed the workers lost respect for the foreman's authority and consequently were less efficient.

TABLE 7.—NUMBER AND PERCENT OF ESTABLISHMENTS IN WHICH THE POWER TO DISCHARGE IS VESTED IN FOREMAN, EMPLOYMENT MANAGER, OR OTHER EXECUTIVE, BY INDUSTRIES

Industry	Establishments in which discharge is made by—						Total establishments
	Foremen		Employment managers		Higher officials		
	Number	Percent	Number	Percent	Number	Percent	
All industries.....	96	42.9	49	21.9	79	35.3	224
Automobiles and parts.....	3	27.3	6	54.5	2	18.2	11
Clothing.....	3	23.1	4	30.8	6	46.2	13
Food products.....	10	43.5	3	13.0	10	43.5	23
Iron and steel and their products.....	14	31.1	13	28.9	18	40.0	45
Lumber and its products.....	13	65.0	3	15.0	4	20.0	20
Miscellaneous.....	14	34.1	10	24.4	17	41.5	41
Petroleum refining.....	0	0	2	22.2	7	77.8	9
Boots and shoes.....	9	60.0	2	13.3	4	26.7	15
Textiles—North.....	8	42.1	4	21.1	7	36.8	19
Textiles—South.....	22	78.6	2	7.1	4	14.3	28

Table 8 shows the basis on which employees are selected for retention when it is necessary to lay off men. In 116 firms, or 51.8 percent of the total, it was stated that retention was based solely on efficiency; 41 plants, or 18.3 percent, stated that seniority was the governing factor in retaining employees; and 46 firms, or 20.5 percent, stated that the family responsibility of the worker was given primary consideration.

TABLE 8.—NUMBER AND PERCENT OF ESTABLISHMENTS WITH SPECIFIED LAY-OFF POLICY, BY INDUSTRIES

Industry	Number of establishments in which retention is based on—				
	Efficiency	Seniority	Family responsibility	Other factors	Total
All industries.....	116	41	46	21	224
Percent of total.....	51.8	18.3	20.5	9.4	100.0
Automobiles and parts.....	2	4	5	0	11
Clothing.....	6	3	0	4	13
Food products.....	15	6	1	1	23
Iron and steel and their products.....	23	13	6	3	45
Lumber and its products.....	8	3	7	2	20
Miscellaneous.....	26	5	4	6	41
Petroleum refining.....	7	0	1	1	9
Boots and shoes.....	11	2	2	0	15
Textiles—North.....	10	3	2	4	19
Textiles—South.....	8	2	18	0	28

Separation or Dismissal Bonuses

TABLE 9 shows that 8 percent of the plants included in this study paid some sort of separation wage to men who were laid off through no fault of their own and that these plants had 15 percent of the total number of employees on their pay rolls.

The amount of the dismissal wage reported varied greatly. One establishment gave a month's pay to all employees with service of from 3 to 5 years, 2 months' pay for service of from 5 to 10 years, and 3 months' pay for service of over 10 years. Another gave no

bonus to unskilled workers but gave 2 weeks' pay to all skilled workers regardless of length of service.

TABLE 9.—NUMBER OF ESTABLISHMENTS PAYING A SEPARATION BONUS AND NUMBER OF EMPLOYEES THEREOF, BY INDUSTRIES

Industry	Establishments paying separation bonus		Establishments not paying separation bonus		Total	
	Number	Number of employees	Number	Number of employees	Number of establishments	Number of employees
All industries.....	18	58,073	206	329,753	224	387,826
Percent of total.....	8.0	15.0	92.0	85.0	100.0	100.0
Automobiles and parts.....	0	0	11	49,955	11	49,955
Clothing.....	0	0	13	14,155	13	14,155
Food products.....	1	4,045	22	22,835	23	26,880
Iron and steel and their products.....	4	28,912	41	88,434	45	117,346
Lumber and its products.....	0	0	20	10,114	20	10,114
Miscellaneous.....	7	17,331	34	48,553	41	65,884
Petroleum refining.....	2	5,109	7	13,762	9	18,871
Boots and shoes.....	0	0	15	32,834	15	32,834
Textiles—North.....	1	222	18	24,521	19	24,743
Textiles—South.....	3	2,454	25	24,590	28	27,044

Finding New Positions for Employees Laid Off

OF THE plants scheduled, 78, or 34.8 percent, attempted to find positions for men who were laid off through no fault of their own (table 10). Some of these firms limited their attempts to other establishments in their own organizations; others sought to find positions with other companies in the community.

TABLE 10.—NUMBER OF ESTABLISHMENTS ATTEMPTING TO FIND JOBS FOR EMPLOYEES LAID OFF, BY INDUSTRIES

Industry	Number of establishments—			Industry	Number of establishments—		
	Attempting to find jobs	Not attempting to find jobs	Total		Attempting to find jobs	Not attempting to find jobs	Total
All industries.....	78	146	224	Lumber and its products..	6	14	20
Percent of total.....	34.8	65.2	100.0	Miscellaneous.....	18	23	41
Automobiles and parts.....	6	5	11	Petroleum refining.....	5	4	9
Clothing.....	2	11	13	Boots and shoes.....	4	11	15
Food products.....	3	20	23	Textiles—North.....	5	14	19
Iron and steel and their products.....	22	23	45	Textiles—South.....	7	21	28

Turn-Over and Length of Service

FOR 93 of the plants covered by the survey, data were obtained regarding the length of service of employees who had been separated from the pay roll during the year 1930. These data, analyzed by cause of separation and by length of service, are presented in table 11. These firms had an average of 194,042 employees on their pay rolls during 1930. During that year 102,703 employees were separated from the pay rolls; 34,029 of this number quit, 7,624 were discharged, and 61,050 were laid off.

The total separation rate for these companies was 52.9; the quit rate was 17.5, the discharge rate 3.9, and the lay-off rate 31.5. Of the 34,029 employees who quit during 1930, 11,485 or more than one-third, had been on the pay rolls less than 3 months, while only 4,445 employees who had been in the service of the company 5 years or more quit. Of the total number discharged during the year, more than one-third had worked for the company less than 3 months. Over 61,000 men were laid off during 1930 by these 93 firms. Of this number, 19,966, or 10.3 percent of the total number employed, had been on the pay rolls less than 3 months, and only 3,122, or 1.6 percent of such total, for longer than 5 years.

There was a marked difference in the total separation rate in the different industries, figures by individual industries not being shown in this summary but being given in full in the November 1932 Monthly Labor Review.

TABLE 11.—NUMBER AND PERCENT OF EMPLOYEES SEPARATED FROM PAY ROLLS IN 93 MANUFACTURING ESTABLISHMENTS, 1930, BY LENGTH OF SERVICE AND CAUSE OF SEPARATION

Length of service	Quits		Discharges		Lay-offs		Total	
	Number	Per-cent	Number	Per-cent	Number	Per-cent	Number	Per-cent
Total.....	34,029	17.5	7,624	3.9	61,050	31.5	102,703	52.9
Under 3 months.....	11,485	5.9	2,582	1.3	19,966	10.3	34,033	17.5
3 and under 6 months.....	4,658	2.4	1,168	.6	8,693	4.5	14,519	7.5
6 months and under 1 year.....	4,822	2.5	1,396	.7	11,274	5.8	17,492	9.0
1 year and under 2 years.....	4,446	2.3	1,075	.6	10,050	5.2	15,571	8.0
2 and under 5 years.....	4,173	2.2	825	.4	7,945	4.1	12,943	6.7
5 years and over.....	4,445	2.3	578	.3	3,122	1.6	8,145	4.2

Employees' Suggestion Systems

A REPORT containing an analysis of employees' suggestion systems, based on the plans of more than 100 companies, was issued in 1932 by the Metropolitan Life Insurance Co. These plans, the report stated, in utilizing the practical experience and specialized knowledge of individual employees serve primarily as a direct source of ideas which will be of benefit to the firm, but they also have the less obvious effect of stimulating the interest of employees in the work of the company and of improving the general morale. Also, through encouraging employees to think, an excellent groundwork is laid for training and some firms which follow the policy of filling higher positions from the general force use suggestion systems as a guide to eligibility for advancement.

There are three types of suggestion systems—continuous, contest, and a combination of the two. In the first type, suggestions may be made at any time, while in the contest type the submission of suggestions is limited to a specified period. Continuous plans are found more frequently but some companies believe that restricting the period during which ideas may be presented results in an improvement in the quality and quantity of suggestions. Under the contest type of plan the attention of the employees is concentrated upon the contest, while it is thought that after a continuous plan has been in operation some time the interest of the employees in the plan gradually declines.

In order to avoid the submission of a large number of impractical ideas, employers frequently find it desirable both to define what is considered a suggestion and to specify the subjects regarding which ideas are desired. One company states that "the basis of a suggestion should be a new idea or a new application of an old idea." Similar statements appear in a number of suggestion handbooks and many companies print lists of topics on which ideas are desired and for which awards will be made.

It is necessary, in the establishment of a suggestion plan, to determine what employees shall be eligible to participate. In general the plans are restricted to employees below the rank of foreman or department head, although one company is cited which encourages suggestions from foremen, assistant foremen, subforemen, and all supervisors and department heads, while another company not only permits every employee to make suggestions and receive awards but also awards a prize to the foreman whose department makes the most valuable suggestion during a campaign.

Suggestions which are found worth while are generally paid for in cash, but some companies make other awards such as certificates, photographs, jewelry, and banners, and sometimes both cash and prizes are given. The amounts of the cash awards usually vary according to the value of the suggestion, frequently being fixed at a percentage of the estimated savings for the first year, with a fixed maximum, and where the saving is intangible the rewards may be made according to the grade of the suggestion. If the system is conducted on a contest basis there is often a scale of awards graduated according to the value of the suggestion.

Since delay in distributing awards has a tendency to create a feeling among the workers that the management is not interested in the workers' ideas, most plans endeavor to reduce the length of time between the submission of an idea and the payment of the reward to a minimum, although in some instances the granting of the awards is made a special feature of some formal function during the year. It has been found that the percentage of acceptable suggestions ranges from 20 to 50 percent.

The motive behind the suggestion systems of most companies is said to be the hope of obtaining profitable ideas, and unless such plans can be expected to result in definite savings few executives will favor them. However it has been found that the intangible benefits are often of major importance and suggestions relative to public relations policies, for example, may be of very definite value to the company.

Selling by Employees

THE movement to use employees in the nonselling part of the organization in various industries to supplement the sales effort of the ordinary sales force was the subject of a study by the Metropolitan Life Insurance Co. published in 1932. Plans used by 87 companies in the United States and Canada were studied and summarized.

The plans seem to have been inspired by the idea that, as all employees have a certain number of relatives, friends, and acquaintances,

if these employees can be converted into salesmen and their friends into customers the sales will be correspondingly augmented. It was estimated by one company that even the humblest employee is acquainted with 50 or more possible customers among such persons as the various trades people and fellow lodge and church members. On this basis even small firms with as few as 5 or 10 employees would have from 500 to 1,000 readily available prospects for the organization's products or services, and one company with 9,500 employees on the pay roll estimated that, on this basis, it should have at least half a million such possible customers.

Examples of the successful outcome of these plans are cited in the report. Thus, the annual report of the president of an important corporation for the year 1931 stated that as it was evident from the beginning of the year that one of the greatest problems would be the maintenance of adequate revenue, plans were developed for participation in the sales service in all departments. As a result, during the year the sales by employees other than members of the sales force amounted to 10 per employee, with the result that the revenues of the company in a year when the business level was so low, were nearly as large as those of the preceding year. Another company reported that in the same year 76,546 sales were made by employees—an average of 4.77 sales for every employee then on the pay roll. Other instances include the sale of 262,698 units in a 30-day campaign by the nonselling employees of a large corporation; the sale of \$1,200,000 worth of goods in a 25-day campaign by the 4,400 employees of a second corporation; and in the first 10 months of 1931 an addition of \$34,000,000 yearly revenue to a third corporation by the 350,000 nonselling employees. Similar successful results were reported by many smaller organizations.

In addition to the direct benefits in actual sales, the indirect results included a better knowledge on the part of the employees of the products and problems of the companies, so that the employees gained a better idea of the relation of their work to that of the whole organization. Also, in numerous instances, previously unsuspected selling ability was discovered and promotions were made as a result.

It was found that this method of increasing business was not necessarily limited to a few types of business, as among the 87 companies included in the survey a variety of enterprises was represented. These included retailers, ranging from oil-service stations and coal and lumber dealers to department and chain specialty stores; banks; public utilities; railroads; oil refiners; and manufacturers of many types of consumers' goods.

Various methods of carrying out the selling campaigns were followed, including direct house-to-house solicitation; the prospect-card plan by which the card is left with the prospective customer and the sale completed by the regular salesmen or dealers; and the patronage card and informal boosting plan which has been followed principally by the railroads. Under this plan whenever an employee makes a purchase he hands out a patronage card stating that he is enabled to make the purchase because he is on the pay roll of the railroad in question and that it is hoped that the seller will return the favor by using the railroad for travel and for the handling of shipments.

It was emphasized by companies maintaining an employee selling plan that even the most carefully organized plan cannot succeed

unless steps are taken to insure the cooperation of the employees and to maintain employee enthusiasm. In addition to the steps taken to educate the employees as to the products to be sold and methods of selling, a number of companies reported that in order to help the employees they carried the campaign to the public. As a means of introducing the new employee-salesmen to the public some companies run a series of advertisements in the newspapers and use window displays, store cards, and special sales tables. Special publicity "stunts" are also used to acquaint the public with the products being sold by employees. It was reported that the means taken to acquaint the public with the purposes of the campaign make the job much simpler for the employee, as he found the sales resistance broken down and prospects much easier to locate and sell.

MEDICAL SERVICES AND COSTS

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Final Report of Committee on the Costs of Medical Care ¹

THE Committee on the Costs of Medical Care, which was organized in 1927 to study all the aspects of the question of the costs of medical service, submitted its final report, containing the recommendations of the majority group as well as those of 2 minority groups and of 2 members who presented separate personal statements, in the latter part of 1932.

The majority report represents the conclusions of 35 members out of the total of 48 persons representing the fields of private practice, public health, medical institutions and special interests, the social sciences, and the general public, who composed the committee at the close of its work. The first minority report was made by 8 physicians engaged in private practice and 1 layman, while the second was submitted by the 2 members of the dental profession who were members of the committee.

The recommendations of the committee were as follows:

1. The committee recommends that medical service, both preventive and therapeutic, should be furnished largely by organized groups of physicians, dentists, nurses, pharmacists, and other associated personnel. Such groups should be organized, preferably around a hospital, for rendering complete home office, and hospital care. The form of organization should encourage the maintenance of high standards and the development or preservation of a personal relation between patient and physician.

2. The committee recommends the extension of all basic public-health services—whether provided by governmental or nongovernmental agencies—so that they will be available to the entire population according to its needs. Primarily this extension requires increased financial support for official health departments and full-time trained health officers and members of their staffs whose tenure is dependent only upon professional and administrative competence.

3. The committee recommends that the costs of medical care be placed on a group-payment basis, through the use of insurance, through the use of taxation, or through the use of both these methods. This is not meant to preclude the continuation of medical service provided on an individual-fee basis for those who prefer the present method. Cash benefits, i. e., compensation for wage loss due to illness, if and when provided, should be separate and distinct from medical services.

4. The committee recommends that the study, evaluation, and coordination of medical service be considered important functions for every State and local community, that agencies be formed to exercise these functions, and that the coordination of rural with urban services receive special attention.

5. The committee makes the following recommendations in the field of professional education: (a) That the training of physicians give increasing emphasis to the teaching of health and the prevention of disease, that more effective efforts be made to provide trained health officers, that the social aspects of medical practice be given greater attention, that specialties be restricted to those specially qualified, and that postgraduate educational opportunities be increased; (b) that dental students be given a broader educational background; (c) that pharmaceutical education place more stress on the pharmacist's responsibilities and opportunities for public service; (d) that nursing education be thoroughly re-

¹ Committee on the Costs of Medical Care. Final report. Medical Care for the American People. The University of Chicago Press, 1932.

molded to provide well-educated and well-qualified registered nurses; (e) that less thoroughly trained but competent nursing aides and attendants be provided; (f) that adequate training for nurse-midwives be provided; and (g) that opportunities be offered for the systematic training of hospital and clinic administrators.

The group presenting the first minority report was in agreement with many of the conclusions and recommendations of the majority group, but in general protested against the extension of Government competition in the practice of medicine. It recommended that Government practice of medicine should be restricted to the care of the indigent, to the promotion of public health, to the support of the Army and Navy medical departments and certain other Government services, and to the care of veterans suffering from service-connected disabilities and diseases, with the exception of tuberculosis and nervous and mental diseases.

The second minority report stated that the two members signing agreed with the majority of the committee in recognizing existing professional and social trends in the practice of medicine which necessitate substantial changes in the manner in which medical service is rendered and paid for. While accepting the fact that an increased amount of medical service should and will be rendered through professional organizations rather than by individual practitioners working independently, the members signing this report stated that they wished strongly to emphasize the necessity of maintaining professional standards and the position of the general practitioner during a period of rapidly changing medical services.

Cost of Medical Services

EXPENDITURES on the part of the public for physicians' services and for hospitalization was the subject of an article by Dr. Michael M. Davis in the *New England Journal of Medicine*, April 14, 1932.

It has been estimated on the basis of various studies made by the Committee on the Costs of Medical Care that the total annual expenditure in the United States for the care and prevention of disease amounts to about \$3,250,000,000. While this figure seems large, the writer points out that it amounts to less than 4 percent of our estimated total annual income.

Complaints from both the public and the medical and allied professions regarding the economic aspects of medical service are said to be caused not so much by the total amount of all sickness bills as by certain characteristics of these expenditures. The expenditures for sickness, for example, differ in important respects from other items in the family budget, as it is impossible to plan with any degree of certainty for the cost of sickness.

An analysis of the expenditure for different types of medical care shows that the amount spent for organized preventive work is less than \$100,000,000, or only \$1 for prevention to nearly \$35 spent for cure. It is considered that a better development of preventive services would materially reduce the total of suffering and of expenditure resulting from disease. Drugs, medicines, and appliances account for from 20 to 25 percent of the total amount spent, of which approximately \$500,000,000 is spent for worthless or harmful materials. The

payments for physicians' services amount to less than 30 percent of the total, while about 10 percent more is paid for dentists' services. The bills of physicians and dentists together form the largest single item, but constitute less than half the annual outlay for the care of sickness. The cost of maintenance of hospitals, amounting to about \$730,000,000, is met by taxes, income from endowments and current charitable gifts, and from the payment by individuals for hospital service rendered, the latter amounting to about \$350,000,000 annually.

Among the various items of the health bill there is found to be a fairly even distribution of expenditures among families for drugs and medicines, but the amounts spent for professional services—doctors, dentists, and nurses—have a very uneven distribution, more than half of such costs being borne by less than 15 percent of the families. This inequality in expenditure is even greater in respect to hospitalization costs. Total charges to the paying hospital patients for institutional services, professional fees, and special nursing amount to about \$750,000,000 per year, and this amount falls upon only about 4 percent of the population. "No family of moderate means", Dr. Davis says, "can tell in advance whether or not one of its members will fall next year within that unlucky 4 percent. These face a bill which on the average runs about \$150 for each hospitalized illness and which may run to several times that figure. If a family could only know in advance that this emergency would befall them, they might be able to budget against the expenditure. But sickness is not predictable."

It is said to be a matter of some dispute whether or not hospital charges are too high in relation to the cost of good service, but that the costs of hospital care are a burden has been recognized in all countries having well-developed hospital systems. In most European countries the majority of the hospitals are government institutions and the cost of maintenance is paid in part by the general public through taxation, while much of the remainder of the expense is paid from the insurance funds to which generally both workers and employers contribute. Denmark, which has one of the best hospital systems in the world, supports the hospitals almost entirely out of taxes. The largest part of hospital care in Great Britain is also provided by the Government, and the famous "voluntary" hospitals of London and other large cities are maintained for the most part by endowments and gifts. In the United States nearly all of the hospitals for mental disease and for tuberculosis are maintained through taxation, as well as about a third of the general hospital beds. Distribution of the expense of hospital care so that it is borne by the community as a whole and does not fall so heavily on the individual, can be obtained, therefore, by means of taxation and insurance, in the latter case the individual retaining more direct responsibility.

The cost of hospital care weighs especially heavily on the so-called "middle classes"—the persons of moderate means who are not willing to receive charity from either government or individuals and who constitute a large proportion of the patients paying for the services they receive from hospitals, physicians, and surgeons. Although the cost of hospitalization falls heavily on the individual who needs extended medical and hospital care, various studies have shown that the average incomes of physicians are not large. Two measures have been proposed which aim at stabilizing and increasing the physicians'

income from his paying hospital patients and at the same time assisting persons of moderate means to budget against the expense of hospitalized illness. The first plan, called the "middle-rate plan", is designed to stabilize professional fees and hospital charges so that the patient and his family can learn approximately the total cost of his hospital illness at the time he is admitted. To do this it is necessary for the medical staff of the hospital to reach an agreement with the hospital administration so that professional fees and hospital charges will be handled by the admitting office in accordance with agreed schedules. The second plan, that of hospital insurance, implies the first but goes beyond it by conserving and increasing the patient's paying power. A group of persons paying regularly into a common fund operated on sound insurance principles will always be assured of the means to meet the expenses incidental to hospitalization and of medical and surgical care.

Costs of Medical Care Among Different Types of Families

A PRELIMINARY report² issued by the Committee on the Costs of Medical Care covered the expenditures for all types of medical expenses among 4,560 families in different sections of the country. The final report,³ covering 8,758 families, which was published in 1933, although presenting the data in greater detail, agrees in general with the findings of the preliminary report. The study, which provides information as to the incidence of illness, the expenditures that are made for its prevention and care, the individuals or agencies providing the care, and the distribution of expenditures among families of various economic levels, was started in the spring of 1928, with the collaboration of the medical societies, health officers, and public-health nurses of 15 States and 3 cities outside of these States. Fifteen thousand families, 156 health officers and health departments, and 320 nurses cooperated in the study, and it is believed that the facts presented are reasonably representative of conditions throughout the country. The study covered families living in large and small cities, towns, and rural areas. Hospital facilities were available in some of the towns, but in other cases the towns were dependent for hospital care and other institutional facilities upon cities within a radius of from 20 to 60 miles.

As a preliminary to the investigation, a house-to-house canvass was made by public-health nurses to explain the purposes of the study and interest the families in keeping systematic records of all illnesses and expenditures. Visits to the cooperating families were made at intervals throughout the 12-month period of observation, in order to obtain histories of the illnesses that had occurred and other data as to charges and expenditures. The data secured cover the history of each illness in a family during the observation period, the type and amount of medical care received, and the costs of such care. All cases of illness which disabled a person for at least 1 day or for which

² Committee on the Costs of Medical Care. *The Costs of Medical Care: Preliminary Report*, by Nathan Sinai and Margaret C. Klem. Washington, 910 Seventeenth Street, N.W., 1930.

³ See p. 467.

any medical service of any kind was rendered were included, and any disorder for which drugs costing 50 cents or more were purchased was considered as an illness. Costs were included for nursing; dental and eye care; treatment by osteopaths, chiropractors, and Christian Science practitioners; professionally prescribed or self-prescribed medication; laboratory work; health examinations and immunizations and other items; and free work of all kinds, as well as minor ailments for which no attention of any kind is secured, were also recorded. It is pointed out that the distribution of families according to income levels results only from the attempt to secure as large a statistical sample in each group as possible, without taking into consideration the proportionate number in specified income groups in the population of the United States. In the preliminary report the proportion of families in the lower income group was smaller than obtains for the country at large. The families were arranged in four broad income groups, although in the final report they were divided into seven groups.

From the data assembled it is shown that the charges for medical care increase steadily with income. For families with incomes under \$2,000, the average charge per family was \$71.48, while for families with incomes over \$5,000 the average expenditure was \$311.06 per annum.

Table 1 shows the average charges for medical care during a 12-month period among 4,560 families in 13 States:

TABLE 1.—AVERAGE CHARGES FOR MEDICAL CARE PER FAMILY AND PER INDIVIDUAL DURING A 12-MONTH PERIOD, BY INCOME GROUPS

Income group	Number of families	Average number of persons per family	Average charges	
			Per family	Per individual
Under \$2,000.....	1,788	4.7	\$71.48	\$15.28
\$2,000 to \$3,000.....	1,372	4.5	102.76	22.77
\$3,000 to \$5,000.....	723	4.5	145.63	32.70
\$5,000 and over.....	677	4.0	311.06	76.86

The uneven distribution of costs is shown in table 2, which gives the percentage of families in different income groups incurring expenses for medical care within specified amounts.

TABLE 2.—PERCENTAGE DISTRIBUTION OF FAMILIES IN DIFFERENT INCOME GROUPS ACCORDING TO CHARGES FOR MEDICAL CARE PER FAMILY FOR A 12-MONTH PERIOD

Income group	Number of families	Percent of families with charges in following ranges							
		Under \$25	\$25-\$49	\$50-\$99	\$100-\$249	\$250-\$499	\$500-\$999	\$1,000-\$2,499	\$2,500 and over
Under \$2,000.....	1,788	40.2	19.8	20.9	13.8	4.1	1.0	0.2	-----
\$2,000 to \$3,000.....	1,372	26.7	18.9	23.1	22.2	6.2	2.7	.2	-----
\$3,000 to \$5,000.....	723	22.1	13.3	20.5	28.4	10.5	4.4	.8	-----
\$5,000 and over.....	677	11.1	10.6	14.6	28.0	17.3	11.4	6.4	0.6

Institutional Care for Convalescents

PROVISION of institutional care for convalescents, especially among the wage-earning and low-salaried classes, was the subject of a special report ⁴ by the Committee on the Costs of Medical Care.

The problem of convalescence involves both the question of proper medical care and provision of a suitable place for the care of persons recovering from a serious operation or illness whose home surroundings are not conducive to quick recovery. The housing and family conditions of a very large number of persons are such that ease, quiet, proper food, and peace of mind cannot be secured at home. The housewife returning from a hospital usually finds it necessary to take up her household duties at once and the breadwinner feels it necessary to resume work at the earliest possible moment, so that as a result many patients discharged from hospitals suffer relapses or setbacks and in some cases permanent ill effects from the lack of the needful convalescent care.

The provision of convalescent homes for the care of such cases is the more necessary because the average stay of a patient in a hospital is gradually being reduced. In the large cities it usually does not exceed 11 or 12 days, and in case of childbirth the usual period of hospitalization is 10 days. Comparatively few patients have recovered sufficiently upon leaving the hospital to be able to resume their ordinary routine at once, and this shortening of the average period of hospitalization renders more imperative the provision of facilities for convalescence. Aside from the fact that the hospital beds are needed for the acutely ill, it is far more expensive to care for convalescent patients in the hospital than in a convalescent institution. The average hospital cost is \$5 per day, and in the convalescent homes only about \$2. This latter charge may increase when the standard of the convalescent homes is raised to approximate modern standards of convalescent care but, the writer says, it should never be more than about half of what it costs to maintain a patient in a hospital.

As not every sick person needs hospital care, so also not every patient needs institutional care for convalescence, and adequate studies of the reasonable requirements are, therefore, needed. According to present information 12 convalescent beds should be provided for every 100 hospital beds but it is possible there is need for upward revision of this standard. There were at the time of the report (1930) about 300 convalescent homes in the United States distributed among 33 States.

Until recently, the writer says, convalescence as a medical problem has received little attention. The question of the kind and amount of medical supervision needed in convalescence institutions depends upon the types of cases treated. The best arrangement is believed to be that in which the convalescent home is definitely linked with the medical service of a hospital. It is also stated that a certain degree of specialization is desirable if the best results are to be obtained, as about 25 percent of the patients require a special regimen or special diet, or special treatment. Even in the communities which

⁴ Committee on the Costs of Medical Care. Institutional Convalescence, by E. H. Lewinski-Corwin Washington, 910 Seventeenth Street NW., 1930.

maintain many convalescent institutions, it is said, the adjustment of the accommodations to the needs of the locality has not been attempted in any serious way, and while many more homes are needed, there is also needed "an intelligent policy with regard to the best fulfillment of their purpose."

Experiment by Mutual Benefit Association in Freedom of Choice of Physician

AN ACCOUNT of a year's successful experience in allowing members of a mutual benefit society freedom of choice in the selection of physicians and dentists was reported in the Journal of the American Medical Association, June 10, 1933.

The mutual benefit association which carried out this plan was organized in 1930 among employees of Spaulding Bakeries, Inc., Binghamton, N. Y., wholesale bakers of bread and cake products, the medical service being arranged for at first on a contract basis. After the association was organized it became apparent that some of the members would prefer to go to their own physicians for treatment, and it was found that some were actually doing so while paying dues to the association. Officials of the company realized also that local physicians not connected with the association were opposed to this type of organization. They felt that this opposition was justified and, as the employees in general appreciated the benefits and services provided by the association, it was decided to reorganize, offering freedom of choice of a physician as a basic feature rather than to suspend activities.

It was provided that the plan was to continue for a year, since there was considerable doubt as to whether or not it could be operated successfully. At the close of the experimental period in April 1933 it was found that the original reserve which had been built up during the period the first plan was in operation not only remained untouched but had been substantially increased, and it was expected, therefore, that the activities of the association would be maintained indefinitely and possibly extended to the eight other plants operated by the company in New York and Pennsylvania.

The association uses the facilities of community medical service agencies, and a member of the association has the privilege of consulting any physician he may choose. An employee who is sick obtains a form from the secretary of the association which he presents to the physician, or if he is unable to call at the office for the form he reports the fact later to the secretary. Both house and office calls are allowed.

The members receive both medical and surgical care, including major and minor operations; eye, ear, nose, and throat service; X-ray examination; dental service limited to X-rays and extraction; and laboratory and ward service in the hospital not to exceed 30 days in any 1 year at the rate of \$3 per day. Benefits are not paid during hospitalization, but are paid when the patient leaves the hospital, except in the case of surgical operations. Tuberculosis sanitariums or institutions for the care of chronic diseases are not included, however, under the term "hospital." The prevailing medical and dental

fees in the community are paid by the association, and although a committee of physicians was appointed to pass on bills which seemed to be exorbitant, there had been no occasion to consider this question.

Benefits based on the rate of dues are paid to members absent from work on account of sickness for a maximum of 10 weeks in any 1 year. The maximum which may be spent on any one member for medical services in any 1 year is \$350, house and office calls being limited to \$50 and dental service to \$25.

The dues of the association are based on the wages received, and the employees are divided into four classes, the dues ranging from 20 cents per week for class 1 to 45 cents for class 4. The weekly benefits are, respectively, \$7.50, \$10, \$15, and \$20.

During the first year's operation of the plan 65 different physicians and 25 dentists were consulted by the members.

Medical Care for Trade-Unionists in Los Angeles

THE Union Labor Benefit League, a voluntary nonprofit organization to provide medical care for trade-unionists and their families was organized in Los Angeles in December 1929, becoming, it is stated, "the largest single union-labor organization in the State of California."

Membership in the league is open only to trade-unionists in good standing in a bona fide labor organization. Dues of \$1.50 per month are payable at the same time that the union dues are paid. With the funds thus accumulated the league engages the services of physicians, surgeons, dentists, etc. No officials of the league itself receive any remuneration for their services; all of the funds go for the provision of benefits for members.

For the sum of \$1.50 per month each member and the wholly dependent members of his family (wife, children, and parents) are entitled to physical examination and prescriptions at the central medical offices; medical service at home when the patient is too ill to go to the doctor's office (provided the patient lives not more than 12 miles from the central medical offices); minor surgical operations which can be performed at the medical offices; major operations (except for diseases of the brain and spinal cord) performed at the hospital; treatment of diseases of eye, ear, nose, and throat; obstetrical service (at hospital only); clinical laboratory service; any dental service ordered by the physician; hospital service for ailments starting 90 days after becoming a member of the league; and medico-legal service in case of "justifiable litigation." For X-ray service, eyeglasses, physiotherapy, dentistry not ordered by the physician, artificial limbs, etc., a nominal charge is made.

The secretary of the league stated that 151 local unions in Los Angeles and vicinity had affiliated with the league and that a branch chapter had been established in Santa Barbara, with which all of the local unions had affiliated. There were in 1931, according to the secretary, more than 10,000 members in the league.

The report of the league for the first half of 1930 shows that 23,913 treatments were given and in 794 other cases surgical operations were performed. Of the patients treated, 10,053 were men, 5,385 were women, and 5,108 were children.

The amount paid in dues was \$29,644, while the league estimated that the services given would, at the regular minimum medical rates, have cost \$104,434, representing a saving to members of \$74,790 for the 6 months.

Los Angeles City Employees' Health Clinic ⁵

A HEALTH clinic in charge of the hospitalization and insurance services for employees of the Department of Water and Power, Los Angeles, Calif., is maintained by the employees of that branch of the city government.

The clinic, which was started in 1929, occupies a two-story building with more than 50 rooms. It is in charge of 2 physicians of standing—one of whom does all the major operations—and they have associated with them 18 graduate physicians, including various specialists. The clinic also employs 10 nurses, 2 laboratory technicians, and 5 office employees.

About 2,000 employees of the water and power department were members of the organization in 1931. Other city groups had also joined, so that the total membership at that time was approximately 6,500. The monthly fee of \$2 is deducted from the employee's pay. This fee entitles members to free medical care, operations, dressings, medicine, and hospitalization, while all dependents of members are given free medical and surgical care, but pay the actual cost of hospitalization, nurses, and medicine. Hospital cases are not cared for at the clinic but are sent to one of the city hospitals.

At the end of 2 years' operation of the clinic a check-up of the results was made through the various division and subdivision heads, and it was agreed that there had been a marked increase in efficiency on the part of the personnel, less absenteeism because of prolonged illness, and a notable improvement in morale and esprit du corps, the better morale no doubt being largely attributable to the fact that employees are freed from the usual worries as to finances in the case of illness.

Appointment of Occupational Health Council in Massachusetts ⁶

AN ADVISORY body to be known as the occupational health council was established in 1932 in the Massachusetts Department of Labor and Industries. The council was to be concerned with the occupational health problems of the State, the study of which was inaugurated with the appointment of an occupational hygienist. The members of the council were to include prominent representatives of public health and industrial medical services, labor unions, employers' organizations, social and welfare organizations, and insurance companies.

⁵ Information secured from D. S. Parkes, in charge of hospitalization and insurance services for employees of the Department of Water and Power, Los Angeles, Calif.

⁶ Industry, Boston, Mass., July 16, 1932, p. 5.

In commenting upon the purpose of the council, the commissioner of the department said:

We propose to give ourselves the benefit of the best advice obtainable from individuals and institutions concerned with the health of the working population, and we believe it no less important that these interests be kept informed of the work which we are doing. I do not anticipate the need for frequent meetings of the group as a whole, but hope rather for the counsel of its members as it is needed, their criticism as it is called for, and their support as it is merited.

With all regard for the pressing necessity of extreme economy in government, I am confident that this new undertaking of the department will more than justify itself in the reduction of disease arising from inadequately protected industrial occupations in the Commonwealth.

Work of Union Health Center, New York City

THE Union Health Center⁷ was established in 1913 by the joint board of sanitary control in the women's garment trades and the institution was taken over in 1920 by the International Ladies Garment Workers' Union, at which time the center moved into its own building. In 1925 the dental department was established in a separate building some blocks from the main building. In 1928 the facilities of the organization were opened to all trade-union members and about 30 additional labor organizations became affiliated with it. During that year the Union Health Center was endorsed by the Central Trades and Labor Council. In 1936 there were 37 labor organizations affiliated with the institution. The Center, now located at 275 Seventh Avenue, has 40,000 square feet of floor space.

The Union Health Center was organized for the purpose of providing medical and dental services at a reasonable cost to members of organized labor and their families, and also to give health information to and spread health education among these workers. The services rendered include medical clinics held twice daily, a dental department which is the largest industrial clinic in New York City, special clinics under specialists in different branches of surgery and medicine, a completely equipped physiotherapeutic department where light and thermal treatments are given by a specialist, a chemical laboratory equipped to make the various kinds of tests, an X-ray department, and a completely furnished drug store where prescriptions are compounded at a cost ranging from 25 to 50 cents each. Additional health care is provided through arrangements made for the care of the sick and convalescent in sanitariums and other institutions. The Union Health Center also conducts the physical examinations required by many of the unions for membership, and has charge of the certification for cash sick benefits of members of those unions which have sickness insurance.

The Center is a nonprofit organization. Moderate fees for medical attention are charged to members of affiliated unions, and a slight additional charge is made to members of nonaffiliated unions. If members of affiliated unions are unemployed they receive free treatment when it is requested by the secretaries of their unions.

⁷ The Union Health Center, The Health Department of Organized Labor, 1913-31, New York, 131 East Seventeenth Street, 1931; The New York Times, Jan. 5, 1936.

The staff includes 40 physicians, all of whom have had at least 10 years' medical experience. Twelve of these physicians, who were added in 1935, visit the homes of workers who are too ill to go to the Center for treatment. During 1935, 55,000 patients were treated, a little more than half of whom were in the garment trades. Lectures on personal health and factory hygiene are provided for as part of a \$100,000 educational program launched last October. For this expert medical care and instruction in healthful living the union member pays 35 cents a month in addition to his regular union dues. This entitles him to 10 weeks' medical treatment, including medicines and visits by the doctor if he is seriously ill, or to indefinite treatment in the clinic. For these services the unit of the union to which he belongs receives a bill.

Medical Service of Chicago Truck Drivers' and Chauffeurs' Union

A MEDICAL insurance plan providing complete medical service which is said to have benefited both workers and employers through improved health, greater efficiency, and the removal from the workers of the financial worry of sickness and reduction in lost time has been provided for members of the Chicago Truck Drivers' and Chauffeurs' Union, Local 705, and their families since 1930. In April of that year a medical center with specialists in charge of the different departments and with complete and modern equipment was placed in operation, according to a pamphlet entitled "A Humanitarian Service", which was issued in 1933 by the union.

The clinic provides full medical care, including minor and major operations and complete hospitalization where it is needed. The medical insurance plan under which this service is rendered is financed by a yearly fee of \$10 for each member and of \$1 per year each for members' wives and children. The opportunity to secure medical care at these rates has been accepted by so large a proportion of the membership that 15,000 persons receive medical treatment each year and approximately 1,600 more receive hospital care.

The center occupies 10 rooms in a central location and has facilities to handle from 75 to 100 patients daily. The staff consists of 4 physicians and 2 graduate nurses and the center is equipped with modern X-ray apparatus and equipment for making basal metabolism and other tests, and has a completely equipped operating room. The type of treatment given at the office, which is open from 9 a. m. to 8 p. m., includes surgical dressings, light and heat treatments, basal metabolism tests, X-ray treatments and pictures, the giving of preventive serums for contagions, reduction of fractures, examinations, etc. A maternity service is also maintained, so that complete care is given before and after childbirth, with regular supervision of the care of infants. In cases which require hospitalization, through arrangement with one of the city hospitals, patients are given hospital care under the attendance of one of the physicians of the center without additional charge. During the first 9 months of 1933 the center took care of 697 surgical cases and 124 fractures.

MINIMUM WAGE

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Status of Minimum-Wage Legislation and Administration

THE 1931 edition of the Handbook of Labor Statistics (Bul. No. 541), in its review of minimum-wage laws and court decisions affecting them (pp. 446-449) said that "the history of minimum-wage legislation * * * has been most discouraging to its advocates" because of the barrier of unconstitutionality which the movement encountered.¹ At that time, out of 17 minimum-wage laws which had been enacted between 1912 and 1923, 3 had been repealed (those of Nebraska, Texas, and Utah); 3 had been declared unconstitutional by the Supreme Court of the United States (those of Arizona, Arkansas, and the District of Columbia); and those of Kansas and Puerto Rico had been nullified by action of the local courts following the decision of the United States Supreme Court.

The Colorado law was not operative, because no appropriation was made to enforce it. Thus only eight laws survived at all (in California, Massachusetts, Minnesota, North Dakota, Oregon, South Dakota, Washington, and Wisconsin), and most of them were considerably modified as the result of adverse court decisions. The Minnesota law was limited by amendment to minors, and the wording of the Wisconsin statute was changed to avoid conflict with the Supreme Court decision. Instead of establishing a "minimum wage", the amended law prohibited an "oppressive wage" and declared that "any wage lower than a reasonable and adequate compensation for services rendered shall be deemed oppressive." The Massachusetts law was not mandatory, and hence was not subject to the charge of confiscatory legislation under which the mandatory type had been declared unconstitutional. Massachusetts depended upon the weight of public opinion to secure compliance with wage awards under its law. While the California law is mandatory, it has to a great degree been supported by the employers to whom it applies and apparently for that reason it has, so far, not been challenged. That is true to some extent in Washington and Oregon also. The South Dakota law fixes the minimum wage which must be paid to workers to whom it applies and assumes that violations will be reported to State authorities. Administration of the North Dakota law, which is the same type of legislation as that of Oregon, is seriously crippled for want of adequate appropriation and enforcement machinery.

This, briefly, was the situation at the end of 1932. From the beginning of 1933, however, minimum-wage legislation literally took a new lease on life, promoted by the National Consumers' League and other civic groups, and by economists and State labor and welfare officials. These agencies have worked for the adoption of a standard uniform bill sponsored by the National Consumers' League. Either

¹ See Handbook of Labor Statistics, 1931 edition (Bul. No. 541), p. 446, and 1924-26 edition (Bul. No. 439) p. 391, and Monthly Labor Review, December 1933 (p. 1344), for reviews and citations of court cases involving minimum-wage laws; also Women's Bureau of the U. S. Department of Labor Bul. No. 61: The Development of Minimum Wage Laws in the United States, 1912-27; and Bul. No. 137: Summary of State Hour Laws for Women and Minimum Wage Rates.

verbatim or in slightly modified form, that bill was enacted into law during the legislative year 1933 in six States: Connecticut, Illinois, New Hampshire, New Jersey, New York,² and Ohio.³ In addition, Utah, which had in 1929 repealed a minimum-wage law, reenacted one which closely follows the California statute. In 1934 Massachusetts repealed its old law and enacted one of the standard type.

This new legislation is devised to surmount the constitutional obstacle encountered by previous efforts to insure woman workers a living wage. It does not attempt to regulate wages generally. Rather, the position is declared that "it is against public policy for any employer to employ any woman or minor in an occupation * * * at an oppressive and unreasonable wage * * * and any contract, agreement, or understanding for or in relation to such employment shall be null and void." An "oppressive and unreasonable wage" is defined as one "which is both less than the fair and reasonable value of the service rendered and less than sufficient to meet the minimum cost of living necessary for health."

Proceedings to determine a "fair wage" through the medium of a wage board are to be instituted on petition from a given number of citizens or whenever, in the opinion of the enforcing agency, "a substantial number of women or minors in any occupation or occupations are receiving oppressive and unreasonable wages as defined." In establishing a minimum fair wage for any occupation, the responsible official of the State labor agency administering the law and the wage board summoned by him may, without being bound by any technical rules of evidence or procedure, (1) take into account all relevant circumstances affecting the value of the service or class of service rendered, and (2) be guided by like considerations as would guide a court in a suit for the reasonable value of services rendered, where services are rendered at the request of an employer without contract as to the amount of wages to be paid, and (3) consider the wages paid in the State for work of like or comparable character by employers who voluntarily maintain minimum fair wage standards.

Administration

ADMINISTRATION of all the minimum-wage laws in force July 1, 1935, is assigned to the State labor agency of the respective States. These agencies together with the division or official immediately concerned with administering and enforcing minimum-wage legislation are shown in the analyses of the laws of the separate States which follow.

Enforcement

THE 1929 edition of the Handbook of Labor Statistics (Bul. No. 491) contains (pp. 521-526) an analysis of procedure and enforcement which still applies to the older laws. The Industrial Commission of Wisconsin continues to enforce the minimum rates based upon the cost of living which it established under the original act on the ground that any lower rate would be "oppressive" and hence illegal under the amended act. But for years little effort has been made in Wisconsin or California to do more than maintain, through pay-roll inspection,

¹ Act declared unconstitutional by New York Court of Appeals in *Typaldó v. Morehead*.

² See Monthly Labor Review, June, July, and August 1933, for complete text, and December 1933 for comparative texts and general discussion.

hearings, conferences, and advice, the specific rates established by the various wage decrees issued before the movement was slowed down, first by adverse court decisions and later by unemployment and general wage reductions.

Wage decrees under the older systems are enforceable as law, but police power has never been the instrument relied upon to secure compliance with minimum-wage laws. On the other hand, the various administrative agencies have, within the limits of the appropriations and the staffs available for the purpose, kept close track of the operation of the law and have secured a fair degree of cooperation and obedience.

The methods used to check up on compliance or noncompliance are practically the same in all jurisdictions. The chief points of difference lie in the extent and frequency of the inspections, which in turn depend largely upon the money and agents available. These methods are the investigation of complaints, the examination of pay rolls by agents of the State office, and the submission by employers of certified copies of pay rolls to the State office. The third method is the only one used in North Dakota; in California and to some extent in Minnesota and Wisconsin it is used to supplement direct examination of pay rolls. By that means California obtains pay rolls covering all employees subject to the minimum-wage law, and can then center its work of direct examination by field agents upon given industries, areas, or seasons which may require special attention.

The new legislation which is being enacted combines the directory feature of the old Massachusetts law, which depends upon publicity and public sentiment to exert sufficient pressure to force compliance with wage decrees, and the mandatory feature of the other minimum-wage laws. After a wage rate is set by a wage board, the administering State official promulgates a "directory order" establishing that rate for the occupation at issue. Any employer suspected of noncompliance with the directory order is summoned, after due notice, to a hearing, at which he is called upon to show cause why his name should not be published for disregarding a wage order and failing to pay his employees a "fair wage." If after a given time, which varies from 3 months in Ohio to 9 in Illinois, Massachusetts, New Jersey, and New York, compliance has not been secured, another hearing is held, after which the order may be made mandatory. Noncompliance then becomes a misdemeanor and is punishable as such. In such circumstances, employees affected by the refusal of the employer to pay the fixed minimum may collect back pay.

It is, of course, too soon to attempt to estimate results under the new laws. They have, in any event, served to revive interest in that type of legislation and to supplement the minimum-wage movement of the National Recovery Act.

Analysis of Minimum-Wage Laws

THE following analysis of State minimum-wage laws deals with those in effect July 1, 1935. The Connecticut law, which is based on the National Consumers' League standard bill, is the only one of that type listed, but the analysis of the statute in that State may, in all its essential features, be regarded as applying equally to Illinois, Massachusetts, New Hampshire, New Jersey, New York,² and Ohio.

² Act declared unconstitutional in *Tipaldo v. Morehead*.

California

Citation.—Deering's General Laws 1931, act 3613.

Classes covered.—Women; minors (females under 21 years of age, males under 18 years of age).

Exceptions.—Women physically defective by age or otherwise may be granted special licenses, renewable every 6 months. Apprentices: Special wages set by commission during specified period of apprenticeship.

Occupations or industries covered.—Those in which women and minors are employed.

Administering body.—Industrial welfare commission of five members (one a woman) appointed by governor for 4 years.

Method of selecting occupation or industry to be considered by this body.—At discretion of commission. Investigation conducted by examining papers, books, witnesses, and by holding public hearings.

Method of arriving at wage award.—Commissioner convenes wage board composed of representatives of employers and employees in trade in question, with member of commission as chairman; after investigation the board reports to commission the minimum wage it deems necessary. After public hearing commissioner fixes minimum wage for the trade.

Means of enforcing award; penalty.—Refusal to comply with the law a misdemeanor. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Amount must be adequate to supply necessary cost of proper living, and to maintain health and welfare of workers.

Colorado

Citation.—Compiled Laws 1921, sections 4262-4283.

Classes covered.—Women; minors (either sex, under 18 years of age).

Exceptions.—Women physically defective or crippled by age or otherwise or less efficient than those of ordinary ability may be granted special licenses stating wage; number so licensed must not exceed one-tenth of total employed in establishment.

Occupations or industries covered.—Any occupation (construed to include "any and every vocation, trade, pursuit, and industry").

Administering body.—Industrial commission of three members (not more than one each representing employees and employers), appointed by governor, with consent of senate, for 6 years.

Method of selecting occupation or industry to be considered by this body.—At discretion of commission or at request of not less than 25 persons engaged in the occupation. Investigation conducted by examining books, papers, and witnesses, and by holding public hearings.

Method of arriving at wage awards.—Commission may itself investigate and set minimum wage for an occupation, or it may establish wage board composed of members of commission and not more than three representatives of employers concerned, of female employees, and of public. Representatives of employers and the employees to be elected by their respective groups; at least one member of every group to be a woman. Wage board investigates and reports to commission a minimum wage which commission may accept or reject.

Means of enforcing award; penalty.—Refusal to comply with law a misdemeanor. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Wage must be adequate to supply necessary cost of living and to maintain health, and must be a sufficient living wage for women and minors of ordinary ability.

Connecticut⁴

Citation.—Cumulative Supplement (1931, 1933) to the General Statutes, 1930, title 24, chapter 131a, sections 620b-633b.

Classes covered.—Women; minors (either sex, under 21 years of age).

Exceptions.—Women or minors (including learners or apprentices) with earning capacity impaired by age, physical or mental deficiency, or injury, may obtain special license authorizing wage lower than established minimum for fixed period.

⁴ The law of Connecticut was modeled on the standard minimum-wage bill sponsored by the National Consumers' League. The minimum-wage laws of the following States also follow the Consumers' League standard bill, and therefore are not analyzed here: Illinois (Acts of 1933, p. 697, as amended 1935, p. 840), Massachusetts (Acts of 1934, ch. 308, as amended 1935, ch. 267), New Hampshire (Acts of 1933, ch. 87), New Jersey (Acts of 1933, ch. 152), New York (Acts of 1933, ch. 584), and Ohio (Acts of 1933, p. 502).

Occupations or industries covered.—Any sweatshop occupation (defined as industry, trade, business, or occupation paying unfair and oppressive wages, but not including domestic service in employer's home or labor on farm).

Administering body.—Commissioner of labor and director of minimum wage division which may be set up in department of labor.

Method of selecting occupation or industry to be considered by this body.—At discretion of commissioner or director, or at request of 50 or more residents of the State.

Method of arriving at wage award.—Commissioner, after conferring with director, appoints wage board composed of not more than three representatives each of employers and of employees concerned (to be selected as far as practicable from nominations by respective groups), and of public. After studying evidence and information in commissioner's possession, board must, within 60 days of its organization, submit report, including recommended minimum fair-wage standards for women and minors in occupation. The commissioner may accept or reject this report.

Means of enforcing award; penalty.—Noncompliance with mandatory order makes employer liable to fine or imprisonment or both. Each week in any day of which an employee is paid less than rate set by order, constitutes a separate offense as to each employee so paid. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Wage must be sufficient to meet minimum cost of living necessary for health.

Minnesota

Citation.—General Statutes 1923, sections 4210-4232.

Classes covered.—Women; minors (females under 18 years of age, males under 21 years of age).

Exceptions.—Women physically defective may obtain license fixing wage lower than established minimum. Licensees not to exceed one-tenth of number employed in establishment.

Occupations or industries covered.—Any occupation (defined as any business, industry, trade, or branch of a trade).

Administering body.—Industrial commission of three members, appointed by governor with advice and consent of senate for 6 years.

Method of selecting occupation or industry to be considered by the body.—At discretion of commission or at request of 100 persons engaged in the occupation. Investigations conducted by examining papers, books, witnesses, and by holding public hearings.

Method of arriving at wage awards.—Commission may itself investigate and determine a minimum wage for occupation in question, or it may establish advisory board composed of not less than 3 nor more than 10 representatives each of employers and of employees in occupation, and 1 or more representatives of public (but no more representatives of public than in either one of the other groups). At least one-fifth of board must be women and public group must contain at least one woman. After examination of books and witnesses board recommends minimum wage, which commission may accept or reject.

Means of enforcing award; penalty.—Refusal to comply with law a misdemeanor. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Amount must be adequate to supply living wage for women and minors of ordinary ability.

North Dakota

Citation.—Supplement (1913-25) to Compiled Laws 1913, chapter 5, article 11b, sections 396b1-396b16 as amended 1935, ch. 162).

Classes covered.—Women; minors (either sex, under 18 years of age).

Exceptions.—Females physically defective by age or otherwise (or apprentices or learners in occupation usually requiring such) may be granted special license authorizing wage lower than established minimum.

Occupations or industries covered.—Any occupation (defined as business, industry, trade, or branch thereof, but not including agricultural or domestic service).

Administering body.—Commissioner of agriculture and labor.

Method of selecting occupation or industry to be considered by this body.—At discretion of commissioner. Investigation conducted by examining papers, books, and witnesses, and by holding public hearings.

Method of arriving at wage awards.—Commissioner organizes conference composed of not more than three representatives each of employers and of employees in the occupation in question, and of public, and one or more commissioners. Conference investigates and recommends minimum wage, which bureau may accept or reject.

Means of enforcing award; penalty.—Refusal to comply with order of commissioner is unlawful and punishable by fine or imprisonment, or both. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Wage must be adequate to supply necessary cost of living and maintain woman workers in health. Reasonable wages for minor workers.

Oregon

Citation.—Code 1930, sections 49-301, 49-324 (as amended 1931, ch. 394; 1933 (2d spec. sess.) ch. 88).

Classes covered.—Women; minors (either sex, under 18 years of age).

Exceptions.—Women physically defective or crippled by age or otherwise may obtain license fixing wage lower than established minimum.

Occupations or industries covered.—Any occupation (defined as any and every vocation, pursuit, trade, and industry).

Administering body.—State welfare commission of three members, appointed by governor for 4 years.

Method of selecting occupation or industry to be considered by this body.—At discretion of commission. Investigation conducted by examining papers, books, and witnesses, and by holding public hearings.

Method of arriving at wage awards.—Commission organizes conference composed of not more than three representatives each of employers and of employees in the occupation and of public, and one or more commissioners. Conference investigates and recommends minimum wage, which commission may accept or reject.

Means of enforcing award; penalty.—Refusal to comply with law a misdemeanor and punishable by fine or imprisonment or both. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Wage must be adequate to supply necessary cost of living and to maintain health.

South Dakota

Citation.—Compiled Laws 1929 (as amended 1931, ch. 173), sections 10022A-10022E.

Classes covered.—Women and girls over 14 years of age.

Exceptions.—Women mentally or physically deficient or disabled may obtain permit authorizing wage lower than established minimum. Apprentices: Industrial commissioner must be notified of each apprentice and give permission for his employment.

Occupations or industries covered.—Any factory, workshop, mechanical or mercantile establishment, laundry, hotel, restaurant, or packing house.

Administering body.—Industrial commissioner appointed by governor for 2 years.

Method of selecting occupation or industry to be considered by this body.—Not specified.

Method of arriving at wage awards.—Minimum wage fixed by law.

Means of enforcing award; penalty.—Refusal to comply with law a misdemeanor punishable by fine or imprisonment, or both. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Wage must be amount which equals a living wage.

Utah

(The law of Utah is similar to that of California summarized on page 484, except in regard to the classes of workers covered and the body empowered to administer law. These headings and the citation follow.)

Citation.—Acts of 1933, chapter 38.

Classes covered.—Women; minors (either sex, under 21 years of age, but commission not authorized to fix minimum wages and maximum hours for males between 18 and 21).

Administering body.—Industrial commission of three members, appointed by governor for 4 years.

Washington

Citation.—Remington's Revised Statutes 1931, sections 7623-7641.

Classes covered.—Women; minors (either sex, under 18 years of age).

Exceptions.—Women physically defective or crippled by age or otherwise (or apprentices in occupation usually requiring such) may secure license authorizing wage lower than legal minimum.

Occupations or industries covered.—Occupations, trades, and industries.

Administering body.—Industrial welfare committee, composed of director of labor and industries (appointed by governor with consent of senate and holding office at his pleasure), supervisor of industrial insurance, and supervisor of industrial relations (appointed by director of labor and industries), and supervisor of women in industry (appointed by supervisor of industrial relations with approval of director of labor and industries).

Method of selecting occupation or industry to be considered by this body.—At discretion of commission. Investigation conducted by examining papers, books, witnesses, and by holding public hearings.

Method of arriving at wage awards.—Commission organizes conference composed of equal number of representatives of employers and employees in occupation in question and one or more representatives of public (but no more representatives of public than in either one of the other groups), and a member of commission. Conference recommends minimum wage, which commission may accept or reject.

Means of enforcing awards; penalty.—Payment of wages less than standard minimum or refusal to comply with law a misdemeanor. Employee may recover back wages and costs.

Principles by which amount of award is determined.—Amount must be a reasonable wage, not detrimental to health and morals and sufficient for decent maintenance of women.

The Washington law was declared unconstitutional on November 9, 1935, as far as adult women are concerned. (*Parish v. West Coast Hotel Co.*, Superior Court of Washington, Nov. 9, 1935.)

Wisconsin

Citation.—Statutes 1931, sections 104.01-104.125.

Classes covered.—Women; minors.

Exceptions.—Adult women unable to earn minimum may obtain license fixing lower wage. Employer may obtain license to pay adult females wage lower than established rate, if he establishes satisfactorily that he is unable to pay such wage. Minors unable to earn "a living wage" may obtain license fixing lower wage commensurate with their ability.

Occupations or industries covered.—Every person in receipt of, or entitled to, any compensation for labor performed for any employer.

Administering body.—Industrial commission whose members are appointed by governor, with advice and consent of senate, for 6 years.

Method of selecting occupation or industry to be considered by this body.—At discretion of commission or on verified complaint filed by any person.

Method of arriving at wage awards.—Commission organizes advisory wage board, selected to represent fairly employers, employees, and public. Living wage determined by commission and advisory board shall be the legal minimum wage.

Means of enforcing awards; penalty.—Payment of wages in violation of any order of commission deemed violation of law, unless it can be proved that the order was unreasonable. Every day an order is not complied with is a separate offense.

Principles by which amount of award is determined.—Amount must be a "living wage", i. e., sufficient to maintain employee under conditions consistent with his welfare. Wage must not be oppressive (defined as "lower than a reasonable and adequate compensation for services rendered").

**NATIONAL RECOVERY ADMINISTRATION
LABOR ASPECTS**

**U. S. Bureau of Labor Statistics Bulletin No. 616
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National Industrial Recovery Act, 1933

THE National Industrial Recovery Act was approved by President Roosevelt on June 16, 1933. It continued in full effect until the decision of the United States Supreme Court on May 27, 1935, terminated that portion of the act under which the various codes of fair competition had been established. (See Decision of Supreme Court on the National Industrial Recovery Act, p. 563.)

The act declared the existence of a national emergency "productive of wide-spread unemployment and disorganization of industry, which burdens interstate and foreign commerce, affects the public welfare, and undermines the standards of living of the American people." The objectives of the act were declared to be: The removal of obstructions "to the free flow of interstate and foreign commerce"; the promotion of cooperative action among trade groups and between labor and management; the elimination of unfair competitive practices; the promotion of the "fullest possible utilization of the present productive capacity of industries", and the avoidance of undue restriction of production; and lastly, the increasing of the purchasing power of the people and thereby their ability to consume industrial and agricultural products.

The period of effectiveness of the new act was limited to 2 years, but it could be ended sooner by a proclamation of the President or by a joint resolution of Congress. The financing of the Public Works program was to be by a Federal bond issue amounting to \$3,300,000,000; and corporation, gasoline, and other taxes for interest and sinking-fund requirements were also provided.

The act was divided into three parts: Title I provided a program for industrial recovery; title II concerned public works and construction projects; while title III merely amended the Emergency Relief and Construction Act of 1932.

Title I of the law permitted the members of any trade or industry or subdivision thereof to formulate a code of fair competition. Such code had to be approved by the President, and upon such approval it became binding upon the entire industry or subdivision, and its provisions were thereafter to be "the standards of fair competition."

During the existence of the law any code (agreement or license) approved under its provisions, and any action complying with the provisions of the code, were to be exempt from the provisions of the antitrust laws of the United States.

Section 7 of title I prescribed that every code of fair competition should recognize the right of employees to bargain collectively through representatives of their own choosing. Every code was also required to include provisions as to maximum hours, minimum wages, and other conditions of employment, and to contain the added condition that "no employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing."

Section 7 of title I also provided that employers and employees should be given every opportunity to establish by mutual agreement standards of hours, wages, and working conditions; but where no such mutual agreement was approved by the President, he was authorized to investigate the labor practices, policies, wages, hours, etc., in the trade or industry and to prescribe a limited code of fair competition.

The complete text of title I of the National Industrial Recovery Act follows:

TITLE I.—INDUSTRIAL RECOVERY

SECTION 1. *Declaration of policy.*—A national emergency productive of widespread unemployment and disorganization of industry, which burdens interstate and foreign commerce, affects the public welfare, and undermines the standards of living of the American people, is hereby declared to exist. It is hereby declared to be the policy of Congress to remove obstructions to the free flow of interstate and foreign commerce which tend to diminish the amount thereof; and to provide for the general welfare by promoting the organization of industry for the purpose of cooperative action among trade groups, to induce and maintain united action of labor and management under adequate governmental sanctions and supervision, to eliminate unfair competitive practices, to promote the fullest possible utilization of the present productive capacity of industries, to avoid undue restriction of production (except as may be temporarily required), to increase the consumption of industrial and agricultural products by increasing purchasing power, to reduce and relieve unemployment, to improve standards of labor, and otherwise to rehabilitate industry and to conserve natural resources.

SEC. 2. *Administrative agencies.*—(a) To effectuate the policy of this title, the President is hereby authorized to establish such agencies, to accept and utilize such voluntary and uncompensated services, to appoint, without regard to the provisions of the civil service laws, such officers and employees, and to utilize such Federal officers and employees, and, with the consent of the State, such State and local officers and employees, as he may find necessary, to prescribe their authorities, duties, responsibilities, and tenure, and, without regard to the Classification Act of 1923, as amended, to fix the compensation of any officers and employees so appointed.

(b) The President may delegate any of his functions and powers under this title to such officers, agents, and employees as he may designate or appoint, and may establish an industrial planning and research agency to aid in carrying out his functions under this title.

(c) This title shall cease to be in effect and any agencies established hereunder shall cease to exist at the expiration of 2 years after the date of enactment of this act, or sooner if the President shall by proclamation or the Congress shall by joint resolution declare that the emergency recognized by section 1 has ended.

SEC. 3. *Codes of fair competition.*—(a) Upon the application to the President by one or more trade or industrial associations or groups, the President may approve a code or codes of fair competition for the trade or industry or subdivision thereof, represented by the applicant or applicants, if the President finds (1) that such associations or groups impose no inequitable restrictions on admission to membership therein and are truly representative of such trades or industries or subdivisions thereof, and (2) that such code or codes are not designed to promote monopolies or to eliminate or oppress small enterprises and will not operate to discriminate against them, and will tend to effectuate the policy of this title: *Provided*, That such code or codes shall not permit monopolies or monopolistic practices: *Provided further*, That where such code or codes affect the services and welfare of persons engaged in other steps of the economic process, nothing in this section shall deprive such persons of the right to be heard prior to approval by the President of such code or codes. The President may, as a condition of his approval of any such code, impose such conditions (including requirements for the making of reports and the keeping of accounts) for the protection of consumers, competitors, employees, and others, and in furtherance of the public interest, and may provide such exceptions to and exemptions from the provisions of such code, as the President in his discretion deems necessary to effectuate the policy herein declared.

(b) After the President shall have approved any such code, the provisions of such code shall be the standards of fair competition for such trade or industry or subdivision thereof. Any violation of such standards in any transaction in or

affecting interstate or foreign commerce shall be deemed an unfair method of competition in commerce within the meaning of the Federal Trade Commission Act, as amended; but nothing in this title shall be construed to impair the powers of the Federal Trade Commission under such act, as amended.

(c) The several district courts of the United States are hereby invested with jurisdiction to prevent and restrain violations of any code of fair competition approved under this title; and it shall be the duty of the several district attorneys of the United States, in their respective districts, under the direction of the Attorney General, to institute proceedings in equity to prevent and restrain such violations.

(d) Upon his own motion, or if complaint is made to the President that abuses inimical to the public interest, and contrary to the policy herein declared are prevalent in any trade or industry or subdivision thereof, and if no code of fair competition therefor has theretofore been approved by the President, the President, after such public notice and hearing as he shall specify, may prescribe and approve a code of fair competition for such trade or industry or subdivision thereof, which shall have the same effect as a code of fair competition approved by the President under subsection (a) of this section.

(e) On his own motion, or if any labor organization, or any trade or industrial organization, association, or group, which has complied with the provisions of this title, shall make complaint to the President that any article or articles are being imported into the United States in substantial quantities or increasing ratio to domestic production of any competitive article or articles and on such terms or under such conditions as to render ineffective or seriously to endanger the maintenance of any code or agreement under this title, the President may cause an immediate investigation to be made by the United States Tariff Commission, which shall give precedence to investigations under this subsection, and if, after such investigation and such public notice and hearing as he shall specify, the President shall find the existence of such facts, he shall, in order to effectuate the policy of this title, direct that the article or articles concerned shall be permitted entry into the United States only upon such terms and conditions and subject to the payment of such fees and to such limitations in the total quantity which may be imported (in the course of any specified period or periods) as he shall find it necessary to prescribe in order that the entry thereof shall not render or tend to render ineffective any code or agreement made under this title. In order to enforce any limitations imposed on the total quantity of imports in any specified period or periods, of any article or articles under this subsection, the President may forbid the importation of such article or articles unless the importer shall have first obtained from the Secretary of the Treasury a license pursuant to such regulations as the President may prescribe. Upon information of any action by the President under this subsection the Secretary of the Treasury shall, through the proper officers, permit entry of the article or articles specified only upon such terms and conditions and subject to such fees, to such limitations in the quantity which may be imported, and to such requirements of license, as the President shall have directed. The decision of the President as to facts shall be conclusive. Any condition or limitation of entry under this subsection shall continue in effect until the President shall find and inform the Secretary of the Treasury that the conditions which led to the imposition of such condition or limitation upon entry no longer exists.

(f) When a code of fair competition has been approved or prescribed by the President under this title, any violation of any provision thereof in any transaction in or affecting interstate or foreign commerce shall be a misdemeanor and upon conviction thereof an offender shall be fined not more than \$500 for each offense, and each day such violation continues shall be deemed a separate offense.

SEC. 4. *Agreements and licenses.*—(a) The President is authorized to enter into agreements with, and to approve voluntary agreements between and among, persons engaged in a trade or industry, labor organizations, and trade or industrial organizations, associations, or groups, relating to any trade or industry, if in his judgment such agreements will aid in effectuating the policy of this title with respect to transactions in or affecting interstate or foreign commerce, and will be consistent with the requirements of clause (2) of subsection (a) of section 3 for a code of fair competition.

(b) Whenever the President shall find that destructive wage or price cutting or other activities contrary to the policy of this title are being practiced in any trade or industry or any subdivision thereof, and, after such public notice and hearing as he shall specify, shall find it essential to license business enterprises in order to make effective a code of fair competition or an agreement under this

title or otherwise to effectuate the policy of this title, and shall publicly so announce, no person shall, after a date fixed in such announcement, engage in or carry on any business, in or affecting interstate or foreign commerce, specified in such announcement, unless he shall have first obtained a license issued pursuant to such regulations as the President shall prescribe. The President may suspend or revoke any such license, after due notice and opportunity for hearing, for violations of the terms or conditions thereof. Any order of the President suspending or revoking any such license shall be final if in accordance with law. Any person who, without such a license or in violation of any condition thereof, carries on any such business for which a license is so required, shall, upon conviction thereof, be fined not more than \$500, or imprisoned not more than six months, or both, and each day such violation continues shall be deemed a separate offense. Notwithstanding the provisions of section 2 (c), this subsection shall cease to be in effect at the expiration of 1 year after the date of enactment of this act or sooner if the President shall by proclamation or the Congress shall by joint resolution declare that the emergency recognized by section 1 has ended.

SEC. 5. *Suspension of antitrust laws.*—While this title is in effect (or in the case of a license, while section 4 (a) is in effect) and for 60 days thereafter, any code, agreement, or license approved, prescribed, or issued and in effect under this title, and any action complying with the provisions thereof taken during such period, shall be exempt from the provisions of the antitrust laws of the United States.

Nothing in this act, and no regulation thereunder, shall prevent an individual from pursuing the vocation of manual labor and selling or trading the products thereof; nor shall anything in this act, or regulation thereunder, prevent anyone from marketing or trading the produce of his farm.

SEC. 6. *Limitations upon application of title.*—(a) No trade or industrial association or group shall be eligible to receive the benefit of the provisions of this title until it files with the President a statement containing such information relating to the activities of the association or group as the President shall by regulation prescribe.

(b) The President is authorized to prescribe rules and regulations designed to insure that any organization availing itself of the benefits of this title shall be truly representative of the trade or industry or subdivision thereof represented by such organization. Any organization violating any such rule or regulation shall cease to be entitled to the benefits of this title.

(c) Upon the request of the President, the Federal Trade Commission shall make such investigations as may be necessary to enable the President to carry out the provisions of this title, and for such purposes the Commission shall have all the powers vested in it with respect of investigations under the Federal Trade Commission Act, as amended.

SEC. 7. *Conditions, etc.; limited code prescribed.*—(a) Every code of fair competition, agreement, and license approved, prescribed, or issued under this title shall contain the following conditions: (1) That employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection; (2) that no employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing; and (3) that employers shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment, approved or prescribed by the President.

(b) The President shall, so far as practicable afford every opportunity to employers and employees in any trade or industry or subdivision thereof with respect to which the conditions referred to in clauses (1) and (2) of subsection (a) prevail, to establish by mutual agreement, the standards as to the maximum hours of labor, minimum rates of pay, and such other conditions of employment as may be necessary in such trade or industry or subdivision thereof to effectuate the policy of this title; and the standards established in such agreements, when approved by the President, shall have the same effect as a code of fair competition, approved by the President under subsection (a) of section 3.

(c) Where no such mutual agreement has been approved by the President, he may investigate the labor practices, policies, wages, hours of labor, and conditions of employment in such trade or industry or subdivision thereof; and upon the basis of such investigations, and after such hearings as the President finds advisable, he is authorized to prescribe a limited code of fair competition fixing

such maximum hours of labor, minimum rates of pay, and other conditions of employment in the trade or industry or subdivision thereof investigated as he finds to be necessary to effectuate the policy of this title, which shall have the same effect as a code of fair competition approved by the President under subsection (a) of section 3. The President may differentiate according to experience and skill of the employees affected and according to the locality of employment; but no attempt shall be made to introduce any classification according to the nature of the work involved which might tend to set a maximum as well as a minimum wage.

(d) As used in this title, the term "person" includes any individual, partnership, association, trust, or corporation; and the terms "interstate and foreign commerce" and "interstate or foreign commerce" include, except where otherwise indicated, trade or commerce among the several States and with foreign nations, or between the District of Columbia or any Territory of the United States and any State, Territory, or foreign nation, or between any insular possessions or other places under the jurisdiction of the United States, or between any such possession or place and any State or Territory of the United States or the District of Columbia or any foreign nation, or within the District of Columbia or any Territory or any insular possession or other place under the jurisdiction of the United States.

SEC. 8. *Application of Agricultural Adjustment Act.*—(a) This title shall not be construed to repeal or modify any of the provisions of title I of the act entitled "An act to relieve the existing national economic emergency by increasing agricultural purchasing power, to raise revenue for extraordinary expenses incurred by reason of such emergency, to provide emergency relief with respect to agricultural indebtedness, to provide for the orderly liquidation of joint-stock land banks, and for other purposes", approved May 12, 1933; and such title I of said act approved May 12, 1933, may for all purposes be hereafter referred to as the "Agricultural Adjustment Act."

(b) The President may, in his discretion, in order to avoid conflicts in the administration of the Agricultural Adjustment Act and this title, delegate any of his functions and powers under this title with respect to trades, industries, or subdivisions thereof which are engaged in the handling of any agricultural commodity or product thereof, or of any competing commodity or product thereof, to the Secretary of Agriculture.

SEC. 9. *Oil regulation.*—(a) The President is further authorized to initiate before the Interstate Commerce Commission proceedings necessary to prescribe regulations to control the operations of oil pipe lines and to fix reasonable, compensatory rates for the transportation of petroleum and its products by pipe lines, and the Interstate Commerce Commission shall grant preference to the hearings and determination of such cases.

(b) The President is authorized to institute proceedings to divorce from any holding company any pipe-line company controlled by such holding company which pipe-line company by unfair practices or by exorbitant rates in the transportation of petroleum or its products tends to create a monopoly.

(c) The President is authorized to prohibit the transportation in interstate and foreign commerce of petroleum and the products thereof produced or withdrawn from storage in excess of the amount permitted to be produced or withdrawn from storage by any State law or valid regulation or order prescribed thereunder, by any board, commission, officer, or other duly authorized agency of a State. Any violation of any order of the President issued under the provisions of this subsection shall be punishable by fine of not to exceed \$1,000, or imprisonment for not to exceed 6 months, or both.

SEC. 10. *Rules and regulations.*—(a) The President is authorized to prescribe such rules and regulations as may be necessary to carry out the purposes of this title, and fees for licenses and for filing codes of fair competition and agreements, and any violation of any such rule or regulation shall be punishable by fine of not to exceed \$500, or imprisonment for not to exceed 6 months, or both.

(b) The President may from time to time cancel or modify any order, approval, license, rule, or regulation issued under this title; and each agreement, code of fair competition, or license approved, prescribed, or issued under this title shall contain an express provision to that effect.

Labor provisions regarding construction under title II.—The launching of a \$3,300,000,000 construction program and the appointment of an administrator were provided for under title II of the act. The contemplated projects under the program of public works included public

highways and buildings, conservation and development of natural resources, projects carried on by public authority or with public aid to serve the interests of the general public, and construction, etc. (under public regulation), of low-cost housing and slum-clearance projects.

Provisions of title II of particular interest to labor were those relating to the establishment of minimum rates in contracts and bids for Federal-aid highway projects, such rates to be predetermined by the State highway department. All contracts let for construction projects were required to contain provisions—

* * * (1) that no convict labor shall be employed on any such project; (2) that (except in executive, administrative, and supervisory positions), so far as practicable and feasible, no individual directly employed on any such project shall be permitted to work more than 30 hours in any 1 week; (3) that all employees shall be paid just and reasonable wages, which shall be compensation sufficient to provide, for the hours of labor as limited, a standard of living in decency and comfort; (4) that in the employment of labor in connection with any such project, preference shall be given, where they are qualified, to ex-service men with dependents and then in the following order: (A) To citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the political subdivision and/or county in which the work is to be performed, and (B) to citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona fide residents of the State, Territory, or District in which the work is to be performed: *Provided*, That these preferences shall apply only where such labor is available and qualified to perform the work to which the employment relates; and (5) that the maximum of human labor shall be used in lieu of machinery wherever practicable and consistent with sound economy and public advantage.

In requesting the passage of the industrial recovery legislation by Congress the President in his message of May 17, 1933, stated:

My first request is that (I) the Congress provide for the machinery necessary for a great cooperative movement throughout all industry in order to obtain wide reemployment, to shorten the work week, to pay a decent wage for the shorter week and to prevent unfair competition and disastrous overproduction.

Employers cannot do this singly or even in organized groups, because such action increases costs and thus permits cutthroat underselling by selfish competitors unwilling to join in such a public-spirited endeavor.

One of the great restrictions upon such cooperative efforts up to this time has been our antitrust laws. They were properly designed as the means to cure the great evils of monopolistic price fixing. They should certainly be retained as a permanent assurance that the old evils of unfair competition shall never return. But the public interest will be served if, with the authority and under the guidance of government, private industries are permitted to make agreements and codes insuring fair competition. However, it is necessary, if we thus limit the operation of antitrust laws to their original purpose, to provide a rigorous licensing power in order to meet rare cases of noncooperation and abuse. Such a safeguard is indispensable.

Industrial coverage of title I.—The National Industrial Recovery Act did not list the specific industries and trades to be placed under codes except that provision was made for avoidance of any conflict that might arise between this act and the Agricultural Adjustment Act enacted a month earlier, May 12, 1933. The National Recovery Administration in putting the act into effect, proceeded on the theory that all industry and trade, including public utilities and communications, should be made subject to codes. Motor transportation and transit lines were regarded as within this jurisdiction but railroad transportation was not included, on the assumption that all questions dealing with the railroads should properly be handled by the Federal Coordinator of Transportation designated under the Emergency Railroad Transportation Act, 1933, as the agent "to investigate and

consider means, * * * of improving transportation conditions * * * the stability of railroad labor employment and other improvement of railroad labor conditions and relations * * *.”

To avoid conflict between the Recovery Act and the Agricultural Adjustment Act the President was authorized to delegate to the Secretary of Agriculture any of his functions under the National Industrial Recovery Act with respect to trades or industries engaged in handling any agricultural commodity, an authorization of which the President availed himself. Under the two acts it was the purpose to do for agriculture what the National Industrial Recovery Act alone was designed to accomplish for industry. Code making, with the establishment of minimum standards for working conditions, the right of employer and labor groups to act together, and the control of unfair competitive practices, was open to agriculture and industry alike.

According to the Agricultural Adjustment Act the term “basic agricultural commodity” means wheat, cotton, tobacco, and milk and its products, and any regional or market classification, type, or grade thereof. The right was reserved to the Secretary of Agriculture to exclude from the provisions any such commodity, or classification, type, or grade thereof, if he should find after proper investigation and hearing that the provisions in that regard could not be effectively administered for any period.

During the early months of operation of these two acts the responsibility for codes of fair competition for all agricultural commodities was jointly held by the Secretary of Agriculture and the Administrator for Industrial Recovery with both officials submitting reports to the President endorsing the code presented for his approval. Hearings as to the labor provisions of such codes were held by the National Recovery Administration in accordance with the standards laid down in the original legislation.

The President in a formal pronouncement made changes in the jurisdiction over agricultural codes (Executive order, Jan. 8, 1934). Under this order certain codes were to remain under joint jurisdiction of the Agricultural Adjustment Administration and the National Recovery Administration; others were transferred in their entirety to the National Recovery Administration but with the Secretary of Agriculture giving written approval of trade practice and related provisions; and others were transferred to the National Recovery Administration without restriction.

The National Recovery Administration listed, in a release of January 9, 1934, the following codes which were to be retained by the Agricultural Adjustment Administration and the National Recovery Administration jointly:

Anticholera hog serum.	- Egg and poultry.
Butter.	Feed, hay, and straw distributors.
Cheese.	Feed manufacturers.
Cigarette manufacturers.	Fruits and vegetables, fresh.
Corn millers.	Grain, country elevators.
Corn products.	Grain exchanges.
Cotton exchange, New York.	Grain, flour milling.
Cotton exchange, New Orleans.	Grain, terminal elevators.
Cotton traders.	Hog exchanges.
Cottonseed crushing.	Ice cream.
Cottonseed-oil refining.	Linseed oil.

Livestock marketing agency industry.	Sugar exchanges.
Maltsters.	Sugar (beet) producing.
Meat packers.	Sugar refining.
Milk, evaporated.	Tobacco, cigar manufacturing.
Milk, fluid.	Tobacco leaf dealers.
Naval stores.	Warehouse, cotton.
Oleomargarine.	Warehouse, refrigerated.
Poultry breeders.	Warehouse, rice.
Rice.	Warehouse, tobacco.
Stockyards operators.	Warehouse, wool and mohair.

Codes to be transferred to the National Recovery Administration but for which the Agricultural Adjustment Administration was to give approval of trade-practice provisions, etc., were:

Beans (dried), shippers.	Pickle packing.
Brooms, manufacturing.	Pop-corn manufacturing.
Canners.	Potato-chip manufacturing.
Feed, retail.	Preserves.
Florists.	Rendering.
Hides and skins, dealers.	Seed producing and shippers.
Peanuts, millers.	Soybean-oil manufacturing.
Pecan distributors.	Vinegar manufacturing.
Pecan shellers.	

Codes to be handled in their entirety by the National Recovery Administration included all those not falling in the foregoing classes.

The National Recovery Administration and the insular possessions.—According to a ruling rendered by the Attorney General of the United States on December 2, 1933, the Philippine Islands were declared not to fall under the provisions of the National Industrial Recovery Act, but goods imported from the Philippine Islands into the United States were subject to the import provisions in section 3 (e) of the act.

By an order of the National Recovery Administration, issued in July 1934, the way was prepared for industries and trades in Hawaii and Puerto Rico to enter into agreement with the Administrator, much as industry within the United States was blanketed under the President's Reemployment Agreement pending adoption of individual codes. The same order fixed the effective dates of codes in Hawaii and Puerto Rico and provided for modifications of codes, the application of which might result in inequities in these Territories.

The order read as follows:

(1) Trades and industries in Hawaii and Puerto Rico are exempted until September 1 from codes heretofore approved. They are exempted from codes hereafter approved for a period of 6 weeks following the approval dates. Such exemptions may be terminated or extended for a trade or industry as hereafter provided or as the deputy administrator for such Territory shall order.

(2) This order shall not affect (a) exceptions or exemptions heretofore or hereafter granted a specified trade, industry, person or persons, and (b) any code or modification of a code for a trade or industry or subdivision thereof in Hawaii or Puerto Rico.

(3) At any time before the expiration of an exemption under paragraph (1) of this order application may be made by trade or industrial associations or groups in Hawaii or Puerto Rico for (a) modification of such code in its application to such Territory or (b) the approval of a separate code for such trade or industry in such Territory.

(4) At any time before the expiration of an exemption under paragraph (1) any person directly affected and claiming application of the code in the Territory will be unjust to him * * * may be given an opportunity for a hearing * * * and application of the code for the Territory may be stayed, if justice requires, for all similarly affected, pending determination of the issue.

(5) An exemption under paragraph (1) shall, if the deputy administrator for the Territory shall so order for a trade or industry in that Territory, have effect only as to those who enter into an agreement (somewhat similar to the President's Reemployment Agreement) with the Administrator.

(6) Persons participating in any application provided for in paragraphs (3) or (4) of this order who require N. R. A. labels before such labels can be issued under a code of fair competition * * * shall be entitled to such labels if they have entered into and are complying with such an agreement. They may obtain such labels from the code authority concerned or from the deputy administrator for Hawaii or for Puerto Rico. These administrators are hereby authorized to issue such labels. Those for Hawaii shall be marked "H" and those for Puerto Rico, "P R."

Extension of National Industrial Recovery Act

FOLLOWING the action of the Supreme Court terminating the code-making powers of the President certain provisions of title I of the Recovery Act were extended until April 1, 1936. This was provided for by Public Resolution No. 26, Seventy-fourth Congress (S. J. Res. 113), adopted on June 14, 1935, or 2 days before the Recovery Act would otherwise have expired. The resolution reads:

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That section 2 (c) of title I of the National Industrial Recovery Act is amended by striking out "at the expiration of 2 years after the date of enactment of this act" and inserting in lieu thereof "on April 1, 1936."

SECTION 2. All the provisions of title I of such act delegating power to the President to approve or prescribe codes of fair competition and providing for the enforcement of such codes are hereby repealed: *Provided*, That the exemption provided in section 5 of such title shall extend only to agreements and action thereunder (1) putting into effect the requirements of section 7 (a) including minimum wages, maximum hours, and prohibition of child labor; and (2) prohibiting unfair competitive practices which offend against existing law, including the antitrust laws, or which constitute unfair methods of competition under the Federal Trade Commission Act, as amended.

The President's Reemployment Agreement

AS IT was early recognized that speed in placing industry under codes was extremely desirable and that the drafting of individual codes, with the necessary public hearings, etc., would take considerable time, the President, in July 1933, decided to ask employers of the country generally to agree to adopt a temporary schedule of minimum wages and maximum weekly hours pending adoption of regular codes for their particular industries. Accordingly, an agreement designated as the "President's Reemployment Agreement" (popularly referred to as the "blanket code") was drawn up and sent to employers requesting voluntary cooperation in the movement to put men to work and increase earnings. The original agreement became effective September 1, 1933, and expired on December 31, but the President invited employers to enter into a further agreement, under the then existing terms, for an additional 4-month period, from January 1 to April 30, 1934. Thereupon, such employers as were not under codes were invited to continue under the President's Agreement until codification of their industries should take place.

The text of the Reemployment Agreement follows:

PRESIDENT'S REEMPLOYMENT AGREEMENT

(Authorized by section 4 (a), National Industrial Recovery Act)

During the period of the President's emergency reemployment drive, that is to say, from August 1 to December 31, 1933, or to any earlier date of approval of a code of fair competition to which he is subject, the undersigned hereby agrees with the President as follows:

(1) After August 31, 1933, not to employ any person under 16 years of age, except that persons between 14 and 16 may be employed (but not in manufacturing or mechanical industries) for not to exceed 3 hours per day and those hours between 7 a. m. and 7 p. m. in such work as will not interfere with hours of day school.

(2) Not to work any accounting, clerical, banking, office, service, or sales employees (except outside salesmen) in any store, office, department, establishment, or public utility, or on any automotive or horse-drawn passenger, express, delivery, or freight service, or in any other place or manner, for more than 40 hours in any 1 week and not to reduce the hours of any store or service operation to below 52 hours in any 1 week, unless such hours were less than 52 hours per week before July 1, 1933, and in the latter case not to reduce such hours at all.

(3) Not to employ any factory or mechanical worker or artisan more than a maximum week of 35 hours until December 31, 1933, but with the right to work a maximum week of 40 hours for any 6 weeks within this period; and not to employ any worker more than 8 hours in any 1 day.

(4) The maximum hours fixed in the foregoing paragraphs (2) and (3) shall not apply to employees in establishments employing not more than two persons in towns of less than 2,500 population, which towns are not part of a larger trade area; nor to registered pharmacists or other professional persons employed in their profession; nor to employees in a managerial or executive capacity, who now receive more than \$35 per week; nor to employees on emergency maintenance and repair work; nor to very special cases where restrictions of hours of highly skilled workers on continuous processes would unavoidably reduce production but, in any such special case, at least time and one-third shall be paid for hours worked in excess of the maximum. Population for the purposes of this agreement shall be determined by reference to the 1930 Federal census.

(5) Not to pay any of the classes of employees mentioned in paragraph (2) less than \$15 per week in any city of over 500,000 population, or in the immediate trade area of such city; nor less than \$14.50 per week in any city of between 250,000 and 500,000 population, or in the immediate trade area of such city; nor less than \$14 per week in any city of between 2,500 and 250,000 population, or in the immediate trade area of such city; and in towns of less than 2,500 population to increase all wages by not less than 20 percent, provided that this shall not require wages in excess of \$12 per week.

(6) Not to pay any employee of the classes mentioned in paragraph (3) less than 40 cents per hour unless the hourly rate for the same class of work on July 15, 1929, was less than 40 cents per hour, in which latter case not to pay less than the hourly rate on July 15, 1929, and in no event less than 30 cents per hour. It is agreed that this paragraph establishes a guaranteed minimum rate of pay regardless of whether the employee is compensated on the basis of a time rate or on a piecework performance.

(7) Not to reduce the compensation for employment now in excess of the minimum wages hereby agreed to (notwithstanding that the hours worked in such employment may be hereby reduced) and to increase the pay for such employment by an equitable readjustment of all pay schedules.

(8) Not to use any subterfuge to frustrate the spirit and intent of this agreement which is, among other things, to increase employment by a universal covenant, to remove obstructions to commerce, and to shorten hours and to raise wages for the shorter week to a living basis.

(9) Not to increase the price of any merchandise sold after the date hereof over the price on July 1, 1933, by more than is made necessary by actual increases in production, replacement, or invoice costs of merchandise, or by taxes or other costs resulting from action taken pursuant to the Agricultural Adjustment Act, since July 1, 1933, and, in setting such price increases, to give full weight to probable increases in sales volume and to refrain from taking profiteering advantage of the consuming public.

(10) To support and patronize establishments which also have signed this agreement and are listed as members of N. R. A. (National Recovery Administration).

(11) To cooperate to the fullest extent in having a code of fair competition submitted by his industry at the earliest possible date, and in any event before September 1, 1933.

(12) Where, before June 16, 1933, the undersigned had contracted to purchase goods at a fixed price for delivery during the period of this agreement, the undersigned will make an appropriate adjustment of said fixed price to meet any increase in cost caused by the seller having signed this President's Reemployment Agreement or having become bound by any code of fair competition approved by the President.

(13) This agreement shall cease upon approval by the President of a code to which the undersigned is subject; or, if the N. R. A. so elects, upon submission of a code to which the undersigned is subject and substitution of any of its provisions for any of the terms of this agreement.

(14) It is agreed that any person who wishes to do his part in the President's reemployment drive by signing this agreement, but who asserts that some particular provision hereof, because of peculiar circumstances, will create great and unavoidable hardship, may obtain the benefits hereof by signing this agreement and putting it into effect and then, in a petition approved by a representative trade association of his industry, or other representative organization designated by N. R. A., may apply for a stay of such provision pending a summary investigation by N. R. A., if he agrees in such application to abide by the decision of such investigation. This agreement is entered into pursuant to section 4 (a) of the National Industrial Recovery Act and subject to all the terms and conditions required by sections 7 (a) and 10 (b) of that act.

Modifications of the President's Reemployment Agreement

CERTAIN modifications were made from time to time in the terms of the original Reemployment Agreement, the more important ones being as follows:

Limitation of hours of labor of factory workers to 35 per week.—In the original agreement workers could be employed for a maximum of 40 hours during 6 weeks prior to the close of the year 1933. An Executive order of October 1, 1933, modified this section to read:

(3) Not to employ any factory or mechanical worker or artisan more than a maximum week of 35 hours until December 31, 1933; and not to employ any worker more than 8 hours in any 1 day.

Application of agreement in small establishments and small towns.—In the President's order of October 23, 1933, application of the Reemployment Agreement, and of codes as well, in small establishments and small towns was changed in the following particulars:

The provisions of the President's Reemployment Agreement, issued July 27, 1933, shall not be held to apply to employers engaged only locally in retail trade, or in local service industries (and not in a business in or affecting interstate commerce) who do not employ more than 5 persons and who are located in towns of less than 2,500 population (according to the 1930 Federal census) which are not in the immediate trade area of a city of larger population, except so far as such employers who have signed the President's Reemployment Agreement desire to continue to comply with the terms of said agreement after the date of this order; and this release of such employers who have heretofore signed the President's Reemployment Agreement shall be further extended so as to release to the same extent all such employers of obligations not voluntarily assumed under the provisions of a code of fair competition approved by the President. This exemption is intended to relieve small business enterprises in small towns from fixed obligations which might impose exceptional hardship, but it is expected that all such enterprises will conform to the fullest extent possible with the requirements which would be otherwise obligatory upon them.

Overtime work.—The maximum-hours provisions of the President's Reemployment Agreement were modified to permit the necessary

overtime work during 2 consecutive weeks in connection with year-end inventories, provided one and one-half times the regular hourly rate was paid for hours exceeding the daily and weekly maximums. This modification was ordered on December 18, 1933, by the Administrator on recommendation of the Compliance Board, this body pointing out that provision for taking inventories provided under the codes was not made a part of the original Reemployment Agreement.

Definitions of "executives" and "managers."—In order to prevent evasions and the giving of meaningless titles to minor employees to exempt them from the hours provisions under the President's Reemployment Agreement and modifications thereof, the Administrator made the following statement defining "manager" and "executive":

In the President's Reemployment Agreement it is provided that the maximum hours shall not apply "to employees in a managerial or executive capacity who now receive more than \$35 per week."

There are provisions in various codes excepting from the limitation upon hours of those described as "managers" or "executives" and complaint has been received that in many instances employees are classified as "managers" or "executives" either for the purpose, or with the result, of exempting them from limitations upon hours. It has not been the intention of the Administration in approving such exceptions to provide for the exemption of any persons other than those who exercise real managerial or executive authority, which persons are invested with responsibilities entirely different from those of the wage earner and come within the class of the higher salaried employees.

It will be presumed that no employee receiving less than \$35 per week will be classified as a "manager" or "executive" so as to be exempt from any provision of any code regulating the maximum hours of work permitted in a trade or industry. Violations of the requirements of any code, as here interpreted, should be reported to the National Recovery Administration.

Substandard workers.—Exemption of physically or mentally defective workers from the minimum wage provisions of the Reemployment Agreement was permitted under prescribed conditions:

A person whose earning power is limited because of physical or mental defect, age, or other infirmity, may be employed on light duty below the minimum wage set by the President's Agreement, if the employer obtains from the State authority designated by the United States Department of Labor a certificate authorizing his employment at such wages and for such hours as shall be stated in the certificate. State authorities will be guided by the instructions of the United States Department of Labor in issuing certificates to such persons.

Substitutions allowed for individual industries and firms.—In connection with the President's Reemployment Agreement, whereby employers voluntarily agreed to abide by certain fixed minimum wages and maximum hours pending adoption of specific codes for their respective industries, the policy was adopted of permitting certain substitutions in the labor provisions adopted. Early action to obtain such substitutions was taken in the textile industries, many of which were brought under the labor provisions of the cotton-textile code by Executive order, pending the adoption of their own codes. A large group of additional industries applied and received authorization to operate under the wages and hours provisions of codes filed with the National Recovery Administration but which had not been approved. In certain cases, also, individual firms were granted certain "provisional" exemptions when it was felt that full compliance would work undue hardship.

Agreements not superseded.—Where contractual relations existed it was ruled that the President's Reemployment Agreement would not supersede the provisions as to wages and hours mutually agreed to by employers and employees through collective bargaining.

Organization and Procedure of the National Recovery Administration

WITH the signing of the Recovery Act the President named Hugh S. Johnson as National Recovery Administrator. A Special Industrial Recovery Board was also appointed under the chairmanship of the Secretary of Commerce and having as members the Attorney General, the Secretaries of the Interior, Agriculture, and Labor, and the Chairman of the Federal Trade Commission, a body whose functions and personnel were taken over by the National Emergency Council on December 19, 1933. Three special advisory boards were established—i. e., a Labor Advisory Board appointed by the Secretary of Labor, an Industrial Advisory Board appointed by the Secretary of Commerce, and a Consumers' Advisory Board—to act in an advisory capacity to the Administrator and his assistants and to see that the respective groups so represented should be heard in deliberations of the National Recovery Administration through representatives of their own choosing. A National Recovery Review Board was added subsequently to advise on matters affecting small industries. This Board was replaced by the Industrial Appeals Board on July 14, 1934, created to hear complaints against codes and to protect small businesses (see p. 535).

Starting with this nucleus, a working organization was evolved, with the Administrator acting as the immediate agent of the President, but with the power to approve codes or modify existing code provisions concentrated in the President's hands. This procedure was later altered somewhat, the President, by Executive order of December 30, 1933, empowering the Administrator to approve codes for industries with 50,000 or fewer employees and also to approve any amendment or modification of existing code provisions. In turn the Administrator early in April 1934 delegated these powers to a subordinate administrative officer who was authorized to act on all matters not requiring the personal attention of the Administrator.

The organization outlined above remained unchanged until September 1934, when General Johnson resigned and a board system of administration was established. This action was taken by the President in Executive orders of September 27, 1934. By these orders two committees to direct future progress of recovery measures were named. The Industrial Emergency Committee, originally created on June 30, 1934, was given duties in connection with the coordination of relief measures, public works, and labor disputes, and the determination of administrative policies in connection with the National Industrial Recovery Act.

Members of the Industrial Emergency Committee were designated as follows: The Secretary of the Interior, the Secretary of Labor, the Chairman of the National Industrial Recovery Board, the Administrator of Agricultural Adjustment, the Administrator of Federal Emergency Relief, and the director who served the Industrial Emergency Committee prior to its reorganization, Donald R. Richberg.

The National Industrial Recovery Board was authorized to administer title I of the Recovery Act. This board took over the duties of the National Recovery Administrator.

The National Industrial Recovery Board was originally made up of five members: S. Clay Williams, former president of the Reynolds

Tobacco Co.; Arthur D. Whiteside, president of Dun & Bradstreet, Inc.; Sidney Hillman, president of the Amalgamated Clothing Workers; Leon C. Marshall, former college professor and labor specialist; and Walton H. Hamilton, professor of constitutional law at Yale University. The Board was empowered to elect a chairman and executive secretary from its membership, both of whom were to serve at the pleasure of the Board. The legal adviser and the economic adviser were named ex-officio members of the Board.

The President reconstituted the National Industrial Recovery Board on March 21, 1935, when he named one additional representative each of employers and employees to serve and appointed Donald R. Richberg as a member and acting chairman to fill the vacancy created by the resignation of S. Clay Williams on March 22. The following members were continued: A. D. Whiteside, Sidney Hillman, Leon C. Marshall, and Walton Hamilton. In addition to Mr. Richberg, the new appointees were William P. Witherow and Philip Murray. By this action the President enlarged the regular membership of the Board and discontinued the two ex-officio members named in the original order which placed the administration of the National Industrial Recovery Act under a board instead of a single administrator. The ex-officio members previously joining in the Board's deliberations were the economic and legal advisers of the National Recovery Administration.

By Executive Order No. 7075 of June 15, 1935, the National Recovery Administration was reorganized and the Board terminated in pursuance of the provisions of the Recovery Act and the joint resolution amending it. The Office of Administrator was again created in connection with the continuance of the administration of title I of the Recovery Act. James L. O'Neill was named Acting Administrator and the powers previously accorded the Board were conferred upon him. At the same time the Division of Review was established to analyze the experience under codes; the Division of Business Cooperation was formed as an aid to maintenance of standards of fair competition; and the Advisory Council—composed of Charles Edison, Howell Cheney, Philip Murray, William Green, Emily Newell Blair, and Walton H. Hamilton—was provided.

The offices were later supplemented when the President re-created the Office of Adviser on Consumers' Problems by order of July 30, 1935, made the adviser a member of the National Emergency Council, and named Walton H. Hamilton to the office; and on September 26, when the Office of Coordinator for Industrial Cooperation was created and George L. Berry appointed for the position by the terms of the order. The duties of the Coordinator were described as including supervision of conferences of employers, labor, and consumers dealing with problems of recovery, and related subjects and coordinating changes within the Recovery Administration.

The reorganization of the Advisory Council and an extension of its duties were announced by the National Recovery Administration on October 7, 1934. The council, originally formed to bring together the views of the National Recovery Administration's three advisory boards—the Industrial, Labor, and Consumers' Advisory Boards—was composed of three representatives from each. The new council retained the same total membership of nine, but each of the advisory bodies was allowed one representative less and the three positions

left open were filled by one representative chosen from the legal division, one from the research division, and a third, known as a special assistant, designated by the National Industrial Recovery Board, acting as chairman.

The duties of the Advisory Council were to act in an advisory capacity, as the name of the council implies, and to make specific recommendations on matters of policy, the latter having formerly come within the province of the Assistant Administrator for Policy.

Code Making

THE usual procedure in the framing of codes was as follows: The draft of a code was submitted to the N. R. A. by the trade association or associations within a particular industry. Public hearings were held before a deputy administrator, at which all parties concerned were privileged to appear and make suggestions for changes. The Labor Advisory Board, the Industrial Advisory Board, and the Consumers' Advisory Board were also consulted. Thereupon, a final draft of a code was framed by the deputy administrator and submitted to the Administrator. If approved by him, it was then submitted to the President, and if, in turn, approved by the President, with or without modifications, was promulgated as a code applicable to the entire coverage of that industry.

Administration of Codes

UNDER each code, there was created an administrative body known as the "code authority." This code authority was made up primarily of employer representatives but with representation of the Government in all cases, and with labor representation occasionally, such as in the bituminous-coal, men's clothing, and hosiery industries, all of which are industries in which collective bargaining had been more or less prevalent for many years.

The National Recovery Administrator on November 5, 1933, clarified the position and duties of code authorities, trade associations, and other agencies of industrial self-government under the National Industrial Recovery Act as follows:

The function of code administration lies primarily with the code authority provided for in each code. Nevertheless, it is the responsibility of the National Recovery Administration that the code be administered. Whenever, as in the bituminous-coal code, an industry is organized for self-discipline that function will be accorded it. But in many instances industries are not so organized that they have machinery appropriate to the adjustment of complaints of violations of the trade practice, and other provisions of their codes.

The organization of very few industries is at this time appropriate for the adjustment of complaints of violations of the labor provisions of codes. While, in every case, where the authority is organized, adjustment of fair trade practices will be left to the code authorities, as a general rule the code provides no plan for the adjustment of their labor provisions. The code authority will be permitted to function on labor disputes when provision is made for adequate representation of labor on all committees, boards, or other agencies set up to entertain and adjust complaints by employees against their employers for violations of labor provisions.

Penalties for Noncompliance with Codes

IN ADDITION to the statutory provisions of the act penalizing employers for noncompliance with codes (see sec. 3 (e) and (f)) the Federal Government, as a regular purchaser of the goods of industry and in connection with expenditures for public works, such as those

made through the Public Works Administration, required code compliance as a condition for letting contracts. This matter was ruled on in an Executive order of March 14, 1934, which required duly executed certificates of compliance with codes to which the respective businesses were subject to be filed with bids for Government work.

Collective Agreements with the Force of Codes

SECTION 7 (b) of the National Industrial Recovery Act authorized the President, insofar as practicable, to afford employers and employees opportunity to establish mutual contracts governing working standards. Such agreements when approved by the President became effective and had the same force as codes approved under subsection (a) of section 3. Section 7 (b) follows:

The President shall, so far as practicable, afford every opportunity to employers and employees in any trade or industry or subdivision thereof with respect to which the conditions referred to in clauses (1) and (2) of subsection (a) prevail, to establish by mutual agreement, the standards as to the maximum hours of labor, minimum rates of pay, and such other conditions of employment as may be necessary in such trade or industry or subdivision thereof to effectuate the policy of this title; and the standards established in such agreements, when approved by the President, shall have the same effect as a code of fair competition, approved by the President under subsection (a) of section 3.

Collective agreement in bituminous-coal industry.—The first collective agreement affecting a large number of workers and having the same significance for the industry as the code itself was the Appalachian agreement, covering a large section in the bituminous-coal industry. Under the Appalachian agreement working hours were fixed to conform with the code hours, the code minimum scale of wages was supplemented by rates for classes of employees not covered by the incomplete code scale, tonnage rates were set, and regulations were made governing checkweighmen, settlement of disputes, safety practices, etc. This agreement was the forerunner of others made throughout the various regions of the coal industry and in other industries as well.

Labor agreement under the construction code.—The construction industry code provided for collective-bargaining agreements to be drawn up between employees and employers and submitted to the Board for approval. A collective-bargaining agreement¹ between *tile setters* and their employers in certain counties of Pennsylvania, Ohio, and West Virginia was announced by the National Industrial Recovery Board on May 2, 1935.

The agreement, which covered 17 counties in Pennsylvania, 16 in West Virginia, and 3 in Ohio, provided for a maximum 40-hour, 5-day week, and 8-hour day, with regular hours from 8 a. m. to 4:30 p. m. The minimum wage was fixed at \$1 an hour for all counties except Allegheny County, where the minimum hourly rate was \$1.25. All overtime was to be paid for at double the regular rates.

The volume of work in these localities had declined so greatly between 1929 and 1933 that average annual earnings of employees had dropped from \$2,000 in 1929 to about \$198 in 1933. The Board considered, therefore, that the establishment of uniform rates of pay, uniform hours of work, and improved conditions of employment would benefit the industry as well as employers and consumers.

¹ National Recovery Administration. Press release no. 11166, May 2, 1935.

Several collective-bargaining agreements between employers and employees in the *painting, paper hanging, and decorating* division of the construction industry were also announced by the National Industrial Recovery Board.

In the Pittsburgh area of Allegheny County, Pa., the agreement ² provided for a 40-hour, 5-day week, and 8-hour day, with regular work hours from 8 a. m. to 5 p. m. The minimum wage was set at \$1.20 per hour for painters, decorators, and paper hangers, \$1.25 an hour for grainers, from \$15 to \$35 per week for apprentices, increasing annually during the 3-year apprenticeship. Overtime was to be paid at double the regular rate.

In Pennsylvania in Centre County and all of Clearfield County, except the city of Du Bois and the townships of Sandy, Bell, Huston, Union, and Bloom, the maximum hours ³ were fixed at 40, with a 6-day week, and 8 hours per day with regular daily working hours from 8 a. m. to 4:30 p. m. The minimum wage rate for painters, paper hangers, and decorators was 60 cents per hour, with the scale for apprentices ranging from 30 cents per hour for the first year to 50 cents an hour for the third year.

In New Jersey in the region of Montclair, Bloomfield, Glen Ridge, Verona, Caldwell, Essex Falls, Roseland, North Caldwell, West Caldwell, and Cedar Grove the agreement ⁴ provided for the 40-hour, 5-day week, and 8 hours per day, with the working hours from 8 a. m. to 4:30 p. m. The minimum rate for painters, paper hangers, and decorators was \$1 per hour, with the scale for apprentices ranging from 25 percent of that wage for the first half year to 75 percent for the sixth half year, and 10 cents an hour additional for shift work. Overtime was to be paid at time and one-half the regular rates.

In Texas in nine counties—Smith, Upshur, Rusk, Henderson, Wood, Gregg, Cherokee, Anderson, and Van Zandt—the agreement ⁵ provided for the 40-hour, 5-day week, and 8-hour day, with working hours from 8 a. m. to 5 p. m. The minimum wage for journeymen was fixed at 82½ cents, with the scale for apprentices ranging from 40 percent of the minimum rate for the first year, to 80 percent for the third year, and 5 cents additional for shift work. Overtime was to be paid for at the rate of time and one-half.

In Travis County, Tex., the agreement ⁶ provided for a maximum 40-hour, 5-day week, and 8-hour day, with regular work hours from 8 a. m. to 5 p. m. The minimum hourly wage for painters, paper hangers, and decorators was fixed at \$1, for handicapped persons at 70 cents, and for apprentices from 40 to 70 percent of the regular wage, increasing each 6 months of the period of apprenticeship. Overtime was to be paid for at one and one-half times the regular rate, and double the regular rate was paid for emergency work on holidays.

The agreement ⁷ in Denver County, Colo., and an area embraced in a 15-mile radius from the north, east, and south boundaries of the county, and the entire counties of Jefferson, Clear Creek, and Gilpin, to the southwest, northwest, and west, provided for a maximum 35-hour, 5-day week, and 7-hour day, with regular working hours from 8:30 a. m. to 4:30 p. m. The minimum rate for painters, paper

² National Recovery Administration. Press release no. 11262, May 11, 1935.

³ Idem, Press release no. 11239, May 10, 1935.

⁴ Idem, Press release no. 11231, May 10, 1935.

⁵ Idem, Press release no. 11237, May 10, 1935.

⁶ Idem, Press release no. 11261, May 11, 1935.

⁷ Idem, Press release no. 11233, May 10, 1935.

hangers, and decorators was \$1.10 per hour, with the scale for apprentices ranging from 25 percent of the journeyman's wage for the first year to 75 percent for the third year. Overtime was to be paid for at the rate of time and one-half.

An agreement⁸ in Hamilton County, Ohio, and Kenton and Campbell Counties, Ky., provided for a maximum 40-hour, 5-day week, and 8-hour day from April to September, inclusive, and a 35-hour, 5-day week, and 7-hour day in other months, the working hours being from 8 a. m. to 5 p. m. in the summer period and from 8:30 a. m. to 4:30 p. m. in the winter. The minimum wage was fixed at \$1.20 per hour for painters, paper hangers, and decorators, and \$1.32½ an hour for spray-machine operators. Apprentices received from 25 to 75 percent of the journeyman's wage, an increase being given each 6 months. Overtime during January, February, and March was to be at the regular rate, while in the other months it was paid for at one and one-half the regular rate with double pay for work between 6 p. m. Saturday and 8 a. m. Monday.

Applications by employees and employers in two divisions under the construction code in several Connecticut townships for a 6 months' reduction in code minimum skilled-wage provisions received the approval of the National Industrial Recovery Board, May 10, 1935.⁹

The area affected embraced the townships of Salisbury, North Canaan, Canaan, Sharon, Cornwall, Kent, and Warren, in the county of Litchfield. Under the code the rate for skilled workers in the plumbing contractors' division in the area was fixed at \$1.20 per hour and 50 cents an hour for unskilled workers. The application, submitted by 16 individual firms and 22 journeyman plumbers, claiming to represent the entire industry in the area, asked for a rate of 75 cents per hour for skilled workers and 40 cents per hour for unskilled workers, as it was stated 75 cents an hour was the average wage rate for skilled labor in the area. The 75-cent minimum rate for skilled workers was established by the decision, but the 50-cent rate for unskilled labor was unchanged.

In the *heating, piping, and air-conditioning contractors'* division in the same area the Board granted a reduction of the skilled wage rate from \$1.20 an hour to 90 cents an hour. The applicants in presenting the petition submitted that the journeymen who do heating, piping, and air-conditioning work were also engaged in plumbing work under the same prevailing average community wage. They pointed out that the area in question consisted largely of dairy farms and was situated at some distance from large towns. The reduction was granted, with the provision that accurate employment records should be kept by each member and should be filed with the Board not less than 15 days after the termination of the 6-month period; not less than 30 days before the expiration of the period members should present to the deputy administrator good cause why the wage reduction should not be discontinued; full publicity should be given the Board's order; and all industry members should fully comply with all other provisions of the code.

A collective-bargaining agreement¹⁰ in the *plumbing contracting* division of the construction industry in six townships of Lake County,

⁸ National Recovery Administration. Press release no. 11265, May 13, 1935.

⁹ Idem, Press release no. 11249, May 10, 1935.

¹⁰ Idem, Press release no. 11234, May 14, 1935.

and all of Porter County, Ind., provided for the maximum 8-hour day and 40-hour, 5-day week, with regular hours from 8 a. m. to 4:30 p. m. The minimum-wage rate of journeyman plumbers was set at \$1.20 an hour with a sliding scale for apprentices ranging from 25 percent of the journeyman's wage for the first year to 85 percent in the fifth year. Time and one-half the regular rate was to be paid for overtime.

Special Machinery for the Textile Industry

Establishment of textile planning committee.—A textile planning committee was organized in February 1935 by the National Recovery Administration.¹¹ As its name implies, this committee was set up to formulate long-range plans taking into account the relative competitive positions of the cotton, rayon, silk, and wool divisions of the industry. The committee's duties included removing discrepancies between codes and study of the import and export situation of textiles. This body was not established as an investigating agency, but rather for the purpose of giving all interests an opportunity to come together to prevent a further increase in producing facilities over the existing market requirement.

Nominations to the committee made by the National Recovery Administration included three members of the National Industrial Recovery Board, Arthur D. Whiteside, Sidney Hillman, and Leon Henderson; the fourth nomination was Prentiss Coonley, administrator of the Textile Division of the National Recovery Administration. These representatives met with officials of the United States Department of Labor and the Textile Labor Relations Board on February 26 to designate the permanent membership of the textile planning committee, as it was at first thought appointments might be made from other bodies. However, on March 4 it was announced that the four original nominees of the National Recovery Administration would make up the committee. The Textile Labor Relations Board believed that inasmuch as it might have to adjudicate disputes arising under code provisions it would not be wise to assist in their establishment. The Department of Labor was not represented on the textile planning committee but was to cooperate with it and keep itself informed on the work being carried on.

Work assignment boards.—Work assignment boards were set up in the cotton, wool, and silk textile industries by Executive orders of October 16, 1934, and a fourth order promulgated on the same date provided for a common chairman for the three bodies so established and outlined the rules and regulations under which they should operate.¹² This action was in conformity with the recommendations of the board of inquiry for the cotton-textile industry and represented an effort on the part of the Administration to prevent increases in the speed of operation of machinery and the number of machines tended by individuals, known as the "stretch-out", pending investigation and the establishment of sound and adequate organization for the regulation of work assignments.

By the terms of the respective orders covering the cotton, silk, and wool textile industries, board membership was limited to three persons

¹¹ National Recovery Administration. Press release no. 10265, Feb. 26, 1935; Textile Planning Committee, Press release no. 1, Feb. 26, 1935, no. 2, Mar. 4, 1935, and no. 4, Mar. 5, 1935.

¹² Executive Orders Nos. 6875, 6876, 6877, and 6878, Oct. 16, 1934.

to be named by the Textile Labor Relations Board and including an impartial chairman, one representative of employers in the specific textile division, and one representative of employees.

Cotton and silk boards.—For the cotton and silk textile industries the orders provided that prior to February 1, 1935, no employer might make any change in work assignments for any class of employees whereby the work load was increased over that existing on September 21, 1934.

The board was empowered to require a reduction in the individual load if it found that the task as set required "excessive effort." Both boards had authority to issue rules and regulations and to appoint agents to investigate and make recommendations on procedure.

Wool board.—The order creating the Wool Textile Work Assignment Board made that body responsible for administering paragraph 2 of section 3 of the wool-textile code, which stated that no employee should be required to do any work beyond the standard prevailing for the particular job on July 1, 1933.

Rules and regulations for the three boards.—In the order establishing rules and regulations for the cotton, silk, and wool textile work assignment boards the President stated that all matters involving products of more than one branch of the textile industry must be handled jointly by the work assignment boards of the affected industries. The boards were authorized to study the actual operation of the "stretch-out" in representative plants, including those they might select and others designated by the code authority affected and the United Textile Workers of America. Recommendations were to be submitted to the President before January 1, 1935, for the regulation of work assignments. Unless cause was shown to the contrary, the order specified that the following principles were to be observed in making recommendations:

(a) No employer shall increase the work assignments of any class of work until he has secured authorization therefor from the district impartial chairman (appointed by the textile work assignment board) of the district in which the mill operates. The district impartial chairman shall authorize extensions of work assignments only if the following conditions have been complied with:

(i) The employer has filed with the district impartial chairman and with the representatives of the employees affected a petition for authorization of extension of work assignments. The petition shall include a sworn statement on a form to be provided by the textile work assignment board indicating the conditions which have been established at the mill as the basis for extension.

(ii) A period of 6 weeks has elapsed since the filing of the petition.

(iii) Either (a) the representatives of labor affected have not filed a protest to the proposed extension before the end of the 6-week period, or (b) if such protest has been filed, there has been a public hearing, with such investigation by the district impartial chairman or his agents as he may deem advisable, and the impartial chairman finds that the conditions which have been maintained throughout the 6-week period justify the extension.

If any employer failed to maintain existing standards of work assignments, this was deemed sufficient cause for denial of a petition. Upon employee petition the district impartial chairman might investigate labor assignments established and require a reduction if indicated. Decisions of the district impartial chairman were subject to appeal of the appropriate textile work assignment board, whose decisions were final.

Analysis of Labor Provisions of N. R. A. Codes¹³

THE several hundred industrial codes adopted under the National Industrial Recovery Act contained many differences as regards the standards set up for labor. Nevertheless, an examination of these codes shows the existence of important similarities and rather definite tendencies for many of the labor provisions to group themselves around certain modes or norms, such, for instance, as: A minimum hourly rate of from 30 to 40 cents for unskilled labor; a maximum working week of 40 hours in productive industries, with additional allowances for periods of concentrated demand; more favorable terms for productive factory employees than for office staffs, and less advantageous conditions for maintenance workers than for either of these groups; compensation for overtime work at rates of $1\frac{1}{2}$ to $1\frac{1}{2}$ the regular hourly pay; and elimination of child labor below the age of 16 in nonhazardous employment and below the age of 18 on work considered either hazardous or unhealthful.

In this article the provisions of the various codes are analyzed so as to bring out the points of similarity and dissimilarity and to discover trends toward uniformity in the labor provisions. Because of the great complexity of the labor terms in a number of the codes (such as those establishing several differential rates according to type of labor, location, population, sex, etc.), not all codes have been included in the tabular material presented here. However, even though the tabulations are not exhaustive, study of the various codes shows that the sample used is sufficiently representative to give a correct picture of code standards. In no case have averages been computed, the intention being to show the norms about which the codes tended to center and the variations from the commonly found provisions. The analysis deals primarily with the conditions established for directly productive labor, office employees, and maintenance men. Employees excepted from the protection of code labor standards are considered insofar as the terms of their employment have been the subject of Executive or administrative order.

The analysis takes into account all amendments to the original codes that were available when this study was undertaken, such as the hours-reduction amendments to the bituminous coal, and to the cotton garment and millinery codes, and the increase in working hours under the automobile manufacturing code, as well as the less spectacular extensions of overtime rates of pay and of provisions increasing the age limit for employment in some cases.

In considering code labor standards it must be kept in mind that where a State law established higher standards than those laid down under the recovery legislation, the State law had precedence. Contracts mutually agreed to between employers and employees were likewise binding.

Various changes took place in code making after the beginning of operation under the Recovery Act. In early codes, effort was concentrated on securing a framework upon which to build. It was constantly urged that clarifying amendments might be added after approval. Early codes, for instance, very largely neglected to estab-

¹³ Summary of article by Margaret H. Schoenfeld, published in the *Monthly Labor Review*, March 1935 (pp. 574-603).

lish detailed overtime pay rates. Such omissions tended to be corrected in later codes and there was some revision of existing codes to cover such points.

Numerically important groups of employees who were not under codes at the end of 1934 included those employed in anthracite and precious-metal mining, shipping, public utilities, slaughtering and meat packing, and cigarette manufacturing. In several of these cases, however, the industry was operating under the President's Reemployment Agreement as modified to meet individual industrial needs. This agreement was introduced on September 1, 1933, in order that industry and trade might be temporarily blanketed under fixed labor and other standards, thus avoiding the delay attendant upon individual codification. The electric light and power, gas operating utilities, telegraphic and telephone communications, meat packing, and cigarette manufacturing industries were (at the end of 1934) still operating under the President's Reemployment Agreement as modified, but neither the mining nor the shipping industry employees were so covered.

Extent of Codification

UP TO the middle of December 1934, 535 industrial codes had been approved under the National Industrial Recovery Act.¹⁴ This number did not include about 175 supplementary codes which operated in connection with certain of the master codes. These supplements—the more important of which were those for the construction, cotton, textile, fabricated metal, and machinery and allied products industries and the wholesaling or distributing trade—usually had exactly the same labor provisions as those fixed by the master code. In addition, labor provisions were approved for 18 agricultural processing industries or trades falling under the joint jurisdiction of the Agricultural Adjustment Administration and the National Recovery Administration during the period mentioned. A few subdivisions of industry that it was first expected would be treated separately were, from time to time, brought under the terms of existing codes. This meant merely the elaboration of the definition of the industry in question. The desire to keep the number of individual codes at a minimum also led to withdrawal of at least one code, and the transfer of the industry concerned (cinders, ashes, and scavenger trade) to coverage under other codes.

The monthly load of code approvals reached its peak in the period from October 1933 to March 1934; thereafter there was a rapid decrease.

Many of the large employing industries were codified in the latter part of 1933. These included the cotton textile code with an estimated coverage¹⁵ of about 500,000 workers; the petroleum code with 700,000; bituminous coal, with 500,000; retail trade, with about 2,900,000; fabricated metal products, with 400,000; and retail food, with 600,000 persons. No exact figures were available as to the total coverage of the 535 codes here reviewed. The National Recovery Administration estimated in a report issued in February 1934¹⁶

¹⁴ At the end of 1934 the total had increased to 541 but the 6 additional codes were not available in time for inclusion in this analysis.

¹⁵ U. S. Bureau of Foreign and Domestic Commerce. Trade Association Section, chart no. 5, July 10, 1934.

¹⁶ Report on the operations of the National Recovery Act, p. 7.

that codification of American industry under the industrial self-government program contemplated by the act was 90 percent completed.

Wages Under the Codes

IN SPITE of the general restriction of wage provisions to unskilled labor, over two-thirds of the industries operating under the 535 approved codes secured approval of terms which set separate rates for different groups of productive plant employees and office personnel. Even among the 168 approved codes which provided the same rates of pay for factory and office employees, 98 included some form of wage differential, either on the basis of size of community, geographic area, sex, or a combination of these factors, or by recognizing such differences as between light and other work, or by authorizing a lower wage rate for a certain proportion of the unskilled than for the remaining group. Two major groups in the working force, roughly differentiated in the codes as (1) factory or "general" workers and (2) office employees or "others" were generally covered. The first group included largely the productive working force of plants, attendants in service trades, and sales clerks in retail and wholesale trades. Under some codes it included the office staff as well—that is, the accounting, clerical, and office employees. Where separate minimum rates of pay were set for the office force, it was stated in certain codes that the rate quoted applied to office workers as such; in other codes the rates listed were stated to be for "others" and, by eliminating the classes for which wage rates had been quoted, the term "others" was narrowed down to the office force.

Seventy of the 168 codes which established the same minimum wage for factory and office employees fixed a single minimum, with no differentials of any kind, while the next largest group, 47 in number, provided for a differential based upon geographic area. The most frequently found geographic differential was that between the North and the South, with a higher rate of pay in the North; but a number of codes differentiated as regarded minimum-wage rates between metropolitan eastern areas and western areas and between the South and other portions of the United States. The definition of the South varied considerably and led to much dissatisfaction, especially in border-line States, such as Maryland, which was rated as a southern State in some codes and as a northern State in others. While codes with a differential by size of community (17) did not form a very substantial percentage of the particular group of 168 codes, this type of differential was of frequent occurrence in other code groups, and was doubtless in part due to the official support which was early given to it in the President's Reemployment Agreement, which recognized a limit of \$12 a week in towns of less than 2,500 population as against one of \$15 a week in cities of 500,000 or over or in the immediate trade areas of such cities. This provision was followed without change in many codes, but under others was modified to provide minimum rates of \$9 or \$10 to \$15 or \$16 per week. Also, the incorporation of a North-South differential of \$1 in combination with the "size of community" gradations was not unusual.

Under the codes with differentials by sex only (9) and by sex in combination with geographic area (10) and with size of community (3), 5- to 10-cent higher hourly rates of pay were usually established for men, with the stipulation, however, that where women did the

same work as men they should receive equal pay. In five codes the differentials were based on light and other work, percentages of labor force, occupation, or sex and division of industry. Rate differentials, whatever their basis, generally amounted to between 5 and 10 cents per hour.

Modal Minimum Wages

As indicative of actual minimum-wage levels for unskilled labor under the codes, table 1 is presented. This table classifies the minimum-wage provisions in the 70 codes which set a single minimum wage for factory and office employees, in the 124 codes which set a single minimum for factory or "general" workers, and in the 199 codes which set a single minimum for office employees or "others." None of the 70 codes in the first group—those which fixed a single minimum rate for all employees—are included in the other two groups shown in the table. There is, however, considerable duplication between the second and third classifications shown, as many codes provided for a flat rate for all factory or general workers and another for all office or other employees.

TABLE 1.—DISTRIBUTION OF CODES ESTABLISHING SINGLE MINIMUM RATE OF PAY FOR ALL EMPLOYEES AND FOR SPECIFIED GROUPS

Minimum rate of pay	Codes providing—					
	Single rate for all employees		Single but separate rates for—			
			Factory or "general" workers		Office employees or "others"	
	Number	Percent	Number	Percent	Number	Percent
Hourly rate ¹ of—						
30 cents.....	1	1.4	1	0.8		
32½ cents.....	13	18.6	3	2.4		
35 cents.....	20	28.6	16	12.9	3	1.5
37½ cents.....	3	4.3	3	2.4	1	.5
40 cents.....	12	17.1	83	67.0	3	1.5
Over 40 cents.....			11	8.9		
Weekly rate of—						
\$12.....	2	2.9	2	1.6	1	.5
\$13.....	9	12.9				
\$13.50.....					1	.5
\$14.....	3	4.3	2	1.6	31	15.6
\$15.....	5	7.1	2	1.6	129	64.8
\$16.....	1	1.4	1	.8	27	13.6
\$17 and over.....	1	1.4			3	1.5
Total.....	70	100.0	124	100.0	199	100.0

¹ A number of codes stipulated that if the rate of pay was lower in 1929 the code rate be reduced to the 1929 level provided it did not fall below a given sum, usually 5 to 10 cents less than the rate provided in the code terms.

Table 1 shows that a larger number of industries simplified wage standards for office help than for factory workers (199 as against 124), and that a single minimum was more prevalent in codes for each of these groups of employees than was a single minimum for both factory and office together (70). Also, it appears that under those codes which provided either a single rate for all workers or a single rate for office workers (constituting half of the total industries under codes), wage rates were confined almost exclusively to the intervals between 30 and 40 cents per hour, whether the rates were given directly on an

hourly basis or, if given on a weekly basis, were reduced to an hourly rate on the basis of a 40-hour working week, which was the prevailing maximum. In those codes where a single hourly wage rate applied to all employees, the modal hourly rate was 35 cents, and almost equal percentages of the total number of codes had hourly rates above and below 35 cents. In those codes where a single but separate rate was provided for factory or "general" workers, practically all rates were on an hourly basis, with 83 codes, representing 67 percent of the total, concentrated at 40 cents an hour. Rates for office workers or "others" under those codes with a separate but single minimum for such workers were in most cases on a weekly basis, with a prevailing weekly return of \$14 to \$16. The modal pay was \$15 a week, or 37½ cents an hour if reduced to an hourly standard on a 40-hour week basis, and the codes in this group represented 64.8 percent of the total.

The productive and clerical forces enjoyed higher wages under the codes which fixed minimum rates of pay for each group separately than under those which established a single rate for all employees, the modal return being 40 cents for factory employees considered by themselves, \$15 a week (37½ cents an hour) for office employees taken as a class, and only 35 cents an hour where all employees were subject to the same wage provisions. Thus it would appear that simplification of code wage provisions was at the expense of the workers affected. Another significant feature of the table is the fact that minimum-wage rates tended to be somewhat higher for the productive group of laborers than for the office workers.

Provisions for Wages of Less Than 30 Cents an Hour

The codes covered in table 1 were selected for analysis because of the simplicity of their wage provisions. They indicate, in a broad way, the prevailing minimum-wage provisions under the National Industrial Recovery Act. It so happens, however, that the group does not include a single code which fixed a wage of less than 30 cents an hour or \$12 a week; this is due to the fact that the 94 industries with wages of less than these amounts all operated under codes which had more than one minimum wage for the classes of workers dealt with in table 1.

The degree to which industries were authorized to pay hourly rates of less than 30 cents or weekly rates below \$12, is shown in table 2. The figures in table 2 apply to regular workers within the respective industries and do not cover the pay of apprentices or learners, for whom special provisions were established.

TABLE 2.—CODES SETTING MINIMUM RATES OF LESS THAN 30 CENTS AN HOUR OR \$12 PER WEEK

Minimum rates of pay	Number of codes	Per- cent of total	Minimum rates of pay	Number of codes	Per- cent of total
Hourly rate of—			Weekly rate of—		
Under 15 cents.....	1	1.0	\$8 and under \$9.....	2	2.1
15 and under 20 cents.....	3	3.1	\$9 and under \$10.....	9	9.3
20 and under 25 cents.....	19	19.6	\$10 and under \$11.....	4	4.1
25 and under 30 cents.....	49	50.5	\$11 and under \$12.....	8	8.3
Weekly rate of—			Total.....	97	100.0
\$2.....	1	1.0			
\$6.....	1	1.0			

The 97 codes which fixed for one or more classes of employees, a minimum-wage rate of less than 30 cents an hour or of \$12 a week, formed 18.1 percent of the total of 535 codes approved. Of those establishing wage rates on an hourly basis the great majority (49) were in the class paying 25 and under 30 cents an hour. Next in numerical importance were the 19 codes with minimum rates between 20 and 25 cents. It is significant to find, however, that a wage as low as 14 cents an hour was sanctioned in one code (the laundry trade); that in two industries (pecan shelling and raw peanut milling) a wage of 15 cents an hour could be paid for light work; and in one other (cotton pickery) a rate of 18 cents an hour was authorized for female labor in general. Where the rate was fixed on a weekly basis the modal group was \$9 and under \$10 and the codes falling within this group were principally those governing branches of the retail trade, in which it was customary to approve codes allowing for minimum rates varying according to geographic area, population, and store hours, with a differential of \$1 below the regular minimum weekly rate for the South. The eight code provisions listed in the table which permitted minimum weekly rates of between \$11 and \$12 concerned chiefly clerical workers, especially office boys and girls and messengers, a provision having been written in several codes permitting such employees to receive 80 percent of the regular minimum for office help, which under these particular codes was \$14. The four codes which authorized minimum wages below \$9 a week were for homeworkers in the needlework industry of Puerto Rico (\$2 per week), bootblacks in the shoe-rebuilding trade (\$6 per week), who were also entitled to tips, service employees in small towns in the South employed under the restaurant code (\$8.08 per week), and office boys in the surgical dressing distributing trade (\$8.80 per week).

Wages for Other Than Unskilled Labor

Few codes established minimum rates of pay for labor above the unskilled class. In fact, only 35 codes (6.5 percent of the total) made any such provision. Of these 35, more than half covered branches of the men's and women's clothing industry, which are experienced in collective bargaining and therefore accustomed to fixing standards of pay by occupation. Among other industries for which minimum rates were cited for skilled employees were the bituminous-coal, graphic arts, legitimate theatrical, motion-picture, and structural steel and iron industries. The most that was done to protect the wages of skilled workers under the majority of codes was to write into the labor provisions a general statement that the wage differentials between occupational classes be maintained. The clauses of the codes devoted to this purpose took many forms and did not necessarily insure equality of treatment as between codes, the terminology being so indefinite in certain cases as to permit varying interpretations. One example of this was the provision, commonly found, that "equitable adjustments" of pay schedules of employees paid above the minimum should be made within 30 days of the effective date of the code. More satisfactory from the standpoint of enforcement and interpretation were the provisions whereby (1) employers were obligated to make adjustments of wages in the brackets above the code minimum so that existing differentials were maintained and (2) wages might not

be reduced notwithstanding any reduction in the full-time working week.

The cases cited of unusually low minimum rates of pay, it will be noted, were for special classes of labor, that is, those employed on light work or in occupations that ranked higher than apprenticeship but did not require the same ability as was necessary in factory and office employment. Nevertheless, if the original codes are examined it appears that many of the provisions authorizing an hourly wage of less than 30 cents covered plant or office employees in some particular geographic area, usually in the South, or employees of firms in small towns. Such rates, it may be added, more often applied to female than to male labor. Only in a few codes did the low rates referred to apply exclusively to occupations such as helpers, porters, outside workers, cleaners, etc. In some cases a lower rate was established for watchmen, but where this occurred the weekly earnings might equal or exceed the pay of other classes because of the longer hours usually worked by this class of labor.

The figures in table 1 (see p. 514) indicate that code rates in excess of 40 cents an hour existed but were not prevalent. Exceptional codes such as that for the motion-picture laboratory industry, with a general minimum of 50 cents an hour, and the print-roller and print-block industry code, in which the lowest rate was 75 cents an hour, furnish examples of unusually high code standards. Some of the high rates are accounted for by the fact that only a relatively skilled class of labor was employed or by the fact that the industry was small and in a favorable position financially.

An important reason for the infrequent occurrence of code provisions establishing minimum wages for skilled labor was the Recovery Act itself which in section 7 (b) stated that the President should afford every opportunity to employers and employees to agree mutually to standards of working conditions which, when approved by the President, would have the same effect as a code of fair competition. It is evident that extensive adoption of collective agreements under section 7 (b) would promote the purposes of the recovery legislation not only by supplementing the wage structure for individual industries but also by fixing standards governing such matters as vacations, terms of employment for checkweighman, and detailed apprenticeship regulations.

Although action under section 7 (b) was not wide-spread, nevertheless in several of the large man-employing industries, notably the bituminous-coal industry and various branches of the construction industry, a substantial beginning was made in supplementing codes with collective agreements governing working conditions.

Hours of Labor Under the Codes

IN CONTRAST with the code wage provisions, which covered for the most part only the unskilled classes of labor, restrictions upon working time affected all but a small group of administrative employees and executives falling in the higher earnings brackets and certain service employees whose working time it was found difficult to control. In attempting to restrict working time, most codes distinguished between different classes of employees, the two principal classes being factory or "general" workers and the clerical, accounting, or office

force. In some instances sales and service employees were classified with the office workers and in a few codes office workers were classed as "others", but these distinctions are not covered in the present analysis. Also, in many codes separate provision governing working time was not made for the clerical forces; they fell under the heading of "general" workers, as did also productive workers in industry, the sales forces of the various branches of retail and wholesale trade, and the attendants in hotels, restaurants, barber shops, and billiard rooms. Special limits were often placed on the working time of such groups as chauffeurs, truckmen, engineers, firemen, repairmen, watchmen, and shipping clerks, as well as upon the hours of other employees not specifically noted in the following analysis.

Weekly Working Time

Slightly over 10 percent of the 535 codes established a single maximum number of hours applicable to all classes of labor subject to the hour restrictions of the respective codes. All codes except that for fur-trapping contractors made provision for the working time of factory workers or those classed as "general" and a small number established a separate maximum for each of these classes. In 41 percent of the total number of codes the hours of the office employees were separately provided for, and 74 percent of all the codes made special provision for one or more groups of the maintenance or service employees—engineers, firemen, shipping crews, truckmen, and watchmen.

TABLE 3.—DISTRIBUTION OF CODES ACCORDING TO MAXIMUM WORKING TIME AND CLASS OF EMPLOYEES COVERED

Maximum number of hours per week.	Codes setting same maximum for all labor		Codes setting specified maximum for—							
			Factory or general workers		Office employees		Firemen or engineers or both		Watchmen	
			Number	Percent	Number	Percent	Number	Percent	Number	Percent
27 hours			1	0.2						
32 hours			1	.2						
35 hours	1	1.8	13	2.5						
36 hours	1	1.8	21	3.9	1	0.5				
37½ hours	1	1.8	2	.4						
40 hours	18	32.7	147	27.5	72	32.5	6	3.0	1	0.3
40 hours, averaged over various periods	12	21.8	92	17.2	92	41.7	1	.5		
40 hours, with peak allowances	20	36.5	222	41.6	37	16.7	1	.5	2	.6
42 hours					2	.9	4	2.0	1	.3
44 hours	2	3.6	5	.9	8	3.6	79	39.9	14	3.9
45 hours			1	.2			19	9.6	2	.6
46 hours							2	1.0		
48 hours			12	2.2	6	2.7	31	15.7	27	7.6
50 hours							1	.5		
52 hours			1	.2					1	.3
54 hours			1	.2					11	3.0
56 hours							8	4.0	244	68.3
Combinations of hours:										
Under 40 hours			4	.7	2	.9				
40 hours and over			11	2.1	1	.5	46	23.3	54	15.1
Total	55	100.0	534	100.0	221	100.0	198	100.0	357	100.0

¹ Includes 4 codes providing for 60 and 4 for 64 hours.

² Not including the fur-trapping code which has no hours limitations.

In table 3, the code provisions regarding maximum working time are classified according to kind of labor covered. A subdivision was made in the case of codes providing for a 40-hour work week, to show those making provision for a flat 40-hour week, those permitting extra time at peak periods, and those allowing the averaging of hours over a specified period. This separation was not made for the other hour groups.

Modal weekly hours for all labor, for factory or "general" labor and office workers were concentrated at 40 per week. The flat 40-hour week was favored less than the 40-hour week either with special allowances for periods of peak or concentrated demand or with the privilege of averaging working time over given periods of weeks or months as long as the 40-hour average was maintained. While the codes establishing the same maximum for all labor covered provided the flat 40-hour week and the 40-hour week with peak allowances more frequently than the average 40-hour week, the modal group of code provisions for factory or general workers was 40 hours per week with peak allowances and that for office employees 40 per week averaged over various periods. The distributions for factory or general and office employees show a high degree of concentration at 40 hours per week with the flexible modifications mentioned.

To curb the practice of averaging hours, an order was promulgated by the National Recovery Administration in July 1934, stating that where flexibility was desired definite tolerances on an hourly or daily basis should be provided with overtime pay for the excess working time. This action was taken because the averaging provisions had proved unsatisfactory and difficult to enforce. Under the terms of the order, codes already approved were exempt from arbitrary modification and the changes were left to be made as conditions indicated the need. With few exceptions the codes approved after the order was issued provided flexibility through peak allowances rather than by averaging. Under the codes as originally approved, the period over which working time could be averaged was in isolated cases as long as an entire year, but the predominant period was 6 months, with many variations, however, ranging from 1 to 6 months or from 2 to 13 weeks; the 13-week period was quite frequent. Even though, under the averaging provisions, the weekly working time was usually limited to a maximum of 48 hours, it became apparent that by allowing such wide latitude regularization of employment was hampered. This accounted for the support by the National Recovery Administration of peak-period allowances as an alternative measure. When peak-period allowances were written into codes it was the practice to permit 8 hours per week above the regular schedule, or a 48-hour week, during 6 or 8 weeks in each 6-month period.

Three of the 55 codes setting the same maximum hours for all employees covered (the bituminous coal, pasted shoe stock, and the undergarment and negligee industry codes) provided weekly working time of less than 40 hours. This group represented 5.4 percent of the total. In addition the motor-vehicle retailing and wholesale automotive trade codes (forming 3.6 percent of the total) both established a general maximum of 44 hours. The maximum for factory or general workers was less than 40 hours per week in 7.9 percent of the total codes and in excess of that amount in 5.8 percent and for

office employees these percentages were 1.4 and 7.7, respectively. The above figures indicate the relatively favored position of labor where a single maximum was established.

Factory or "general" labor was in general subject to more stringent hours limitations than were office workers. Codes fixing maximum hours of less than 40 per week for factory or "general" workers covered a variety of industries. The cast-iron soil pipe industry had the distinction of providing the lowest weekly maximum (27 hours), and the bituminous road-material industry was next, with 32 hours. The remaining industries with weekly hours of less than 40 were concentrated in the group between 35 and 37½ hours per week, and included in substantial number various branches of the clothing industry, such as the manufacture of blouses and skirts, cotton garments, dresses, furs, men's clothing, men's neckwear, merchants' and custom tailoring, millinery, and undergarments and negligees. Also included in this latter group were such large employing industries as bituminous coal and electrical manufacturing and at least one of the important heavy industries—shipbuilding. However, in a number of the codes with normal weekly working limits of less than 40 hours, systems of peak-period allowances and averaging hours were permitted, just as in the codes with higher weekly hour limits.

The great majority of the retail, service, and wholesale trades operated under codes which permitted weekly working time in excess of 40 hours. Hotels and restaurants were allowed up to 54 hours a week and the bowling and billiard code established a 52-hour week. A number of branches of retail trade had sliding scales of working time, from 40 to 48 or 56 hours per week, depending upon the customary store hours of the particular business. For wholesale trade the allowances were less liberal, some of the codes placing a 40-hour maximum on weekly employment and others allowing 44 or 48 hours, with the proviso that flexibility might be obtained either through averaging hours or by working extra hours in periods of peak demand. A number of the automotive trades (including motor-vehicle retailing and storage), transit, household-goods storage, and trucking also had hours in excess of 40 per week. A small number of codes established different maximum hours on a seasonal basis (i. e., retail solid fuel, 40 per week for 4 months and 48 per week for 8 months) or permitted an average over a biweekly period (fishery industry, 90 hours in 2 weeks) or set different maximums on a geographic basis (salt, 42 hours per week, 48 per week, in the South and California).

It is significant that the three codes which established hours limitations below 40 per week for office employees were codes that also provided relatively favorable standards for factory or "general" workers. On the other hand, where schedules in excess of 40 hours per week were fixed for office employees, the maximum for factory or "general" workers was usually lower. For example, of the eight codes with a 44-hour week for office workers, either with or without some allowance for flexibility, six provided a 40-hour week for factory or "general" workers, one a 37½-hour week, and only one a 44-hour week.

Table 3 shows that the modal working week for engineers or firemen or both was 44 hours. In many cases the 44-hour week was allowed by reason of a 10-percent tolerance above the regular 40 hours established for factory employees. In addition to the 79 codes with provisions for engineers, etc., falling within the 44-hour group, 27 codes provided for 168 hours in a 4-week period for this class of labor, which when reduced to a weekly basis also yielded an average working week of 44 hours. Four percent of the total number of codes specifying the hours that engineers or firemen might work fixed a maximum of 40 hours, either with or without provisions for flexibility, and of the eight codes with such restrictions, three were for clothing trades (hats, infants' and children's wear, and men's neckwear). A very substantial number of codes (15.7 percent of the total) permitted the employment of engineers or firemen for a maximum of 48 hours. Among the codes with a 56-hour week for engineers or firemen (4 percent of the total), the working week was in most instances identical with that permitted for watchmen.

The modal working week for watchmen was 56 hours. Certain codes, such as those for the subdivisions of the concrete industry and for sandstone and crushed stone, provided a working week as high as 60 or 64 hours and in only a single instance (the men's neckwear industry) was the watchman's working week limited to 40 hours. By the terms of one group of codes, listed in the table as "combinations of hours", watchmen were subject to a 42-hour limitation by means of an averaging provision that made it possible for the men to work in pairs, each working 36 and 48 hours alternately.

Daily Working Time and Days per Week

The 8-hour day and 6-day week prevailed under approved codes for the rank and file of labor. There were instances in which the 8-hour day was accepted as the normal working time, but the maximum allowable was raised to 9 so that peak requirements might be met, especially for office work. Under the small number of codes establishing a week of less than 40 hours, working days of 7 or 7½ hours in length were found. With these exceptions code variations from the 8-hour day were largely provided for maintenance men, including engineers, firemen, and watchmen, and the limit in some cases was as high as 12 hours in 24.

Certain codes stipulated a 5-day week. However, as already indicated, provisions were quite common which permitted either that labor might be employed for hours in excess of the regular maximum during specified periods in the year or that the working time might be averaged over given periods as long as the weekly average stipulated by the code was maintained. As such provisions were usually predicated on an 8-hour day and a maximum working week of 48 hours, either with or without the payment of overtime for the 8 hours in excess of the regular weekly working time, it was necessary that the code terms should be so framed that a sixth day of labor could be required of workers in any week even though under normal conditions they worked only 5.

Machine-Hour Limitations and Control of Plant Working Time

SUPPLEMENTING the regulation of the spread and regularization of working time for the individual, code limitations in some instances were placed on the number of hours' operation of machines and the total plant-working time. Experimental work was also carried on with respect to restricting the speed of machine operation and the installation of new machinery. The possibilities and the effects of the latter phases of production control were considered, particularly in the textile industry under the work-assignment boards set up by Executive order. Regulations of this kind were difficult to enforce. Provisions limiting machine-hours and plant-working time formed the basis for curtailment of working time by given percentages or for total shut-down of the industry for limited periods. It is significant that all of these measures of control were employed in large part in the production of textiles and garments, industries recognized as suffering from a serious overcapacity in productive equipment.

Among the codes approved in later months there were proportionately fewer with a plant or machine-hour limitation than during the earlier period of code making. Of the 535 approved codes here analyzed, only 8 percent contained one or more provisions limiting number of shifts, machine-hours, days of operation, or hours to be worked in any 1 day; of the 409 codes approved at the end of April 1934, 12 percent were in this class. The most common method of achieving such limitations was to limit the number of shifts per day. Codes setting limits of one or two shifts were equally numerous as may be seen in the following tabular analysis:

	<i>Number of codes</i>
Limitation of shifts to—	
1 per day-----	18
2 per day-----	17
1 and 2 shifts in combination-----	2
Limitation of hours of operation—	
Per week-----	6
Per day-----	1
Limitation of days per week-----	1
Total-----	45

Codes limiting operation on the basis of shifts represented 37 out of the total of 45. The codes having allowances for a combination of shifts were those covering underwear and allied products industry (permitting 1-shift operation of sewing machines and 2-shift operation of knitting machines) and the knitted outerwear industry (allowing 2 shifts for productive machinery and 1 shift for others, or 1 shift for all). Among the 6 codes specifying the number of hours that might be worked in a week, 1 set the limit at 40 hours per week averaged over 6 months, 1 at 52 hours per week, 2 at 80 hours per week with an exception for a subdivision of 1 industry, and 2 at 144 hours per week, the restriction in 1 instance being placed on paper machines only and in the other on plant operation. Other codes, in considerable number, fixed the hours between which work might be carried on, particularly for women, and in the retail and wholesale trades store hours were established as a basis for working time of employees. These provisions are not here listed but the foregoing tabulation shows the variety in methods of production control and makes it clear that such limitations did not necessarily apply to the entire plant but might cover only certain machines or departments.

Provisions for Overtime Pay

THE need for establishing rates of pay for overtime work arose from the very general occurrence of provisions permitting an extension of the regular working time either by allowing hours to be averaged over specific periods or by fixing definite additions to the usual schedule in periods of concentrated demand. Such extensions were sometimes regarded as part of the usual scheduled hours but more often they were considered overtime for which extra compensation had to be paid. A few codes established overtime pay only for employment on Sundays or special holidays. Whatever the definition of overtime used, the principle of extra pay for such employment was recognized in 86 percent of the approved codes.

Time and a half was the rate at which overtime was most generally compensated, with time and a third ranking next in frequency. A small number of codes authorized double rates in certain skilled occupations, or the prevailing rate in a given district, or sometimes granted compensatory free time during the regular working hours. Some codes established several hourly overtime rates of pay, depending upon the class of workers compensated.

Overtime pay was granted to factory or "general" workers under more codes (318) than to any other class of employees. Those engaged in emergency maintenance and repair work formed the second largest group so compensated (258). For watchmen, engineers, and firemen, overtime pay was provided in only a small number of codes (80). Extra compensation was least often established for office workers (23); the reason for this is evident when it is remembered that it was a more common practice to average the hours of office employees than to set a flat maximum or to provide for peak allowances and that the extra hours worked in one period were offset by shorter hours at another time. The lack of extra-pay provisions for watchmen, engineers, and firemen is also explained, at least in part, by the unusually long hours fixed as their regular working time.

Time and a half was somewhat more common than time and a third as overtime compensation for the factory or "general" employee and the emergency maintenance and repair workers, but the latter rate was more usual for watchmen, engineers, and firemen, and for office or sales employees. In no instance was factory employees' overtime paid for at regular rates, but for the 3 other classifications of employees regular rates were provided for under 2 or more codes (5 codes, in the case of watchmen, engineers, or firemen). On the other hand, the prevailing rate appeared for factory employees in only two industries, namely, daily newspaper and graphic arts. In one industry double the hourly rate was authorized for overtime employment.

Of the small number of codes that did not provide for overtime pay, a few either prohibited such employment or made no allowance for employment beyond the scheduled maximum. However, it was more usual to find that the codes that did not grant overtime pay were so planned that extra hours might be worked under the averaging provisions or peak-season allowances permitting extra working time during fixed periods.

Control of Child Labor

AGE 16 was the accepted minimum for employment of minors under codes, but higher age limits were established for industries and occupations with peculiar hazards. Notable exceptions to the general 16-year minimum occurred in the codes covering the various branches of retail trade and the distribution of periodicals. Under the retail codes, while minors of 14 and 15 could be employed, their hours were restricted to 3 per day, so timed as not to conflict with school hours, or to 1 day of 8 hours each week. Under the daily-newspaper and graphic-arts codes the 3-hour per day limit was also established and was applicable to minors of 14 and 15. The theatrical and radio codes stipulated that, to fill child parts, employment of minors under 16 might be arranged by special permission.

More than three-fourths (78.5 percent) of all the codes set 16 years as the minimum age in any employment and 18 years in occupations having peculiar hazards. A total of 357 codes fixed the minimum age for employment at 16, with a further requirement that in hazardous or unhealthful occupations no minor under 18 might be employed. In 63 codes the 18-year minimum applied to employees in manufacturing or processing, and those operating machinery or engaged in mining or underground work, while the 16-year standard was fixed for office or nonmanufacturing employees. Codes having a flat 16-year minimum made up the next largest single group (79); of these all but 16 were approved before the close of 1933, i. e., before the higher exemption mentioned became general. The small group of 13 codes that prohibited employment of any minors under 18 included the following industries: Burlesque theater, coal dock, concrete masonry, concrete-pipe manufacturing, natural cleft stone, pyrotechnic, quicksilver, railway brass car and locomotive bearings and castings manufacturing, rock and slag wool, shower door, slate, wiping cloth, and wrecking and salvage. The highest standards were placed on employment in the bedding, motor bus, processed or refined fish oil, and salt producing industries, for which the general minimum was age 16 and the standard in special fields was 21.

Control and Exemptions of Miscellaneous Labor Groups

IN THE course of operations under the National Industrial Recovery Act certain extracode agencies and principles were established to deal with special industrial situations that appeared to threaten the equalization of competitive conditions for all units of private business operating under codes. The problems referred to included the exemption of retail and service trades from code limitations under given conditions, the control of apprenticeship standards, employment of handicapped persons, homework, wage payments in scrip, and prison labor. By Executive action authorized under title I of the Recovery Act, principles governing some of these points were laid down which did not always apply if there was code provision, but did serve to fix conditions of employment if this had not been done under code terms.

Retail and Service Trade Exemptions from Codes

It was customary to blanket under codes all industries or trades covered by the definition of the industry given in the code, making no exceptions for individual firms that, because of size, location, or other reasons (including shortage of labor), were unable to conform with the requirements fixed. In order to secure a postponement in putting the provisions into effect or to remove any unit from the necessity of complying with the code requirements, it was usually necessary to make application to the National Recovery Administration, and the plea might be granted or refused on the basis of findings. However, two groups of industry and trade were exempt from certain limitations under codes: (1) Retail trades and service industries in towns of less than 2,500 population for which the exemption extended to all labor provisions except those controlling the employment of child labor and the statutory requirements for collective bargaining, but it was required that the provisions setting forth fair trade practices be observed; and (2) service trades, which were exempt from the fair-trade-practice provisions of codes but were subject to the labor provisions in their entirety. The second group included such trades as motor-vehicle storage and parking, bowling and billiard, cleaning and dyeing, shoe rebuilding, advertising-display installation, advertising distributing, and barber-shop trades, irrespective of the size of community in which the business was operating. It is apparent that the result of these two classes of exemptions was to place certain small units in the service trades, i. e., in towns of less than 2,500 population, outside the limits of both the labor and fair-trade-practice provisions commonly imposed under codes; the single exception was that restrictions on employment of child labor must be observed. Local trade-practice agreements might be entered into if supported by 85 percent of the members of the trade.

The first action taken to exempt the service trades from the fair-trade-practice provisions was an Executive order of May 26, 1934, which left to the Administrator the designation of particular service trades to be exempted; the Administrator on May 28 named the service trades listed in the preceding paragraph. On August 13, 1934, the Administration moved to bring the still uncodified service trades under labor standards, by announcing that employers would be circularized through the post office. The employers were asked to sign applications for official copies of the code "Blue Eagle" and the labor provisions affecting them, this action and display of the "Blue Eagle" being accepted as evidence of compliance with code labor provisions.

Apprenticeship Provisions

A good many industries endeavored to control the working conditions of apprentices and learners through codes, by laying down limits as to duration of the apprenticeship period, restricting the number of apprentices to be employed, and fixing special wage rates for such labor. Provisions of this kind lacked uniformity, the learning periods set ranging from 6 weeks to 6 months, with allowances up to 1 year. The permitted number of apprentices was sometimes fixed on a percentage basis, as 5 to 10 percent of total workers or total productive workers. The rates of pay of apprentices were usually 70, 80, or 90 percent of the code minimum for regular workers. Failure

to include standards for apprentices resulted in confusion except in the industries whose apprenticeship-training programs antedated the National Recovery program.

By Executive order of June 27, 1934, new rules were prescribed governing the employment of apprentices which made it possible to employ an apprentice at less than code rates or for hours in excess of the code allowance upon permission from the agency designated by the Secretary of Labor and a certificate permitting such employment under the approved training program. The term "apprentice" as defined in the order meant a person of at least 16 years of age who had entered into a written contract with an employer providing for at least 2,000 hours of reasonably continuous employment under an approved training program. Under this order the Federal Committee on Apprentice Training was established,¹⁸ with the Secretary of Labor as chairman; the membership included one representative and one alternate from the Office of Education of the Department of the Interior, the Department of Labor, and the National Recovery Administration. The Committee advised the Secretary of Labor in the exercise of its powers under the Executive order and in enforcing the standards and regulations.

The Secretary of Labor issued regulations on August 14, 1934, authorizing the Committee to proceed with the preparation of basic standards for use in developing apprentice-training programs. These regulations provided that standards might vary according to occupation or industry but must include, in addition to the requirements established by the President, provisions that: (1) The apprentice-training period might not be less than 2,000 nor more than 10,000 hours of reasonably continuous employment; (2) at least 144 hours must be devoted to group instruction on general as well as technical subjects, under direction of public authorities, and that this time be included in the maximum working hours prescribed in the applicable code, except that where the maximum was 40 hours or less per week the hours devoted to study might in the discretion of the appropriate authority be in addition to the regular hours, but with 44 hours per week the absolute maximum including hours of instruction; and (3) the beginning wage must ordinarily not be less than 25 percent of the basic rate for journeymen in the locality, and must be increased periodically so that the average rate for apprentices would be not less than 50 percent of the journeyman's basic wage for the entire period of apprenticeship.

The Secretary of Labor ordered the Committee to study existing State agencies with a view to making recommendations as to the designation of these or other agencies either regional, local, general, or special, to supervise training. Any agency so designated was required to place training and education of apprentices first on its program and adopt basic standards at least as strict as those of the Secretary of Labor. It was specified that such agencies must be authorized to issue certificates to apprentices and must work out and enforce a plan to supervise apprentice training subject to approval of the Secretary of Labor and make full use of the service of the Federal Committee on Apprentice Training.

These regulations did not apply to an employer operating under a code having apprentice-training provisions that had been or might be approved by the Secretary of Labor.

¹⁸ For report on activities of this committee, see p. 5.

Provisions for Handicapped Workers

An Executive order of February 17, 1934, made possible the employment of handicapped workers under all codes. Prior to that time provisions for such employment had been written into codes but without standardization as to rates of pay or proportion of such employees in the labor force. In some cases the codes exempted the handicapped from all the labor standards established. The President's order did not replace the existing code provisions but made it possible for employers, operating under codes which contained no provision for the employment of the handicapped, to take on such workers, and gave the United States Department of Labor power to designate State officials to issue certificates to handicapped workers permitting employment at less than code rates. The Secretary's Committee on Minimum Wage was made the administrative agent of the Department of Labor. In a memorandum of April 11, 1934, sent to State officials authorized to issue certificates to handicapped workers, the Committee announced that under codes not fixing conditions of employment for handicapped workers the rates of pay would be 75 percent of the code minimum and these workers could not exceed 5 percent of the total number of employees. Handicapped workers paid in accordance with code provision were required to be certificated by the proper State agency but could be kept at work pending the issuance or refusal of the certificate.

A doctor's certificate was required for all persons employed as handicapped workers before the State certificate was issued. Persons so classified had actually to have some infirmity resulting from age, physical or mental defects, or injury that impaired their earning capacity.

Certificates could not be given to employees simply because they were found to be slow or inefficient, or to individuals with some physical or mental defect that did not affect earning power in the special occupation in which they were engaged. The Secretary's Committee on Minimum Wage sought to introduce uniform safeguards, keeping these factors in mind.

The principle was also established that the reduction in the wage paid to handicapped persons should be proportionate to the reduction in their efficiency, and indiscriminate application of the 75-percent rate, regardless of the degree of disability, was barred as inequitable.

Employers were required to report, to the agencies designated to issue certificates for handicapped workers, any cases of employment of severely injured persons on light work who were being compensated for partial disability, including a report on the wages paid, the date of beginning work, and the date when the employee returned to his regular employment. The State agency could order such work to be discontinued.

Provisions for Homework

In the clothing industries, where homework has long been a factor in undermining the level of wages and keeping working hours long, a determined effort was made either to prohibit homework entirely by code agreement or to subject it to the same limitations that existed under factory operation. The first step was toward abolition of the practice of homework, either outright or by stages, with a certain proportion of the homeworkers to be dropped at given intervals (as

under the code for the leather and woolen knit glove industry). Later, the National Recovery Administration set up a special committee to determine a homework policy. Upon the basis of this committee's findings, an Executive order was issued May 15, 1934, permitting homework at the applicable code wage for persons incapacitated for factory work by reason of injury, etc., persons responsible for the care of a person who was bedridden or invalided, and workers accustomed to this method of earning a living before code limitations became effective. The order applied to all codes except those covering the handling of food and allied products. Under codes providing for the gradual elimination of homework, the terms of the Executive order did not come into force until after the date the code prohibitions became completely effective.

The administration of this order was in the hands of the Secretary's Committee on Minimum Wage, and certificates for homework were issued by State agencies designated by the United States Department of Labor upon joint application of the employer and the homeworker. It was required that the homeworker should be certificated by the State agency determined by the United States Department of Labor, and must be free of contagious diseases and maintain certain standards of sanitation. If at any time investigation showed that the reason for permitting homework had ceased to exist certificates might be revoked. While there was no rule as to the number of workers who might be given homework, agents issuing certificates were cautioned to use restraint.

Rates paid to homeworkers should yield as much as rates paid for the same work done in the factory. All materials and findings should be supplied by the employer and delivered and returned without expense to the worker. No deductions might be made for spoiled work. The homeworker was required to pledge himself not to allow other persons to assist in any part of the homework. The assignment of more work than it was possible to complete in the applicable code hours was prohibited.

Payment of Wages in Scrip

A large number of codes specified that payment of wages should be made either in currency or by check. In many industries this did not involve a departure from established custom, but it was a significant feature in a code such as that for the bituminous-coal industry, where labor has long sought to obtain cash wage payments in order to become free from the necessity of trading at company stores. Codes for certain of the distributive trades contained a provision that scrip would be accepted up to a stated date, thus allowing time for a study of the economic and social effects of such wage payments.

A special committee of three was appointed by the National Recovery Administrator in March 1934 to investigate both scrip payments of wages and receipts of scrip by retailers in lieu of cash. The committee reported as regards company stores and wage payments in scrip (see p. 561). The effectiveness of the code provisions on these points was postponed on several occasions to permit additional study of the findings and did not come into operation during the life of the codes.

Prison Labor

Under certain codes approved in the early months of operation under the Recovery Act, provisions were adopted laying down the principle that the output of penal, reformatory, or correctional institutions should enter the open market only on a basis fairly competitive with similar merchandise not so produced.

Because of the economic and social questions involved, this led to a movement to control the manufacture and sale of such goods along State lines, and a "compact" was drawn up for adoption by the States. This compact was approved by the President in April 1934 and was approved by the majority of States before the end of the year. Under its terms working hours in prison shops might not exceed those established for competing private industry (and in no case exceed 40 per week) and goods might not be sold below the fair current price prevailing in the markets where normally sold. In fixing prices, it was required that the cost of production of the prison goods should be computed, taking into account the same allowances for labor and overhead paid in domestic, private industry on competing and comparable products. This action removed from the jurisdiction of codes all questions involving the production of prison-made goods, while at the same time placing prison industries on a fair competitive basis and making it possible for the selling trades to handle the products of prisons.

The whole question of prison labor was reopened in connection with the revision of working standards under the cotton-garment industry, by the Executive order of October 12, 1934. The committee named under this order to study prison-labor competition in the manufacture of cotton garments stated in its report that the basic aims of labor were incompatible with the purpose of the prison compact and that nothing short of complete withdrawal of prison goods from competitive markets and a program of prison production for State use would settle the controversy. Strict adherence to the prison-labor compact was recommended until a long-range plan could be worked out. An outline for such a plan was placed before the Administration by the committee. The Federal Prison Industries Corporation was afterward appointed to consider ways of securing greater variety in the goods produced by the prisons so that prison competition would not rest so heavily upon any one industry, such as the manufacture of cotton garments.

Orders and Rulings Relating to N. R. A. Codes

A FEW of the more important orders affecting general policies to be followed in enforcing code provisions are summarized below.

Working Conditions

Code provisions supersede less favorable union conditions.—Compliance with code requirements in cases in which labor standards arrived at through collective bargaining and incorporated in joint agreement were lower than those established under the applicable codes was required by a ruling by the National Recovery Administration, and its order was upheld in a decision of the Industrial

Appeals Board rejecting an appeal of a trucking company in New Jersey. The decision in question was announced by the National Recovery Administration on March 15, 1935. The Board held that its decision was not inequitable in that employers who paid wages in excess of the code minimum when the code became effective were neither aided nor injured. Other employers were uniformly brought up to a minimum standard of wage payment.

Wages

Restrictions on wage payments below code minimum.—Employers who entered the electrical-manufacturing industry after July 15, 1929, were not empowered to pay hourly wages below the code minimum of 40 cents as provided under the terms of article III (b) of the code which permitted payment of the minimum as of July 15, 1929, but not less than 32 cents an hour if the rate for the same class of work on the earlier date was lower. In announcing this ruling on March 7, 1935, the National Industrial Recovery Board emphasized the original purpose of the code—that employers who could show on their books that the 1929 wage was lower than 40 cents an hour were entitled to claim the right to pay the lower rate. Companies entering the industry later and having no such records could not automatically avail themselves of the exception. All employers, however, had the right to apply to the National Recovery Administration for exemption from the code wage provision if they could show that they occupied an unfair competitive position with respect to a particular class of employees as compared with workers similarly employed by a competitor.

Bonus considered as part of wage.—By an administrative ruling of the National Recovery Administration made in September 1934 bonuses paid to workers in the cotton-textile industry prior to adoption of the Recovery Act were to be calculated as part of the employees' wages. The question arose in connection with an order requiring a certain mill to raise wages as of July 17, 1933, by a fixed percentage. In complying, the mill did not take into consideration the 5- and 10-percent bonuses allowed to employees in addition to the fixed rate of pay.

The National Recovery Administration ruled as follows:

1. By wage is meant the total compensation received for the class of work performed by the employee. Hence the bonus must be included in the calculation of the wage.
2. The week immediately prior to July 17, 1933, is to be used in determining the wage received for the longer work week. The wage for that week should be taken to mean the total compensation the employee received that week, or would have received that week had he worked the full number of hours customarily worked in said mill.

Pay authorized for work interruptions beyond workers' control.—Workers employed under coded industries should be paid for interruptions of work beyond their control when required by employers to be present and ready for work, according to an administrative order of the National Industrial Recovery Board issued late in December 1934. Four causes of interruption were listed over which the employee presumably had no control: Breakdowns, delays, time spent waiting for materials or waiting for the loading or unloading of railroad cars or other vehicles of transportation, and interruptions in activity due to other causes.

Piecework compensation to be computed at least once a week.—A ruling regarding compensation in codified industries operating under a piecework system provided that the amount of compensation be computed at least once in 7 consecutive days and yield not less than the minimum hourly rate of pay established in the applicable code multiplied by the number of hours worked in the period. This ruling was a part of an interpretation of the National Industrial Recovery Board, made in January 1935, relative to code provisions extending minimum hourly rates of pay to pieceworkers.

Homework

Shops established in homes declared in violation of code provisions.—Any shop set up in private apartments, rooms, or living quarters was declared a violation of code provisions if the code in question provided for the abolition of homework. This principle was stated in an administrative order of the National Industrial Recovery Board dated January 28, 1935. The ruling did not apply to homework carried on under the provisions of the Executive order (6711-A) dated May 15, 1934, whereby persons were allowed to engage in homework at the same rates of pay as were granted for the same kind of work performed in factories.

Apprentices

Clarification of terms of employment for learners and apprentices.—The terms, "day", "week", "month", and "year", as used in industrial codes, were interpreted to mean the respective calendar periods, plus any loss in normal full working time due to interruptions in plant operation or individual failure on the part of employees to work. This was announced by the National Recovery Administration on March 16, 1935, in order to facilitate interpretation of the code terms governing employment of learners and apprentices and to make it possible to apply the codes with greater uniformity.

Sheltered Workshops

Sheltered workshops not to exceed work quota in strike periods.—Sheltered workshops, in which contract work is done for manufacturers involved in labor disputes, agreed not to undertake to produce more than their average quota of work during periods of industrial conflict. This agreement was reached between the National Sheltered Workshop Committee, representing 200 institutions and 25,000 mentally or physically handicapped workers, and the National Recovery Administration in the fall of 1934.

It should be remembered that sheltered workshops are those operated by welfare or charitable institutions to give employment to persons handicapped physically, mentally, or socially, and while the employees are paid for their labor the workshops are not operated for profit. Such establishments were exempt from code provisions.

Collective Bargaining Under the National Industrial Recovery Act

THE right of labor to bargain collectively through representatives of its own choosing was guaranteed in section 7 (a) of the National Industrial Recovery Act in the following terms:

Every code of fair competition, agreement, and license approved, prescribed, or issued under this title shall contain the following conditions: (1) That employees shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint, or coercion of employers of labor, or their agents, in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection; (2) that no employee and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing, or assisting a labor organization of his own choosing; and (3) that employers shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment approved or prescribed by the President.

A great deal of controversy, however, arose in regard to the interpretation of this section, both in code making and code enforcement. Early in the history of the National Recovery Administration certain of the major industries inserted in their proposed codes the so-called "merit clause" whereby industry declared its right to select, retain, or advance employees on the basis of individual merit. The president of the American Iron and Steel Institute withdrew the merit clause from the iron and steel code at the opening of the public hearing affecting that industry, at the same time stating that the position of industrial leaders as to desirability of such a provision was unchanged. Less than 3 weeks later the same question arose in connection with the automobile-industry code, but this industry maintained its position with respect to the "merit clause" and it was written into the approved code. The exact wording follows:

Without in any way attempting to qualify or modify, by interpretation, the foregoing requirements of the National Industrial Recovery Act, employers in this industry may exercise their right to select, retain, or advance employees on the basis of individual merit, without regard to their membership or nonmembership in any organization.

In approving the automobile code the Labor Advisory Board made a statement that this was done "with the understanding that no section or sentence contained therein modifies, qualifies, or changes section 7 (a) of the National Industrial Recovery Act and, furthermore, that the sentence in the code following section 7 (a) does not establish a precedent to be followed in the preparation or acceptance of any other code.

In succeeding months the question of enforcing the terms of section 7 (a) became increasingly acute, and in March 1934 there was a threatened stoppage in the automobile industry to secure union recognition. The strike was postponed at the request of the President, who, on March 25, 1934, proposed certain terms of settlement, which were agreed to by the parties concerned. The President's settlement was based on the rights accorded labor under section 7 (a) of the National Industrial Recovery Act which, reduced to plain language, he considered to mean: "(a) Employees have the right to organize into a group or groups; (b) when such group or groups are organized they can choose representatives by free choice, and such representatives must be received collectively and thereby seek to straighten out disputes

and improve conditions of employment; (c) discrimination against employees because of their labor affiliations, or for any other unfair or unjust reason is barred." Earlier interpretations of section 7 (a) were based on acceptance of majority will. In this settlement minorities were given voting power proportionate to their strength.

The fundamental bases of settlement were set forth as follows:

1. The employers agree to bargain collectively with the freely chosen representatives of groups and not to discriminate in any way against any employee on the ground of his union labor affiliations.

2. If there be more than one group each bargaining committee shall have total membership pro rata to the number of men each member represents.

3. National Recovery Administration to set up within 24 hours a board, responsible to the President of the United States, to sit in Detroit to pass on all questions of representation, discharge, and discrimination. Decision of the Board shall be final and binding on employer and employees. Such a board to have access to all pay rolls and to all lists of claimed employee representation and such board will be composed of—

(a) A labor representative; (b) an industry representative; (c) a neutral.

In cases where no lists of employees claiming to be represented have been disclosed to the employer, there shall be no basis for a claim of discrimination. No such disclosure in a particular case shall be made without specific direction of the President.

4. The Government makes it clear that it favors no particular union or particular form of employee organization or representation. The Government's only duty is to secure absolute and uninfluenced freedom of choice without coercion, restraint, or intimidation from any source.

5. The industry understands that in reduction or increases of force, such human relationships as married men with families shall come first and then seniority, individual skill, and efficient service. After these factors have been considered no greater proportion of outside union employees similarly situated shall be laid off than of other employees. By outside union employees is understood a paid-up member in good standing, or anyone legally obligated to pay up. An appeal shall lie in case of dispute on principles of paragraph 5 to the board of three.

On March 27 the membership of the board of three for the automobile industry was announced by the National Recovery Administrator; namely, Leo Wolman, chairman and neutral representative; Richard Byrd, labor representative; and Nicholas Kelly, industry representative.

The Houde Case

PROBABLY the next most significant step in the struggle on the interpretation of section 7 (a) occurred in August 1934, when the National Labor Relations Board handed down its decision in the *Houde Engineering Corporation case*.

This case came before the National Labor Relations Board upon complaint of the union that, although it had been chosen as the collective agency by a majority of the company's employees at an election conducted by the National Labor Board, the company declined to recognize the union as the collective-bargaining agency for all the employees eligible to vote in the election. The company insisted that under section 7 (a) of the Recovery Act it was obligated to bargain collectively not merely with the union but also with the organization voted for the minority of employees.

After hearings on the complaint of the union before the Buffalo Regional Labor Board and the National Labor Board, an election was ordered to be held in the plant on March 23, 1934. The election resulted in 1,105 ballots for the union and 647 for the association, with about 400 not voting.

After the election the company met every week or two on Saturday mornings, first with the association's committee and then with the union committee. In the opinion of the Board, the company's policy of dealing first with one group and then with the other resulted, whether intentional or not, in defeating the objects of the statute.

The Board commented on the situation, in part, as follows:

The President, in creating the National Steel Labor Relations Board by Executive order on June 28, 1934, * * * directed that where elections were held: "The person, persons, or organization certified as the choice of the majority of those voting shall be accepted as the representatives of said employees for the purpose of collective bargaining * * *."

This Board, therefore, stands upon the majority rule. And it does so the more willingly because the rule is in accord with American traditions of political democracy, which empower representatives elected by the majority of the voters to speak for all the people.

In concluding this opinion the Board wishes to indicate the limits beyond which it does not go. The rule here announced is to be applied, in the language of the Executive order of June 28 just referred to, "without denying to any employee or groups of employees the right to present grievances, to confer with their employers, or to associate themselves and act for mutual aid or protection."

The rule does not compel employees to join the organization representing the majority. It does not establish a closed shop, nor necessarily lead to a closed shop; that being a matter for negotiation.

* * * * *

Subject to these qualifications, the Board confines itself to holding that when a person, committee, or organization has been designated by the majority of employees in a plant or other appropriate unit for collective bargaining, it is the right of the representative so designated to be treated by the employer as the exclusive collective-bargaining agency of all employees in the unit, and the employer's duty to make every reasonable effort, when requested, to arrive with this representative at a collective agreement covering terms of employment for all such employees.

The decision of the Board was as follows:

Findings.—The Houde Engineering Corporation has violated section 7 (a) by interfering with the self-organization of its employees, impairing their right of collective bargaining and refusing to bargain collectively within the meaning of that section, in that, first, it negotiated without intending to reach a collective agreement, and, second, it negotiated with the association after the employees had, by majority vote, designated the union as their exclusive agency.

Enforcement.—Unless within 10 days from the date of this decision the Houde Engineering Corporation notifies the Board in writing that it recognizes the United Automobile Workers' Federal Union No. 18839, as its employees' exclusive agency for collective bargaining, and that, when requested by the union, it will enter into negotiations with the union and endeavor in good faith to arrive at a collective agreement covering terms of employment of all employees within the class which was permitted to vote at the election of March 23, 1934, the case will be referred to the National Recovery Administration and to the enforcement agencies of the Federal Government for appropriate action.

Although the *Houde case* did reach the courts (*U. S. v. Houde Engineering Corporation*, 9 Fed. Supp. 833), final litigation was stopped by the Schechter decision, which held that the code features of the National Recovery Act were unconstitutional. However, it is to be noted that the Supreme Court did not, in the *Schechter case*, pass upon the constitutionality of section 7 (a) itself.

The principle of majority rule enunciated by the Labor Board in the *Houde* decision was incorporated into the National Labor Relations Act of July 5, 1935 (Public 198, sec. 9a).

Activities of Industrial Appeals Board

DURING its first 7 months 44 appeals were heard by the Industrial Appeals Board,¹⁹ the larger portion of which involved questions other than those dealing with discrimination against small enterprises. The Board took office on August 1, 1934, and was created "to act on all complaints of inequitable application of codes to small enterprises or otherwise." After hearing complaints the procedure followed by the Industrial Appeals Board was to recommend to the National Industrial Recovery Board action to be taken. The recommendations became official determinations if and when approved by the Recovery Board.

Of the 44 appeals heard, 42 had been sent to the National Industrial Recovery Board and 2 were still pending when the report was made public. An additional 10 cases were awaiting hearing before the Industrial Appeals Board. The National Recovery Administration was upheld in 28 of the cases decided; in 9 it was recommended that there be modification of prior action or that the cases be remanded for further action; and in the remaining 5 cases the National Recovery Administration rulings were reversed, with the recommendation that appeals be granted. In all but a single case the National Recovery Administration followed the recommendations made.

The cases dealt in large part with code provisions governing wages and hours, the classifications of appellants, and interpretation of the code requirements. There were hearings on a variety of other subjects including machine-hour limitations, provisions as to apprentices and learners, and actions of administrative officials. Appeals were made by 33 industries.

Voluntary Agreements Under National Industrial Recovery Act

WITH the discontinuance of code making under the terms of title I of the Recovery Act the President sought to open the way for the adoption of voluntary agreements fixing labor conditions in connection with trade-practice agreements.

The Federal Trade Commission was therefore authorized by Executive order of September 26, 1935, to approve trade-practice agreements in conformity with the National Industrial Recovery Act, and joint resolution of June 14, 1935, amending it, provided the agreements contained labor provisions putting into effect the requirements of section 7 (a) of the Recovery Act. This authority was granted with the further requirement that such labor provisions must be approved by the President.

The order reads:

By virtue of and pursuant to the authority vested in me by section 2 (a) and section 2 (b) of title I of the National Industrial Recovery Act (48 Stat. 195), certain provisions of which title were extended until April 1, 1936, by the joint resolution of June 14, 1935 (Public Res. No. 26, 74th Cong.), I hereby delegate to the Federal Trade Commission all authority vested in me by said act and resolution to approve such trade-practice provisions as are permitted by clause numbered 2 of the proviso of section 2 of said joint resolution and submitted in voluntary agreements pursuant to section 4 (a) of said title of said act: Provided,

¹⁹ National Recovery Administration. Press release no. 10368, Mar. 6, 1935.

That such approval shall not be given by the Federal Trade Commission unless such agreements contain labor provisions putting into effect the requirements of section 7 (a) of the said National Industrial Recovery Act and after such labor provisions have received my approval.

Up to November 1, 1935, hearings were held by the National Recovery Administration on the labor provisions of three such trade agreements. The industries for which voluntary labor standards were reviewed are the wholesale tobacco trade, candle manufacturing, and expanding and specialty paper products.

In all three instances a 40-hour week was proposed with exceptions for certain classes of workers. Wages ranged from 25 to 40 cents an hour, and child labor was prohibited for those under 16 in all occupations and under 18 in work that was hazardous or unhealthful. The principle of freedom to bargain collectively through representatives of the employees' choosing was written into each agreement. None of these agreements had received final approval up to December 15.

National Recovery Administration Terminated

BY EXECUTIVE order of December 23, 1935, the National Recovery Administration and the Office of Administrator were terminated and four divisions of the organization were transferred to other branches of the Federal Government. This order was effective January 1, 1936, for the duration of the recovery legislation, that is, until April 1, 1936. The Divisions of Review and Business Cooperation and the Advisory Council were transferred to the Department of Commerce, and the consumers' division, including its entire personnel, was placed in the Department of Labor.

Activities and Decisions of Special Labor Boards

(See section on "Arbitration and Conciliation", p. 9)

Employment, Hours, Earnings, and Production, January 1933 to January 1935²⁰

PROMINENT in the policies formulated in 1933 and 1934, alike in legislation and in the administration of the laws, were the various provisions relating to labor. Particularly important were the statutory principles and the regulations, embodied largely in codes, relating to hours, wages, and collective action between groups of workers and their employers. These provisions were designed particularly to eliminate unfair practice and child labor, to increase employment, and to expand the purchasing power of the wage earners. The program was an outgrowth of the progressive increase of unemployment and decline of income, combined with disparity in its distribution, and the consequent undermining of the basis of production in the purchasing power of the principal groups of consumers.

²⁰ The article by Witt Bowden, of the Bureau of Labor Statistics, of which this is a summary, was published in the *Monthly Labor Review*, March 1935 (pp. 541-573).

The most notable changes in the status of labor as indicated by the information collected and compiled by the Bureau of Labor Statistics were probably those connected with hours of labor and hourly earnings. Average weekly hours in the manufacturing industries declined about one-sixth (16.1 percent) from June 1933 to June 1934, and in manufacturing industries and 13 nonmanufacturing industries combined,²¹ about one-seventh (13.9 percent). Average hourly earnings increased during the same period, in manufacturing industries, almost one-third (31.1 percent); and in manufacturing industries and 13 nonmanufacturing industries combined, almost one-fourth (23.7 percent). Changes after June 1934 were slight. On the basis of average weekly hours and average hourly earnings in manufacturing and 13 nonmanufacturing industries combined, per capita weekly earnings showed an increase from June 1933 to June 1934 of 6.5 percent. On the basis of reports of employment and pay rolls in manufacturing industries (these reports covering a larger proportion of establishments than in the case of average weekly hours and average hourly earnings) per capita weekly earnings during the same period showed an increase in manufacturing industries of 13.4 percent.

In manufacturing industries, employment in terms of number of workers increased from June 1933 to June 1934 more than one-fifth (21.1 percent) and in terms of total man-hours, less than 2 percent. Pay rolls increased 37.3 percent, although it should be noted that earlier there had been a much more serious decline in weekly wage payments than in employment. The volume of output in terms of the Federal Reserve Board's index of production in manufactures declined 10 percent, although, as is pointed out later (p. 542), it is probable that the index for June 1933 showed an unavoidable upward bias.

On the basis of the data contained in table 2, comparisons between various periods may readily be made, not only for the aggregates but separately for various industries. Additional comparisons are made in table 1, and the various tables include information relating to nonmanufacturing industries, cost of living, wholesale prices, and other items.

Summary of Changes

IN TABLE 1 (p. 538) the percentages of change in average weekly hours, number of employees, and various other items are computed from indexes based on the average for 1932 as 100. The indexes are given in table 2. The percentages of change in the several items of table 1 are shown (1) for 1933 as compared with 1932; (2) for 1934 as compared with 1932; (3) for June 1934 as compared with June 1933 (approximately the first year of the operation of codes); and (4) for January 1935 as compared with January 1933. On the basis of table 2, similar comparisons may readily be made between any other periods included in the table, not only for the group as given in the first section but for any of the industries given in the later sections of the table.

²¹ Nonmanufacturing industries reporting employment data to the Bureau of Labor Statistics are anthracite mining, bituminous-coal mining, metalliferous mining, quarrying and nonmetallic mining, crude-petroleum producing, telephone and telegraph, power and light, electric-railroad and motor-bus operation and maintenance, wholesale trade, retail trade, laundries, dyeing and cleaning, and hotels, and a group of enterprises classified as banks, brokerage, insurance, and real estate. The last group is not included in tables 1 and 2.

TABLE 1.—PERCENT OF CHANGE IN HOURS, EMPLOYMENT, EARNINGS, AND PRODUCTION IN SPECIFIED INDUSTRIES REPORTING TO THE UNITED STATES BUREAU OF LABOR STATISTICS

Industry	Percent of change in—							
	Average weekly hours	Number of employees	Total man-hours	Pay rolls	Per capita weekly earnings	Average hourly earnings	Production	Average man-hour output ¹
	(1) From 1932 to 1933 (annual averages)							
Manufacturing industries.....	-0.3	+7.6	+7.3	+5.1	-2.3	-1.9	+19.	+11
Manufacturing and 13 nonmanufacturing industries combined.....	-2.4				-5.3	-2.7		
Blast furnaces, steel works, and rolling mills.....	+21.2	+13.5	+37.7	+42.7	+25.6	+1.1	+72	+25
Agricultural implements.....	+6.3	+13.5	+20.7	+16.4	+2.6	-2.5		
Electrical machinery, apparatus, and supplies.....	+7.4	-9.7	-3.0	-9.4	+3	-4.3		
Automobiles.....	+13.1	-1.6	+11.3	+11.2	+2.8	-9.5	+40	+26
Sawmills.....	+4.5	+10.0	+15.0	+12.7	+2.5	-6.4	+28	+11
Cement.....	-15.5	-8.5	-22.7	-19.9	-12.5	+4.2	-18	+6
Carpets and rugs.....	+25.7	+18.5	+46.4	+32.3	+13.6	-5.9	+46	1
Cotton goods.....	-2.9	+29.1	+25.4	+39.2	+7.8	+14.3	+25	1
Woolen and worsted goods.....	+1.5	+31.5	+33.5	+31.9	+1.3	-1.8	+35	+0
Leather.....	-2.0	+17.7	+15.3	+19.3	+1.4	+1.5	+17	+0
Flour.....	-8.6	+4.0	-4.9	-3.6	-7.3	+2.1	+1	+6
Slaughtering and meat packing.....	-5.7	+9.8	+3.5	+3.8	-5.5	-2.2	+10	+6
Cigars and cigarettes.....	+1	-7.4	-7.3	-11.4	-4.2	-2.9	+5	+13
Petroleum refining.....	-6.0	+4.0	-2.2	-2.7	-6.4	-1.7	+4	+6
Rubber tires and inner tubes.....	-4.1	+13.3	+8.7	+10.6	-2.4	+1.0	+14	+5
Anthracite mining.....	+3.8	-17.3	-14.2	-14.7	+3.1	-1.9	-7	+14
Bituminous-coal mining.....	+9.6	+7	+10.4	+6.2	+5.5	-4.3	+7	-3
Crude-petroleum producing.....	-5.7	+12.5	+6.1	0	-11.1	0	+14	+7
Telephone and telegraph.....	-10.3	-11.0	-20.2	-15.9	-5.5	+5.0		
Retail trade.....	-4.1	-9	-5.0	-12.7	-11.9	-5.9		
	(2) From 1932 to 1934 (annual averages)							
Manufacturing industries.....	-6.8	+22.8	+14.4	+34.3	+9.4	+16.0	+24	+8
Manufacturing and 13 nonmanufacturing industries combined.....	-8.9				+1.0	+10.9		
Blast furnaces, steel works, and rolling mills.....	+14.4	+35.3	+54.8	+98.4	+46.6	+28.0	+92	+24
Agricultural implements.....	+16.1	+91.6	+122.4	+139.8	+25.2	+12.3		
Electrical machinery, apparatus, and supplies.....	+12.9	+12.4	+26.9	+28.5	+14.3	+5.3		
Automobiles.....	+6.7	+32.3	+63.6	+78.4	+16.4	+8.0	+100	+22
Sawmills.....	-6.5	+27.8	+19.5	+50.4	+17.7	+22.0	+28	+7
Cement.....	-18.4	+9.8	-10.4	-10.3	+6	+25.7	+2	+14
Carpets and rugs.....	+11.1	+28.3	+42.5	+55.5	+21.3	+18.2	+41	-1
Cotton goods.....	-21.8	+37.0	+7.1	+63.7	+19.5	+53.0	+9	+2
Woolen and worsted goods.....	-15.8	+21.7	+2.5	+27.1	+4.4	+23.6		-3
Leather.....	-11.7	+31.8	+16.4	+43.2	+8.6	+23.0		+8
Flour.....	-19.5	+17.5	-5.4	+13.4	-3.5	+19.7		+8
Slaughtering and meat packing.....	-11.6	+29.9	+14.8	+38.8	+6.9	+15.7	+24	+8
Cigars and cigarettes.....	-6.8	-2.6	-9.2	-9	+1.8	+9.9	+15	+27
Petroleum refining.....	-13.9	+15.7	-4	+10.4	-4.6	+13.8		+8
Rubber tires and inner tubes.....	-8.4	+31.7	+20.6	+49.6	+13.6	+24.7	+19	-1
Anthracite mining.....	+6.5	-4.6	+1.6	+4.1	+9.1	-2	+15	+13
Bituminous-coal mining.....	+4.8	+14.5	+20.0	+52.2	+32.9	+28.1	+17	-3
Crude-petroleum producing.....	-20.9	+40.5	+11.1	+29.0	-8.2	+17.8	+16	+4
Telephone and telegraph.....	-9.0	-11.1	-19.1	-11.8	-8	+9.8		
Retail trade.....	-11.4	+6.8	-5.4	-3.6	-9.7	+4.0		

¹ Rough approximations based on ratios of Federal Reserve Board's production indexes to indexes of man-hours derived from reports to the Bureau of Labor Statistics. See comments on p. 542.

TABLE 1.—PERCENT OF CHANGE IN HOURS, EMPLOYMENT, EARNINGS, AND PRODUCTION IN SPECIFIED INDUSTRIES REPORTING TO THE UNITED STATES BUREAU OF LABOR STATISTICS—Continued

Industry	Percent of change in—							
	Average weekly hours	Number of employees	Total man-hours	Pay rolls	Per capita weekly earnings	Average hourly earnings	Production	Average man-hour output
	(3) From June 1933 to June 1934							
Manufacturing industries.....	-16.1	+21.1	+1.6	+37.3	+13.4	+31.1	-10	-10
Manufacturing and 13 nonmanufacturing industries combined.....	-13.9				+6.5	+23.7		
Blast furnaces, steel works, and rolling mills.....	-2.6	+44.9	+41.1	+98.0	+36.6	+42.2	+20	-15
Agricultural implements.....	-3	+90.4	+85.1	+129.8	+20.7	+22.5		
Electrical machinery, apparatus, and supplies.....	-3.8	+37.9	+32.6	+59.9	+16.0	+19.0		
Automobiles.....	-20.9	+83.6	+45.2	+86.9	+1.8	+28.2	+26	-13
Sawmills.....	-20.1	+28.6	+2.7	+61.1	+25.4	+55.1	-20	-22
Cement.....	-8.0	+27.0	+16.8	+57.7	+24.2	+39.1	+13	-4
Carpets and rugs.....	-20.3	+21.2	-3.4	+35.1	+11.5	+40.4	+3	+7
Cotton goods.....	-40.9	+4.5	-38.2	+7.0	+2.4	+69.2	-46	-13
Woolen and worsted goods.....	-31.9	-19.0	-44.9	-20.1	+1.4	+48.4	-55	-16
Leather.....	-18.6	+12.8	-8.1	+14.8	+1.8	+29.2	-1	+7
Flour.....	-17.5	+16.5	-3.8	+26.2	+8.3	+29.3	-7	-4
Slaughtering and meat packing.....	-15.7	+22.3	+3.1	+34.4	+9.8	+28.0	-3	-6
Cigars and cigarettes.....	-14.9	+2.7	-12.7	+9.4	+6.5	+23.9	-2	+13
Petroleum refining.....	-12.4	+15.0	+7	+14.3	-6	+19.6	+1	0
Rubber tires and inner tubes.....	-29.0	+25.7	-10.8	+23.0	-2.2	+34.8	-26	-17
Anthracite mining.....	+1.7	+45.6	+47.9	+55.4	+6.7	+2.1	+5	-29
Bituminous-coal mining.....	-4.4	+25.2	+19.7	+88.8	+50.8	+52.4	+5	-12
Crude-petroleum producing.....	-22.5	+37.9	+6.9	+40.1	+1.5	+24.2	-4	-10
Telephone and telegraph.....	+2.4	+1.7	+4.1	+7.1	+5.3	+2.9		
Retail trade.....	-13.2	+12.9	-2.1	+17.7	+4.2	+19.7		
	(4) From January 1933 to January 1935							
Manufacturing industries.....	-3.7	+30.6	+25.8	+62.3	+24.2	+27.6	+38	+9
Manufacturing and 13 nonmanufacturing industries combined.....	-7.4				+11.5	+20.4		
Blast furnaces, steel works, and rolling mills.....	+24.2	+49.0	+85.2	+188.9	+73.5	+41.1	+162	+40
Agricultural implements.....	+21.5	+134.6	+185.4	+236.2	+43.2	+20.3		
Electrical machinery, apparatus, and supplies.....	+23.3	+47.4	+81.8	+94.1	+31.6	+8.3		
Automobiles.....	-5.5	+88.9	+78.4	+137.4	+25.8	+31.4	+118	+23
Sawmills.....	-1.7	+34.3	+32.1	+81.9	+35.4	+36.3	+26	-5
Cement.....	-9.8	+14.1	+3.1	+30.1	+14.0	+32.7	+9	+5
Carpets and rugs.....	+7.5	+35.7	+45.9	+107.9	+53.2	+39.6	+68	+15
Cotton goods.....	-20.4	+31.0	+4.3	+81.6	+38.6	+71.6	+11	+6
Woolen and worsted goods.....	-12.6	+41.2	+23.4	+72.0	+21.8	+40.1	+2.7	+2
Leather.....	-10.3	+32.8	+19.0	+66.4	+25.4	+47.6	+2.25	+10
Flour.....	-20.3	+19.4	-4.7	+20.8	+1.0	+29.4	-5	0
Slaughtering and meat packing.....	-16.5	+21.5	+1.5	+40.2	+15.3	+32.4	-9	-10
Cigars and cigarettes.....	-8.7	+2.5	-6.4	+19.8	+16.9	+27.7	+20	+28
Petroleum refining.....	-13.3	+17.3	+1.7	+19.6	+1.9	+24.2	+2	+7
Rubber tires and inner tubes.....	+12.2	+43.4	+60.8	+122.9	+55.7	+38.4	+100	+41
Anthracite mining.....	+11.6	+19.8	+33.6	+33.1	+11.3	-3	+47	+10
Bituminous-coal mining.....	-2	+14.6	+14.3	+65.1	+44.0	+44.8	+29	+13
Crude-petroleum producing.....	-26.0	+30.9	-3.1	+39.1	+6.3	+42.8	+22	+27
Telephone and telegraph.....	-1.6	-5.5	-6.9	+3.1	+9.1	+13.8		
Retail trade.....	-12.0	+11.9	-1.5	+9.7	-2.1	+13.5		

² From December 1932 to December 1934.

The following analysis of tables 1 and 2 applies only to manufacturing industries as a whole and to these combined with the 13 nonmanufacturing industries mentioned on page 537. It is necessary to note that many of the nonmanufacturing groups (as construction, steam railroads, domestic service) are not included and the aggregate is not to be regarded as representative of these omitted groups, since adequate information relating to most of them is not available.

Average weekly hours in 1933 as compared with 1932 in terms of annual averages were substantially the same in manufacturing industries but 2.4 percent lower in manufacturing industries and the 13 nonmanufacturing industries combined. In 1934 as compared with 1932 in terms of annual averages there were declines of 6.8 percent in manufacturing industries and 8.9 percent in all of the industries included in table 1. From June 1933 (immediately preceding the adoption of the President's Reemployment Agreement and the first codes) to June 1934, there was a decline of 16.1 percent in average weekly hours in manufacturing industries and 13.9 percent in the combined industries. In January 1935 as compared with January 1933 there was a decline of 3.7 percent in manufacturing industries and of 7.4 percent in manufactures and the 13 nonmanufacturing industries combined.

Number of Employees

The number of employees in manufacturing industries increased 7.6 percent in 1933 as compared with 1932; 22.8 percent in 1934 as compared with 1932; 21.1 percent in June 1934 as compared with June 1933; and 30.6 percent in January 1935 as compared with January 1933.

No attempt has been made to construct composite indexes of employment and pay rolls for manufacturing and nonmanufacturing industries. In the first place, the statistics of some of the nonmanufacturing industries which report to the Bureau of Labor Statistics are not so adequately representative as in manufacturing industries. In the second place, the data as reported from the various industries are not entirely comparable as to classes of employees included. In manufacturing industries and in some of the nonmanufacturing industries wage earners only are included, while in some of the nonmanufacturing industries all employees are included.

While adequate information is not available relating to many of the nonmanufacturing groups of employment, efforts have been made to ascertain the changes on the basis of comparable samples in as large a group of industries as possible during the period from January 1933 to January 1935. This group includes manufacturing industries, the 17 nonmanufacturing industries listed on page 537, and building construction. On the basis of the best available information, the number of employees in these industries as a whole increased 16 percent from June 1933 to June 1934 and 18 percent from January 1933 to January 1935. These increases compare with corresponding increases in manufacturing industries of 21 percent from June 1933 to June 1934 and 31 percent from January 1933 to January 1935.

Total Man-Hours

On the basis of the index of average weekly hours and the index of number of employees in manufacturing industries it is possible to ascertain approximately the rate of change in total man-hours in manufacturing industries. The index of total man-hours thus derived shows the following increases: 7.3 percent in 1933 as compared with 1932; 14.4 percent in 1934 as compared with 1932; 1.6 percent in June 1934 as compared with June 1933; and 25.8 percent in January 1935 as compared with January 1933.

Pay Rolls

The index of pay rolls given in the first section of table 2 indicates the following changes in manufacturing industries: From 1932 to 1933, an increase of 5.1 percent; from 1932 to 1934, an increase of 34.3 percent; from June 1933 to June 1934, an increase of 37.3 percent; and from January 1933 to January 1935, an increase of 62.3 percent.

Available information indicates that in manufacturing industries combined with the 17 nonmanufacturing industries listed on page 537 and with building construction, total weekly pay rolls increased 24 percent from June 1933 to June 1934 as compared with a 38-percent increase in manufacturing industries. The increase from January 1933 to January 1935 is estimated to have been 27 percent as compared with a 62-percent increase in manufacturing pay rolls.

The comparatively high rate of increase of weekly wage payments, as based on the 1932 average, must be viewed in the light of the fact that weekly wage payments in 1932 were on a very much lower level than was the number of employees. If the averages of employment and pay rolls for 1929 are taken as the bases, employment in manufactures declined 39 percent by 1932; while pay rolls declined 58 percent. Although the rate of increase in pay rolls after 1932 was more rapid than the rate of increase in employment, pay rolls still lagged seriously behind employment as compared with the period before the depression.

Per Capita Weekly Earnings

In 1933 as compared with 1932, per capita weekly earnings in manufacturing industries declined 2.3 percent; and in manufactures and the 13 nonmanufacturing industries combined, 5.3 percent. In 1934 as compared with 1932 the increases in the two groups of industries were 9.4 percent and 1.0 percent. In June 1934 as compared with June 1933 per capita weekly earnings increased 13.4 percent in manufacturing industries and 6.5 percent in the combined groups. In January 1935 as compared with January 1933 the increase in manufacturing industries was 24.2 percent and in the two groups combined, 11.5 percent.

Changes in per capita weekly earnings must be viewed in the light of reductions in average weekly hours and of increases in the cost of living.

Average Hourly Earnings

In 1933 as compared with 1932, average hourly earnings declined 1.9 percent in manufacturing industries and 2.7 percent in the aggregate as represented in the tables. In 1934 as compared with 1932 there were increases of 16.0 percent and 10.9 percent. In June 1934 as compared with June 1933 the increases were 31.1 percent and 23.7 percent, respectively, in the two groups of industries. In January 1935 average hourly earnings in manufactures were 27.6 percent higher than in January 1933 and for the same period 20.4 percent higher in manufactures and the 13 nonmanufacturing industries combined.

The figures of average weekly hours, average hourly earnings, and per capita weekly earnings indicate that the codes had a much more noticeable effect in manufacturing industries than in the nonmanufacturing industries which report to the Bureau of Labor Statistics,

although there are notable exceptions. In all of the industries combined, representing more than half of the wage earners of the country, and including most of the industries in which the codes were most readily applicable, per capita weekly earnings showed an increase of only 1 percent in 1934 as compared with 1932—an increase which was not so great as the change in the cost of living. From the point of view of the effects of the codes, June 1933 or the period immediately preceding the adoption of codes may be compared with June 1934 or with periods subsequent to the adoption of codes.

Production

The Federal Reserve Board's index of physical production in manufacturing industries, not adjusted to seasonal variations, shows the following changes: From 1932 to 1933, an increase of 19 percent; from 1932 to 1934, an increase of 24 percent; from June 1933 to June 1934, a decline of 10 percent; and from January 1933 to January 1935, an increase of 38 percent.

The extreme upturn of the index of production in the summer of 1933, as shown in table 2, represents for the most part the level of production not in manufactures as a whole but in the basic or primary commodities, such as textiles and iron and steel. Manufacturers concerned with the later stages of fabrication were then buying in large quantities in the expectation of code restrictions, a rise in prices, and a general upturn in business activity. The purchases then made greatly stimulated the primary manufactures, but there were no proportionate increases at the time in many of the industries concerned with later stages of fabrication. For the most of these industries there are no adequate indexes of production, and in consequence the general index for manufactures is based more largely on the output in the primary industries than on the output in the industries concerned with later stages of production. A comparison of the indexes of total man-hours and of production in manufactures as given in the first section of table 2 apparently supports this interpretation.

Productivity of Labor

Man-hour output in manufactures as shown in table 2 increased 11 percent in 1933 as compared with 1932 and 8 percent in 1934 as compared with 1932. It seems probable that actual man-hour output in 1933 was not greater than in 1934. A rapid upturn in amount of production from a low level such as existed in 1932 is naturally accompanied by an increase in man-hour output, even when there are no technological improvements. This is due to the fact that such an increase in the amount of production makes possible a more adequate utilization of the existing facilities for mass production. But according to the index of physical production, the average output in 1934 was above that of 1933 and the efficiencies of mass production should have been available at least to the same extent as in 1933. Furthermore, there was a progressive improvement of the facilities for production. There is reason for believing, therefore, that the high average man-hour output in 1933 as shown by the index is in part a result of an upward bias in the index of production.

It must be noted that the correlation of man-hours and production for deriving a productivity index is a rough approximation only.

TABLE 2.—CHANGES IN EMPLOYMENT, HOURS, EARNINGS, PRODUCTION, AND MAN-HOUR OUTPUT IN SPECIFIED INDUSTRIES, JANUARY 1933 TO JANUARY 1935

[1932=100]

Month	Average weekly hours		Index of number of employees ¹	Index of total man-hours ²	Index of weekly pay rolls ²	Index of per capita weekly earnings ³	Average hourly earnings		Index of production ⁴	Index of man-hour output ⁵
	Number	Index ¹					Cents	Index ¹		
<i>Manufacturing industries</i>										
1933—January	37.5	97.9	93.9	91.9	85.7	91.3	42.6	93.1	100	-----
February	38.1	99.7	95.3	95.0	87.2	91.5	42.3	91.9	98	-----
March	36.6	95.5	91.7	87.6	80.5	87.8	43.4	91.4	92	-----
April	38.0	99.4	93.4	92.8	84.2	90.1	42.7	90.5	108	-----
May	40.8	106.8	97.7	104.3	92.6	94.8	42.2	89.3	127	-----
June	42.6	111.5	104.4	116.4	102.4	98.1	41.8	89.0	146	-----
July	42.5	111.3	111.5	124.1	110.2	98.8	41.9	89.7	154	-----
August	38.5	101.5	119.2	121.0	123.2	103.4	48.2	101.7	141	-----
September	36.2	95.8	124.8	119.6	128.2	102.7	50.9	108.2	133	-----
October	35.8	94.9	124.2	117.9	128.9	103.8	52.1	109.8	121	-----
November	34.4	91.6	118.9	108.9	120.4	101.3	51.9	110.7	111	-----
December	34.2	91.0	116.1	105.7	118.2	101.8	52.5	111.4	106	-----
12 months	37.9	99.7	107.6	107.3	105.2	97.7	46.0	98.1	119	111
1934—January	33.7	90.2	114.4	103.2	117.1	102.4	53.2	112.4	119	-----
February	35.8	95.8	121.2	116.1	131.5	108.5	53.0	112.6	130	-----
March	36.3	97.4	126.1	122.8	140.6	111.5	53.1	113.1	135	-----
April	36.2	97.4	128.4	125.1	146.0	113.7	54.1	115.3	141	-----
May	35.4	96.1	128.5	123.5	145.6	113.3	55.1	116.2	141	-----
June	34.8	93.6	126.4	118.3	140.6	111.2	54.9	116.7	132	-----
July	33.4	89.6	122.8	110.0	131.2	106.8	55.6	117.8	113	-----
August	33.9	91.2	124.0	113.1	134.9	108.8	55.7	117.6	113	-----
September	33.3	89.3	118.3	105.6	125.8	106.3	55.9	118.3	111	-----
October	34.3	91.8	122.2	112.2	132.3	108.3	55.3	117.1	116	-----
November	34.1	91.1	119.8	109.1	129.1	107.8	55.4	117.1	114	-----
December	35.2	94.3	121.8	114.9	137.1	112.6	56.0	118.1	122	-----
12 months	34.7	93.2	122.8	114.4	134.3	109.4	54.8	116.0	124	108
1935—January	35.2	94.3	122.6	115.6	139.0	113.4	56.4	118.8	138	-----

¹ Derived by use of percentages of change in identical establishments. The establishments reporting weekly hours and hourly earnings vary from month to month, and for this reason the percentages of change as given in table 1 are computed from the index based on monthly changes in identical establishments. In most industries there has been a progressive increase in the number and representative character of the reporting establishments, and the later figures are more adequate than those for the earlier period. In a few industries, as crude petroleum, reports for certain months have been so inadequate that considerable divergencies occur between the basic figures and the indexes, and both must be regarded as approximations derived from the best available information.

² The indexes of number of employees and weekly pay rolls are based on larger samples than are the indexes of average weekly hours and average hourly earnings, and for this reason are used for deriving the index of per capita weekly earnings, except in the case of the second section of the table, where the indexes of average weekly hours and average hourly earnings are used.

³ Derived by multiplying the index of average weekly hours by the index of number of employees. The result is a rough approximation, due to the fact that the sample of average weekly hours includes only 78 industries out of the total of 90 represented in the index of number of employees and to the fact that a smaller number of establishments report average weekly hours.

⁴ The Federal Reserve Board's index without seasonal adjustment, converted to the 1932 base.

⁵ This index is subject to important qualifications which make it only a rough approximation. It is believed, for instance, that the index of production for the summer months of 1933 is above the actual level of production due to the effect of cotton, iron and steel, and other basic products in overweighting the composite estimate of production, and that this exaggerates the index of productivity for 1933.

TABLE 2.—CHANGES IN EMPLOYMENT, HOURS, EARNINGS, PRODUCTION, AND MAN-HOUR OUTPUT IN SPECIFIED INDUSTRIES, JANUARY 1933 TO JANUARY 1935—Continued

[1932=100]

Month	Average weekly hours		Index of per capita weekly earnings ^d	Average hourly earnings	
	Number	Index ^d		Cents	Index ^d
<i>Manufacturing industries and 13 nonmanufacturing industries combined</i>					
1933—January.....	41.1	99.7	93.8	46.1	94.1
February.....	41.0	100.2	93.3	45.0	93.1
March.....	40.2	97.5	90.0	45.3	92.3
April.....	40.8	98.7	90.2	44.6	91.4
May.....	42.3	102.5	93.3	44.3	91.0
June.....	43.3	105.0	94.9	43.9	90.4
July.....	43.1	104.4	95.0	43.8	91.0
August.....	39.6	96.6	97.5	49.4	100.9
September.....	38.0	92.4	97.4	51.5	105.4
October.....	37.8	92.0	98.7	52.5	107.3
November.....	37.1	90.1	96.2	51.9	106.6
December.....	37.7	91.6	95.6	51.2	104.4
12 months.....	40.2	97.6	94.7	47.5	97.3
1934—January.....	37.0	89.9	97.5	53.9	105.4
February.....	37.7	91.9	100.0	53.6	108.8
March.....	37.9	95.0	101.0	53.6	108.6
April.....	37.8	92.7	102.2	54.5	110.2
May.....	37.4	91.9	102.1	55.1	111.1
June.....	37.0	90.4	101.1	55.2	111.8
July.....	36.7	89.4	100.5	55.7	112.4
August.....	36.5	90.0	100.6	56.3	113.8
September.....	36.2	89.5	100.4	56.1	112.2
October.....	37.1	91.2	102.3	56.1	112.2
November.....	36.8	90.5	101.4	56.4	112.0
December.....	37.8	93.0	103.0	55.7	110.8
12 months.....	37.2	91.1	101.0	55.2	110.9
1935—January.....	37.5	92.3	104.6	57.1	113.3

^d See footnote to this column, p. 543.

Changes Affecting Purchasing Power and Cost of Production

FROM the point of view of the individual worker, the significance of changes in average hourly earnings and in per capita weekly earnings as given in previous tables depends on the relative purchasing power of his earnings. Changes in the purchasing power of the income of wage earners and lower-salaried workers are measured approximately by the cost-of-living index constructed in June and December ²² of each year by the Bureau of Labor Statistics. Total pay rolls are important from the point of view of production and business activity, which depends vitally on the income of the larger groups of consumers. The effect of changes in aggregate pay rolls on volume of production varies with changes in purchasing power, which, as in the case of individual earnings, are measured approximately by the cost-of-living index. From the point of view of the employer's interest in labor cost as an element in the cost of production, wage rates and hourly earnings are particularly significant, and in the case of manufacturers and other industrial employers are likely to find expression in part in changes in wholesale prices. Even more significant in connection with the cost of production is cost per unit of output, and this in turn is vitally affected by changes in volume of production.

Some of these various factors, which must be considered in analyzing and interpreting the figures presented in tables 1 and 2, are given in

²² In 1934, November.

table 3, relating to per capita weekly earnings, average hourly earnings, cost of living, industrial production, and wholesale prices of nonagricultural commodities. Changes are shown by months from January 1933 to January 1935 in percentages of the average for 1932.

TABLE 3.—CHANGES IN SPECIFIED PER CAPITA WEEKLY EARNINGS AND AVERAGE HOURLY EARNINGS, INDUSTRIAL PRODUCTION, WHOLESALE PRICES OF NON-AGRICULTURAL COMMODITIES, AND COST OF LIVING SINCE 1932

Month	Index numbers (average 1932=100) of—						
	Per capita weekly earnings		Cost of living ¹	Average hourly earnings		Industrial production ²	Wholesale prices of non-agricultural commodities
	In manufacturing industries	In manufactures and 13 nonmanufacturing industries combined		In manufacturing industries	In manufactures and 13 nonmanufacturing industries combined		
1933—January.....	91.3	93.8	* 96.2	93.1	94.1	100	95.0
February.....	91.5	93.3	-----	92.0	93.1	100	93.3
March.....	87.8	90.0	-----	91.4	92.3	94	93.4
April.....	90.1	90.2	-----	90.5	91.4	105	93.3
May.....	94.8	93.3	-----	89.3	91.0	123	95.8
June.....	98.1	94.9	93.4	89.0	90.4	142	98.7
July.....	98.8	95.0	-----	89.7	91.0	150	103.5
August.....	103.4	97.5	-----	101.7	100.9	141	105.4
September.....	102.7	97.4	-----	108.2	105.4	133	107.9
October.....	103.8	98.7	-----	109.8	107.3	122	108.9
November.....	101.3	96.2	-----	110.7	106.6	113	108.6
December.....	101.8	95.6	98.3	111.4	104.4	108	108.3
12 months.....	97.7	94.7	95.3	98.1	97.3	119	101.0
1934—January.....	102.4	97.5	-----	112.4	108.4	120	109.8
February.....	108.5	100.0	-----	112.6	108.8	130	111.4
March.....	111.5	101.0	-----	113.1	108.6	134	111.6
April.....	113.7	102.2	-----	115.3	110.2	138	111.6
May.....	113.3	102.1	-----	116.2	111.1	139	112.2
June.....	111.2	101.1	99.3	116.7	111.8	131	112.6
July.....	106.8	100.5	-----	117.8	112.4	114	112.6
August.....	108.8	100.6	-----	117.6	111.8	114	113.9
September.....	106.3	100.4	-----	118.3	112.2	114	114.8
October.....	108.3	102.3	-----	117.1	112.2	117	113.6
November.....	107.8	101.4	101.2	117.1	112.0	116	113.3
December.....	112.6	103.0	-----	118.1	110.8	120	113.9
12 months.....	109.4	101.0	99.5	116.0	110.9	123	112.6
1935—January.....	113.4	104.6	-----	118.8	113.3	-----	-----

¹ The annual cost-of-living indexes are constructed by averaging the figures for the preceding December and for June and December, the June figures being given a weight of 2.

² Federal Reserve Board's index of manufactures and minerals combined, unadjusted to seasonal variations.

³ December 1932.

In table 3 the cost-of-living index as constructed by the Bureau of Labor Statistics may be compared with the Bureau's figures of per capita weekly earnings. In each case the average for 1932 is equal to 100. The cost-of-living index is based on data for December and June, except for 1934, when figures were collected for November rather than for December.

The cost of living declined more rapidly during the extreme deflation of the early months of 1933 than did per capita weekly earnings. There was a decline in the number of workers employed during the same period, so that total pay rolls declined more rapidly than per capita weekly earnings. The increase in per capita weekly earnings in manufacturing industries from January to June 1933 was caused by

increases in average weekly hours. Average hourly earnings were somewhat lower in June 1933 than in the preceding January, both in manufacturing industries and in the 13 nonmanufacturing industries. After June 1933 the increases in per capita weekly earnings were caused by increases in hourly earnings. Average weekly hours during the period underwent considerable declines. In the manufacturing industries, per capita weekly earnings in November 1934 were 7.8 percent above the 1932 level, while the cost of living was only 1.2 percent higher. In the manufacturing and nonmanufacturing industries, per capita weekly earnings in November 1934 were only 1.4 percent above the 1932 level, thus merely keeping pace with the change in the cost of living. For many individuals and groups of workers, earnings declined in terms of cost of living.

The rise in the cost of living in 1934 as compared with 1933 was undoubtedly due in considerable part to the drought of 1934. This is indicated by the fact that the outstanding increases in the various items making up the cost-of-living index were foods and clothing, and since June 1934 primarily foods.

The cost-of-living index is based on studies in 1918 of family budgets of wage earners and lower-salaried workers. These studies are used as a basis for giving comparative weights to the items commonly included in family budgets. In 1934 provision was made by Congress for an urgently needed revision of the family-budget data.

It is necessary to qualify the use of a cost-of-living index, even when based on adequate budgetary data. There are wide variations in the types of items entering into the budgets of various individuals and classes and wide divergencies in the prices of the same items in different sections of the country. There is indeed no possible single cost-of-living index that is applicable to all types of workers, and there is no practicable method of converting the general average of wages in terms of dollars and cents into exact terms of purchasing power applicable to all individuals or groups. While the purchasing power of income is one of the considerations on which judgment as to adequacy of income must be based, a cost-of-living index is not to be regarded as supplanting various other economic and social considerations essential to a sound determination of wages. Among these considerations is the maintenance of purchasing power in the hands of main groups of consumers.

In addition to the indexes of per capita weekly earnings and cost of living in table 3, there are also indexes of industrial production, including manufactures and minerals; of wholesale prices of non-agricultural commodities; and of average hourly earnings, which enter directly into computations of the labor costs of production. The coverage of the indexes of prices and production is not identical but the groups of commodities included are as nearly identical as is possible on the basis of available classifications. Wholesale prices advanced more rapidly than the retail prices which enter into the cost-of-living index, and also more rapidly than per capita weekly earnings. The rise in wholesale prices was somewhat smaller than the increase in average hourly earnings in manufacturing industries and somewhat greater than the advance in average hourly earnings in the combined groups (manufacturing and 13 nonmanufacturing industries).

While changes in average hourly earnings directly affect the cost of production, a more important consideration in connection with the labor cost of production is the cost per unit of output. This in turn is vitally affected by changes in the volume of production. Available information does not make possible a valid indication of changes in the labor cost per unit of output for the combined industries represented in the index of industrial production, but the increases in the volume of production as indicated in table 3 undoubtedly tended materially to counteract the effect on unit costs of increases in average hourly earnings. On the basis of the Bureau of Labor Statistics' index of weekly pay rolls and the Federal Reserve Board's index of production in manufacturing industries, as presented in table 4, it appears that labor cost per unit of output declined 11 percent in 1933 as compared with 1932 and increased 9 percent in 1934 as compared with 1932. When compared with 1929, labor cost per unit of output in 1932 had declined 21 percent, and in 1933, 29 percent. In 1934 the labor cost per unit of output was still 14 percent below the 1929 average. These figures, it is important to note, are rough approximations based on the not entirely comparable index of pay rolls in manufactures as constructed by the Bureau of Labor Statistics and of production as constructed by the Federal Reserve Board.

Changes in Selected Industries

A TABULATION of the data for separate industries shows that changes in average weekly hours within a given industry were due to fluctuations in the volume of output as well as to regulations in the codes.

In the manufacture of agricultural implements, for example, the average weekly hours early in 1933 were already below the hours provided by the code, due to the extremely low level of production, and in June 1934 hours were no longer than in June 1933. A similar situation existed in anthracite and bituminous-coal mining. Changes in average hourly earnings, on the other hand, were largely due to the regulations contained in the codes.

The comparatively slight effects of codes on most of the nonmanufacturing industries are illustrated by the telephone and telegraph industry and by retail trade. In the telephone and telegraph industry, changes from June 1933 to June 1934 include a 2.4-percent increase in average hours worked per week and an increase of only 2.9 percent in average hourly earnings. The number of employees increased 1.7 percent; total man-hours, 4.1 percent; weekly pay rolls, 7.1 percent; and per capita weekly earnings, 5.3 percent. The comparatively slight change in the telephone and telegraph industry is in part attributable to the fact that the industry had not adopted a code but operated under the President's Reemployment Agreement.

In retail trade, average weekly hours were reduced 13.2 percent, and average hourly earnings were increased 19.7 percent, while per capita weekly earnings were increased 4.2 percent. In January 1935 per capita weekly earnings were 2 percent lower than in January 1933.²³ In contrast with most of the nonmanufacturing industries, bituminous-coal mining was notably affected by code regulations.

²³ The figures of the telephone and telegraph industry, retail trade, and some of the other nonmanufacturing industries include executives and salaried employees and are therefore not entirely comparable with figures of wage earners in other industries, due to the relatively high rate of compensation of executives and salaried employees and to the comparative stability of their employment and earnings.

In this industry there was a 51-percent increase in per capita weekly earnings in June 1934, as compared with June 1933, and a 44-percent increase in January 1935, as compared with January 1933. These unusually large increases were due mainly to the fact that average weekly hours were already, before the adoption of codes, below the code requirements, combined with the fact that unusually large increases in wage rates followed the adoption of codes.

The exceptional rise in employment and pay rolls in the manufacture of agricultural implements in January 1935, as compared with January 1933, was due to the extremely low level of production in the earlier period. In automobiles, and to a less extent in blast furnaces, steel works, and rolling mills, the increase in production and pay rolls in January 1935, as compared with January 1933, is attributable in part to an unusual concentration of production in January 1935. This also probably gives to the combined figures for manufacturing industries a slight upward bias.

Changes Since 1929

PRIMARY interest in recent changes has been focused on the extent of recovery from the depression. In order that the effects of public policies for reinforcing the economic foundations of production and employment may be viewed in perspective, it is necessary to compare present conditions not only with the extremes of 1932 and the early months of 1933 but as well with earlier conditions. It is true, of course, that there was unemployment even in the most prosperous years and that standards of living were often meager as well as insecure. It is also true that wages had lagged behind many other forms of income. Nevertheless it is desirable again to attain the volume of production, employment, pay rolls, and per capita earnings that prevailed in 1929. Table 4, based on the situation in the manufacturing industries as it existed in that year, shows the percentage changes since 1929 in the number of employees, amount of weekly pay rolls, per capita weekly earnings, and production in manufacturing industries, and also the cost of living.

TABLE 4.—CHANGES IN EMPLOYMENT, PAY ROLLS, PER CAPITA WEEKLY EARNINGS, AND PRODUCTION IN MANUFACTURING INDUSTRIES AND IN COST OF LIVING SINCE 1929

Year or month	Index numbers (average 1929=100) of—				
	Number of employees	Weekly pay rolls	Per capita weekly earnings	Cost of living ¹	Production
1929.....	100	100	100	100	100
1932.....	61	42	69	80	53
1933.....	66	45	68	77	63
1934.....	75	57	75	80	66
1933—January ¹	57	36	63	77	53
June.....	64	43	68	75	77
1934—January ¹	70	50	71	79	63
June.....	77	59	77	80	70
1935—January ¹	75	59	78	81	73

¹ Cost-of-living index is for December 1932 and 1933 and November 1934. The annual index is computed by combining the figures for June and December and the preceding December (November in 1934), June being given a weight of 2.

In 1932, 39 out of each 100 workers employed in manufacturing industries in 1929 had been displaced; and by January 1933, 43 out of each 100. Many of those who were still employed had only part-time employment. By January 1934, 13 of the 43 had been reemployed; and by January 1935, 18. Out of every 100 employed in 1929, 25 remained unemployed in January 1935. These comparisons must be qualified by the fact that more people were of working age and a larger proportion needed jobs than in 1929.

The decline in pay rolls was greater than in employment, and after January 1933 there was a more rapid advance. Each \$100 weekly wage payment made by employers in the manufacturing industries in 1929 was reduced to \$42 in 1932 and to \$36 in January 1933. By January 1934 the \$36 had been increased to \$50; and in January 1935, to \$59. If pay rolls are adjusted to the cost-of-living index of the Bureau of Labor Statistics, the \$36 of January 1933 may be regarded as approximately equal to \$47 in 1929; the converted value of the \$50 of January 1934 becomes \$63; and the \$59 of January 1935, \$72.

Those who retained employment suffered extensive declines in per capita weekly earnings, which, in 1932, were 69 percent of per capita weekly earnings in 1929; and in January 1933, 63 percent. By January 1934 they had risen to 71 percent, and by January 1935 to 78 percent of the 1929 average. Because of the lower cost of living, the average individual who retained his job received only 18 percent less per week in January 1933 than during 1929, and the increases in the per capita weekly earnings thereafter reduced the difference between current earnings and those of 1929. For the year 1934 per capita weekly earnings, when expressed in terms of cost of living, were 6 percent below the level of 1929.

For each 100 units of output in manufacturing industries produced per month in 1929, only 53 were produced per month in 1932 and the same number in January 1933. By January 1934 there was an advance to 63 after a decline from a much higher level during the preceding summer; and by January 1935 there was an advance to 73. A return of production in manufacturing industries to the 1929 output would require an advance beyond January 1935 from 73 to 100.

In nonmanufacturing employments, the changes cannot be indicated with the same degree of assurance as in manufacturing industries. On the basis of reports to the Bureau of Labor Statistics from the 17 nonmanufacturing industries mentioned on page 537, it is estimated that the average number of employees in these industries in January 1933 was 32 percent less than the average for 1929; while in manufacturing industries the number was 43 percent less; and in the two groups combined, 37 percent less. Average weekly pay rolls in January 1933 in the 17 nonmanufacturing industries were 39 percent less than the average for 1929; in manufacturing industries, 64 percent less; and in the two groups combined, 50 percent less. During the same period, per capita weekly earnings declined 11 percent in the 17 nonmanufacturing industries, 37 percent in manufactures, and 22 percent in the two groups combined. There was thus a considerably smaller reduction alike in number of employees, in weekly pay rolls, and in per capita weekly earnings in these 17 nonmanufacturing industries as a group than in the manufacturing industries.

These comparisons must be qualified by the fact that in several of the nonmanufacturing industries it is not possible to separate wage

earners and their compensation from salaried employees and salaries. Wage earners are more vitally affected by technological changes; their employment is more dependent on the maintenance of a stable volume of output; and their earnings fluctuate more widely due to part time, curtailment of hours, and reduction in rates of pay. Because of these circumstances, the comparisons of changes in employment and earnings show a greater divergence between the manufacturing industries and the nonmanufacturing industries than actually existed. But the comparatively slight decline in the estimates of employment and earnings in these nonmanufacturing industries is not due entirely to the inclusion in some of the industries of executives and salaried workers. Technological changes have been less prominent in nonmanufacturing industries as a whole than in manufactures, although many of the nonmanufacturing industries, as the communications group, have undergone changes which vitally affect man-hour output, and this in turn affects employment and pay rolls unless there is an increase in total output which counteracts the effect of the rise in man-hour output. In the nonmanufacturing groups, especially the service industries, it is usually necessary to maintain a comparatively large staff even though the demand for service is small, and when there is an upturn in demand, there is likely to be a comparatively small increase in employment and pay rolls. This is indicated by the estimates of changes in employment and earnings since January 1933. In manufactures there was an increase of 31 percent in number of employees from January 1933 to January 1935; in manufactures and the 17 nonmanufacturing industries combined, an increase of 18 percent; and in the 17 nonmanufacturing industries as a whole, an increase of only 10 percent. In connection with pay rolls the contrast is even more noticeable. From January 1933 to January 1935 there was a 62-percent increase in weekly pay rolls in manufacturing industries; a 27-percent increase in manufactures and the 17 nonmanufacturing industries combined; and only 10 percent in the 17 nonmanufacturing industries as a whole.

Progress toward a return to the 1929 level of employment advanced both in the manufacturing industries and in the 17 nonmanufacturing industries till, within each of these groups in January 1935, 75 percent of the workers in 1929 were employed. As for the extent of recovery in weekly pay rolls, in manufacturing industries pay rolls in January 1935 were 59 percent of the 1929 average; in the 17 nonmanufacturing industries, 67 percent, and in the two groups combined, 63 percent. In January 1935, per capita weekly earnings in manufacturing industries were 78 percent of the 1929 average; in the 17 nonmanufacturing industries, 89 percent; and in the two groups combined, 84 percent. If changes in the cost of living are taken into account, per capita weekly earnings in January 1935 were substantially the same as in 1929. Cost of living in November 1934, the latest month for which figures are available, was 19 percent below the 1929 level. On this basis, the average wage earner in manufacturing industries in January 1935 received, in terms of purchasing power, 96 cents for each dollar earned in 1929; the average employee in the 17 nonmanufacturing industries, including salaried workers in a few industries, received \$1.10 in real wages for each dollar earned in 1929; and in the two groups combined, \$1.04.

The conclusion to be drawn from the above comparison of employment and pay rolls in manufacturing industries and in the 17 non-manufacturing industries which report to the Bureau of Labor Statistics is obviously to the effect that the decline from 1929 to January 1933 was greater in the manufacturing industries than in the 17 nonmanufacturing industries combined, and that after January 1933 there was a more rapid expansion of employment and pay rolls in the manufacturing industries than in the 17 nonmanufacturing industries. By January 1935 both groups of industries were employing about 75 percent as many wage earners as in 1929 and their combined weekly pay rolls, on the basis of adjustments to the cost of living, were somewhat more than 75 percent of the 1929 pay rolls. There remain certain other important nonmanufacturing industries not included in the comparison. In the case of class I steam railroads, total employment by January 1932 had declined to 57 percent of the average employment in 1929. After making small gains in certain months thereafter, employment on class I steam railroads had declined by January 1935 to about 56 percent of the 1929 level. Thus in this important industry there was no net gain in employment 2 years after January 1933. In the construction industries an even more serious condition has prevailed. In public service, which includes such groups as public-school teachers, postal employees, the armed forces, policemen, and firemen, the losses were not so severe as in manufacturing industries. In other branches of employment, such as domestic service, not included in the 17 nonmanufacturing industries reporting to the Bureau of Labor Statistics, there is not enough information to determine whether changes since 1929 have been greater or less than in the employments included in the above comparisons. It should be repeated that emergency employment and pay rolls financed by public funds are not included in these comparisons.

Labor Conditions Under Industrial Codes

Report on Labor Conditions in the Automobile Industry

AS DIRECTED by the President on November 21, 1934, the National Recovery Board, through its Research and Planning Division and with the collaboration of the Bureau of Labor Statistics, made a study of the possibilities of regularizing employment and improving conditions of labor in the automobile industry. A preliminary report summarizing the outstanding findings of the investigation made by the National Recovery Administration was released February 28, 1935.

The investigation showed that the present system of crowding production into a few months of the year causes substantial loss of efficiency, involving excess overhead due to limited employment of plant capacity, excessive labor turn-over, cost of training new employees, inefficiency because of extra shifts, wastage and spoilage, and higher cost of materials and dies on a rush-order basis.

The report suggested that the aim of the industry should be regular employment for the maximum number of workers rather than sporadic employment for a greater number at the peak and a smaller group during the low periods of production. It expressed the belief that

the feeling of economic security, if coupled with a less harsh drive on the daily job, should return dividends of cash to automobile company stockholders as well as social dividends to the community at large.

Findings as to Labor Conditions

THE Recovery Administration's principal findings concerning labor conditions in the automobile industry were as follows:

1. Labor unrest exists to a degree higher than warranted by the depression.
2. The foreman's power and the gap between the workers and the executive are important causes of labor unrest.
3. Espionage systems exist.
4. Irregularity of employment has increased in recent years.
5. Depression competition has spurred the speed-up beyond economic capability to produce day by day.
6. Automobile workers are considered old at 40.
7. Hourly earnings are high; annual incomes are low.
8. Relatively few employees obtain supplementary earnings from other sources during lay-offs.
9. The privilege of averaging hours on an annual basis is neither necessary nor desirable.

Changes in Hours and Wages in the Cotton-Garment Industry

A REDUCTION in working hours of 10 percent and a commensurate increase in rates of pay became operative under the code for the cotton-garment industry on December 1, 1934, in conformity with the recommendations of a special committee created to investigate the justification of such a change. The revision in the cotton-garment code, whereby hours were reduced from 40 to 36 per week without a reduction in the weekly wages of \$12 per week in the southern area, and \$13 per week in the northern area, was originally ordered by the President on August 21, 1934, to take effect 14 days later. On September 28 the amendment was stayed by Executive order until October 15 to allow the National Industrial Recovery Board adequate opportunity to investigate the facts and make recommendations with respect to proposed changes. Those members of the industry who protested the amendment of the code expressed their willingness to abide by the decisions of an impartial committee on the matters involved, and the President therefore stated in issuing the stay that the National Industrial Recovery Board should appoint a committee of three impartial members to hear protests, investigate the facts, and report its recommendations by October 10.

Appointees to the special committee were D. M. Nelson, Willard E. Hotchkiss, and W. Jett Lauck.

The report of the special committee was made public on October 16.²⁴ In reviewing the issues submitted to it the committee held hearings at the instance of the code authorities of the dress manufacturing and men's clothing industries. These industries operated under working schedules more favorable to labor than did the cotton-garment industry under the original code provisions and the projected change in the cotton-garment code was undertaken, therefore, to harmonize the conditions in cotton-garment manufacture with those obtaining in these competing industries. The committee reviewed existing records and considered new facts and viewpoints.

²⁴ National Recovery Administration. Press release no. 8314.

The position of the code authority, as interpreted by the committee, was that employment in the cotton-garment industry was relatively heavy during the late phases of the depression before adoption of the code. This was due to the fact that low purchasing power made the buying of other than low-priced merchandise impossible. During this period unrestricted competition led to low wages, long hours, and related evils. With code adoption the industry reported that the differential between costs of production of cotton garments and competing goods was narrowed, with the result that other products were bought, and the volume of cotton-garment sales dwindled, causing a loss in employment.

In the course of its deliberations the committee found that the cost of a 49-cent work shirt, to cite one example, would be raised by not more than 5 cents under the proposed code amendment. The committee also held the view that bringing substandard industries up to the standards of competing industries was an important objective and that the public interest and industrial stability demand that official approval should not be given to "pockets of production under lower labor standards along the competitive border line of industries whose codes enforce higher labor standards." The committee stated that the only material change in practice that the code amendment made necessary was the filing of all piece rates with the code authority in order that sufficient standardization could be introduced to assure integrity of the piece-rate structure. Inequities resulting as between high- and low-standard producers under the amendment were regarded as no greater than would result from any general ruling. For these reasons the committee agreed that the amendment should be sustained.

A need for study of the competition of prison-made goods, the effect of the prison-labor compact, and production in sheltered workshops was recognized and it was recommended that a commission be set up for this purpose, to report not later than December 1. Accordingly, the National Industrial Recovery Board announced the creation of a special committee of three on November 5, whose duties were outlined as including study of competition between products of the cotton-garment industry and products of sheltered workshops and between products of the industry and those of prison labor.²⁵ The committee was further directed to study the operation of the prison-labor compact.²⁶ Wholesale exemptions from code provisions were opposed and the committee urged that nothing be done that might undermine the efforts of the code authority in the field of securing code compliance.

Labor Conditions in Cotton-Garment Industry in Pennsylvania

THE cotton-garment code, as applied in the State of Pennsylvania in February 1934, advanced the position of labor by the elimination of child labor, a general reduction of working hours, and an increase in weekly earnings for the majority of the workers. It did not benefit the minority group of higher-paid workers materially, and relatively few persons were found to be receiving over the minimum wage of 32½ cents per hour fixed by the code. Part-time work prevailed in the industry, with nearly three-fourths of the employees

²⁵ National Recovery Administration. Press release no. 8647, Nov. 5, 1934.

²⁶ For the report of this board, see under section on "Prison Labor" (p. 702).

working fewer than 40 hours per week and two-thirds earning less than \$13 per week, the code minimum for full-time employment. These were the findings in a study made by Elizabeth S. Johnson, of the Bureau of Women and Children, Department of Labor and Industry of Pennsylvania.²⁷

The author of the study stated that the survey was made before the compliance machinery of the National Recovery Administration was in full operation, but after the necessary period of adjustment to the code. Therefore, the failures to comply with code labor provisions, which affected three-fourths of the plants with respect to wage provisions and involved 1,070, or 12 percent, of the employees, in the plants studied, were regarded as willful. The findings of the study in this respect were that the National Recovery Administration had "attained or closely approached its major objectives", but that "employers who refuse to pay fair wages have found numerous subterfuges by which they can dodge the minimum-wage provisions of the codes." Other instances of noncompliance included falsification of hours records, classification of experienced workers as learners in order to pay below the scheduled rates of pay, and taking advantage of the code provision whereby handicapped workers might be employed at less than code rates without separating the actually handicapped from the able-bodied workers.

For purposes of comparison the figures obtained in a study by the bureau of women and children in October 1932²⁸ were drawn upon throughout the analysis of the information collected in the later survey.

In the 1934 study information was obtained from representative plants in the cotton-garment industry throughout the State of Pennsylvania which manufactured shirts and cotton dresses principally and, in fewer instances, work clothing, pajamas, and other cotton garments. Plants were selected at random, with the exception of a few that were included upon request of the Cotton Garment Code Authority. Among the 12,130 persons in the 114 plants covered, 10,800 were women and 1,300 were men.

While most of the pay-roll data were for the pay period ending in February 1934, some figures were for periods between December 1933 and April 1934. Executives, office, and maintenance workers were not included in the study.

Child Labor

AMONG the 12,130 persons for whom records were obtained, only 2 were children under 16 years of age. Both of these minors had been employed prior to code adoption and had been allowed to be retained. In the 1932 study of the clothing industry, it was found that 1 of every 25 employees was a child of under 16. However, it was considered by the writer that the general adoption of the minimum wage was doubtless as potent a factor in the elimination of child labor as was the child-labor prohibition itself.

²⁷ Pennsylvania. Department of Labor and Industry. Labor and Industry, September 1934, pp. 3-6, 16

²⁸ Idem, February 1933: Hours and Earnings in the Textile and Clothing Industries of Pennsylvania, October 1932.

Hours of Work

COLLECTION of statistics showing hours of work was complicated by the absence of records and the inaccuracy and falsification of certain existing records. The data upon which the report was based revealed a great reduction in working time and almost universal acceptance of the 40-hour standard work week established under the code, as compared with a work week of 59 hours or longer that existed in 1932. An analysis of records for 88 firms and 8,930 employees showed that the majority of employees worked fewer than 40 hours per week; only one-fourth of the total worked 40 hours; and 71 percent were recorded as employed part time. Seasonal conditions were held partially accountable for short time in this period.

The figures indicated a general absence of overtime work, only 3.3 percent of the total number employed being recorded as working in excess of 40 hours per week. The dress industry led in the proportion of workers employed overtime, with 15.5 percent of the total working over 40 hours per week. This percentage was almost identical with the percentage working in excess of 54 hours found in the 1932 study of women's clothing workers. The excess was therefore laid to lack of proper business organization and not to any set limit on the working week.

Earnings

MEDIAN weekly earnings of all employees showed a 50-percent increase between the period of the 1932 and 1934 studies, or from \$7.51 to \$11.25. Median weekly earnings of women in 1934 were \$10.95, as compared with \$13.62 for men. The following table gives the number of men and women in 1934 and of all workers covered in 1932 and in 1934, classified by weekly earnings.

DISTRIBUTION OF COTTON-GARMENT WORKERS ACCORDING TO WEEKLY EARNINGS, OCTOBER 1932 AND FEBRUARY 1934

Weekly earnings	February 1934						October 1932	
	Men		Women		All workers		All workers	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under \$5.....	54	4.5	1,515	14.9	1,569	13.8	3,294	26.0
\$5 and under \$10.....	207	17.4	2,804	27.5	3,011	26.4	5,584	44.0
\$10 and under \$13.....	203	17.1	2,675	26.2	2,878	25.3	1,913	15.1
\$13 and under \$15.....	274	23.0	1,991	19.5	2,265	19.9	662	5.2
\$15 and over.....	452	38.0	1,209	11.9	1,661	14.6	1,229	9.7
Total.....	1,190	100.0	10,194	100.0	11,384	100.0	12,682	100.0
Median.....		\$13.62		\$10.95		\$11.25		\$7.51

The table shows that barely one-third of the women covered in 1934 received as much as \$13 a week, the code minimum for full-time work, while the men receiving the minimum weekly rate or over represented two-thirds of all the men covered. For all workers in 1934 the percent receiving \$13 and over was 34.5, as compared with 14.9 in 1932. Wages below \$13 per week in 1934 indicated the prevalence of short working time and also the presence of code exemptions and violations. It was stated in the report that the effect of the

minimum wage on lower-paid workers had been more helpful to women than to men. Women's median earnings increased \$3.41 between 1932 and 1934 and those of men \$3.31; on a percentage basis the increase was 45 for women and 32 for men. As between branches of the cotton-garment industry, weekly earnings showed considerable variation in the 1934 study. In shirt manufacture, where part-time work was prevalent, the median earnings amounted to \$10.91 a week in contrast with \$12.14 in dress manufacture and \$12.28 for other cotton garments.

Analysis of the records for 92 plants having usable records showed that 30 percent of the total employees received exactly 32½ cents an hour, the code minimum. This was in large part the result of piece rates established to yield the minimum wage to the worker having average speed. Slow workers were unable to earn the minimum wage and this made it necessary to pay them the difference between their earnings and the minimum specified. Workers so compensated represented one-fifth of those for whom information as to hourly earnings was obtained and two-thirds of the group who were paid an hourly rate of 32½ cents. In general, among every 6 cotton-garment workers studied, 1 received less than 32½ cents an hour, 2 received exactly 32½ cents, 2 received between 32½ and 40 cents, and 1 received 40 cents or over. Men earned the 32½-cent hourly rate as often as women, but 19 percent of the women were paid less than that amount as compared with 8 percent of the men. Earnings of 50 cents an hour or more were reported for 3 percent of the women and 21 percent of the men, men having the occupations, such as cutting, which require skill, and are therefore more highly paid.

As between shirt and dress factories, the differences in hourly earnings were great. Three times as large a proportion of employees in the dress industry earned less than 32½ cents as in the shirt industry, the percentages being 43.8 and 15.1, respectively. The study disclosed further that low wages were more typical in contracting shops manufacturing goods for other concerns than in regular manufacturing shops. In the brackets of higher pay the situation was reversed, with manufacturers' employees paid above the minimum rate of pay, representing 54 percent of the total, as compared with 47 percent in contract shops.

Handicapped Employees

UNDER the cotton-garment code, provision was made for employment of handicapped persons to a total of 10 percent of the employees. When this study was made no certification or registration of the handicapped was required, nor was a minimum rate of pay for such workers established. Only 73 firms out of the 114 covered by the survey registered handicapped persons on their pay rolls. These firms employed 591 persons designated as handicapped, which represented 6 percent of the total employed by the 73 firms and 5 percent of those employed by the 114 plants. In eight firms the number of handicapped exceeded 10 percent of employees, the allowable quota. Because of the absence of a code provision as to the minimum wage of handicapped workers they received less than the code minimum even for learners. Out of 466 persons, 51 percent earned less than 25 cents an hour and 17 percent earned less than 20 cents.

Learners

THERE was found to be wide-spread abuse of the code provision permitting employment of learners. A total of 506 persons appeared on the pay rolls as learners. Investigation disclosed that 2 out of 3 of the employees also classified were not really learners, having had more than 6 weeks' experience. Moreover, in 16 out of 57 plants employers were found to be employing more than the allowable quota of learners. For all plants with learners the percentage of learners was 7. More than one-fourth of the learners received less than 24½ cents an hour, the minimum rate of pay under the code, and 10 percent received less than 20 cents an hour.

Labor Conditions in Connecticut Needle Trades

WOMAN workers in two branches of the needle trades in Connecticut benefited materially from changed conditions in the clothing industry after the adoption of the N. R. A. codes, according to studies made by the minimum wage division of the Connecticut Department of Labor. These studies cover the women's dress industry²⁹ and the manufacture of shirts.³⁰ In the case of the dress industry, the latest report supplements the findings of a similar study made by the department in 1933 and covers practically the same establishments. Changes that took place in working conditions in the 12-month period are therefore easily noted. The basis of comparison of conditions in shirt manufacture in 1934 is the study of the shirt industry made by the United States Department of Labor, which included a representative number of shirt factories and workers in Connecticut during 1 week in June 1933.³¹ (See p. 1018.)

The very considerable improvement in hours and earnings which, these latest studies show, took place between 1933 and 1934, is credited by the State department of labor "to the effect of the National Industrial Recovery Act and the unionization of the labor market." In 1933 none of the dress shops in the State was organized, while due to intensive organizing activities of the International Ladies' Garment Workers' Union after the passage of the National Industrial Recovery Act the State agency found that in 1934, "37 out of the 42 plants covered by the survey were under union control." Similarly, while the shirt industry was wholly unorganized in 1933, by 1934, "the Amalgamated Clothing Workers' Union had organized a large part of the labor market in this industry in Connecticut", and 13 of the 18 factories were organized.

Dress Industry

A STRIKING change in wage rates, hours, and earnings in "one of the most sweated industries in the State" is shown by the two sets of figures collected by the State agency, one in 1933 and the other in 1934. Both studies covered 1 week in the busy season. The data for 1933 are based upon a study of 46 percent of the dressmaking plants then registered and operating in Connecticut, employing 1,800

²⁹ Connecticut. Department of Labor. Minimum Wage Division. Hours and Earnings in the Women's Dress Industry, 1933 and 1934. Hartford, 1935. (Mimeographed.)

³⁰ *Idem.* Hours and Earnings in Connecticut Shirt Factories, 1933 and 1934. Hartford, 1935. (Mimeographed.)

³¹ See Monthly Labor Review, September 1933 (pp. 499-510).

women and girls; those for 1934 cover 51 percent of the registered total, employing 2,881 women and girls.

Three codes were involved in the study—the cotton-garment code, which required a minimum wage of \$13 for a maximum work week of 40 hours; the blouse and skirt code, with a somewhat higher minimum wage and a 35-hour week; and the dress code, which fixed a minimum rate for each occupation and called for a maximum 35-hour work week. Most of the plants in the survey operated under the dress code.

Median earnings of the workers in all plants studied in 1934 were \$16.52 in the week covered, an increase of 63 percent over the 1933 median, \$10.11. In 1933, 49 percent of the total number of female employees received less than \$10 in a peak week of 50 hours, while in 1934 only 8 percent received as little as this for a peak week of 35 hours. Those who received less than \$5 per week comprised only 2 percent of all the employees studied, as compared with 14 percent in the preceding year. While in 1934 a fraction over one-third (33.8 percent) of all the employees included in the survey received wages as high as \$20 or more per week, in 1933 only 4 percent earned that much. In the same year 63 percent of the employees earned \$15 or more a week, as compared with 17 percent in 1933.

The percentage distribution, by classified weekly earnings, in a representative busy week in each year is shown in table 1.

TABLE 1.—PERCENTAGE DISTRIBUTION, BY CLASSIFIED WEEKLY EARNINGS, OF WOMEN IN WOMEN'S DRESS INDUSTRY IN CONNECTICUT, 1933 AND 1934

Amount earned in 1 week	1934		1933	
	Number of employees	Percent of total	Number of employees	Percent of total
Total.....	2,881	100.0	1,800	100.0
Less than \$5.....	52	1.8	242	13.8
\$5 and less than \$10.....	179	6.2	635	35.1
\$10 and less than \$15.....	843	29.3	618	34.2
\$15 and less than \$20.....	834	28.9	230	12.7
\$20 and over.....	973	33.8	75	4.2

Median earnings, by occupations, are shown in table 2. One outstanding feature of these data, in addition to the substantially higher earnings, is the extent to which the spread between high-paid and low-paid occupations has been narrowed, since the poorest paid workers profited most under the code. With regard to the extent of increased earnings under the code rates and union scales, it is interesting to note that the lowest median earnings in 1934 were 20 percent higher than the median earnings of the highest-paid occupation in 1933.

TABLE 2.—MEDIAN WEEKLY EARNINGS OF WOMEN IN WOMEN'S DRESS INDUSTRY FOR 1 WEEK IN 1933 AND 1934, BY OCCUPATION

Occupation	1934		1933		Percent of increase
	Number of employees	Median earnings	Number of employees	Median earnings	
All occupations.....	2,881	\$16.52	1,800	\$10.11	63
Machine operators.....	1,819	19.84	1,157	11.39	74
Finishers.....	486	13.78	343	7.02	96
Cleaners.....	210	14.31	105	6.70	113
Pressers.....	82	18.86	65	11.50	64
All others.....	284	14.62	130	8.00	83

Moreover, earnings in 1933 were based on a working week averaging 50 hours, while in 1934 the week had been shortened to 35 hours.

Differences were found in the median earnings and hours in union and nonunion shops, and in shops working under different codes. The median earnings for union shops were \$16.85 for a 35-hour week, and for nonunion \$13.75 for 40 hours. Most of the nonunion plants make cotton garments, and the code governing that branch of the industry allowed a maximum working week of 40 hours. Earnings were lower under the cotton garment and the blouse codes than under the dress code, averaging \$15.61 in the first instance and \$16.91 in the second.

The women's dress industry in Connecticut maintained, during 1934, the expansion of the past few years. In 1933, 72 establishments, employing about 3,000 persons, were registered with the State labor department as dress factories. That number had increased to 82 in 1934, and the total number of employees was approximately 5,000. Most of these workers were women. Of the 3,120 employees covered in the 1934 study, 2,881, or 92 percent, were women. Basing estimates on those for whom age data were obtained, a large percentage of the 2,881 were between 16 and 21 years of age.

Shirt Industry

MEDIAN weekly earnings of woman workers in the shirt industry in Connecticut advanced 73.2 percent between 1933 and 1934, while working hours for a busy week decreased from 48 and 50 in 1933 to 40 or less in 1934. The industry operated under the cotton garment code, which set a minimum wage of \$13 for a 40-hour maximum work week.

In making a study of shirt factories to determine, by comparison with the United States Department of Labor survey of 1933, the effect of the N. R. A. and other stabilizing factors, the minimum wage division of the Connecticut Department of Labor covered 18 of the 25 registered shirt factories in the State, employing 2,706 wage earners. The earlier study gave data for 10 shops with 2,262 wage earners.

Workers in shirt manufacture are predominantly young women and girls, as shown by both studies. Children under 16, who in 1933 constituted 4 percent of the total, had been eliminated by 1934, but 42.7 percent of all woman employees in the 18 factories studied in 1934 were under 21, and 10.3 percent were under 18 years of age.

Average earnings in a busy week in 1933 were \$7.80; in 1934 the average wage was \$13.51, or slightly more than the code minimum. In 1933, 72 percent of the workers, and in 1934, only 14 percent earned less than \$10 for a full week. Comparative median weekly earnings in 1933 and 1934 are shown in table 3, which segregates the wages of the two most important occupations—machine operation and pressing.

TABLE 3.—MEDIAN EARNINGS OF WOMEN IN SHIRT FACTORIES IN CONNECTICUT FOR 1 WEEK IN 1933 AND 1934, BY OCCUPATION

Occupation	1934	1933	Percent increase
All occupations.....	\$13. 51	\$7. 80	73. 2
Operators.....	13. 45	8. 00	68. 1
Pressers.....	14. 15	8. 40	68. 7
Miscellaneous.....	13. 18	6. 20	110. 8

The State agency studied hours and earnings for a representative week in both the busy and the dull season. In the dull week, 96 percent worked less than 40 hours and 89 percent less than 30 hours, and the median of hours worked was only 15.5. On the face of this showing the report concedes the reasonableness of the manufacturers' contention that a 36-hour week would be better suited to the shirt industry. The wide difference in earnings between the busy and the dull week in 1934 is shown in table 4.

TABLE 4.—COMPARATIVE MEDIAN EARNINGS FOR 1 WEEK IN BUSY AND DULL SEASONS IN SHIRT INDUSTRY IN CONNECTICUT, 1934, BY OCCUPATION

Occupation	Busy week		Dull week	
	Number employed	Median wage	Number employed	Median wage
All occupations.....	2, 706	\$13. 51	2, 566	\$5. 64
Operators.....	1, 724	13. 45	1, 615	4. 94
Pressers.....	514	14. 15	494	7. 14
Cutters and machinists ¹	70	19. 00	65	14. 33
Miscellaneous.....	398	13. 18	392	6. 00

¹ Men.

A record of the actual hours worked was obtained for only a small group in 1933, but by 1934 fairly accurate records were available in consequence both of code requirements and a clause in the Connecticut Minimum Wage Act (Acts of 1933, ch. 131a, sec. 630-b), which requires that "each employer of women and minor workers shall keep a true and accurate record of the hours worked by each." Data available in 1933 gave 17 cents as the median hourly rate of woman workers in the shirt factories keeping time records; in 1934 the median hourly rate had more than doubled, as 36 cents was the average rate for that year.

Scheduled working hours in 1933 were 48 to 50 per week, although 64 percent of those for whom time records were available worked less than 48, and 26 percent worked less than 44. In a busy week in 1934, 57.4 percent worked less than the 40-hour week established by the code and 15 percent worked less than 30 hours.

Differences in earnings as between occupations, communities, and contracting and direct manufacturing plants which the 1933 study developed are shown by the 1934 survey to be very largely eliminated for the busy week, but to persist during the dull season.

In view of continued very low earnings in the dull season, the Connecticut Department of Labor feels that "the income of wage earners in shirt factories cannot yet be considered adequate." More-

over, in spite of improved labor standards, State agents found that half the plants visited were not paying all employees the wage required by the code. Some of the violations involved handicapped workers or learners, some of whom were receiving even less than the special lower rate permitted by the code, and others, while receiving the code rate for special workers had not been granted exemptions as such by the Connecticut Department of Labor, as required by the code. The percentage of learners to total labor force was higher in some instances than the code permitted.

While dull seasons, and even part-time work during the busy season, are characteristic of the shirt industry, actual unemployment is not. The Connecticut study reports only 5 percent reduction in working force during the dull week as compared to the busy week.

In 1934 half the shops studied had not closed down completely at any time, while the remaining half were closed from 1 to 3 weeks. It appears, then, that the average wage earner in a shirt factory at present works nearly every week somewhere between 38 hours, the median for the busy week, and 15 hours, the median for the slow week.

Report on Scrip Payment of Wages and Company Stores

LIMITED acceptance of scrip, at not less than its par value, was recommended by the special committee appointed by the National Recovery Administration on March 16, 1934, to study so-called "company stores" and wage payments in other than lawful currency.³² This committee was named in accordance with the provisions of the retail trade code and was required to report its findings to the National Recovery Administration not later than December 1. Following submission of the report, code provisions governing scrip were stayed on several occasions and the last stay, announced on April 30, 1935, was made effective "subject to further order." (Press release no. 11131.)

The study of the committee was limited to company stores in mining, quarrying, lumbering, railroading, and manufacturing industries. The field investigation was made in 10 eastern States where company-store and scrip payments are most common. Information was obtained for 150 commissaries and 100 neighboring independent stores and 35 commissaries were chosen at random to check the representativeness of the data.

Recommendations of the committee were made under two separate groupings, the first of which dealt specifically with proposals for change in the provisions of the retail trade code covering scrip payments and receipt and the second with recommendations "designed to carry out the spirit of the first group" and to "indicate some considerations involved in correcting some of the evils which now exist in connection with the company-store and scrip system."

It was proposed that the retail trade code be changed to allow company stores or retail stores to "collect by offset in the form of scrip, book credit, or otherwise" an amount equal to as much as 25 percent of the pay of an individual in any pay period. By the

³² National Recovery Administration. Press release no. 8673, Nov. 10, 1934.

terms of the retail trade code as approved, "a negotiable instrument issued by any individual or private profit organization in payment of wages shall be accepted only if it is payable in cash within 1 month of the date of issue", and no retailer may extend credit in goods, etc., to other than its own employees engaged exclusively in the retail trade, upon any employer's guaranty or pursuant to a wage-deduction arrangement with said employer, unless such privileges are available to all retailers. The recommendations of the committee also included a change in the code provisions, stating that scrip might be accepted for cash only at its par or face value.

To insure equitable application of the provisions for scrip payments and acceptance of scrip for cash the committee suggested the adoption of regulations which would—

- (1) Insure that the worker receive a reasonable portion of his wages in cash on each pay day;
- (2) Limit the pay period to 1 week, and limit pay hold-backs to a maximum of 1 week;
- (3) Prohibit any employer of labor from requiring an employee to trade at the company store; and
- (4) Prohibit the payment of wages due in any form other than lawful money or pay checks.

National Recovery Administration Report on Industrial Homework

(See section on "Homework and Sweatshops," p. 198)

Wage Restitutions Secured by National Recovery Administration

WAGE restitutions to the amount of over \$3,000,000, representing the difference between wages paid and actual earnings, were made through the efforts of National Recovery Administration field offices, according to a statement released by the Director of Compliance and Enforcement on February 12, 1935.³³ Of this amount it was estimated that over \$1,000,000 was restored before June 16, 1934, and the remainder of the restitutions are a matter of record for the period since that date. The record also shows that wage restitutions made after June 16, 1934, involved 21,083 cases of which 756 arose under the President's Reemployment Agreement and the remainder under codes. In all 87,922 individuals benefited by the payment of back wages.

In addition, authenticated reports of code authorities showed wage restitutions in excess of half a million dollars.

³³ National Recovery Administration. Press release no. 10075, Feb. 12, 1935.

Decision of Supreme Court on the National Industrial Recovery Act

THE Supreme Court of the United States, on May 27, handed down its decision in the case of *Schechter v. United States*, holding, in effect, that the codes of fair competition established pursuant to the National Industrial Recovery Act were unenforceable, that insofar as that act purported to delegate to the President the power to make such codes it was unconstitutional, and that the attempt to regulate through a code certain methods of business, including the wages and hours of employees engaged in such purely intrastate activity as slaughtering poultry and selling it in a local market, was likewise unconstitutional.

The Court's ruling on the delegation point would alone have been sufficient to dispose of the case and cause a reversal of the conviction of the defendants for code violations. In deciding that legislative power had been unconstitutionally delegated to the executive, Mr. Chief Justice Hughes said in his opinion:

Section 3 of the Recovery Act is without precedent. It supplies no standards for any trade, industry, or activity. It does not undertake to prescribe rules of conduct to be applied to particular states of fact determined by appropriate administrative procedure.

Instead of prescribing rules of conduct, it authorizes the making of codes to prescribe them. For that legislative undertaking, section 3 sets up no standards, aside from the statement of the general aims of rehabilitation, correction, and expansion described in section 1. In view of the scope of that broad declaration, and of the nature of the few restrictions that are imposed, the discretion of the President in approving or prescribing codes, and thus enacting laws for the government of trade and industry throughout the country, is virtually unfettered. We think that the code-making authority thus conferred is an unconstitutional delegation of legislative power.

The Chief Justice then took up the question of the application of the code to intrastate transactions and asked two questions. First, were these transactions "in" interstate commerce?

The undisputed facts thus afford no warrant for the argument that the poultry handled by defendants at their slaughterhouse market was in a "current" or "flow" of interstate commerce and was thus subject to congressional regulation.

The poultry had come to a permanent rest within the State. It was not held, used, or sold by defendants in relation to any further transactions in interstate commerce and was not destined for transportation to other States.

The second, and more important, question was: Did the defendants' transactions (including wage payments and working hours) directly affect interstate commerce, thus becoming subject to Federal regulation? This led to the necessity of drawing a distinction as to what transactions had a "direct" effect upon interstate commerce and what had only an "indirect" effect. Said the Court:

Direct effects are illustrated by the railroad cases * * * e. g., the effect of failure to use prescribed safety appliances on railroads which are the highways of both interstate and intrastate commerce, * * * the fixing of rates for intrastate transportation which unjustly discriminate against interstate commerce.

For further examples, the Court drew upon labor cases arising under the Antitrust Act. The opinion stated that where a combina-

tion or conspiracy intended to restrain interstate commerce (*Coronado Coal Co. v. United Mine Workers*, 268 U. S. 295) the direct effect was clear. On the other hand, "Where that intent is absent, and the objectives are limited to intrastate activities, the fact that there may be an indirect effect upon interstate commerce does not subject the parties to the Federal statute, notwithstanding its broad provisions."

Having made this point, the Chief Justice elaborated it further by selecting from *Industrial Association v. United States* (268 U. S. 64), a case involving a labor combination in the building trades, the following language for quotation: "The acts here complained of spent their intended and direct force upon a local situation—for building is as essentially local as mining, manufacturing, or growing crops. * * *"

The Court rejected the arguments of the Government that Federal regulation is justified because hours and wages affect prices, and because interstate competition prevents the States, individually, regulating hours and wages. "It is not the province of the Court to consider the economic advantages or disadvantages of such a centralized system. It is sufficient to say that the Federal Constitution does not provide for it."

Similarly, the Court rejected the argument that the legislation was justified by an emergency, saying: "Extraordinary conditions do not create or enlarge constitutional powers."

Taking the decision as a whole, it amounted to holding all codes invalid on the delegation point, and particular provisions of the live poultry code invalid on the further ground that they regulated transactions which neither were in nor directly affected interstate commerce. The implications of the dicta on the commerce point were susceptible of various interpretations.

NEGRO IN INDUSTRY

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

The Negro in Agriculture and Industry at the Beginning of the Depression

FOR a long while agriculture was almost the only field opened freely to colored workers, but during the World War the demand for industrial labor drew numbers of them from the South to the manufacturing centers of the North, and within the South, from the country to the city. After the war, it became evident that there had not been a simple return to the old order, and with a view to discovering what permanent changes had been made, a brief survey of the economic position of the Negro was undertaken by T. J. Woofter, Jr., of the University of North Carolina. The survey was made under a grant from the Julius Rosenwald Fund of Chicago, and the results were issued under date of June 1930. The following summary of the report has reference to conditions as they existed in 1930 or earlier.

Summary and Recommendations

THE colored and white populations of the rural South, the report found, were both increasing rapidly in an area which, under the methods of agriculture in use, would not support adequately those already living there. Conditions were not easy for either race, but the Negro shared the difficulties of the white farmer and had some additional ones of his own.

The Negro farmer is first of all a part of the general southern agricultural system and as such he relies upon the one-crop system, is enmeshed in the tenant organization, is dependent upon exorbitant credit facilities, and has, up until recently, been subject to unsatisfactory market conditions. As a one-crop man he is subject to ruinous fluctuations in the price of cotton and tobacco, and does not raise a sufficient proportion of his own food and feed. As a tenant the farmer assumes a small part of the risks of farming and gets a small part of the profits. The progress made by Negroes in climbing the tenant ladder up to 1910 has been reversed by the desertion of the farms for the city. * * * Because these sudden fluctuations in price make it hard to get ahead, large proportions of the farmers are constantly in debt, and for their production credit they pay as high as 37 percent.

Notwithstanding these adverse conditions, it is possible to find in many communities of the South energetic Negro farmers who are making a living for their families. The problem is to encourage these and extend their number so that those who have a special ability for farming may remain and prosper in agriculture.

To this end, the report advised strengthening agricultural education in the schools, extending the work of the farm demonstration agents and the Federal Vocation Board, special efforts on the part of all cooperative enterprises to include Negro farmers, experiments to discover better and more economic methods of handling production credit, efforts to strengthen the present communities of Negro landholders and to increase their size, efforts to promote more self-sustaining agriculture, and further research.

In the local communities the most effective agencies for improving methods of production and for giving information on cooperative movements and credit facilities are the farm and home demonstration agents. Negro agents are especially effective in reaching Negro farmers. There were in 1929, 329 Negro agents. This is not a sufficiently large number, by several hundred, to supply the many Black Belt counties which have a sufficient number of Negro farmers to benefit from their services. The problem here is the creation of sufficient local interest in the counties to secure the necessary local appropriations, since a part of the support comes from the county, a part from the State, and a part from the Federal Government.

Status of the Negro in Industry

IN REGARD to the Negro's industrial position, the investigation disclosed that since 1910 there had been a double movement. In the southern cities white men had been competing for the skilled work Negroes formerly did there and Negroes had moved northward, entering a wide range of urban occupations. Constructive programs designed to fit the Negro more efficiently into the industrial system must take account of many factors. The following suggestions were made as to what such programs might include:

1. The application of the quota system to Mexican immigrants might protect the Negro from the special competition he meets in the Southwest and Midwest.

2. The situation as to unions should be bettered by a more effective policy on the part of the American Federation of Labor in urging the organization of Negroes by the internationals and locals and by the abatement of discriminatory practices by these bodies.

3. Trained personnel workers or counselors in vocational and educational guidance should be established in Negro high schools, and special efforts should be made to bring about such a basis of cooperation between industry and education as shall be profitable to both.

4. Industrial educational facilities, supported by public funds and aided by such agencies as the Julius Rosenwald Fund and the General Education Board, should be extended.

5. Employment bureaus should be developed which will pay special attention to the needs of Negro labor. "Public employment offices, financed from public funds, cannot afford to overemphasize the needs of any one group of citizens. But the efficiency of these offices in handling the Negro is often increased by the addition of a Negro secretary to meet the needs of the group."

Economic Status of the Negro in 1933

A CONFERENCE on the economic status of the Negro was held in Washington in May 1933, under the auspices of the Julius Rosenwald Fund, with an attendance largely of economists and sociologists, both colored and white, from all parts of the country. Although no final summing up of the proceedings was presented, there was rather general agreement on some salient points.

It was held to be well established that the Negro's economic status had improved distinctly within the last 40 years. The census of 1890 showed that, of the gainfully employed Negroes at that time, 87 per cent were either in agriculture or in domestic and personal service,

and only 13 percent in all other pursuits. In 1930 the proportion in other pursuits had risen to 34.7 percent, and Negroes were found in practically all the occupations listed. While in many lines they are handicapped by discriminations against them, nevertheless their number is noticeably increasing in those pursuits requiring some skill, initiative, experience, and general training.

Again, it is rather generally agreed that in the industries in which the Negro has gained a foothold he has not, during this depression, suffered disproportionately from unemployment. He has suffered, just as the white worker has, but he has not lost ground relatively, and his unemployment has been due to economic rather than to racial factors.

However, the fact that the race is still largely found in two of the great occupational groups which have suffered severely, agriculture and personal and domestic service, has led to a larger amount of unemployment among the colored than among the whites and has forced them to appear in disproportionate numbers among the seekers of relief. Negro women, in particular, have been hard hit by unemployment because of the extent to which they have been engaged in household service, a kind of work in which more easily and quickly than in almost any other an employer may retrench when income falls off. Among the Negroes it is not uncommon for married women to be wage earners, so that their unemployment is at once reflected in the family income. Consequently, the colored family is under a greater strain, and there is danger of its serious disorganization. The social needs of colored children, the unemployment of the women as well as of the men, and the stresses thrown upon the family, were brought out as interrelated factors, not merely matters of individual suffering.

In the matter of relief it was agreed that in most parts of the country there had been no discrimination against the Negro from either public or private sources. In a few places the relief standards were reported as being lower for the colored than for the white, but this was unusual. For the causes mentioned above, unemployment has been more widespread among the Negroes, and they have formed, therefore, a larger proportion of those needing relief than they do of the general population.

For the future it was held that there must be a strong and continuous effort to hold what the Negro has already gained and to secure further advances. Farming in the South should present some special advantages, but at present the Negro who wishes to take it up is handicapped by inability to secure good land in acreages suited to his needs, by lack of familiarity with improved methods, by poor equipment, and by lack of credit facilities, as well as by the disadvantages which affect farmers in general just now. Agricultural schools and courses, demonstration farms, and county or community agents of their own race were advocated. If to these were added opportunities to secure at a reasonable price something better than marginal land, fair credit facilities and instruction as to how to use them, county or community activities which would give the small farmer some chances of education for his children, hospitalization and medical care for his family and himself, and reasonable provision against the more serious disadvantages of his present isolated position, the drift to the city would probably be stopped, and the Negro would

find a field of activity congenial to his character and beneficial alike to himself and the country as a whole.

It was urged that better and more abundant opportunities for education and training in both the industries and the professions should be offered, and that along with these should go continuous effort to break down the unwritten restrictions which now operate to keep colored workers out of many callings.

In the immediate future, it was suggested, there was serious danger that, as industry revived, the Negro might not be reemployed in proportion to his numbers. Competition would be severe, and wherever a group found it could use race discrimination to increase its own chances it would be very apt to do so. Strong efforts should be made to guard against this. Under the reorganization measures receiving the approval of Congress, it was pointed out, both employers and organized labor were to receive various concessions and to be subject to certain regulations; some definite measures for the recognition and absorption of colored labor might well be added as the plans evolved. Obviously, a number of agencies must be set up to develop policies and procedure with regard to public-works programs, the administration of credit agencies, the regulation of private business, the promotion of building projects, and the like.

One suggestion offered was that the Negroes should undertake cooperative experiments, using their own labor power and their own demands as consumers to build up self-sustaining or nearly self-sustaining communities, and to secure better opportunities for self-development. Another called for the establishment of fact-finding agencies to discover potential demands for Negro labor and to secure more diversification of employment within the race.

The conference closed on a note of hopefulness. The president of the Julius Rosenwald Fund pointed out that this is apparently the first major depression in which the Negro's unemployment has been due to economic factors with the racial element either altogether lacking or of small importance, and that this says much for the gain in standing which has been made. Also he considered that the outlook for the future is good. Politically the Negro is gaining in power, and his possibilities from an economic standpoint are beginning to be appreciated. His potential buying power offers business a new and important opportunity. "An increase in employment and of standards of living among Negroes would increase the buying power of the country by more than the total amount of our present exports. The greatest undeveloped market for American goods is the 12,000,000 Negroes in our midst."

Physical Impairment Among Negro Factory Workers

THE Heart Council of Greater Cincinnati has made several studies of physical impairment among different groups of workers, one of which is a report based on data derived from physical examinations of 1,032 Negro industrial workers in that city.¹ The men included in the study volunteered for the examination and repre-

¹ The Journal of Industrial Hygiene (Baltimore), May 1931: Physical Impairment Among 1,000 Negro Factory Workers, and Cardiovascular Impairment Among 1,000 Negro Factory Workers, by Floyd P. Allen, M. D.

sented the rank and file of these workers, there being no requirement except that they should be 20 years of age or over. The majority were employed at work requiring little mental effort but requiring moderately hard physical labor, nearly half of the men working as ordinary laborers. The men were employed in 13 factories, considerably more than half working in foundries and in the manufacture of roofing materials.

The mortality rates of the colored are, in general, much higher than among whites and, while all the conditions causing these higher death rates are not definitely established, it is indicated by recent studies that environment and ignorance of personal hygiene are the most important causes. The writer states that from available records it appears that the Negroes thrive best in the South and that health conditions were best in the days of slavery, when the majority lived under rural conditions to which they could most readily adapt themselves. After the Civil War the Negro race was left to its own resources and during this period of readjustment suffered an appalling loss of life from disease. During the past two decades the situation among them has improved, although it is still unsatisfactory. Since the World War large numbers have migrated to the North where the colder climate, poor housing, and low incomes, with the resulting limitation of food and clothing, have been factors in the high mortality rate. In Cincinnati in the 10 years ending in 1929 the Negro population has increased from 7 to 11 percent of the total population, the total number of Negroes in the city now being in excess of 48,000.

The high mortality rate among this group had been a matter of concern to the various official and voluntary welfare organizations of the city and as a result of the work of these agencies there has been a downward trend in the mortality rates. While there is much information available, therefore, as to sickness rates and causes of illness among these people, until about 1930 comparatively little had been known of the physical condition of those who are apparently well. In addition to the present study by the Heart Council, the Anti-Tuberculosis League was having X-ray examinations made of the chests of a large number of the same group of workers. On account of the interest of the council in diseases of the circulatory system it was desired to include a sufficiently large representation of the older workers but, as in a similar study among white machine and hand tool operators, it was found that a majority were under 45 years of age, both studies reflecting in a small way the tendency in industry to eliminate the older men.

The medical history of each worker was taken as a preliminary to the physical examination and it was found, as was to be expected, that the acute infectious diseases led as causes of previous illnesses. Only 139 of the number had been vaccinated within the preceding 5 years and 421 were found never to have been successfully vaccinated. More than one-quarter of the group had never visited a dentist and 627 secured dental care only in emergencies. Six men stated that they visited a dentist twice a year. The dental examinations showed that more than three-fourths of the men were in need of dental care, many having infected gums. Uncorrected visual defects were also numerous; complete correction was observed in only seven cases, and in some instances glasses were worn only for the sake of appearance. Sinus disease was found in about one-fourth of the group and cases of enlarged tonsils were numerous.

The rate for diseases of the heart and blood vessels was very high in this group, 55.6 percent of the men presenting cardiovascular lesions. The presence of these lesions was definitely associated with overweight, particularly among those under 40 years of age. The rate for the entire group was one and six-tenths times the rate for 2,000 white workers in the same locality. This difference was found to approximate closely the ratio of colored to white deaths in Cincinnati in the 10-year period ending in 1929. A high percentage of these workers did not know that they had any significant heart defect and were also ignorant of the other major physical defects which were found among them.

To sum up, of the total group only 1 was found who could be considered practically free from defect, 88 had minor defects only, 911 had significant defects, and 996 possessed defects, either minor or significant, which were unknown to them. It was considered by the examiners that all but a few of these workers would benefit by early medical care. It was a matter of wonder to the physicians making the examination that many of these men could continue at work daily at tasks requiring from moderate to great physical exertion. In fact, however, the writer states, it is a matter of knowledge "that many of them break down relatively early in life as a result of serious physical defects. Tuberculosis, syphilis, and the degenerative diseases are still exacting a large toll of life among these people, so great in fact that comparatively few survive to reach old age."

The Negro in West Virginia in 1932

WEST VIRGINIA offers in some respects a more hopeful field for Negroes than those States in which agriculture offers colored workers their chief opportunity. Mining, West Virginia's greatest industry, has never been closed to them, and the population figures of the State show that they take advantage of the opening it gives them. A report issued by the Bureau of Negro Welfare and Statistics of West Virginia, covering the period 1929 to 1932, shows that during the decade 1920-30, the Negro population of the State rose from 86,345 to 114,913, an increase of 33.1 percent. An attempt is made in the report to give a general review of the position of the Negro in West Virginia during the period covered.

Occupational Distribution

IN 1930 the colored population of the State aged 10 years and over numbered 89,921, of whom 52.5 percent were gainfully employed. "This exceeds the native white population's percentage by a little more than 10 percent and is behind the foreign-born whites' percentage" by 10 percent. Considering only the male workers, by far the largest group was found to be in the coal-mining industry, which employed 22,300. Next came the group engaged in transportation, numbering 3,451, most of whom were employed by the railroads. Domestic and personal service, with 3,354, employed almost the same number as transportation. Professional service accounted for 1,296, trade for 1,031, and agriculture for 1,655. The building trades employed 826, chemical and allied industries 502, blast furnaces and

steel rolling mills 391, and other iron and steel industries 545. The remainder were scattered, hardly any industry or trade being without a few representatives. For women, domestic and personal service was the principal line of industry, employing 7,062, of whom 1,053 were in hotels, restaurants, and the like. The next largest group, 996, was found in professional and semiprofessional service, 105 carried on independent hand trades, and 103 were in wholesale and retail trades.

In the coal mines, the report states, the Negro has proved a valuable worker, adjusting himself to an amicable relationship with employees of other racial groups within the industry, and being regarded as a "dependable worker and a contented member of society in the coal-mining communities." Among the railway systems in the State, the Norfolk & Western is the largest employer of Negro labor.

In this company's shop at Bluefield as hostlers, helpers, and on the yards as brakemen, freight handlers, baggagemen, commissary workers, and train porters, the Negro represents an appreciable percentage of that company's labor personnel. Officials of the Norfolk & Western system give favorable testimony to the efficiency, promptness, and dependability of their Negro employees.

There are very few Negroes in business for themselves in West Virginia, and as employers they are a negligible factor. Negro businesses are confined largely to the operation of restaurants, hotels, cleaning and pressing shops, drug stores, billiard rooms, barber shops, and an occasional grocery.

Our survey shows that the number of Negro-operated businesses has largely decreased during the period covered by this report. This has been due largely to the depression that has also affected all other business. But as most Negro-operated business is operated by only a few people, this decrease has had no appreciable effect upon the question of unemployment. His commercial and financial poverty preclude the possibility of employment of any appreciable numbers within his own group.

A study of the individual business concerns which had disappeared during the depression showed, naturally enough, that they were in the main the smaller enterprises, the larger enterprises being better able to weather the storm.

Home Ownership in 1930

THE 1930 census showed that of 26,274 Negro families in West Virginia, 4,900, or 18.7 percent, owned their own homes. The desire to own a home is reported to be strong among the colored people, and many who are not yet able to accomplish it have bought or are buying lots on which to build as soon as their means permit. Unfortunately, this desire has been taken advantage of by unscrupulous real estate promoters and salesmen, who sold the Negroes property "which was often grossly misrepresented as to topography, location, and value."

Effects of the Depression

THE colored people of West Virginia suffered severely from unemployment during the depression, but at the time this report was prepared (December 1932) the director of the bureau believed that they had not suffered disproportionately. Apparently they had not been discharged in favor of workers of another race or color.

Reports reached this bureau from time to time of organized efforts to induce employers to replace their colored employees with those of the other group. In every case where a specific instance was named the office investigated. The charge was not substantiated in a single case. A certain veterans' organization making a drive for the unemployed was so accused. A State-wide investigation failed to support the accusation. These charges, no doubt, were but the product of a hysteria of fear peculiar to the stress of the times.

Lack of employment led among the Negroes, as among those of other races, to the familiar evils of overcrowding, insufficient nourishment, and bad living conditions generally, with the accompanying risks of increased susceptibility to tuberculosis, a growth in juvenile delinquency, and similar unfortunate developments. This will tend to leave the race with an increased handicap, even when the depression is over.

This bureau, recognizing the facts stated herein, and the keen competition that does and must necessarily face the colored worker in the immediate future, has developed a plan of assistance. This plan calls for the organization in the more populous centers of a group of the most intelligent and public-spirited Negroes whose mission among other things will be as follows:

To cooperate with employers of labor by furnishing upon request the names of competent and efficient Negro workers.

To find new jobs for Negroes, wherever possible, in fields where he is at present barred solely on account of race.

To instruct the Negro, already employed, by means of lectures, etc., that "the job is the thing", to the end that his increased efficiency will make him a more valuable investment to his employer and thus safeguard himself against displacement.

The bureau has found, it is stated, that work along these lines can be handled more successfully by local groups than by means of a central office. A group of the kind contemplated has already been formed in Charleston, and others are to be developed.

The report contains also a general survey of the position of the Negro in West Virginia, including educational opportunities, religious and cultural facilities, welfare and correctional institutions, and other particulars bearing upon his status and the possibilities open to him.

Wages of Negroes in Industry in the District of Columbia

A SURVEY of the employment of Negroes in the District of Columbia in 1931 was made under the auspices of the Association for the Study of Negro Life and History, Inc., in cooperation with the Committee for Improving the Industrial Condition among Negroes in the District of Columbia.² Wages were reported by 200 firms, some of them employing large numbers of Negroes. According to the findings for one group of establishments, 15 were paying their Negro workers between \$18 and \$20 a week; in 11 firms the median weekly wage scale for such workers varied from \$15 to \$18; in 2 others, from \$12 to \$15, while in 4 establishments median wages ranged from \$8 to \$10 a week. Of 19 firms, excluding hotels, which reported monthly wages, 4 paid their Negro employees between \$75 and \$80 per month; 3 from \$65 to \$70; 2 from \$60 to \$65; and 1 from \$55 to

² Greene, Lorenzo J., and Callis, Myra Colson. *The Employment of Negroes in the District of Columbia*, Washington, 1931.

\$60. The median wage scale for Negro workers in 5 establishments was under \$50 per month.

The median earnings of the second largest group of Negro workers for whom pay-roll data were available ranged from \$20 to \$25 per week, or from \$1,040 to \$1,300 per annum and were in 30 different types of industries. These laborers were employed by 66 of the 200 firms. These earnings, however, included average wages of a few Negroes with responsible jobs for which the remuneration was higher.

In 25 other establishments the median wages for Negroes was found to be from \$25 to \$40 per week, 10 of these concerns paying between \$25 and \$27.50. Among them were cleaners and dyers, dairies, feed companies, lumber yards, a machine company, and a storage warehouse. In half a dozen other concerns the weekly wage scale was between \$30 and \$35. The median wages per week in one plant ran from \$35 to \$40. In these cases the Negroes were doing skilled work, some of them being bakers, one a foreman, some were employed in the production section of an ice-cream plant, and others as truck drivers for a chain grocery. The latter had increased their weekly earnings, however, by overtime work, at the time of the survey. The highest average wages for common labor were being paid by concerns employing Negroes in large numbers for rough work. Such concerns included street-railway companies, contracting, engineering, building and paving companies, and cement firms. Laborers received from 21 of these companies wages running from \$4 to \$4.50 per day or from 42½ to 50 cents per hour. On the other hand, two contracting companies paid from 30 to 35 cents per hour.

Wages paid by individual laundries will better serve to portray a more exact picture and also to account in part for industrial laxity of the workers. In one laundry wages ranged from \$10 to \$15 a week; in another from \$11 to \$23, in a fourth from \$8 to \$22, the women working 8 hours and the men from 10 to 12 hours a day; in a fifth laundry \$10 a week was the average; in other laundries the weekly wages varied from \$10 to \$20 and from \$12 to \$13. The Negro men receive the highest wages, for they are the washers, foremen, cleaners, pressers, dyers, and, in a few cases, delivery men. Yet some of the girls and women do fairly well either as pieceworkers on semiskilled or skilled processes. Shirt ironers, for instance, in the second largest laundry in town, received from \$12 to \$15 a week. A bonus of 25 cents an hour was also given each worker doing more than a certain required amount of work.

In other cases Negroes worked on a piece basis. On this work the apt and industrious employee could make a fair salary ranging from \$12 to \$15 a week.

In nine of the most outstanding hotels in Washington, D. C., reporting earnings for Negro workers, their average wage was \$40.35 per month and in none of these establishments was the average median monthly wage over \$55. Bell boys received the lowest median monthly wage, \$30, their monthly wages ranging from \$10 to \$35. The monthly wage of waiters was \$35, head waiters, of course, receiving more. Dish washers were being paid from \$35 to \$40; maids, \$40 to \$60; housemen, \$60 to \$75; and captains, \$80 to \$90. Hotel workers, however, are allowed one or two meals a day, and the tips of those in contact with guests frequently exceed their wages.

Higher wages were paid Negroes on skilled and responsible jobs, notably in the building trades. Most of the cement finishers were Negroes, and the majority of them earned 62½ cents per hour, the union scale being \$1.25.

Negro butchers and sausage makers, however, were receiving from \$32 to \$50 per week; Negro bakers, \$35 and up; and spotters in laundries, from \$30 to \$45.

No basis for a comparison of average wages by race in Washington was obtained.

Only in 12 cases did employers actually assert that for the same work Negroes and whites receive the same pay. As one contractor expressed it, "If whites and blacks do the same work the pay is the same." "Colored and white workers doing the same work get the same pay," added the sales manager of a large real estate company with 200 Negroes on its pay roll. This firm hired both white and Negro elevator operators, janitors, and charwomen. "Where both races do the same type of work," concluded a high official of a street railway company, "they are graded from 40 cents to 50 cents per hour." In most of these places whites have but recently begun to divide this rough work with the blacks; hence, they are more or less compelled to accept the same wages paid Negroes.

In but two cases did employers admit a difference in wage levels as between white and Negro workers. There no doubt were others, but such information was withheld. In the above-mentioned instances, incidentally, qualifying circumstances, such as seniority, entered.

Relative Efficiency of Negro and White Workers

THE findings of several inquiries concerning the efficiency of Negro labor as compared to white labor are brought together in an article in the December 1934 issue of the *American Federationist*, by Robert C. Weaver, associate adviser on economic status of Negroes, United States Department of the Interior.

These findings are regarded as of special interest in view of the fact that since the setting up of the President's recovery program there has been a great deal of discussion on the relative efficiency of colored workers. In the South particularly it has been reported that Negroes are not so efficient as the white workers and that as a consequence it is "impossible and uneconomic" for employers in that part of the United States to pay these colored workers as much as white laborers.

According to the author of the article here reviewed, there is no direct evidence to support or refute the statement. In his judgment, however, there are some pertinent data on the subject in question, although he doubts whether the efficiency of labor is scientifically measurable by race. He declares that up to the present no such studies have been made. The results of some investigations of the attitudes of employers on the matter and some additional data for a single industry are, however, available.

Among the inquiries cited in this article in the *American Federationist* is one made by the Chicago Commission on Race Relations in 1920. That body reported that 71 employers interviewed considered the Negro as efficient as white workers and 22 reported the Negro as less efficient; the first group, however, included nearly all of the large employers of Negroes.

The following table is a compilation of the results of three other inquiries as to employers' opinions on the relative efficiency of Negro labor.

EFFICIENCY AND REGULARITY OF NEGROES AS COMPARED TO WHITE WORKERS, ACCORDING TO OPINIONS OF EMPLOYERS

Efficiency and regularity	Detroit Bureau of Government Research survey ¹		Pennsylvania Department of Public Welfare survey ²		J. Tinsley Willis survey ³	
	Number of firms reporting	Number employed	Number of firms reporting	Number employed	Number of firms reporting	Number employed
Degree of efficiency:						
More efficient.....	11	5,102	14	1,780	1	1,200
Same efficiency.....	68	12,631	32	6,400	3	13,677
Less efficient.....	24	2,729	10	1,120	0	-----
Not reported.....	17	1,109	-----	-----	3	454
Total.....	120	21,571	56	9,300	7	15,331
Degree of regularity:						
More regular.....	7	199	3	431	0	-----
Same regularity.....	68	8,864	28	6,321	5	12,754
Less regular.....	33	11,587	25	2,543	1	2,177
Not reported.....	12	921	-----	-----	1	400
Total.....	120	21,571	56	9,300	7	15,331

¹ Feldman, Herman. Racial Factors in American Industry. New York, 1931, p. 60. Data are for 1926.

² Johnson, Charles. The Negro in American Civilization. New York, 1930, pp. 70, 71.

³ Willis, J. Tinsley. Negro Labor in the Tobacco Industry in North Carolina. An unpublished master's thesis at New York University, 1932, pp. 46, 47. Data are for 1930.

⁴ "Recent migration was felt to be responsible for the high rate of irregularity. Labor turn-over for Negro employees was thought to be generally less than that for white employees."

Commenting on these findings, Mr. Weaver says:

Although these data speak for themselves, a word should be said by way of explanation. In the first place, statistical material can never tell the whole picture. The Negro is not offered the same inducement to increase his efficiency as is his white prototype. Working conditions in the South are particularly unfavorable and in all sections of the country there are few inducements for efficiency by way of better jobs which act upon the colored workers. Thus employer assertion of equal efficiency for Negro workers assumes greater importance and significance. It means that in spite of the traditional attitude toward the Negro, and in the face of the smaller likelihood of promotion that presents itself to colored workers, their labor has so proved its worth that it is judged to be as efficient as that of another group which has enjoyed and does enjoy greater advantages. This evidence points to the potentialities of Negro labor, if it is treated in a more just and sympathetic manner.

In Mr. Weaver's judgment, the closest approximation to a valid investigation of the efficiency and regularity of Negro labor is Miss Alma Herbst's study of the meat-packing industry in Chicago, published in 1932. Miss Herbst covers the "typical" establishment having the Bedeaux wage-payment system, under which, after standard output is fixed, any worker exceeding it gets a premium. The accompanying tabulation presents some of her findings. The data are only for employees affected by the Bedeaux premium system.

EARNINGS OF WHITE AND NEGRO MALE EMPLOYEES AS AFFECTED BY BEDEAUX PREMIUM WAGE PAYMENT ¹

Weekly premiums	White workers	Negro workers	Total
Under \$2.50.....	230	49	279
\$2.50-\$4.99.....	111	30	141
\$5-\$7.49.....	31	16	47
\$7.50-\$9.90.....	20	12	32
\$10 and over.....	8	8	16
No premiums.....	102	0	102
Total.....	502	115	617

¹ Include only those whose wages are affected by Bedeaux premium wage payment.

Fifteen and one-tenth percent of the white women eligible for premiums, as contrasted with 6.5 percent of Negro women of the same group, failed to receive these extra payments. The portions awarded premiums up to \$5 were approximately the same for both races, but 16.3 percent of the Negro women, as compared to 8.8 percent of the white women, getting premiums had extra earnings of \$5 per week.

The sources cited in the article under review seem to indicate a tendency for the employers to feel that the Negro's regularity is less satisfactory than his efficiency. By way of explanation of this attitude, the author states that Negroes are as a rule hired to do unpleasant work which is frequently casual and that they are also marginal laborers with a slight hold on their jobs. These facts, in addition to the fact that the type of labor which falls to the lot of colored workers is of the kind that ordinarily has a higher turn-over, regardless of the race of those doing such labor, throw considerable light on the tendency toward irregularity. "For the most part", the author says, "this is an occupational and not a racial characteristic." It is found among Negroes because of their job distribution. He concedes however, that there is a racial factor in this irregularity. The Negroes, he reports, find advancement based on ability very difficult and consequently have recourse to new jobs in order to improve their economic status. Moreover, "the greater degree of irregularity seems to have been, in part, an attribute of the post-war period." Again, rural workers find it no easy matter to adapt themselves to urban industry. The southern textile manufacturers have noted this tendency to irregularity in recently recruited white labor for the cotton mills. "There are evidences to the effect that Negroes, as they gain more industrial experience, are reducing the degree of their irregularity." For example, in 1930 the North Carolina employers testified more favorably along this line than the Detroit employers at an earlier date.

The above analysis, according to the author, seems to show certain tendencies.

It seems to point out that the Negroes' efficiency varies in proportion to the favorableness of their working conditions. In addition, the Negro has become efficient in industries in the period since the World War. The evidence supplied by his employers and by an independent investigation is to the effect that he is as efficient as the white worker. When one considers the occupational distribution of colored workers, it seems that the irregularity of Negroes is about on a par with that for whites. In light of these findings, certain conclusions can be drawn. There is no reason for setting the wage for the Negro below that for white workers. Pleas for separate minimum wages for colored workers in the codes of fair competition rest upon a traditional attitude toward Negro labor. The assumption of lesser efficiency for Negroes has not been proved, and all the evidence we have about relative efficiency seems to refute the assertion.

OCCUPATION STATISTICS

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Occupational Changes Since 1850

THE decennial reports of the occupational census of all persons 10 years of age and over in the United States, published by the Bureau of the Census beginning with the year 1850, the first year in which the population was classified by occupations, furnished the basis of a study of occupational shifts, made by the Bureau of Labor Statistics, of which this is an abstract.¹ While employees in most of the trades increased in actual numbers from one census period to another, many of them show relative decreases when compared with the change in population. The population increased from 23,191,876 in 1850 to 122,775,046 in 1930, and it is only by considering the changes in the occupations with relation to this increase in population that the real significance of such changes becomes apparent.

Attention must be called to the fact that many of the trades or occupations of the present day are not strictly comparable with the same trades or occupations in 1850. New tools, new methods, different products, all tend to change the trade as well as the number of persons employed in it. Also, unfortunately, occupations have not always been treated alike in the several decennial census reports. Different occupational terms and combinations thereof are used, and some occupations which were shown separately for a few years have drifted into "all others" in later years, rendering comparison impossible.

As a result of these and other factors the figures presented should be accepted only as representative of general trends and not as absolutely accurate measurements.

The occupations for which figures are presented have been arranged under seven groups: Agriculture, forestry, and fishing; extraction of minerals; manufacturing and mechanical industries; transportation; professional service; domestic and personal service; and clerical occupations. It was not possible to include all the occupations reported by the census, as in many cases they are of no particular significance in any year and many of them could not be traced on a comparable basis through the various reports. The occupational terms used in the table are designed to cover the material for all years, although they may not be the exact terms used in any census report. Wherever necessary, combinations have been made in order to maintain the comparison from year to year. The figures cited show the number of employees per million of population.

The most conspicuous occupational change revealed by the figures in the following table is that to which attention has been frequently called, the consistent shift during the entire period from agricultural to other pursuits. Motor tractive power, electricity, and improved implements and methods are making agricultural work less burden-

¹ See Monthly Labor Review, November 1933, p. 1017.

some but more productive, and the very great decline in the number of persons employed in agricultural pursuits has in a large measure been due to these technological changes. Technical changes in other industries have also resulted in divorcing the farmer's occupation from a variety of processes formerly done on the farm, such as slaughtering, coopering, the making of certain implements, and the preparation of certain foods. Furthermore, industrial and commercial wage levels and the attractions of city life have drawn many away from the farm to the city.

NUMBER OF EMPLOYEES PER MILLION OF POPULATION, BY OCCUPATION, AS SHOWN BY CENSUS OF OCCUPATIONS, 1850-1930

Occupation	1850	1860	1870	1880	1890	1900	1910	1920	1930
<i>Agriculture, forestry, and fishing</i>									
Agriculture.....	103,568	106,129	153,436	152,585	133,904	134,579	134,696	100,896	85,294
Agricultural laborers.....		² 25,305	74,848	66,271	47,723	57,449	65,047	37,544	-----
Farmers and planters.....	³ 103,097	79,809	77,320	84,318	83,904	74,606	64,231	57,550	-----
Gardeners, nurserymen, florists, vine growers, etc.....	366	697	872	1,117	1,153	1,406	3,015	2,955	-----
Stockraisers, drovers, herders, etc.....	105	318	396	879	1,124	1,118	1,256	1,271	-----
Lumbermen, raftsmen, wood choppers, etc.....	491	614	651	865	1,582	1,422	1,753	1,826	1,321
Fishermen and oystermen.....	486	844	703	825	956	907	742	500	597
<i>Extraction of minerals</i>									
Quarry operatives.....	83	131	352	302	598	455	879	427	532
Miners, coal and metalliferous.....	3,338	4,699	3,945	4,670	5,554	6,959	8,758	8,351	6,064
Oil and gas well operatives.....			99	146	145	237	278	809	857
<i>Manufacturing and mechanical industries</i>									
Apprentices.....	80	1,760	451	881	1,310	1,072	1,294	1,864	755
Bakers.....	615	604	718	823	956	1,042	974	927	1,147
Blacksmiths.....	³ 4,308	3,557	3,677	3,444	3,262	2,869	2,533	1,847	1,013
Boilermakers.....	68	105	180	255	339	410	487	701	407
Brick and stone masons.....		2,011	2,327	2,045	2,525	1,992	1,842	1,314	1,518
Plasterers.....	2,733	417	612	440	620	465	518	862	571
Boot and shoe workers.....	5,644	5,348	4,438	3,870	3,392	2,741	2,336	2,879	2,482
Cabinetmakers.....	1,611	1,131	1,111	1,010	571	469	456	431	472
Carpenters and joiners.....	3,509	7,992	8,937	8,440	9,714	7,693	8,884	8,394	7,570
Coopers.....	1,884	1,387	1,084	980	754	490	275	180	92
Electricians.....						667	⁴ 1,307	2,014	2,283
Engravers.....	95	88	110	91	132	147	152	142	158
Glassworks operatives.....	140	111	247	358	545	658	392	784	588
Harness and saddle workers.....	982	814	851	797	691	528	246	189	62
Iron and steel workers, including blast-furnace, rolling-mill, foundry, etc., employees.....	528	800	1,215	2,284	3,355	3,919	8,052	8,006	6,731
Machinists.....	1,039	1,394	1,420	2,016	2,813	3,508	5,016	7,586	5,215
Marble and stone cutters.....	607	631	670	655	970	717	389	209	186
Millers and millworkers (grain, flour, and feed).....	1,199	1,186	1,078	1,066	839	534	396	468	316
Painters, glaziers, and varnishers.....	1,215	1,659	2,208	2,563	3,494	3,632	3,635	3,017	4,261
Paper and pulp mill operatives.....	128	146	323	427	442	478	737	1,012	1,094
Paper hangers.....		64	65	100	197	287	278	177	231
Upholsterers.....	112	102	149	208	408	406	220	280	419
Pattern and model makers.....	63	87	103	116	164	198	256	262	242
Plumbers, gas and steam fitters.....	81	191	289	387	899	1,214	1,613	1,956	1,937
Potters and pottery workers.....	179	110	131	144	237	212	277	277	281
Printers, compositors, pressmen, lithographers, bookbinders, etc.....	788	944	1,285	1,726	2,260	2,394	2,552	2,339	2,551
Roofers and slaters.....	19	62	71	80	112	118	153	108	193
Rubber factory operatives.....	7	15	101	127	257	288	477	1,302	896
Steam engineers and firemen (stationary).....	510	(⁵)	888	1,588	2,220	2,941	3,722	3,651	3,123

See footnotes at end of table.

NUMBER OF EMPLOYEES PER MILLION OF POPULATION, BY OCCUPATION, AS SHOWN BY CENSUS OF OCCUPATIONS, 1850-1930—Continued

Occupation	1850	1860	1870	1880	1890	1900	1910	1920	1930
<i>Manufacturing and mechanical industries—Continued</i>									
Structural-iron workers, building.....							124	178	286
Tailors, tailoresses, seamstresses, dressmakers, milliners, etc.....	(⁶)	8,045	6,585	8,357	10,884	10,652	10,712	6,662	4,421
Tanners, curriers, and tannery workers.....	646	446	744	595	625	561	591	565	373
Textile workers.....	1,925	1,686	4,842	6,015	5,442	7,087	8,162	9,097	7,796
Tinsmiths and tinware workers and coppersmiths.....	582	615	847	920	935	925	848	⁸ 1,059	⁸ 1,034
Tobacco and cigar-factory operatives.....	467	681	1,044	1,536	1,773	1,730	1,826	1,706	1,012
Wagon and coach makers.....	673	618	1,101	995	549	(⁵)	376	182	34
Wheelwrights.....	1,323	1,040	543	311	204	178	41	35	
<i>Transportation</i>									
Chauffeurs.....							498	2,697	7,920
Draymen, hackmen, teamsters, drivers, etc.....	1,757	2,468	3,132	3,541	5,854	7,092	4,826	3,975	1,240
Conductors, brakemen, and other railroad employees (not clerks).....	208	1,163	3,995	4,707	{ 6,080 1,104	6,714 1,409	11,378 1,877	10,914 1,904	7,749 1,371
Locomotive engineers and firemen.....									
Motormen, conductors, and other street railway employees (not clerks).....			132	238	593	920	1,667	1,634	1,220
Sailors and deck hands.....	3,044	2,142	1,470	1,198	888	795	506	519	527
<i>Professional service</i>									
Architects.....	26	40	52	67	128	39	181	172	179
Chemists, assayers, and metallurgists.....	20	20	20	39	72	116	177	312	302
Clergymen.....	1,157	1,194	1,138	1,290	1,401	1,469	1,283	1,204	1,212
Photographers and daguerreotypists.....	40	100	196	199	318	355	346	324	322
Dentists.....	126	178	203	246	278	390	435	531	579
Lawyers, judges, and justices.....	1,032	1,081	1,057	1,279	1,424	1,506	1,247	1,159	1,308
Physicians and surgeons.....	1,757	1,751	1,618	1,708	1,665	1,737	1,643	1,372	1,253
Technical engineers.....					69	57	97	129	184
<i>Domestic and personal service</i>									
Barbers, hairdressers, and manicurists.....	259	354	621	894	1,350	1,725	2,123	2,045	3,049
Servants, housekeepers, stewards, stewardesses, etc.....	(⁶)	18,696	25,337	21,492	23,111	22,579	20,113	16,285	21,577
Laundry operatives.....						29	122	114	196
Cleaning, dyeing, and pressing shop workers.....							16	20	72
<i>Clerical occupations</i>									
Clerks, stenographers, typewriters, bookkeepers, accountants, etc.....	4,369	5,933	{ 1,926 6,139	2,999 7,691	16,117	20,793	{ 16,569 13,748	26,691 14,565	30,336 19,469
Clerks and salesmen and saleswomen in stores.....									

¹ 1930 census classifications do not allow for detail of agricultural occupations as shown in previous years.
² Figures are not available for slaves who formed a considerable part of agricultural and domestic labor in 1850 and 1860.

³ Includes a few whitesmiths.

⁴ Estimated by Bureau of Census in 1920.

⁵ Reported under another designation.

⁶ Not shown, as males only were reported.

⁷ Including spinners, weavers, warpers, loom fixers, scourers, bleachers, dyers, knitters, etc., of cotton, wool, worsted, silk, linen, and hosiery.

⁸ Includes sheet-metal workers.

In recent years the use of minerals has become more and more indispensable and the technical progress of these industries has kept pace with their importance, resulting in a steady growth in production. The expansion of the coal and iron industries increased the number of miners employed from 3,338 per million of population in 1850 to 8,351 in 1920. Although mechanization has not been as rapid in coal mining as in certain other industries, recent technical improvements have led to a reduction in labor requirements which, combined with the development of other kinds of industrial power, resulted in a decrease in the number of miners per million of population from 8,351 in 1920 to 6,064 in 1930. On the other hand, the growth of the oil and gas industries raised the number of employees of oil and gas wells from 99 per million of population in 1870, the first year for which separate returns were made, to 857 in 1930.

Greater productivity has made it possible for the relatively smaller increase in persons employed in manufacturing industries to provide for the more rapidly expanding industrial population. Manufacturing and mechanical occupations have thus suffered a relative shrinkage.

The building trades have experienced a considerable change since 1850. This is not surprising when consideration is given to the difference in buildings of today and those of 80 years ago. In the early days lumber was the easiest as well as the cheapest material with which to build, and most buildings were of wood. Today, however, almost all large buildings are constructed of brick, concrete, steel, or stone, while even the inside finish of wood is not so much used as formerly. These materials are also in common use among home builders, especially in the cities. Fabrication has transferred much of the hand work to the factory. Although the new technology of recent years has entered construction work and reduced the amount of hand work, yet machinery has made but little inroad in the highly skilled crafts.

The use of steel for framing accounts for the new trade of structural-iron worker which was shown separately for the first time in 1910. Stone, to a large extent, is now cut and polished at the quarry by machinery, only the finer work being done by hand. The result of the introduction of these machines was first noticeable in the census returns for 1910.

The bathroom, a luxury enjoyed by few families in 1850, has now become almost a necessity. Only 81 plumbers per million of population were employed in 1850, as against 1,937 in 1930.

Electric lights were unknown in 1850, while now practically all large buildings and an increasing percentage of homes are equipped with electricity for lighting, as well as for the numerous electrical appliances on the market. As a result, 2,283 electricians per million of population were reported in 1930, as compared with 667 in 1900, the first year in which a separate return was made for this trade.

The principal woodworking shop crafts have decreased amazingly in recent decades. Wagon and coach making, an important trade in 1850, is almost extinct, and wheelwrights are no longer separately enumerated in the census returns. The cooper's trade, a very necessary one in 1850, is also fast disappearing, as steel drums, pails, sacks, and other containers have been substituted for the old wooden barrel.

The decrease of cabinetmakers from 1,611 per million of population in 1850 to 472 in 1930 is probably due more to the growth of the factory system of manufacturing than to the introduction of machinery. More desks, tables, chairs, etc., are made today than ever before, but most of them are made in the factory. Therefore, the decrease shown in this occupation represents the decrease of hand cabinetmakers and not of the trade generally.

Bakers have nearly doubled in number per million of population since 1850. At that time there were but 615, in comparison with 1,147 in 1930. This increase is due largely to the substitution of bakery foods for the home-made variety.

Steam-railroad employment rose almost unchecked until 1910, when a relative decline set in which has continued. Locomotive engineers and firemen were shown separately for the first time in 1890, when 1,104 per million of population were employed. This number increased to 1,904 in 1920, but by 1930 it had dropped to 1,371, the lowest since 1890.

During the three decades following the introduction of electric cars, a rapidly increasing number of persons were required in the operation of street railways; but as in the case of steam railroads, the number needed fell off relatively between 1910 and 1920 and has dropped rapidly since that time.

Sailors and deck hands have grown fewer and fewer relatively with the decrease in American ships. Our shipping industry was quite important in 1850, and there were 3,044 sailors per million of population. By 1930 this number had shrunk to 527. Since 1910 the number has kept pace with the population and has shown a slight increase.

In the professional group of occupations there has been much growth during the last 80 years. Few professions have declined, and there has been a steady growth in many of the older professions and a rapid extension of some of the newer ones.

Distribution of Gainfully Employed Persons, 1930

OUT of a total population of 122,775,046 enumerated in the 1930 census, 48,832,589, or 39.8 percent, were classed as gainfully occupied workers 10 years of age and over. This figure represents the normal working population, irrespective of the extent of unemployment at the time the census was taken.

In the following tables this normally employed population is classified to show the number of gainful workers by sex, by main industry groups, by occupational divisions, and by age distribution.

Table 1 gives the number of gainful workers 10 years of age and over, by sex and in relation to the total population, for the 5 census years 1900-30:

TABLE 1.—NUMBER OF GAINFUL WORKERS IN THE UNITED STATES, BY SEX, 1900-30

Item	Year	Total	Males	Females
Total population.....	1930	122,775,046	62,137,080	60,637,966
	1920	105,710,620	53,900,431	51,810,189
	1910	91,972,266	47,332,277	44,639,989
	1900	75,994,575	38,816,448	37,178,127
Persons 10 years old and over.....	1930	98,723,047	49,949,798	48,773,249
	1920	82,739,315	42,289,969	40,449,346
	1910	71,580,270	37,027,558	34,552,712
	1900	57,949,824	29,703,440	28,246,384
Gainful workers (persons reporting a gainful occupation).....	1930	48,832,589	38,053,795	10,778,794
	1920	41,614,248	33,064,737	8,549,511
	1910	38,167,336	30,091,564	8,075,772
	1900	29,073,233	23,753,836	5,319,397
Percent of total population.....	1930	39.8	61.2	17.8
	1920	39.4	61.3	16.5
	1910	41.5	63.6	18.1
	1900	38.3	61.2	14.3
Percent of population 10 years old and over....	1930	49.5	76.2	22.1
	1920	50.3	78.2	21.1
	1910	53.3	81.3	23.4
	1900	50.2	80.0	18.8

Main Industry Groups

CLASSIFICATION of gainful workers by industry groups, shown in table 2, was made for the first time in the 1930 census. In this industrial classification, all persons whose services are employed in a given industry are classified under that industry. In the occupation classification, on the other hand, all clerical workers are classified in a group by themselves, without regard to the industry in which they are employed, and certain other important occupations are likewise placed as a whole in that general group where they are usually or most frequently found.

TABLE 2.—GAINFUL WORKERS IN THE MAIN INDUSTRY GROUPS, BY SEX, FOR THE UNITED STATES, 1930

Industry group	Males	Females	Percent	
			Male	Female
All industries.....	38,053,795	10,778,794	100.0	100.0
Agriculture.....	9,568,347	913,976	25.1	8.5
Forestry and fishing.....	266,876	5,249	.7	.1
Extraction of minerals.....	1,147,770	10,294	3.0	.1
Manufacturing and mechanical industries.....	11,901,247	2,416,288	31.3	22.4
Transportation.....	3,990,876	447,730	10.5	4.2
Trade.....	5,820,642	1,716,384	15.3	15.9
Public service (not elsewhere classified).....	934,531	123,323	2.5	1.1
Professional service.....	1,663,040	1,762,795	4.4	16.4
Domestic and personal service.....	1,662,707	3,149,591	4.4	29.2
Industry not specified.....	1,097,701	235,364	2.9	2.2

Occupational Groups

THE number of gainful workers in 1930, classified by occupational divisions and by sex, is shown in table 3, together with the same data from the census of 1910 and of 1920. Comparisons of the three decades develop some significant changes. For example, although the total number of gainful workers 10 years of age and over increased from 38,167,336 in 1910 to 48,829,920 in 1930, or 27.9 percent, the gainful workers in agriculture decreased from 12,388,309 to 10,471,998, or

15.5 percent. Striking shifts in the occupations of working women are shown in the fact that the percentage of female workers in agriculture was 22.4 in 1910, 12.7 in 1920, and 8.5 in 1930. The percentage of gainful female workers in domestic and personal service was 31.3 in 1910 and fell to 25.6 in 1920, swinging upward again to 29.6 in 1930. At the same time the percentage of women employed in clerical occupations increased from 7.3 in 1910 to 18.5 in 1930.

TABLE 3.—GAINFUL WORKERS 10 YEARS OLD AND OVER, BY GENERAL DIVISIONS OF OCCUPATIONS AND SEX, FOR THE UNITED STATES, 1910, 1920, AND 1930

Census year and general division of occupations	Number			Percent distribution			Percent of total	
	Males	Females	Total	Males	Females	Total	Males	Females
1910								
Agriculture.....	10,581,685	1,806,624	12,388,309	35.2	22.4	32.5	85.4	14.6
Forestry and fishing.....	241,249	557	241,806	.8	-----	.6	99.8	.2
Extraction of minerals.....	964,075	1,094	965,169	3.2	-----	2.5	99.9	.1
Manufacturing and mechanical industries.....	8,835,698	1,820,847	10,656,545	29.4	22.5	27.9	82.9	17.1
Transportation and communication.....	2,549,922	115,347	2,665,269	8.5	1.4	7.0	95.7	4.3
Trade.....	3,160,562	472,703	3,633,265	10.5	5.9	9.5	87.0	13.0
Public service (not elsewhere specified).....	426,606	4,836	431,442	1.4	.1	1.1	98.9	1.1
Professional service.....	976,523	734,752	1,711,275	3.2	9.1	4.5	57.1	42.9
Domestic and personal service.....	1,225,395	2,530,403	3,755,798	4.1	31.3	9.8	32.6	67.4
Clerical occupations.....	1,129,849	588,609	1,718,458	3.8	7.3	4.5	65.7	34.3
All occupations.....	30,091,564	8,075,772	38,167,336	100.0	100.0	100.0	78.8	21.2
1920								
Agriculture.....	9,582,666	1,083,146	10,665,812	29.0	12.7	25.6	89.8	10.2
Forestry and fishing.....	269,541	673	270,214	.8	-----	.6	99.8	.2
Extraction of minerals.....	1,087,359	2,664	1,090,223	3.3	-----	2.6	99.7	.3
Manufacturing and mechanical industries.....	10,901,527	1,930,352	12,831,879	33.0	22.6	30.8	85.0	15.0
Transportation and communication.....	2,872,559	224,270	3,096,829	8.7	2.6	7.4	92.8	7.2
Trade.....	3,585,701	671,983	4,257,684	10.8	7.9	10.2	84.2	15.8
Public service (not elsewhere classified).....	727,939	10,586	738,525	2.2	.1	1.8	98.6	1.4
Professional service.....	1,154,221	1,017,030	2,171,251	3.5	11.9	5.2	53.2	46.8
Domestic and personal service.....	1,193,313	2,186,682	3,379,995	3.6	25.6	8.1	35.3	64.7
Clerical occupations.....	1,689,911	1,421,925	3,111,836	5.1	16.6	7.5	54.3	45.7
All occupations.....	33,064,737	8,549,511	41,614,248	100.0	100.0	100.0	79.5	20.5
1930								
Agriculture.....	9,562,059	909,939	10,471,998	25.1	8.5	21.4	91.3	8.7
Forestry and fishing.....	250,140	329	250,469	.7	-----	.5	99.9	.1
Extraction of minerals.....	983,564	759	984,323	2.6	-----	2.0	99.9	.1
Manufacturing and mechanical industries.....	12,224,345	1,886,307	14,110,652	32.1	17.5	28.9	86.6	13.4
Transportation and communication.....	3,561,943	281,204	3,843,147	9.4	2.6	7.9	92.7	7.3
Trade.....	5,118,787	962,680	6,081,467	13.4	9.0	12.5	84.2	15.8
Public service (not elsewhere specified).....	838,622	17,583	856,205	2.2	.2	1.8	97.9	2.1
Professional service.....	1,727,650	1,626,234	3,353,884	4.5	14.2	6.7	53.1	46.9
Domestic and personal service.....	1,772,200	3,180,251	4,952,451	4.7	29.6	10.1	35.8	64.2
Clerical occupations.....	2,038,494	1,986,830	4,025,324	5.4	18.5	8.2	50.6	49.4
All occupations.....	38,077,804	10,752,116	48,829,920	100.0	100.0	100.0	78.0	22.0

Age Distribution

TABLE 4 gives for 1930 the proportion, and also the percentage distribution, of gainfully occupied persons in the total population of the United States 10 years of age and over, by age groups. Because of the expanding interest in problems relating to the ages of gainfully occupied persons, the tabulation of the occupational data gathered in the 1930 census carries 18 age groups for States and for cities of 100,000 or more, while the tabulation of occupational returns for the 1920 census was limited to 10 age groups.

TABLE 4.—PROPORTION OF PERSONS GAINFULLY OCCUPIED, BY AGE AND SEX, 1930

Census year and age	Males		Females		Both sexes		Percent distribution of gainfully occupied		
	Total number	Percent gainfully occupied	Total number	Percent gainfully occupied	Total number	Percent gainfully occupied	Males	Females	Total
10 years and over.....	49,949,798	76.2	48,773,249	22.0	98,723,047	49.5	100.0	100.0	100.0
10 to 13 years.....	4,862,291	3.3	4,760,201	1.5	9,622,492	2.4	0.4	0.7	0.5
14 years.....	1,206,486	9.2	1,175,899	4.0	2,382,385	6.6	.3	.4	.3
15 years.....	1,154,648	16.3	1,141,051	7.6	2,295,699	11.9	.5	.8	.6
16 years.....	1,181,920	32.7	1,185,395	17.0	2,367,315	24.8	1.0	1.9	1.2
17 years.....	1,157,150	49.9	1,138,672	27.5	2,295,822	38.8	1.5	2.9	1.8
18 and 19 years.....	2,264,107	70.7	2,329,172	40.5	4,593,279	55.3	4.2	8.8	5.2
20 to 24 years.....	5,336,815	89.9	5,533,563	42.4	10,870,378	65.7	12.6	21.8	14.6
25 to 29 years.....	4,860,180	97.0	4,973,428	31.0	9,833,608	63.6	12.4	14.3	12.8
30 to 34 years.....	4,561,786	97.6	4,558,635	24.4	9,120,421	61.0	11.7	10.4	11.4
35 to 39 years.....	4,679,860	97.7	4,628,785	23.1	9,208,645	61.0	12.0	9.7	11.5
40 to 44 years.....	4,136,459	97.6	3,853,736	21.9	7,990,195	61.1	10.6	7.9	10.0
45 to 49 years.....	3,671,924	97.2	3,370,355	21.0	7,042,279	60.7	9.4	6.6	8.8
50 to 54 years.....	3,131,645	95.7	2,844,159	19.7	5,975,804	59.5	7.9	5.2	7.3
55 to 59 years.....	2,425,992	93.0	2,219,685	17.3	4,645,677	56.8	5.9	3.6	5.4
60 to 64 years.....	1,941,608	86.8	1,809,713	14.7	3,751,321	52.0	4.4	2.5	4.0
65 to 69 years.....	1,417,812	75.7	1,352,793	11.4	2,770,605	44.3	2.8	1.4	2.5
70 to 74 years.....	991,647	57.5	958,357	7.6	1,950,004	33.0	1.5	.7	1.3
75 years and over.....	915,752	32.3	997,444	4.0	1,913,196	17.5	.8	.4	.7
Unknown.....	51,816	59.9	42,206	31.8	94,022	47.3	.1	.1	.1

Table 5 shows the proportion of gainful workers in the older age groups of the population of the United States for 1920 and 1930.

TABLE 5.—PROPORTION OF GAINFUL WORKERS IN OLDER AGE GROUPS OF POPULATION, 1920 AND 1930

Age group	Percent of gainful workers					
	1920			1930		
	Males	Females	Total	Males	Females	Total
20 to 24 years.....	91.0	38.1	63.9	89.9	42.4	65.7
25 to 44 years.....	97.2	22.4	60.7	97.5	25.4	61.7
45 to 64 years.....	93.8	17.1	58.2	94.1	18.7	58.0
65 years and over.....	60.1	8.0	34.3	58.3	8.0	33.2

“White-Collar Workers” 2

IN PRESENT-DAY discussions of social problems reference is frequently made to the “white-collar workers”, but there seems to be no generally accepted concept of just what workers the white-collar group includes. Evidently something other than wearing a white collar brands one a white-collar worker. Indeed, membership in the group is determined by the kind of work done rather than by the kind of clothes worn. Perhaps the white-collar workers may be roughly defined as those engaged in clerical and kindred work. This definition excludes, on the one hand, proprietors, managers, officials, and professional persons, and, on the other hand, the “overalls and apron” workers—the skilled, the semiskilled, and the unskilled manual work-

* Abstract of an article in the Monthly Labor Review, March 1934, p. 501, by Alba M. Edwards, Ph. D., United States Bureau of the Census.

ers. The white-collar workers, in other words, are the clerical assistants to our executives, our officials, and our business and professional men. They do the office work, type the letters, keep the records and accounts, and answer the telephones. They tend the stores and the shops, sell insurance and real estate, carry the mail, and transmit messages by telegraph, telephone, and radio. In fact, they do all the various types of clerical and kindred work.

In table 1 are listed those occupations reported in the 1930 census which seem to fall under the term "white-collar" occupations. While, owing to the nature of the census classifications, this list doubtless includes some workers who are not strictly white-collar workers and excludes others who do fall within this group, it is believed that the net number of such inclusions and omissions is negligible.

TABLE 1.—OCCUPATIONS OF WHITE-COLLAR WORKERS, BY SEX, 1930¹

Occupation	Males	Females	Total
All occupations.....	4, 877, 235	3, 072, 220	7, 949, 455
Inspectors, scalers, and surveyors (log and timber camps).....	2, 183	1	2, 184
Baggagemen and freight agents (railroad).....	16, 361	16	16, 377
Ticket and station agents (railroad).....	25, 370	1, 790	27, 160
Agents, express companies.....	4, 102	74	4, 176
Express messengers and railway mail clerks.....	25, 600	8	25, 608
Mail carriers.....	120, 204	1, 129	121, 333
Radio operators.....	4, 909	46	4, 955
Telegraph messengers.....	15, 997	179	16, 176
Telegraph operators.....	51, 699	16, 122	67, 821
Telephone operators.....	13, 625	235, 259	248, 884
Advertising agents.....	43, 364	5, 656	49, 020
"Clerks" in stores.....	238, 844	163, 147	401, 991
Commercial travelers.....	219, 790	3, 942	223, 732
Decorators, drapers, and window dressers.....	13, 911	6, 238	20, 149
Inspectors, gaggers, and samplers (trade).....	10, 923	5, 820	16, 743
Insurance agents.....	243, 974	12, 953	256, 927
Newsboys.....	38, 576	417	38, 993
Real-estate agents.....	203, 119	31, 308	234, 427
Salesmen and saleswomen.....	1, 508, 283	560, 720	2, 069, 003
Abstracters, notaries, and justices of peace.....	9, 848	1, 908	11, 756
Architects', designers', and draftsmen's apprentices.....	2, 436	220	2, 656
Apprentices to other professional persons.....	3, 361	74	3, 935
Officials of lodges, societies, etc.....	11, 513	3, 002	14, 515
Technicians and laboratory assistants.....	8, 288	7, 700	15, 988
Dentists' assistants and attendants.....	770	12, 945	13, 715
Librarians' assistants and attendants.....	502	1, 363	1, 865
Physicians' and surgeons' attendants.....	689	13, 353	14, 042
Agents, collectors, and credit men.....	182, 630	13, 477	196, 107
Bookkeepers, cashiers, and accountants.....	447, 937	482, 711	930, 648
Clerks (except "clerks" in stores).....	1, 290, 447	706, 553	1, 997, 000
Messenger, errand, and office boys and girls.....	81, 430	8, 949	90, 379
Stenographers and typists.....	36, 050	775, 140	811, 190

¹ Compiled from Fifteenth Census (1930), Reports on Population, vol. V, ch. 1, table 1.

As shown in table 1, of the nearly 8,000,000 white-collar workers in 1930, 4,877,235, or 61.4 percent, were males and 3,072,220, or 38.6 percent, were females. Males outnumbered females in most of the occupations, but females greatly outnumbered males as telephone operators, bookkeepers and cashiers, stenographers and typists, and attendants to professional persons.

In table 2 the white-collar group is classified according to color and nativity. The great majority (89.4 percent in 1930) are native white persons. Foreign-born white workers formed only 9.2 percent of the total, Negroes only 1 percent, and other races only 0.4 percent. In 1930 native whites were especially numerous among female telephone operators (95.8 percent of the total), among female librarians' assistants and attendants (94.7 percent of the total), and among female

stenographers and typists (94.5 percent of the total), which is doubtless explained by the fact that it is very important that the employee speak English clearly.

TABLE 2.—COLOR, NATIVITY, AND SEX OF WHITE-COLLAR WORKERS, 1930¹

Sex and class of population	Total gainful workers	White-collar workers		
		Number	Percent distribution	Percent of all gainful workers in class
Males:				
Native white.....	27,511,862	4,262,882	87.4	15.5
Foreign-born white.....	6,255,071	528,593	10.8	8.5
Negro.....	3,662,893	62,138	1.3	1.7
Other races.....	647,978	23,622	.5	3.6
Total.....	38,077,804	4,877,235	100.0	12.8
Females:				
Native white.....	7,661,508	2,840,835	92.5	37.1
Foreign-born white.....	1,156,056	20,611	6.6	17.5
Negro.....	1,840,642	20,531	.7	1.1
Other races.....	93,910	8,243	.3	8.8
Total.....	10,762,116	3,072,220	100.0	28.6
Both sexes:				
Native white.....	35,173,370	7,103,717	89.4	20.8
Foreign-born white.....	7,411,127	731,204	9.2	9.9
Negro.....	5,503,535	82,669	1.0	1.5
Other races.....	741,838	31,865	.4	4.3
Total.....	48,829,920	7,949,455	100.0	16.3

¹ Compiled from Fifteenth Census (1930), Reports on Population, vol. V, ch. 3, table 3.

Statistics showing the marital condition of male white-collar workers are not available. Of the female workers in 1930, 68.7 percent were single,³ 22.6 percent were married, and 8.7 percent were widowed or divorced.⁴ The proportion of single women was far larger in this group than among all gainfully occupied females—68.7 percent, as against 54.5 percent.

The importance of white-collar workers in our gainfully employed population is evidenced by the fact that in 1930 almost 1 worker in every 6 (16.3 percent) was in this group. Among native white workers 20.8 percent belonged to this group, the percentage being 15.5 for males and 37.1 for females. They comprised 9.9 percent of the foreign-born white workers and only 1.5 percent of the Negro workers.

More significant perhaps than the present size of the white-collar group is its remarkable growth. As shown in table 3, during the 60 years from 1870 to 1930 it increased from approximately 366,752 to 7,949,455, an increase of 2,067.5 percent. And the proportion of the total gainful workers belonging to this group was over five times as large in 1930 (16.3 percent) as in 1870 (2.9 percent).

³ Including those whose marital condition was not reported.

⁴ Percentages based on figures compiled from Fifteenth Census (1930), Reports on Population, vol. V, ch. 4, table 6, and ch. 5, table 10.

TABLE 3.—NUMBER OF WHITE-COLLAR WORKERS, BY SEX, 1870 TO 1930¹

Census year	Males			Females			Both sexes		
	Total gainful workers	White-collar workers		Total gainful workers	White-collar workers		Total gainful workers	White-collar workers	
		Number	Percent of total		Number	Percent of total		Number	Percent of total
1870 ²	10,669,635	355,252	3.3	1,836,288	11,500	0.6	12,505,923	366,752	2.9
1880 ²	14,744,942	615,345	4.2	2,647,157	40,958	1.5	17,392,099	656,303	3.8
1890 ²	19,312,651	1,219,040	6.3	4,005,532	169,673	4.2	23,318,183	1,388,713	6.0
1900 ²	23,753,836	1,730,033	7.3	5,319,397	439,024	8.3	29,073,233	2,169,057	7.5
1910 ²	30,091,664	2,749,887	9.1	8,075,772	1,085,926	13.4	38,167,336	3,835,813	10.0
1920 ²	33,064,737	3,519,907	10.6	8,549,511	2,198,342	25.7	41,614,248	5,718,252	13.7
1930.....	38,077,804	4,877,235	12.8	10,752,116	3,072,220	28.6	48,829,920	7,949,455	16.3

¹ U. S. Census Reports: Reports on Population, 1930, vol. V, ch. 1, table 1; Special Report on Occupations, 1900, tables III, IV, and 1; Report on Population, 1890, part II, table 78; Report on Population, 1880, table XXXII A; Report on Population and Social Statistics, 1870, table XXIX.

² Number of "white-collar" workers shown for this year includes an estimate involving somewhat less than 2 percent of the total.

³ "Apprentices to other professional persons" and "Technicians and laboratory assistants", principally classified with workers in manufacturing pursuits prior to 1930, were estimated as numbering 3,099 males and 5,185 females in 1920 and 5,399 males and 3,455 females in 1910.

The increase between 1870 and 1930 in the number of female white-collar workers was particularly large, from about 11,500 to 3,072,220, or 26,615 percent; and the proportion of the total female gainful workers engaged in white-collar pursuits increased from about 0.6 of 1 percent in 1870 to 28.6 percent in 1930. In 1870 males formed a very large proportion (about 96.9 percent) of the group, and they far outnumbered the females in each white-collar pursuit. In 1930, however, females formed 38.6 percent of all the workers in this group and outnumbered the males in several pursuits. The remarkable growth of this group during the 30-year period (from 7.5 to 16.3 percent of the total gainful workers) suggests that the group may continue to increase in relative importance, and present many social and economic problems.

Farm Population and Migration to and from Farms

FARM population in the United States on January 1, 1935, was the highest on record, being estimated at 32,779,000 persons by the Bureau of Agricultural Economics, in an article published in the May 1935 number of Crops and Markets issued by the United States Department of Agriculture. The increase in total farm population in both 1933 and 1934, however, is attributed to a surplus of births over deaths, as the movement away from farms in both years was greater than that farmward. It is estimated that 994,000 persons moved from farms to cities, towns, and villages in 1934 as compared with 783,000 persons moving to farms. The migration away from farms was lower than in any other year since 1920 and that toward farms, lower than since 1921. From 1920 to 1929, inclusive, there was a net movement away ranging from 336,000 to a peak (in 1922) of 1,137,000. In the 3 years 1930 to 1932 the net migration farmward increased from 17,000 to 533,000.

Among the reasons mentioned by the Bureau of Agricultural Economics for the decrease in movement toward farms are improve-

ment in nonagricultural employment opportunities, more adequate unemployment relief, and the growing difficulty of finding available housing on farms.

The following table shows the estimated movements to and from farms, 1920 to 1934, and the farm population on January 1 of each year from 1920 to 1935.

ESTIMATED MOVEMENTS TO AND FROM FARMS,¹ 1920-34, AND FARM POPULATION ON JAN. 1, 1920-35

During year	Persons arriving at farms from cities, towns, and villages	Persons leaving farms for cities, towns, and villages	Net movement from farms to cities, towns, and villages	Farm population, Jan. 1
1920.....	560,000	896,000	336,000	² 31,614,269
1921.....	759,000	1,323,000	564,000	31,703,000
1922.....	1,115,000	2,252,000	1,137,000	31,768,000
1923.....	1,355,000	2,162,000	807,000	31,290,000
1924.....	1,581,000	2,068,000	487,000	31,056,000
1925.....	1,336,000	2,038,000	702,000	31,064,000
1926.....	1,427,000	2,334,000	907,000	30,784,000
1927.....	1,705,000	2,162,000	457,000	30,281,000
1928.....	1,698,000	2,120,000	422,000	30,275,000
1929.....	1,604,000	2,081,000	477,000	30,257,000
1930.....	1,740,000	1,723,000	³ 17,000	⁴ 30,169,000
1931.....	1,683,000	1,469,000	³ 214,000	⁴ 30,585,000
1932.....	1,544,000	1,011,000	³ 533,000	⁴ 31,241,000
1933.....	951,000	1,178,000	227,000	⁴ 32,242,000
1934.....	783,000	994,000	211,000	⁴ 32,509,000
1935.....				⁴ 32,779,000

¹ Births and deaths not taken into account.

² Enumerated by U. S. Bureau of the Census.

³ Net movement from cities to farms, a reversal of the earlier trend.

⁴ Estimated by Bureau of Agricultural Economics.

OLD-AGE PENSIONS AND RETIREMENT

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Handbook of Labor Statistics: 1936 edition

Public Old-Age Pensions in the United States

THE old-age pension movement in the United States dates from 1914, when an act providing for pensions for aged dependent citizens was placed on the statute books in Alaska. Hindered in several States by adverse court decisions, the movement was slow in getting under way and it was not until 1923 that proponents of public pensions succeeded in obtaining the passage of legislation in Montana. From that time onward additional States gradually entered the pension field, but progress was slow until 1930.

At the end of 1930 there were 30 laws on the statute books. Most of this early legislation was of the optional type which left the adoption of the system to the vote of the commissioners in the various counties. Passage of the act did not therefore necessarily mean any actual extension of benefits. In several States the act either remained entirely inoperative or was put into effect only in one or two counties.

The development of the pension movement accelerated considerably after 1930, and most of the new legislation was of the mandatory type. There was a net gain of 5 States in 1931 and of 11 States in 1933. In 1934—an “off” legislative year—another State legislated in this field; during this period, also, amendments were made in existing optional laws in several States to make them mandatory.

Several States early in 1935 passed pension legislation in anticipation of Federal action in this field and several others made amendments to existing acts. These enactments and those passed later in the year, after the passage of the Federal act, brought the total pension acts to 41 by December 31, 1935.

Old-Age Assistance System for the United States

THE Federal Social Security Act, passed August 14, 1935, provides for old-age assistance on a national scale and for Federal aid to States having approved systems. The provisions of this act are summarized in the section on “Social Security Program” (p. 779).

Public Old-Age Pension Legislation in the United States as of December 1, 1935

PRIOR to 1935, 28 States and 2 Territories had enacted old-age pension laws.¹ During the legislative year of 1935, such laws were passed in 11 additional States² and the District of Columbia. A number of States already having old-age pension laws on their statute books amended the law, and in 8 States (Maryland, Michigan, Montana, Nebraska, New Hampshire, Oregon, Washington, and Wyoming) the original act was repealed by the legislature and a new law was enacted. The Florida old-age pension law was approved on June 5, 1935, the day following the adoption of a Senate joint resolution (S. J. Res. No. 170) providing for a referendum to amend section 3 of article 13 of the constitution of the State, permitting the payment of pensions to the aged, infirm, and unfortunate citizens of the State. The Legislature of Arkansas passed an old-age pension law, to take the place of the law passed in 1933, which was declared unconstitutional by the State supreme court because of the method used in financing the pension fund. Likewise, in Missouri efforts to provide assistance to the aged needy of the State were successful during 1935. In 1932 a constitutional amendment was passed in this State authorizing the adoption of an old-age pension law. Following the ratification of the amendment, enactment of legislation was attempted in 1933, but the bill passed only one branch of the legislature. The Legislature of Minnesota amended the State old-age pension act, but the State attorney general declared the legislation invalid due to the inadvertent inclusion of an unapproved amendment. The voters of Oklahoma on September 24, 1935, voted down a proposal to amend the State constitution (referred to the people by H. J. Res. No. 6, Acts of 1935) to permit the payment of old-age pensions of not more than \$15 per month, but adopted an initiated petition for the payment of a pension not to exceed \$30.³

In many of the States, old-age pension legislation assumed the probability of the enactment of a Federal social security law, while in some States it was provided that changes might be made in the law so as to conform to any Federal requirements. Noticeably apparent in the old-age pension laws enacted or considered in 1935 was the modification of citizenship and residence qualifications as conditions precedent to the receiving of benefits.

To provide a ready comparison of the systems adopted in the several States the following table, which presents the principal features of each law, has been prepared.

¹ For the principal provisions of these laws see *Monthly Labor Review*, June 1934 (pp. 1339-1342).

² Alabama, Arkansas, Connecticut, Florida, Illinois, Mississippi, Missouri, Oklahoma, Rhode Island, Texas, and Vermont.

³ This was held invalid by the State supreme court because the manner in which it was presented was not according to law.

PROVISIONS OF OLD-AGE PENSION LAWS IN THE UNITED STATES, AS OF DECEMBER 1, 1935

State	Type of law	Age	Maximum pension	Required period of—			Maximum property limitations	Administered by—	Funds provided by—	Citation
				Citizen-ship	Residence					
					State	County				
Alabama.....	M a n d a t o r y.	65	\$30 a month	Years (2)	Years 15 5	Years 1	Income, \$360 a year	State department of public welfare and county governing board.	One-fourth by State, one-fourth by county, half by Federal Government.	Acts of 1935, ch. 448.
Alaska.....	do.....	65	\$35 a month, males; \$45 a month, females.	(2)	25			Board of trustees of Alaska Pioneers' Home.	Territory.....	Comp. Laws 1933, secs. 1781-1826 (as amended 1935, ch.47).
Arizona.....	do.....	70	\$30 a month	(2)	35		Income, \$300 a year	County old-age pension commissioners.	67 percent by State; 33 percent by county.	Acts of 1933, ch. 34.
Arkansas.....	do.....	70	do.....		5		Assets, \$300	State department of public welfare and county public welfare boards.	State and county	Acts of 1935, Act No. 322.
California.....	do.....	65	\$35 a month	(2)	(b)	1	Real property, \$3,000; personal property, \$500.	County or city and county boards of supervisors.	Half by county, or city and county; half by State.	Deering's Gen. L. 1931, act 5846 (as amended 1933, ch. 840; 1935, ch. 633).
Colorado.....	do.....	65	\$1 per day	15	15	1	(c)	County commissioners.	State.....	Acts of 1933, chs. 144 and 145 (as amended 1935, ch. 171).
Connecticut.....	do.....	65	\$7 per week	(2)	5			Bureau of old-age assistance.	do.....	Acts of 1935, p. 117.
Delaware.....	do.....	65	\$25 a month	15	5			State old-age welfare commission.	do.....	Acts of 1931, ch. 85.
District of Columbia.	do.....	65	No limit	(2)	15 5			Board of commissioners through designated agent.	Congress.....	Public, No. 319.
Florida.....	Optional	65	\$35 a month	(2)	10	1	Income, \$400 a year	State board of pensions	State. ¹⁰	Acts of 1935, ch. 17141.
Hawaii.....	M a n d a t o r y.	65	\$30 a month	(2)	15 5		Assets, \$1,500	County commissioners.	County or city and county.	Rev. L. 1935, ch. 259 (as amended 1935, series D-159, 160).
Idaho.....	do.....	65	\$25 a month	15	10	3	Income, \$300 a year	County probate judge and county commissioners.	County.....	Code 1932, secs. 30-3101 to 30-3125.

See footnotes at end of table.

PROVISIONS OF OLD-AGE PENSION LAWS IN THE UNITED STATES, AS OF DECEMBER 1, 1935—Continued

State	Type of law	Age	Maximum pension	Required period of—			Maximum property limitations	Administered by—	Funds provided by—	Citation
				Citizen-ship	Residence					
					State	County				
Illinois.....	M a n d a- t o r y.	65	\$30 a month.....	Years (³)	Years ¹⁴ 5	Years	Income, \$360.....	State department of public welfare and county old-age security board.	Half by State, half by Federal Govern- ment.	Acts of 1935, p. 259 (as amended 1935, spec. sess., H. B. 1).
Indiana.....	..do.....	70	\$180 a year.....	15	15	15	Assets, \$1,000.....	County commissioners.	Half by State; half by county.	Acts of 1933, ch. 36.
Iowa.....	..do.....	65	\$25 a month.....	(³)	¹² 5	-----	Assets, \$2,000 (\$3,000 if married); income, \$300 a year.	County boards under State commission.	State.....	Acts of 1934, spec. sess., ch. 19 (as amended 1935, ch. 55).
Kentucky.....	Optional..	70	\$250 a year.....	15	10	10	Income, \$400 a year; assets, \$2,500.	County judge.....	County.....	Carroll's Stats. 1930, art. 15, ch. 34, secs. 9381-1 to 9381-7.
Maine.....	M a n d a- t o r y.	65	\$1 a day.....	(³)	15	1	Assets, \$300.....	Town and city boards under supervision of State department of health and welfare.	Half by State; half by cities, towns, and plantations.	Acts of 1933, ch. 287.
Maryland.....	..do.....	65	..do.....	15	¹² 5	-----	-----	Department of old-age pensions and relief and county welfare boards.	Two-thirds by State, one-third by county.	Acts of 1935, ch. 592.
Massachusetts.....	..do.....	70	No limit.....	(³)	¹² 5	-----	-----	County or city board of public welfare.	Two-thirds by county or city, one-third by State.	Gen. L. 1932, ch. 118A (as amended 1932, ch. 259; 1933, chs. 219, 285, 328; 1935, ch. 494).
Michigan.....	..do.....	70	\$30 a month.....	(³)	10	-----	Assets, \$3,500.....	County boards and State welfare department.	State.....	Acts of 1935, no. 159.
Minnesota.....	..do.....	65	..do.....	(¹⁴)	¹² 5	1	Assets, \$5,000.....	County commissioners under supervision of State board of control.	Half by State; half by county.	Supp. 1934 to Mason's Stats. 1927, ch. 15 (as amended 1935, ch. 357).
Mississippi.....	..do.....	65	-----	-----	¹² 5	(¹⁵)	Assets, home valued at \$1,000.	County departments, under State department of emergency relief.	State.....	Acts of 1935 (spec. sess.), S. B. 2.

Missouri.....	do.....	70	\$30 a month (couple, \$45 a month).	(³)	15	5	Assets, \$1,500 (couple, \$2,000).	State board of manag- ers of eleemosyna- ry institutions and county old-age as- sistance boards.	do.....	Acts of 1935, p. 308.	
Montana.....	do.....	65	No limit.....	(³)	15	5	1	County old-age pen- sion commission un- der State old-age pension commission.	County; State to re- imburse not to ex- ceed 75 percent.	Acts of 1935, ch. 170.	
Nebraska.....	do.....	65	\$30 a month.	(³)	15	5	Income, \$350 a year.....	County pension boards under State old-age pension com- missioner.	State.....	Acts of 1935 (spec. sess.), H. B. 17.	
Nevada.....	Optional..	65	\$1 a day.....	15	10	Assets, \$3,000.....	State and county boards of relief work planning and pen- sion control.	County.....	Comp. L. 1929, secs. 5109-5136; Acts of 1935, ch. 138.		
New Hampshire...	M a n d a - t o r y .	70	\$30 a month....	(³)	15	5	County commission- ers.	State, 5 percent; county, 95 percent.	Acts of 1935, ch. 127.		
New Jersey.....	do.....	70	\$1 a day.....	(³)	15	5	1	Assets, \$3,000.....	State division of old- age relief and county welfare boards.	One-fourth by county, three-fourths by State.	
New York.....	do.....	70	No limit.....	(³)	10	5	1	Public welfare officials, under supervision of State department of social welfare.	Half by city or county, half by State.	Acts of 1931, ch. 219 (as amended 1932, ch. 262; 1933, ch. 149; 1935, chs. 108, 213). Acts of 1930, ch. 387 (as amended 1934, ch. 815).	
North Dakota.....	do.....	68	\$150 a year.....	(³)	20	Income, \$150 a year.....	State and county boards of public wel- fare.	State.....	Acts of 1933, ch. 254.		
Ohio.....	do.....	65	\$25 a month (couple, \$50 a month).	(³)	15	5	1	Assets, \$3,000 (\$4,000 if married: income, \$300 a year (couple, \$600).	County boards under supervision of State division of aid for aged.	do.....	Adopted 1933 by refer- endum vote (amend- ed 1935 (spec. sess.) H. B. 558).
Oklahoma ^h	do.....	{ 1 60 1 55 }	\$30 a month....	(³)	13	5	Commission for old- age pensions and se- curity.	do.....	Initiative petition no. 144, adopted Sept. 24, 1935.		
Oregon ¹⁶	do.....	65	do.....	(²)	15	5	County relief com- mittee under State relief committee.	Half by Federal Government, half by State.	Acts of 1935, ch. 407 (amended 1935 (spec. sess.) ch. 50).		
Pennsylvania.....	do.....	70	do.....	15	15	Local boards under State department of welfare.	State.....	Act no. 64 (spec. sess., 1933).			
Rhode Island.....	do.....	65	do.....	(¹⁷)	13	5	(¹⁸) Assets, \$5,000.....	Local directors of pub- lic aid under State department of pub- lic welfare.	do.....	Acts of 1935, ch. 219.	

See footnotes at end of table.

PROVISIONS OF OLD-AGE PENSION LAWS IN THE UNITED STATES AS OF DECEMBER 1, 1935—Continued

State	Type of law	Age	Maximum pension	Required period of—			Maximum property limitations	Administered by—	Funds provided by—	Citation
				Citizenship	Residence					
					State	County				
Texas.....	M a n d a t o r y.	65	\$30 a month...	Years ⁽²⁾	Years ¹⁵	5	Assets, \$5,000; income, \$360 (couple, \$7,500, income, \$720).	Old-age assistance commission.	Half by State, half by Federal Government.	Acts of 1935 (2d spec. sess.), H. B. 26.
Utah.....	..do.....	65	\$25 a month...	15	15	5	Income during past year, \$300.	County commissioners.	County.....	Rev. Stats. 1933, secs. 19-12-1 to 19-12-18.
Vermont.....	..do.....	65	\$30 a month (couple, \$45 a month).	(3)	13	5	Income, \$360 a year (if married, \$500); assets, \$2,500 (if married, \$4,000). ¹⁰	Old-age assistance commission; local officials.	State, provided Federal Government reimburses one-half.	Acts of 1935, no. 82.
Washington.....	..do.....	65	\$30 a month...	(3)	13	5		Department of public welfare.	..do.....	Acts of 1935, ch. 182.
West Virginia.....	Optional	65	\$1 a day.....	15	10	10		County court.....	County.....	Acts of 1931, ch. 32.
Wisconsin.....	M a n d a t o r y.	65	..do.....	(2)	15	5	Assets, \$5,000.....	State pension department and county board.	Payments by county. State to refund 80 percent.	Stats. 1931, ch. 49 (as amended 1933, chs. 375, 458; 1935, chs. 391, 554).
Wyoming.....	..do.....	65	\$30 a month...	(2)	13	5	Income, \$360 a year.....	County board of public welfare under department of public welfare.	County; State to refund 50 percent.	Acts of 1935, ch. 101.

^a For veterans of the War Between the States, \$50 is the maximum.
^b With adoption of Federal Act, State residence 5 years within 9 immediately preceding.
^c Applicant having property in excess of \$2,500 must offer to assign all to pension fund, but may retain home in which he resides, valued at \$2,500 or less.
^d Act covers persons infirm physically regardless of age. They may not receive Federal aid until 65 years of age.
^e Or \$1,000 in personal property, with \$500 in household goods excepted.
^f The amendment of 1935 was declared invalid by the attorney general.
^g A temporary measure effective until Mar. 1, 1936.
^h Held invalid by State supreme court.
ⁱ And \$15 per month to other persons in the same family entitled to assistance.
¹ Males.
² Females.
³ Citizenship required but no period specified.
⁴ Until 1940; 65 thereafter.

⁵ Home up to \$2,500 excluded.
⁶ Annual State tax of \$2,100,000 imposed on the several towns of the State.
⁷ Required period of residence in United States.
⁸ Must be approved by referendum of the people.
⁹ \$60 where more than 1 member of family living together come under the act.
¹⁰ Counties are authorized to raise contributory funds.
¹¹ Also domicile for 9 years immediately preceding.
¹² Within 10 years immediately preceding.
¹³ Within 10 years immediately preceding.
¹⁴ Citizen of United States or resident of State for over 25 years.
¹⁵ Within 9 years immediately preceding.
¹⁶ Act becomes operative on passage of Federal legislation making funds for old-age assistance available to State.
¹⁷ Citizenship required, or residence in United States for 20 years.
¹⁸ Residence required but no period specified.
¹⁹ \$1,000 in value of home excluded.

600 OLD-AGE PENSIONS AND RETIREMENT

Experience Under State Old-Age Pension Acts in 1934 ³

THE greatest territorial expansion, in terms of actual effectiveness of the system, yet experienced since the introduction of the public pension system in the United States occurred during 1934. At the end of the year pension systems were in actual operation in the whole or part of 25 States and 2 Territories, including within their borders 56 percent of the total population of the United States. At the end of the previous year old-age benefits were being paid in only 17 States and 1 Territory, having 32 percent of the population. The number of paying counties increased during 1934 from 351 (45 percent of the total counties in States having pensions) to 924 (64 percent). This was due mainly to the putting into force of the State-wide systems in Colorado, Indiana, Iowa, Michigan, North Dakota, Ohio, and Pennsylvania. At the close of 1934, 11 systems were in State-wide operation, as compared with only 4 in 1933. Within States where the systems were operative in greater or less degree in both years, the pension plan was extended to 48 additional counties, the number rising from 350 to 398. Thirty-four of the new pension counties, however, were in one State—Minnesota—where the act became mandatory at the beginning of 1934.

The acts of Kentucky and West Virginia remained without effect in 1934 as in 1933, while the Maine law, passed in 1933, could not be enforced because of the legislature's failure to provide funds.

Of the 30 acts on the statute books in 1934, only 7 were optional with the counties, and 2 of these voluntary plans were inoperative. In the optional States, counties having the plan in effect included only 48.2 percent of the population. In the mandatory States, on the other hand, the coverage was 93.5 percent.

More than twice as many persons received old-age assistance in 1934 as in the previous year, the number having risen from 115,547 to 236,205. The financial outlay, however, did not increase at anywhere near the same rate as the number of pensioners. Expenditures rose from \$26,167,017 in 1933 to \$32,313,515 in 1934, an increase of only 23 percent as against 104 percent in number of beneficiaries. The inevitable result was a marked decrease in the average monthly pension, the rate falling from \$19.34 to \$14.69, or 24 percent.

Although individual pensions were reported equaling or even (in two instances) exceeding the maximum allowable under the State law, the average monthly allowances paid in even the most liberal States were only about two-thirds of the legal maximum. They ranged in the different States from 69 cents in North Dakota to \$26.08 in Massachusetts. Six States paid pensions amounting to \$20 or more per month, but 14 paid less than \$10. The amount of the pension is theoretically based upon the need and circumstances of the pensioner. It is known, however, that many counties have simply divided the available funds equally among the pensioners without regard to individual requirements. In large part this is undoubtedly due to the fact that in many jurisdictions funds have been so inadequate as to make impossible the payment of even subsistence benefits to any considerable number of persons.

³ Summary of article by Florence E. Parker in *Monthly Labor Review*, August 1935 (p. 303).

Upon the basis of the data reported, it appears that State-aided systems are relatively the most generous, with State systems next in order. In 1934 the smallest allowances were provided in States in which the whole cost was borne by the county treasury. Average allowances under the State systems increased 12.6 percent from 1933 to 1934. Under the other two types of plans they declined—0.8 percent under the State-aided plans and 9.3 percent under the county systems. In 1934, 49.8 percent of the money spent for pensions was contributed by the counties and 50.2 percent by the States.

With the pension roll increasing and the funds either actually decreasing or increasing at an appreciably lower rate than the pensioners, the financing of the pension plans continued in 1934 to be the chief problem facing legislators and pension authorities. The special taxes, such as per capita and property taxes, imposed by some of the newer acts seem not to have fulfilled the hopes of their proponents. Of the State systems with such financing provisions (Iowa, Michigan, Nebraska, North Dakota, and Wyoming) only one—that of Iowa—had sufficient revenue to pay allowances of as much as \$10 per month, and in 2 of the States the benefits averaged less than \$5. In Iowa the act did not go into full force until July 1, 1935; benefits were paid, beginning in November 1934, only in especially urgent cases. It appears that the most adequate support is accorded to the pension system in States where the cost is met from the general funds of the State, rather than from the proceeds of a special levy. The actual collections from such special taxes frequently fall far below the estimated yield and the pension plan, of course, suffers accordingly.

The cost per capita of population averaged 60 cents in 1934, ranging in the various States from 2 cents in Michigan to \$1.24 in Colorado. Alaska had a per capita cost of \$1.83.

Judged by the three criteria of coverage, benefits, and proportion of persons of pensionable age being cared for, the systems of Arizona, Massachusetts, and New York ranked highest in 1934. At the other end of the scale were those of Idaho, Minnesota, Nebraska, Nevada, Utah, and Washington.

The above findings were disclosed by the regular annual survey of pension experience which has been conducted by the Bureau of Labor Statistics since 1928. This 1934 study covered all of the 30 States having legislation providing for assistance to aged needy persons. Reports were obtained for 1,393 (96 percent) of the 1,445 counties in the 30 States.

The status of the movement at the end of each year since 1923 is shown in table 1.

TABLE 1.—DEVELOPMENT OF OLD-AGE PENSION MOVEMENT SINCE 1923

Year	Number of laws on books	Counties with pension system		Number of pensioners	Amount disbursed in pensions
		Number ¹	Percent of total counties in States with law		
1923.....	2	33	55	518	\$49,595
1924.....	2	41	68	723	137,648
1925.....	4	2 44	2 34	2 817	2 145,577
1926.....	5	2 48	2 37	2 1,165	2 229,970
1927.....	7	2 50	2 38	2 1,255	2 231,468
1928.....	7	56	16	1,519	295,254
1930.....	13	141	30	10,648	1,800,458
1931.....	18	271	39	76,663	16,258,707
1932.....	18	297	42	102,896	25,116,939
1933.....	29	351	45	115,547	26,167,017
1934.....	30	924	64	236,205	32,313,515

¹ Each of the 4 judicial districts of Alaska is considered as a county.
² Figures are for 3 jurisdictions (Alaska, Montana, and Wisconsin) only; each of the 4 judicial districts of Alaska is considered as a county.

Pension Situation in 1934

SUMMARY data are given in table 2.

TABLE 2.—SUMMARY OF OPERATIONS UNDER OLD-AGE PENSION ACTS, 1934

State	Year of passage of present act	Counties in State		Counties having pension systems		
		Total	Number reported for	Number at end of 1934	Number of pensioners at end of 1934	Amount paid in pensions, 1934
Arizona.....	1933	14	12	12	1,820	\$427,527
California.....	1929	58	58	57	19,619	1 4,288,508
Colorado.....	1933 ²	63	63	63	2 10,098	4 1,256,190
Delaware.....	1931	3	3	3	1,583	193,231
Idaho.....	1931	44	44	32	1,712	138,440
Indiana.....	1933	92	92	89	23,533	6 1,134,250
Iowa.....	1934	99	99	99	6 8,300	7 220,000
Kentucky.....	1926	120	120	.....	.....	.....
Maine.....	1933	16	16	.....	.....	.....
Maryland.....	1927	24	24	2	267	65,228
Massachusetts.....	1930	9 14	8 14	9 14	10 21,473	11 5,628,492
Michigan.....	1933	83	83	56	3,557	109,180
Minnesota.....	1929	87	77	40	4,425	12 577,635
Montana.....	1923	56	56	13 44	2,780	177,426
Nebraska.....	1933	93	80	24	926	13,577
Nevada.....	1925 ¹⁴	17	13	2	7	1,652
New Hampshire.....	1931	10	10	10	1,483	311,829
New Jersey.....	1931	21	21	20	11,401	1,773,320
New York.....	1930	62	62	62	51,834	12,650,828
North Dakota.....	1933	53	53	53	3,914	24,259
Ohio.....	1933	88	88	88	36,543	15 1,434,416
Oregon.....	1933	36	36	35	16 6,525	14 630,296
Pennsylvania.....	1933	67	67	67	18,261	17 386,717
Utah.....	1929	29	20	8	902	86,416
Washington.....	1933	39	30	12	1,588	103,408
West Virginia.....	1931	55	55	.....	.....	.....
Wisconsin.....	1925	71	71	8	2,127	459,146
Wyoming.....	1929	23	18	17	719	82,732
Continental United States.....		1,437	1,385	917	235,397	32,177,903
Alaska.....	1929 ¹⁵	4	4	4	454	108,485
Hawaii.....	1933	4	4	3	354	27,427
Grand total.....		1,445	1,393	924	236,205	32,313,515

¹ Estimated on basis of State disbursements.
² Original act passed in 1927.
³ 55 counties.
⁴ Estimated on basis of returns by individual counties and report of State disbursements.
⁵ 11 months ending Nov. 5, 1934.
⁶ 4,589 actually on roll Dec. 31, 1934; others put on roll later, payments being retroactive to Nov. 1, 1934.
⁷ Estimated; last 2 months of 1934 only.
⁸ 1 county and city of Baltimore.
⁹ But system is on a city and town, not county, basis.
¹⁰ As of Mar. 31, 1935.
¹¹ Year ending Apr. 30, 1934.
¹² 38 counties.
¹³ Includes 1 county which ceased payment in November 1934.
¹⁴ First act, passed in 1923, was repealed the same year.
¹⁵ Last 6 months of 1933.
¹⁶ 32 counties.
¹⁷ Month of December 1934.
¹⁸ Original act passed in 1915.
¹⁹ Number of judicial districts.

Development Within Identical States, 1933 and 1934

COMPARING only the States in which the law was in effect in both 1933 and 1934 the latter year showed a gain of 48 counties and of more than 17,000 old people cared for. Over \$2,000,000 more was expended for pension purposes.

In all but three States the number of recipients of old-age assistance increased, in some States very markedly. The amount paid in benefits also rose in all but four States. In Nevada and Utah a decrease in disbursements was accompanied by a corresponding decrease in number of beneficiaries. In New York and Wyoming, however, the expenditures fell in spite of an increase in the pension roll.

The 1933 and 1934 operations are compared in table 3 for the 17 States in which the act was in effect in both years.

TABLE 3.—NUMBER OF ADOPTING COUNTIES, NUMBER OF PENSIONERS, AND AMOUNT PAID IN PENSIONS IN IDENTICAL STATES, 1933 AND 1934

State	Number of counties with system		Number of pensioners at end of—		Amount paid in pensions	
	1933	1934	1933	1934	1933	1934
Arizona.....	12	12	1, 624	1, 820	\$170, 512	\$427, 527
California.....	57	57	14, 604	19, 619	3, 502, 000	4, 288, 508
Colorado.....	54	63	8, 705	10, 098	172, 481	1, 256, 190
Delaware.....	3	3	1, 586	1, 583	188, 740	193, 231
Idaho.....	29	32	1, 090	1, 712	114, 521	138, 440
Maryland.....	1	2	141	267	50, 217	65, 228
Massachusetts.....	14	14	18, 516	21, 473	5, 628, 492	(*)
Minnesota.....	6	40	2, 655	4, 425	420, 536	877, 635
Montana.....	45	44	1, 781	2, 780	155, 525	177, 426
Nevada.....	2	2	23	7	3, 320	1, 552
New Hampshire.....	8	10	776	1, 483	122, 658	311, 829
New Jersey.....	19	20	9, 015	11, 401	1, 375, 693	1, 773, 320
New York.....	62	62	51, 106	51, 834	13, 592, 080	12, 650, 828
Utah.....	9	4 8	930	902	95, 599	86, 416
Wisconsin.....	8	8	1, 969	2, 127	395, 707	459, 146
Wyoming.....	17	17	643	719	83, 231	82, 732
Total.....	346	394	115, 164	132, 250	26, 071, 312	22, 490, 008
Total, excluding Massachusetts.....	332	380	96, 648	110, 777	20, 442, 820	22, 490, 008
Alaska.....	4	4	383	454	95, 705	108, 485
Grand total.....	350	398	115, 547	132, 704	26, 167, 017	22, 598, 493

¹ 55 counties.

² Year ending Apr. 30, 1934.

³ No data.

⁴ Includes 1 which ceased payment in September 1934.

Development Under Optional and Mandatory Laws, 1934

THE list of mandatory acts has grown longer with each successive year and that of optional laws shorter, as new mandatory acts have been passed and old voluntary ones amended to make them compulsory.

TABLE 4.—DEVELOPMENT OF PENSION SYSTEMS UNDER OPTIONAL AND MANDATORY ACTS, 1934

State and type of law	Population of State, 1930	Number of counties in State	Counties reporting pension system in 1934		
			Number	Population	Percent of State population
<i>Optional</i>					
Hawaii.....	368,336	4	3	312,190	84.8
Kentucky.....	2,614,589	120	2	883,972	54.2
Maryland ¹	1,631,526	24	2	383,845	71.4
Montana.....	537,606	56	2	4,656	5.1
Nevada.....	91,058	17	2	4,656	5.1
West Virginia.....	1,729,205	55	8	1,100,385	37.3
Wisconsin ²	2,939,006	71	8	1,100,385	37.3
Total.....	9,911,326	347	59	2,685,048	248.2
<i>Mandatory</i>					
Alaska.....	59,278	4	4	59,278	100.0
Arizona.....	435,573	14	12	399,092	91.8
California.....	5,677,251	58	57	5,677,010	100.0
Colorado.....	1,035,791	63	63	1,035,791	100.0
Delaware.....	238,380	3	3	238,380	100.0
Idaho.....	445,032	44	32	346,948	78.0
Indiana.....	3,238,503	92	89	3,129,895	96.6
Iowa.....	2,470,939	99	99	2,470,939	100.0
Maine.....	797,423	16	14	4,249,614	100.0
Massachusetts.....	4,249,614	14	14	4,249,614	100.0
Michigan.....	4,842,325	83	56	4,210,341	86.9
Minnesota.....	2,563,953	87	40	1,820,531	71.0
Nebraska.....	1,377,963	93	24	323,285	23.5
New Hampshire.....	465,293	10	10	465,293	100.0
New Jersey.....	4,041,334	21	20	3,970,525	98.2
New York.....	12,588,066	62	62	12,588,066	100.0
North Dakota.....	680,845	53	53	680,845	100.0
Ohio.....	6,646,697	88	88	6,646,697	100.0
Oregon.....	953,786	36	35	930,950	97.6
Pennsylvania.....	9,631,350	67	67	9,631,350	100.0
Utah.....	507,847	29	8	352,403	69.4
Washington.....	1,563,396	39	12	361,008	23.1
Wyoming.....	225,565	23	17	183,146	81.2
Total.....	64,736,204	1,098	865	59,772,287	493.5
Grand total.....	74,647,530	1,445	924	62,457,335	89.9

¹ State act optional; made compulsory for Allegany County by special act of 1933.

² Became mandatory July 1, 1935.

³ Not including States (Kentucky and West Virginia) in which acts were inoperative; if those States are included, percentage is 27.1.

⁴ Not including State (Maine) in which act was inoperative; if that State is included, percentage is 92.3.

Size of Monthly Allowances

AVERAGE monthly allowances ranged in 1934 from 69 cents in North Dakota to \$26.08 in Massachusetts. In 14 jurisdictions the monthly average was less than \$10, in 21 less than \$20, and in only 6 was it \$20 or over. The average monthly payments in the important industrial States of California, Massachusetts, New York, and Pennsylvania were closely grouped in amount, with Massachusetts leading the others by from \$5 to \$6. New Jersey, another leading industrial State, has always paid pensions considerably below those of its neighbor, New York. Ohio, of course, was just getting its system under way and its experience is too short to permit judgment as to the liberality of the allowances.

In 16 States the actual pension was less than half and in the other States about two-thirds of the maximum.

The size of the pensions paid in 1933 and 1934, as compared with the maximum payable under the act, is shown in table 5.

TABLE 5.—AVERAGE PENSIONS PAID IN 1933 AND 1934, AS COMPARED WITH THOSE ALLOWABLE UNDER ACT

State	Maximum payable under act	Average monthly pension		Range of individual monthly grants, 1934
		1933	1934	
Arizona.....	\$30.00	\$9.01	\$19.57	\$5 to \$30.
California.....	30.41	21.50	20.21	(1).
Colorado.....	30.41	8.59	9.74	\$1.50 to \$30.
Delaware.....	25.00	9.79	9.91	(1).
Idaho.....	25.00	8.85	6.74	(1).
Indiana.....	15.00	-----	4.50	(1).
Iowa.....	25.00	-----	13.25	(1).
Maryland.....	30.41	29.90	22.64	\$5 to \$30.
Massachusetts.....	(2)	24.35	26.08	(1).
Michigan.....	30.00	-----	9.99	(1).
Minnesota.....	30.41	13.20	10.97	\$3 to \$35.
Montana.....	25.00	7.28	5.32	(1).
Nebraska.....	20.00	-----	1.22	\$2 to \$15.
Nevada.....	30.41	15.00	18.48	(1).
New Hampshire.....	32.50	13.17	17.51	(1).
New Jersey.....	30.41	14.97	14.87	(1).
New York.....	(2)	21.55	20.65	(1).
North Dakota.....	12.50	-----	.69	(1).
Ohio.....	25.00	-----	6.54	(1).
Oregon.....	30.00	-----	8.16	(1).
Pennsylvania.....	30.00	-----	21.18	(1).
Utah.....	25.00	8.56	7.98	\$2 to \$20.
Washington.....	30.00	-----	5.43	\$4 to \$30.
Wisconsin.....	30.41	16.75	19.95	(1).
Wyoming.....	30.00	10.79	9.59	\$2.50 to \$35.
Average (weighted).....	-----	19.33	14.68	\$1.50 to \$35.
Alaska.....	35.00	20.82	25.00	(1).
Hawaii.....	15.00	-----	7.06	(1).
Grand average (weighted).....	-----	19.34	14.69	(1).

¹ No data.² No limit.³ Men; women \$45.

The data are rearranged in table 6 to show the size of allowances paid under the different types of pension systems.

TABLE 6.—COMPARISON OF BENEFITS PAID UNDER COUNTY, STATE-AIDED, AND STATE SYSTEMS IN 1933 AND 1934

State and type of system	Average monthly pension		State and type of system	Average monthly pension		
	1933	1934		1933	1934	
<i>County systems</i>						
Hawaii.....	-----	\$7.06	-----	-----	-----	
Idaho.....	\$8.85	6.74	New Jersey.....	\$14.97	\$14.87	
Maryland.....	29.90	22.64	New York.....	21.55	20.65	
Minnesota.....	13.20	10.97	Wisconsin.....	16.75	19.95	
Montana.....	7.28	5.32	Average (weighted).....	21.17	18.06	
Nebraska.....	-----	1.22	Average, identical States (weighted).....	21.17	21.01	
Nevada.....	15.00	18.48	<i>State systems</i>			
New Hampshire.....	13.17	17.54	Alaska.....	20.82	25.00	
Oregon.....	-----	8.16	Colorado.....	8.59	9.74	
Utah.....	8.56	7.98	Delaware.....	9.79	9.91	
Washington.....	-----	5.43	Iowa.....	-----	13.25	
Wyoming.....	10.79	9.59	Michigan.....	-----	9.99	
Average (weighted).....	10.86	8.60	North Dakota.....	-----	.69	
Average, identical States (weighted).....	10.86	9.85	Ohio.....	-----	6.54	
<i>State-aided systems</i>						
Arizona.....	9.01	19.57	Pennsylvania.....	-----	21.18	
California.....	21.50	20.21	Average (weighted).....	9.21	10.87	
Indiana.....	-----	4.50	Average, identical States (weighted).....	9.21	10.33	
Massachusetts.....	24.35	26.08	-----	-----	-----	

Cost of Pensions in 1933 and 1934

THE steady increase in the number of pensioners in relation to population, shown in previous years, was continued in 1934 (table 7), except in those States where the natural increase was influenced by other factors, such as financial stringency. The pension roll is of course also affected by general or local economic conditions and by the incidence of aged in the State population.

TABLE 7.—TREND OF PENSION ROLL AND PER CAPITA COST, 1930 TO 1934¹

State	Number of pensioners per 10,000 population in—					Annual cost per capita of population ² in—				
	1930	1931	1932	1933	1934	1930	1931	1932	1933	1934
Arizona.....				41	46				\$0.45	\$1.07
California.....	15	17	22	26	35	\$0.27	\$0.43	\$0.56	.62	.76
Colorado.....		5	29	95	105			.29	.19	1.24
Delaware.....		63	66	67	66		.56	.79	.79	.81
Idaho.....		25	38	36	49			.44	.40	.40
Indiana.....					75					.36
Iowa.....					34					.53
Kentucky.....	7	12				.04	.12			
Maryland.....	6	2	2	2	3	.10	.06	.04	.06	.07
Massachusetts.....		26	40	44	51		.43	1.05	1.27	(³)
Michigan.....					8					.02
Minnesota.....		12	24	25	24		.09	.34	.39	.32
Montana.....	22	26	29	46	72	.37	.43	.42	.41	.46
Nebraska.....					29					.04
Nevada.....	75	37	57	36	15	1.35	.80	.98	1.25	.33
New Hampshire.....		8	19	19	32		.07	.25	.30	.67
New Jersey.....			28	27	29			.34	.42	.45
New York.....		38	43	41	41		.95	1.23	1.08	1.00
North Dakota.....					57					.04
Ohio.....					55					.43
Oregon.....					70					.69
Pennsylvania.....					19					.48
Utah.....	30	28	29	28	26	.26	.30	.16	.29	.25
Washington.....					44					.37
Wisconsin.....	9	15	18	18	19	.15	.26	.34	.36	.42
Wyoming.....	16	19	28	34	39	.25	.16	.37	.44	.45
Total.....	(⁴)	28	39	36	38	(⁴)	.64	.77	.81	.60
Alaska.....	57	53	61	65	77	1.45	1.44	1.51	1.61	1.83
Hawaii.....					11					.09

¹ Based only upon counties in which act was in operation.

² Computed on basis of full year, even though system was actually in operation only part of year.

³ No data.

⁴ Not computed for this year.

Allocation of Financial Responsibility

OF THE 28 States and 2 Territories which had old-age pension or assistance acts at the end of 1934, 8 had laws under which the whole cost of the system was to be borne by the State or Territory. In 14 acts the payments were to be made by the county, but in 2 of these the city or town of residence of the beneficiary was required to reimburse the county; in one of these States (Washington), although the pension act itself placed the whole cost upon the counties, a later act extended some State aid. In 8 acts joint provision of funds by State and county was required, and in 1 of these States the cities or towns were required to reimburse the county for sums spent in pensions.

Thus, some degree of financial responsibility was laid upon the counties by the laws of 21 States, and in 16 jurisdictions State funds were to be drawn upon wholly or partly.

The amounts and proportions actually supplied from State and county funds in 1934 are shown in table 8.

TABLE 8.—PROPORTION OF COST OF OLD-AGE PENSIONS BORNE BY STATES AND BY COUNTIES IN 1934

State	Amount paid in pensions from—			Percent of State aid provided for by State law	Percent actually paid in 1934 from—	
	State funds	County funds	Total		State funds	County funds
Arizona.....	\$286,004	\$141,523	\$427,527	67.0	66.9	33.1
California.....	2,144,254	2,144,254	4,288,508	50.0	50.0	50.0
Colorado.....	925,500	330,690	1,256,190	100.0	73.7	26.3
Delaware.....	193,231		193,231	100.0	100.0	
Idaho.....		138,440	138,440			100.0
Indiana.....	567,125	567,125	1,134,250	50.0	50.0	50.0
Iowa.....	¹ 220,000		220,000	100.0	100.0	
Maine.....				50.0		
Maryland.....		65,228	65,228			100.0
Massachusetts.....	1,876,164	3,752,328	5,628,492	33.3	33.3	66.7
Michigan.....	103,180		103,180	100.0	100.0	
Minnesota.....		577,635	577,635			100.0
Montana.....		177,426	177,426			100.0
Nebraska.....		13,577	13,577			100.0
Nevada.....		1,552	1,552			100.0
New Hampshire.....	² 233,872	77,957	311,829		³ 50.0	³ 25.0
New Jersey.....	1,329,990	443,330	1,773,320	75.0	75.0	25.0
New York.....	6,325,414	6,325,414	12,650,828	50.0	50.0	50.0
North Dakota.....	24,259		24,259	100.0	100.0	
Ohio.....	1,434,416		1,434,416	100.0	100.0	
Oregon.....		639,296	639,296			100.0
Pennsylvania.....	386,717		386,717	100.0	100.0	
Utah.....		86,416	86,416			100.0
Washington.....	27,292	76,116	103,408	(4)	26.4	73.6
Wisconsin.....	75,000	384,146	459,146	33.3	16.3	83.7
Wyoming.....		82,732	82,732			100.0
Total.....	16,152,418	16,025,185	32,177,603		50.2	49.8
Alaska.....	108,485		108,485	100.0	100.0	
Hawaii.....		27,427	27,427			100.0

¹ Estimated; last 2 months of 1934.

² State and Federal funds.

³ 25 percent was paid from Federal relief funds.

⁴ Pension act does not provide for State aid but another act created special fund, from proceeds of tax on horse racing, to be used for pension system.

Relative Adequacy of State Pension Systems

A PENSION system can be said to be adequate when (1) it covers the whole population for which it was designed, (2) it pays benefits sufficient to maintain the beneficiaries in modest comfort, and (3) it extends such benefits to all of the qualified needy aged in its jurisdiction who do not require institutional care.

In order to test the adequacy of the State systems which were in effect in 1934, table 9 brings together the data on the above three points. The figures as to the proportion of persons of pensionable age who were receiving pensions at the end of 1934 are by no means conclusive nor comparable State by State, for the extent of dependency may and does vary from State to State, but they are given as a possible indication of the relative extent to which the problem of old-age care is being met.

TABLE 9.—COVERAGE, BENEFITS, AND PROPORTION OF PERSONS OF PENSIONABLE AGE AIDED IN 1934

State	Coverage: Percent of State popu- lation in counties with systems	Average monthly pension	Percent pen- sioners formed of population of pension- able age	Applica- tions pend- ing at end of year .
Arizona.....	91.8	\$19.57	1 21.7	(²)
California.....	100.0	20.21	9.3	851
Colorado.....	100.0	9.74	1 17.8	(²)
Delaware.....	100.0	9.91	9.5	1,775
Idaho.....	78.0	6.74	1 9.8	43
Indiana.....	96.6	4.50	1 17.5	(²)
Iowa.....	100.0	13.25	6.2	(²)
Maryland.....	54.2	22.64	1.5	2,900
Massachusetts.....	100.0	24.42	3 13.7	1,216
Michigan.....	86.9	9.99	1 2.8	(²)
Minnesota.....	71.0	10.97	1 6.6	(²)
Montana.....	71.4	5.32	1 27.1	(²)
Nebraska.....	23.5	1.22	1 4.6	(²)
Nevada.....	5.1	18.49	1 2.8	(²)
New Hampshire.....	100.0	17.51	5.8	(²)
New Jersey.....	98.2	14.87	1 10.3	2,551
New York.....	100.0	20.65	13.9	5,438
North Dakota.....	100.0	.69	4 17.4	(²)
Ohio.....	100.0	6.54	8.8	54,008
Oregon.....	97.6	8.16	1 17.1	(²)
Pennsylvania.....	100.0	21.18	6.3	(²)
Utah.....	69.4	7.98	1 5.7	(²)
Washington.....	23.1	5.43	1 6.8	(²)
Wisconsin.....	37.3	19.95	1 5.1	(²)
Wyoming.....	81.2	9.59	1 10.2	(²)
Total.....	89.9	14.68	9.7	-----
Alaska.....	100.0	25.00	-----	(²)
Hawaii.....	84.8	7.06	-----	(²)

¹ Estimate on basis of population in reporting counties.

² No data.

³ Mar. 31, 1935.

⁴ Computed on basis of estimated population 68 years of age and over.

Operations of Federal Civil-Service Retirement and Disability Fund, 1934

MORE annuitants (14,477) were added to the roll of the Federal civil-service retirement fund during the fiscal year 1933-34 than during the entire 6 years from July 1, 1922, to June 30, 1928. There were 2,604 terminations during the fiscal year, and the net increase, therefore, was 11,873, the largest since the establishment of the fund. At the end of the year there were 44,708 annuitants on the roll, as compared with 32,835 on June 30, 1933. These and the following data are from the Annual Report of the Administrator of Veterans' Affairs for the year ending June 30, 1934, which covers the operation of the civil-service retirement fund established under the Federal Retirement Act.

The 14,477 annuitants added to the roll were retired for the following causes: Age, 2,770; disability, 2,505; voluntary separation after 30 years' service (within 2 years of statutory retirement age), 1,652; involuntary separation after 30 years' service, 7,080; and involuntary separation with less than 30 years' service, 470.

Males predominated among the annuitants on the roll June 30, 1934, forming 91.2 percent of the total number. Over two-fifths (42.8 percent) of the female annuitants had been retired for disability, while only 17.8 percent of the male annuitants had been retired for this cause.

Of the 2,604 cases removed from the roll during the year (as compared with 2,212 in 1933), 2,473 were terminated because of death and 131 for other causes.

Of the 44,708 annuitants on the roll on June 30, 1934, the distribution according to cause of retirement was as follows: Age, 22,969; disability, 8,941; for voluntary separation after 30 years' service, 3,944; involuntary separation after 30 years' service, 6,993; and involuntary separation with less than 30 years' service, 1,861.

The average annuity paid to those on the roll June 30, 1934, was \$989.89, as compared with \$965.16 in 1933. The number receiving \$1,200 per annum was 13,772, or 30.8 percent of the total number, as compared with 11,783, or 35.9 percent on June 30, 1933. The annual value of the retirement roll as of June 30, 1934, was \$44,232,754, as compared with \$31,691,029 the preceding year.

On June 30, 1934, the balance in the civil-service retirement and disability fund was \$262,561,643. The receipts to the credit of the fund during the fiscal year totaled \$60,258,810 as compared with \$61,246,091 the preceding year. Of these receipts \$28,740,451 represented deductions from the compensation of employees (including service-credit payments), \$10,518,359 was interest on investments, and \$21,000,000 was appropriated by Congress. The receipts representing deductions from compensation of the employees were \$1,753,341 less than in 1933 and \$3,112,255 less than in the peak year 1932, "thus reflecting a continued decrease in the number of employees entitled to the benefit of the retirement act."

On the basis of the results of its 5-year valuation of the fund as of June 30, 1930, which did not take into consideration the cost of the provision for compulsory retirement for age added by the act of June 30, 1932, or the provision for involuntary retirement after 30 years' service added by the act of June 16, 1933, the Board of Actuaries in its thirteenth annual report transmitted to Congress January 10, 1934, came to the conclusion that "as of June 30, 1930, the annual appropriation which should be made by the Government to meet its liability to the fund for both the normal cost and the accrued liability was \$52,053,664. This appropriation by the Government would be necessary for approximately 68 years from 1930, after which time the annual appropriation would be reduced to the normal or continuing cost of \$20,638,850."

Railroad Employees' Retirement Law of 1934 Declared Unconstitutional

THE United States Supreme Court, in a 5 to 4 decision on May 6, 1935, declared unconstitutional the Railroad Employees' Retirement Act of June 27, 1934.⁴ (*Railroad Retirement Board v. Alton Railroad Co.*, 295 U. S. 330.)

Principal Features of Retirement Act

THE Railroad Employees' Retirement Act proposed a pension system applicable to all employees of railroad carriers subject to the Inter-

⁴ 48 U. S. Stat. L. 1283, 73d Cong. See also Monthly Labor Review, August 1934 (pp. 363-367), January 1935 (pp. 76, 77).

state Commerce Act. The act provided that a fund was to be created by compulsory contributions of present and future employees and the carriers, the carrier contribution to be equal to twice the contribution of the employees of such carrier and the percentage amount of employee contribution to be determined by an independent governmental agency to be known as the "Railroad Retirement Board." Until this agency should determine otherwise, the amount of deduction was fixed at 2 percent of the employees' wages.

Section 1 (b) of the act provided that the classes of persons eligible for the annuities should be: (1) Employees of any carrier on the date of passage of the act; (2) those who subsequently become employees of any carrier; (3) those who within 1 year prior to the date of enactment were in the service of any carrier. Persons in any of these three classes would be eligible upon reaching 65 years of age, whether in the service of the carrier or not. Provision might be made for continued employment after 65, provided the employer and employee agreed, but upon reaching age 70 retirement was compulsory. If an employee had served a total of 30 or more years in the employ of one or more carriers, irrespective of whether the service was continuous or not, he had the option at any time, between the ages of 51 and 65, to retire and thus receive an annuity. However, the annuity in such cases was to be reduced by one-fifteenth for each year the employee lacked of being age 65, unless such retirement was due to mental or physical disability. Those in official positions could not be forced to retire until 5 years after the effective date of the act. The amount payable monthly was determined by multiplying the number of years of service, not exceeding 30, by graduated percentages of the employee's average monthly compensation. This applied whether the service was performed before or after the act was adopted, whether the employee was in the employ of one carrier or several, and irrespective of whether the service was continuous or not. Provision was also made for the repayment to the estate of a deceased employee of the amount contributed to the fund with 3 percent compound interest less any annuity sums paid to the employee.

Majority Opinion

THE principal question for determination in this case by the Supreme Court was whether the act which established a retirement system for railroad employees was such a regulation of commerce between the States as would come under article 1, section 8, clause 3, of the Constitution of the United States—that Congress shall have the power to regulate commerce among the several States.

The Court considered first the provisions of the law affecting former employees. It was shown that about 146,000 persons fell within the class and included those "who have been retired, who have resigned to take other gainful employment, who have been discharged because their positions were abolished, who were temporarily employed, or who left the service for other reasons." The Retirement Board stated that this proviso was made "to assure those on furlough, or temporarily relieved from duty subject to call, the benefit of past years of service, in the event of reemployment, and to prevent the carriers from escaping their just obligations by omitting to recall these persons to service." In answer to this the Court said that—

It is arbitrary in the last degree to place upon the carriers the burden of gratuities to thousands who have been unfaithful and for that cause have been separated from the service, or who have elected to pursue some other calling, or who have retired from the business, or have been for other reasons lawfully dismissed. And the claim that such largess will promote efficiency or safety in the future operation of the railroads is without support in reason or common sense.

* * * Plainly this requirement alters contractual rights; plainly it imposes for the future a burden never contemplated by either party when the earlier relation existed or when it was terminated.

It was shown that the statute would take from the future earnings of the railroads amounts to be paid for services already compensated according to contractual obligations, "with no thought on the part of either employer or employee that further sums must be provided by the carriers." This provision, the Court said—

is not only retroactive in that it resurrects for new burdens transactions long since past and closed; but as to some of the railroad companies it constitutes a naked appropriation of private property upon the basis of transactions with which the owners of the property were never connected. Thus the act denies due process of law by taking the property of one and bestowing it upon another.

The Court showed that no specified length of service was required, although the annuity was reduced if the total term of employment was less than 30 years.

The Court next considered certain general features of the retirement act which were believed to be in violation of the fifth amendment to the United States Constitution. It was shown that under the pension scheme, the draft upon the fund was at a given rate, while contributions of the several carriers to sustain the fund were at a "disparate rate." The Court said that this resulted from the basic theory of the act, which is that "all persons in the service of the railroads are to be regarded as employees of the one employer", as announced in the report of the Senate subcommittee which considered the legislation in the beginning.

In justification of the pooling feature of the act, the Retirement Board cited the Railroad Transportation Act of 1920 and several decisions of the Supreme Court. The argument advanced for the pooling arrangement was that the railroads and the public have a common interest in efficient railroad operation as a whole, and so it is necessary that all carriers contribute to the cost of a scheme designed to serve the common end. To support this claim several cases were cited by the Board, which the Court severally analyzed.

While not prepared to say whether the act, if otherwise constitutional, would be invalid due to the enormous cost involved, the Court said:

The recited facts at least emphasize the burdensome and perhaps destructive effect of the contraventions of the due process of law clause which we find exist. Moreover, they exhibit the inconsistency of the petitioners' position that the law is necessary because in times of depression the voluntary systems of the carriers are threatened by loss of revenue. It is difficult to perceive how the vast increase in pension expense entailed by the statute will, without provision of additional revenue, relieve the difficulty experienced by some railroads in meeting the demands of the plans now in force.

In addition to agreeing with the lower court respecting the disregard of due process in many of the provisions of the act, the Supreme Court also was in agreement regarding the inseparability of certain of the sections. The statute contained a section that invalid provisions shall not destroy the entire law. The majority opinion pointed out

that while the law was invalid because several of its inseparable provisions contravened the due-process clause of the Constitution, it was also invalid for another reason—"the act is not in purpose or effect a regulation of interstate commerce within the meaning of the Constitution."

The Court also considered the several purposes of the act as contained in section 2 (a), such as employment opportunities and the relief of aged employees, and referred to the assertion of the railroads and the admission by the Board "that though these may in and of themselves be laudable objects, they have no reasonable relation to the business of interstate transportation."

Taking up the question of the superannuation of the railway employees, the Court found that the parties were not in agreement. In disposing of the question, however, the Court considered seriously and at length the apparent disagreement.

We may, for present purposes, assume that "superannuation" as petitioners use the term—i. e., the attainment of 65 years—is as great or greater in the railroad industry than in comparable employments. It does not follow, as contended, that the man of that age is inefficient or incompetent. The facts indicate a contrary conclusion. Petitioners say the seniority rules and the laying off of younger men first in reducing forces, necessarily tend to keep an undue proportion of older men in the service. They say this tendency has long been marked in the railroad industry and has been most noticeable in recent years of depression when forces have been greatly reduced. But what are the uncontradicted facts as to efficiency and safety of operation? Incontrovertible statistics obtained from the records of the Interstate Commerce Commission show a steady increase in safety of operation during this period of alleged increasing superannuation.

Indeed, one of the petitioners, and one of their most important witnesses, has written, referring to railroads:

"Experience seems to have proved, moreover, that older workers cause fewer accidents than do younger; hence there is little necessity for removing them on that ground."

There is overwhelming evidence in the record to the same effect. All that petitioners offer on the subject in their brief is: "In an industry having as many hazardous occupations as the railway industry, improvement in personnel conditions is likely to mean increased safety." We think it is not unfair to say that the claim for promotion of safety is virtually abandoned.

How stands the case for efficiency? Here again the record without contradiction demonstrates that in step with the alleged progressive superannuation on the railroads their operations have increased in efficiency. The trial court found, and its finding is not assigned as error: "Railroads were, when the act was enacted, and are now, operated efficiently and safely and more efficiently and much more safely than at any time in history."

Lastly the petitioners suggest that diminution of superannuation promotes economy, because younger and lower-paid men will replace the retired older men. But the argument is based upon inadvertent disregard of the wage structure of the carriers, especially in the train and engine service, whereby contract compensation is based not on age but upon the nature of the duties performed. The replacement of one by another who is to do the same work will therefore beget no saving in wages.

When to these considerations is added that, as heretofore said, the act disregards fitness to work, pensions the worker who retires at his option before any suggested superannuation, irrespective of skill or ability, pensions those who are presently compelled by the law to retire, irrespective of their fitness to labor, and grants annuities to those who are discharged for dishonesty or gross carelessness, it becomes perfectly clear that, though the plan may bring about the social benefits mentioned in section 2a of the act, it has and can have no relation to the promotion of efficiency, economy, or safety by separating the unfit from the industry. If these ends demand the elimination of aged employees, their retirement from the service would suffice to accomplish the object. For these purposes the prescription of a pension for those dropped from service is wholly irrelevant. The petitioners, conscious of the truth of this statement, endeavor to avoid its force by the argument that social and humanitarian considerations demand the support of the retired employee. They assert that it would be unthinkable to

retire a man without pension and add that attempted separation of retirement and pensions is unreal in any practical sense, since it would be impossible to require carriers to cast old workers aside without means of support. The supposed impossibility arises from a failure to distinguish constitutional power from social desirability. The relation of retirement to safety and efficiency is distinct from the relation of a pension to the same ends, and the two relationships are not to be confused.

In final analysis, the petitioners' sole reliance is the thesis that efficiency depends upon morale, and morale in turn upon assurance of security for the worker's old age. Thus pensions are sought to be related to efficiency of transportation, and brought within the commerce power. In supporting the act the petitioners constantly recur to such phrases as "old-age security", "assurance of old-age security", "improvement of employee morale and efficiency through providing definite assurance of old-age security", "assurance of old-age support", "mind at ease", and "fear of old-age dependency." These expressions are frequently connected with assertions that the removal of the fear of old-age dependency will tend to create a better morale throughout the ranks of employees. The theory is that one who has an assurance against future dependency will do his work more cheerfully, and therefore more efficiently. The question at once presents itself whether the fostering of a contented mind on the part of an employee by legislation of this type is in any just sense a regulation of interstate transportation. If that question be answered in the affirmative, obviously there is no limit to the field of so-called regulation. The catalog of means and actions which might be imposed upon an employer in any business, tending to the satisfaction and comfort of his employees, seems endless. Provision for free medical attendance and nursing, for clothing, for food, for housing, for the education of children, and a hundred other matters, might with equal propriety be proposed as tending to relieve the employee of mental strain and worry.

The majority opinion finally concluded that the act—

is an attempt for social ends to impose by sheer fiat noncontractual incidents upon the relation of employer and employee, not as a rule or regulation of commerce and transportation between the States, but as a means of assuring a particular class of employees against old-age dependency. This is neither a necessary nor an appropriate rule or regulation affecting the due fulfillment of the railroads' duty to serve the public in interstate transportation.

The judgment of the lower court declaring the act unconstitutional was therefore affirmed.

Minority Opinion

MR. CHIEF JUSTICE HUGHES rendered a strong dissenting opinion in which he was joined by three of the other justices. The minority Justices regretted that the majority raised "a barrier against all legislative action of this nature by declaring that the subject matter itself lies beyond the reach of the congressional authority to regulate interstate commerce." In place of a unitary retirement system, the minority thought another sort of plan could be established. However, the Chief Justice observed that—

no matter how suitably limited a pension act for railroad employees might be with respect to the persons to be benefited, or how appropriate the measure of retirement allowances, or how sound actuarially the plan, or how well adjusted the burden, still under this decision Congress would not be at liberty to enact such a measure. That is a conclusion of such serious and far-reaching importance that it overshadows all other questions raised by the act. Indeed, it makes their discussion superfluous. The final objection goes, as the opinion states, "to the heart of the law, even if it could survive the loss of the unconstitutional features" which the opinion perceives. I think that the conclusion thus reached is a departure from sound principles and places an unwarranted limitation upon the commerce clause of the Constitution.

The Chief Justice was of the opinion that the morale of the railroad employees has an important bearing upon the efficiency of the transportation service, and "that a reasonable pension plan by its assurance of security is an appropriate means to that end."

The minority opinion considered especially the question of whether the provisions of the retirement act violated the due-process clause of the Federal Constitution, and its relation to the establishment of a pooling system for all railroads. The Chief Justice said that "the objection encounters previous decisions of this court", and continued by referring to previous decisions:

We have sustained a unitary or group system under State compensation acts against the argument under the due process clause of the fourteenth amendment. (*Mountain Timber Co. v. Washington*, 243 U. S. 219). The Washington compensation act established a State fund for the compensation of workmen injured in hazardous employment, and the fund was maintained by compulsory contributions from employers in such industries. While classes of industries were established, each class was made liable for the accidents occurring in that class.

The minority opinion considered also the class of persons to be benefited, and stated:

In considering these objections we should have regard to the explicit provision of the act as to severability. It states that if "any provision", "or the application thereof to any person or circumstances", is held invalid, "the remainder of the act or application of such provision to other persons or circumstances shall not be affected." This, of course, does not permit us to rewrite the statute but it does allow the excision of invalid provisions, or inclusions, which can be severed without destroying its structure.

In considering the details of the pension plan, especially with regard to the basis of the allowances and the computation, the minority group was of the opinion that Congress could make its choice as to any basis of selection, either upon length of service or age, or both.

An examination of pension plans in operation reveals a variety of possible methods, and Congress was entitled to make its choice. As a basis for the allowance, Congress could select either age or length of service, or both. In the selection of any age, or any period of service, anomalies would inevitably occur in particular applications. Extreme illustrations can always be given of the application of regulations which require the drawing of a line with respect to age, time, distances, weights, sizes, etc. To deny the right to select such criteria, or to make scientific precision a criterion of constitutional authority, would be to make impossible the practical exercise of power.

In determining that the decree of the lower court should be reversed, the minority group, speaking through the Chief Justice, concluded:

The power committed to Congress to govern interstate commerce does not require that its government should be wise, much less that it should be perfect. The power implies a broad discretion and thus permits a wide range even of mistakes. Expert discussion of pension plans reveals different views of the manner in which they should be set up and a close study of advisable methods is in progress. It is not our province to enter that field and I am not persuaded that Congress in entering it for the purpose of regulating interstate carriers, has transcended the limits of the authority which the Constitution confers.

[Following the decision of the court declaring the act unconstitutional, Congress enacted a new retirement law (Public Acts 399 and 400) for the benefit of employees engaged in interstate commerce by railroad. Up to the end of 1935 this act had not been passed upon by the Supreme Court.]

Old-Age Pensions Paid by Labor Organizations in 1933 and 1934

DURING the past few years the subject of old-age pensions for members has received a large amount of attention from labor organizations. Several have considered the advisability of adopting pension systems, while others, faced with the problem of raising funds from diminished revenues, may have to curtail or abolish these benefits or place the whole scheme on an insurance basis.

The reports of the executive council of the American Federation of Labor show that both in 1933 and in 1934 there were 15 national unions which paid old-age benefits to the amount of over \$4,000,000. The amounts so paid by the individual organizations in 1933 and 1934 are shown below:

	<i>1933</i>	<i>1934</i>
Bricklayers.....	\$414, 621	\$414, 621
Bridge and structural-iron workers.....	46, 699	44, 658
Carpenters.....	259, 458	101, 757
Electrical workers.....	148, 669	206, 380
Fur workers.....	2, 720	3, 920
Ladies' garment workers.....	9, 500	7, 800
Locomotive engineers.....	232, 832	67, 405
Locomotive firemen and enginemen.....	202, 415	287, 853
Printers.....	2, 110, 853	2, 180, 087
Printing pressmen.....	114, 862	130, 352
Quarry workers.....	1, 750	1, 250
Railroad trainmen.....	940, 282	682, 041
Railway conductors.....	121, 110	(1)
Sheep shearers.....	2, 465	2, 410
Street-railway workers.....	70, 400	162, 000
Total.....	4, 678, 636	4, 292, 534

¹ Not reported.

OLDER WORKER IN INDUSTRY

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Employment of Older Persons in Department Stores ¹

THE Massachusetts Commission on the Stabilization of Employment, in planning its research program for 1931-32, proposed a study of workers in various lines of employment in which it hoped "to demonstrate kinds of work that may be performed satisfactorily by older workers, and to throw light upon types of work experience that enable some older workers to continue in employment longer than their fellows." The project here reported is a part of that larger program. It is a study of the employment of older employees in Springfield department stores, made in March and April 1932 under the direction of the economics department at Mount Holyoke College by students in the course in social statistics.

Scope of Study

SPRINGFIELD is the third city in size in Massachusetts, with a population of 149,900 in 1930. It has been the leading trade center of western Massachusetts since colonial days.

The three stores chosen for this study are the largest in the department-store group, and have long been established in the city of Springfield. One of them opened for business in 1874, one in 1875, and the third in 1906. All are independent units, general department stores, and handle merchandise of about the same grade.

When on account of the depression the reduced volume of trade made it impossible to carry the whole force on full time, part-time employment and "vacations" rather than dismissals were resorted to by all of these stores. All three carried smaller numbers on their pay rolls in 1931 than in 1930, the decrease in the average number employed varying from 5 to 11 percent. Although the numbers employed were consistently smaller in 1931, the spread was greatest during the earlier part of the year and continued through the Easter trade. This trade, together with that of the Christmas holidays, showed the peaks characteristic of those periods almost everywhere.

The group studied included all employees over 45 years of age on the pay rolls of the three stores, a total of 344. Detailed information was secured through personal interviews with 241 of these employees. The number seen individually amounted to more than four-fifths of the age group in two of the stores, but to only slightly more than half in the third. The interviews were arranged by the personnel departments and took place in the stores during the day.

¹ Summary of article by Amy Hewes, of Mount Holyoke College, in the October 1932 Monthly Labor Review (p. 773).

Character of Group Studied

Proportion of Older Workers

THERE is no "old age at 40" among retail-store employees. None of the managements would admit any deadline of employability. The proportion of older workers was larger than would be found in almost any manufacturing establishment, indicating that a longer earning life characterized mercantile employment.

From one-fourth to one-fifth of the total staff in each of these stores was composed of persons over 45. While the total percentage of older workers in each store was approximately the same, the composition of these older groups differed as to sex. Women were in the majority in the total force of all the stores, but over half of the older employees in one establishment were men. In the others men were, respectively, one-third and two-fifths of the older group.

Age

Although the largest groups of older employees interviewed were persons between 45 and 50, this group formed less than one-third (30.7 percent) of the whole number. A fourth of the total were between 50 and 55, and 23 percent were over 60.

Probably among the employees over 70 there were many whose former service rather than present efficiency constituted the claim on the job. Many were still known to customers who did not wish to break old connections and who really valued the knowledge of their taste and requirements which rested on long association. Also, the long connection with the establishment in some cases constituted a moral claim which the employer did not disregard.

Educational Experience

Successful store service requires intelligence and an elementary education. Nearly one-half (46.9 percent) of the older employees had attended grade schools only, about two-fifths (41.9 percent) had benefited by at least some high-school education and less than a tenth had received either some college or vocational education. Specialized training for retail selling is given by the personnel departments of the stores, but it may safely be said that the majority of the older employees learned "on the job", by dint of observation and help from fellow employees. No specific educational requirements were fixed as a condition of employment.

Occupational Background

The first job.—Further indication of the character of the group of older employees is indicated by their first jobs as paid workers. More than two-fifths (43 percent) began with store work. The others started their wage-earning experience in widely varied employment. Jobs as far removed from store work as those of bartenders, cowboys, carpenters, brick masons, chauffeurs, and farmers were reported as the first experience of the older men. Some of the women began to earn when very young, as factory hands in Lowell and Fall River or in domestic service. Others were assistants to dressmakers or did sewing independently.

As the statement following shows, some of the older employees became wage earners very early. All except 37 were over 14 when they started to work. In 40 cases the employees held no paid position until after 25 years of age. In the case of women this late beginning was caused more often by early marriage than by an extensive period of training.

Age at first employment:	Number of employees
5 to 9 years.....	3
10 to 14 years.....	34
15 to 19 years.....	111
20 to 24 years.....	49
25 to 29 years.....	13
30 to 34 years.....	12
35 to 39 years.....	5
40 to 44 years.....	6
45 years and over.....	4
Not reported.....	4
Total.....	241

Other principal employment.—As an indication of the characteristics of the group studied, previous employment over a considerable period is more significant than either education or the first job, since the former was rarely vocational and the latter seldom a matter of deliberate choice. Consequently, inquiry was made concerning earning experience other than merchandising, and was limited to the employment of longest duration in the history of each employee. The full job history of each individual was unobtainable since many persons were unable to remember every position held, but it was assumed that the period of longest employment would always be remembered.

It is significant that almost half (103, or 43 percent) had had their whole earning experience in stores or had held no other positions except of very short duration. The second largest number, 48, had worked in factories for their other principal employment and the third largest group, 23, in domestic work (including in this group waitresses, matrons, nurses, and housekeepers).

Length of merchandising experience.—A number of the older employees had accumulated many years of merchandising experience. Nearly two-fifths had been engaged in store work for over 20 years, and 19 persons for more than 40 years. Only a fourth had worked in stores less than 10 years. Clearly the present tenure of job of this group is associated with long experience in the same line of work.

Present Employment

THE remainder of the study was concerned with conditions of present employment of the group over 45 years of age, and particularly with those aspects which afforded an explanation of the employee's claim on the position held.

Age when employed.—It was necessary to test the hypothesis that the present job was held in a large proportion of cases by persons who had been employed by the company when they were young. It proved to be true (see table 1) that considerably more than half the number were hired on their present job before they were 45; it was also clear that the group represented persons who were easily employable even after that age. More than a third were taken on after their

forty-fifth birthday and 13 persons were employed after reaching the age of 60. The largest group, 68 persons between 40 and 45 years of age when hired, furnished abundant evidence of lack of prejudice on the part of retail-store managers against hiring older persons.

TABLE 1.—AGE OF EMPLOYEES AT TIME WHEN HIRED ON PRESENT JOB

Age group	Number of employees		
	Male	Female	Total
All ages.....	87	154	241
20 to 24 years.....	3	2	5
25 to 29 years.....	7	8	15
30 to 34 years.....	5	14	19
35 to 39 years.....	5	39	44
40 to 44 years.....	22	46	68
45 to 49 years.....	16	22	38
50 to 54 years.....	12	13	25
55 to 59 years.....	9	5	14
60 to 64 years.....	8	5	13

Occupational distribution.—A grouping of these older employees by their present occupation (table 2) showed that just about half (49 percent) were engaged in actual selling. This is the same proportion that the selling force formed of the total force for all ages in the three stores. The proportion would be only slightly higher if the buyers over 45 who also act as salespeople were included. Older women who were selling outnumbered the older men, but women also outnumbered men in the entire force and in the other occupational groups except among the shipping-room employees, janitors, and the miscellaneous group (including truck drivers, stock clerks, and floor managers).

TABLE 2.—OCCUPATIONAL DISTRIBUTION OF EMPLOYEES, BY SEX

Occupation	Number of employees		
	Males	Females	Total
All occupations.....	87	154	241
Sales persons.....	21	98	119
Buyers.....	9	16	25
Janitors and attendants.....	12	7	19
Work-room employees.....	5	12	17
Shipping-room employees.....	13	1	14
Lunch-room employees.....	3	10	13
Office employees.....	2	6	8
Others.....	22	4	26

An occupational distribution of the older employees by age shows only a slight relation between age and the kind of work done. In the office force (which furnished the single example of a preference for younger persons) the employees were all under 60. The lunch-room employees were all under 65. But in the selling force proper there were employees of all ages up to and including the seventies.

Tenure of Present Job

The older employees formed a staple part of the total force. As shown in the statement below, half of them had held their present positions more than 10 years at the time of the interviews and nearly a fifth for more than 20 years. It is important to note, however, that a fifth of the group were able to secure employment less than 5 years ago, although they were then over 40 years of age.

Length of present job:	<i>Number of employees</i>
Under 5 years.....	46
Under 1 year.....	4
1 and under 2 years.....	6
2 and under 3 years.....	12
3 and under 4 years.....	15
4 and under 5 years.....	9
5 to 9 years.....	72
10 to 14 years.....	53
15 to 19 years.....	27
20 to 24 years.....	14
25 to 29 years.....	21
30 years and over.....	8
Total.....	241

The long tenure of present position which characterized so many of the older employees was consistent with the fact that it covered the greater part of their total merchandising experience. More than half of the older employees had spent at least 80 percent of their entire period of store employment with the same company.

Transfers Within the Establishment

The older employees who had been in the same establishment for a long time had not required many transfers to easier jobs. Three-quarters were still holding the same position to which they were first appointed. Moreover, the percentages of employees who had never been transferred were almost as large among the older employees as among the younger. The necessary adjustment apparently came in expending on the same job a little less energy as the years passed, rather than by surrendering it for another.

None of the stores in which these employees worked had a regular pension system, but each store was taking care of a number of former employees. The lack of a pension system may explain part of the willingness to retain on the pay roll some of the oldest employees. The stores were in agreement, however, that the group over 45 included many of their most valued employees.

Conclusion

A PICTURE has been presented of the retention of substantial proportions of older men and women in retail selling long past the time when their age would have been an insurmountable obstacle to the earning of a livelihood in many other occupations. It must be remembered that the stores covered in this report all belong to the type of large establishment which has been characteristic of department-store history in this country—establishments in which the founders and their successors (usually members of their families) have been well-known residents of their communities and thoroughly identified with the policies of the stores which bore their names. Although the

leading department stores in most of our cities still belong to this group, the field is now being shared to an important extent with chain-store organizations. The employment policies which have been associated with the success of the older stores, and in particular the policy of retaining the older employees, may not be followed by stores whose relation to the community is only a link in a wider organization. Their practice may not be determined to the same extent by special recognition of years of loyal service which was often made by the older department stores. The conspicuous fact about the present study, however, was not that the older employees had succeeded in building up claims to their jobs, but that their service was regarded as efficient, in spite of (and often because of) their age. This was emphasized many times by store superintendents and personnel managers.

Insofar as the employees studied are representative, their experience indicates far better employment opportunities for older employees in retail selling than exist in the manufacturing industries. This is probably due in large part to the relatively smaller demands made by their occupations on physical vigor, but it is doubtless also due to fewer changes in technique.

During the past 20 years many of the tasks performed by skilled mechanics have changed so much that skill acquired in the beginning of the period is no longer valuable to the persons possessing it. Meanwhile the clerks who sell in stores continue to do their work in much the same way. Changes in financial organizations, advertising, and in methods of display, which have in many ways transformed retailing, have required little alteration in the way in which a clerk meets a customer and closes a sale. His success still depends on the nature of the personal contact he can establish. The training which the stores now give their employees in the art of selling merely points out the psychology of what has been done in the past by intelligence and happy intuition. Consequently, nothing in the nature of their occupation makes it inevitable that store employees should suffer the "technological unemployment" to which employees in many manufacturing occupations have been liable.

Report on Age as Related to Unemployment, 1933

THE Joint Legislative Committee on Unemployment of New York State transmitted to the legislature, under date of January 7, 1933, a special report on the Older Worker in Industry, prepared by Solomon Barkin, under the auspices of the continuation committee of the New York State Commission on Old Age Security. This report was issued as Legislative Document (1933) No. 66, and takes up in detail the history of the development of public realization that the elderly worker has a special difficulty to face, gives data as to the attitude of employers toward older employees, based on answers to a questionnaire circulated in New York, and considers what steps should be taken to help those who find themselves handicapped by advancing years.

Situation in New York State

THE investigation made in New York showed much the same results as similar inquiries in California, Maryland, and elsewhere. The existence of discrimination was clearly shown:

One out of every five concerns in New York State manufacturing industries had adopted maximum age-hiring limits which barred older applicants from practically all jobs in the establishment. Of the latter group, 29 percent had formal maximum-age hiring rules, while 71 percent had informal maximum-age hiring policies which in effect resembled the formal rule. In terms of the number of employees, it may be observed that four-tenths of the employees were engaged by concerns which maintained maximum-age hiring limits either of a formal or informal character. There is therefore little doubt that a substantial proportion of the possible openings for employment in New York State manufacturing industries were completely closed to the older applicant.

The most common age limit for men was 45 years. "In fact, 57 percent of the age limits were set at 45 years or less and 83.3 percent at 50 years or less. The ages set for women are regularly lower. Forty years or less appears to be the general rule."

In other respects, also, the situation was similar to that found in other States. Large concerns were more apt than small ones to have age hiring limits and to enforce them rigidly. The reasons assigned for setting limits were the well-known ones: Some kinds of work were wholly unsuited to elderly men; the older worker was more liable to accident or mischance; his inclusion increased the cost of such welfare plans as group insurance, employee retirement, and disability benefits; he was a less desirable employee on account of physical and mental loss of vigor and adaptability, and the like.

One exception, however, to the usual rule of discrimination against the older worker was noted. If an employee could maintain his position with the same employer until he had grown old, there was a distinct reluctance to discharge him, and he was apt to be kept on while younger men were let go. If, however, he was once discharged his chance for being rehired was not so good as that of the younger man.

Examining in detail the statistical information available as to the older workers, the report presented the following conclusions:

Not only are increasingly larger proportions of older persons declared unemployable in profit-making enterprises, but those who are still considered employable experience greater amounts of unemployment and idleness than the average gainfully employable person. The rates for the older person rise consistently through all of the older age groups except that the rate of unemployment begins to decline after 65 years. The result of modern industrial hiring and separation policies and the present methods of distributing work opportunities is to impose an unusually heavy economic burden upon the older persons. Despite the fact that they include a larger proportion of permanent members of the work force than any of the other age groups, they count more unemployed among their numbers than the average age group. Furthermore, the older the population group which is considered, the smaller becomes the proportion of the temporarily unemployed, and the larger the class of the "chronically unemployed." Many older individuals become drags on the labor market. Acute depression or low industrial activity in individual branches of employment result in the separation of even those permanent employees who had maintained their position and who were

separated by the employers with some compunction. The older employees with long service, unlike other handicapped groups, are, however, not the first to be fired. But the chances for reemployment of the older unemployed persons are comparatively small, particularly if unemployment is widespread. When the amount of employment increases, they will be among the last to enjoy its advantages.

Methods of Lessening the Hardships of the Elderly Worker

ALONG this line little of importance has been done. Individual employers here and there have undertaken measures designed to discover defects and infirmities at an early stage, and if such are found, may either aid the worker to secure remedial treatment, or may alter his work to some job better suited to his condition. Without undertaking physical examination of this kind, some employers as a worker grows older will transfer him to some less strenuous kind of work, or make some changes in the conditions or terms of his employment to suit the situation. Some companies have made special studies of their processes to discover and list the types of work suitable for employees whose full usefulness has declined, and reserve these jobs for them. The percentage of such jobs found in these plants ranges between 4 and 6 percent.

The pressing nature of the problem with some concerns has led them to centralize the work which can be done by the older person in a separate department. The duties which usually are assigned to them call for inspection and salvage of parts or finished goods, the maintenance of equipment, and the repair of rejected parts. However, some companies also have found it possible to use their older workers at the production of special articles.

Several States have undertaken special work to aid the middle-aged and elderly to secure work. The departments of labor of Pennsylvania and California have carried on campaigns to secure lists of firms that would not refuse to hire men on account of age "when they are physically and mentally able to meet the requirements of the positions for which their services may be required." In both States a number of employers registered, but critics say that few of the important larger concerns are found on these lists.

The report suggested that there was need for a comprehensive program for dealing with the handicapped worker, whether his handicap was age, physical or mental defect, or recognizable misfortune such as blindness, invalidity, and the like. Much, however, might be done for the elderly and middle-aged workers before the community was prepared to embark on such a far-reaching program of protection and care.

Use of Employment Exchanges for Benefit of Older Workers

ANY real help to the older worker must center in the effort to place him in some particular job. This involves a knowledge of the jobs available or possibly available in his locality—or elsewhere, if he is transferable—and a careful examination of the work qualifications and personal peculiarities of the individual considered in the light of the job requirements. It is impossible for the average worker himself to have the wide knowledge of the industrial field, of the specifications of each particular job, and of his own fitness in relation to them, which is needed for his successful placement. "The constantly

increasing problem of employment adjustment, arising from the rapidity of industrial change, and the complete helplessness of the individual in meeting it impose upon society the need of providing specific directions for the adjustment process." A public employment service is a practical necessity for dealing with the problem, and at this point there is a distressing lack of facilities.

Scrapping Age Prejudice

A GREAT difficulty in the way of the employment of the elderly is the suspicion that the individual shares the disabilities which are popularly supposed to characterize his age group. The most effective way of overcoming this difficulty is to prove in the case of any given individual that he does not share these disabilities. This the worker cannot do alone, since his own statement is not convincing and recommendations from former employers are apt to be heavily discounted.

The only agency that can fulfill this function satisfactorily is the State employment exchange. The occupational history of the individual worker will prove of inestimable value in determining his qualities, and enable the officials of the exchange to assure the employer concerning the exact qualifications of the worker.

The exchange must do more than study the worker's qualifications; it must understand the employer's real needs. Industrial managers often fail to describe the demands of individual jobs with sufficient clearness and accuracy, and the worker therefore may find himself confronted with requirements he had no reason to anticipate.

The State department of labor should come to the aid of industry in developing these job specifications. In the last analysis the employer must be instructed in defining his needs and in adapting the labor supply to his conditions.

Organization of the Labor Market

AN EMPLOYMENT exchange may connect the individual employer and employee, but there is need also for an agency to direct the general flow of labor as well as to cover the immediate placement of the separate worker. Such a body should study and regulate the whole distribution of labor, and while its field would be wide, it would have a special bearing upon the present problem.

From the point of view of the interest of the older worker, there are several special benefits which he may derive from such a set-up. In the first place, the bureau may take over the study of the problem of the older worker. In the second place, it may divert the new supplies of labor from the very fields in which the older person is now entrenched. The younger and more plastic groups would assume the duty of adapting themselves to new industrial developments. The older groups would be given preference for the jobs which can be performed satisfactorily and efficiently by the older individuals. Their position at such employments would thus be secured. One final benefit may result. The employment exchanges will delegate agents for the purpose of stimulating the hiring of older workers for jobs at which they can be profitably employed. The findings of the public officials studying employment adjustments for the older worker would serve as a guide to the efforts of these agents in securing jobs. The latter would attempt to do for the unemployed older worker that which a sense of obligation on the part of the management induces it to do for its own veteran workers.

PRICES—RETAIL AND WHOLESALE

U. S. Bureau of Labor Statistics Bulletin No. 616
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Retail Prices in the United States

Retail Prices of Food

THE Bureau of Labor Statistics of the United States Department of Labor has since 1913 collected retail prices of food, and compiled and issued average retail prices and indexes of retail costs of food. Prior to August 15, 1933, prices were secured as of the 15th of each month. Since August 15, 1933, the prices have been secured biweekly. From time to time the work has been expanded to include additional cities and articles, and revisions have been made in the number of foods and in the methods and base periods used for computing indexes of food costs. The retail price reporting service of the Bureau now covers 51 localities, scattered throughout the continental United States. Retail prices are secured for 87 foods. Prices of 41 foods are reported monthly from Honolulu and other localities in Hawaii.

Prior to October 1935, index numbers, based on the average for the year 1913 as 100, were weighted by consumption, representing purchases of foods priced. These indexes were based on prices of 22 foods from 1913 to the end of 1920 and 42 beginning with January 1921. (See p. 635.) In October 1935 the following revision in method was made: the base period was changed from 1913 to the 3-year average, 1923-25, as 100; the number of foods was increased to 84; consumption weights, representing purchases of all foods, were computed for each of the 51 cities; and the indexes for the United States were computed from the total of the weighted costs for all cities combined with the use of population weights.

This article completes the old series of indexes, with 1913 as the base, or 100, and gives prices through 1934. It also presents for all cities combined the revised indexes for specified months from 1919 to the latter part of 1935.

At the beginning of the year 1913 retail prices of food were being collected by the Bureau from 39 cities, as follows:

Atlanta, Ga.
Baltimore, Md.
Birmingham, Ala.
Boston, Mass.
Buffalo, N. Y.
Charleston, S. C.
Chicago, Ill.
Cincinnati, Ohio.
Cleveland, Ohio.
Dallas, Tex.
Denver, Colo.
Detroit, Mich.
Fall River, Mass.
Indianapolis, Ind.
Jacksonville, Fla.
Kansas City, Mo.
Little Rock, Ark.
Los Angeles, Calif.
Louisville, Ky.
Manchester, N. H.

Memphis, Tenn.
Milwaukee, Wis.
Minneapolis, Minn.
Newark, N. J.
New Haven, Conn.
New Orleans, La.
New York, N. Y.
Omaha, Nebr.
Philadelphia, Pa.
Pittsburgh, Pa.
Portland, Oreg.
Providence, R. I.
Richmond, Va.
St. Louis, Mo.
Salt Lake City, Utah.
San Francisco, Calif.
Scranton, Pa.
Seattle, Wash.
Washington, D. C.

The following cities were added to the list on the dates named:

St. Paul, Minn., June 1913.	Mobile, Ala., April 1918.
Springfield, Ill., May 1914.	Norfolk, Va., April 1918.
Butte, Mont., January 1915.	Houston, Tex., May 1918.
Rochester, N. Y., May 1916.	Peoria, Ill., May 1918.
Columbus, Ohio, June 1916.	Portland, Maine, June 1918.
Bridgeport, Conn., October 1916.	Savannah, Ga., January 1920.

For most of the 39 cities retail prices of certain articles from 1890 to 1903 were published in the Eighteenth Annual Report of the Commissioner of Labor Statistics and were continued in subsequent bulletins.¹

The number of items for which prices have been collected has varied throughout the period. Reports covered 23 foods prior to January 1919, at which time the number was increased to 42. Beginning with August 1933 additional foods were priced from time to time until March 1934, when 78 articles were covered in the Bureau's reports. On January 2, 1935, the number was increased to 87 foods. Weighting factors are not available for all of the foods for which prices have been collected, hence certain articles have not been included in the weighted indexes.

Retail prices of food are collected from retail dealers. The stores are selected by agents of the Bureau from those patronized largely by wage earners and lower-salaried workers. Prices are secured from every type of store—the neighborhood store, the downtown store, the department store, and the chain store—provided wage earners constitute a large part of the patronage. Some of the stores are credit and delivery, some are cash and carry, and some are cash and delivery.

The list of stores covered is not constant, but when one firm drops out permanently, another firm similar in kind is selected to replace it. Also, as the wage-earning population of a city shifts, stores are selected in new localities to preserve the representative character of the prices.

Effort is made to secure quotations on similar grades of commodities in the different cities covered. There are, however, local customs which must be considered when any comparison is made of the prices in the different cities. In making comparisons of prices in one city with those in another, due consideration should be given to the following facts:

1. The trade demands and is furnished more expensive grades of articles in some cities than in others.
2. The cities covered are widely separated; some in localities near the source of supply, while others are a considerable distance from the source, making it necessary to include in the prices a greater charge for transportation.
3. Methods and costs of doing business vary greatly in different localities, due to several causes.
4. Special caution should be observed in the comparison of meat prices, as the method² of cutting in most New England cities eliminates the cut known as "sirloin"; also the amount of trimming of the different cuts differs in accordance with demands by the retail trade in the various cities.

¹ Bulletins covering retail prices and issued by the Bureau of Labor Statistics are nos. 59, 65, 71, 77, 105, 106, 108, 110, 113, 115, 125, 132, 136, 138, 140, 156, 184, 197, 228, 270, 300, 315, 334, 366, 396, 418, 445, 464, and 495. A history of the Bureau's investigations of retail prices will be found in Bulletin No. 396.

² See Bulletin No. 495 (pp. 14-21).

Index Numbers of Food Costs, 1935

IN 1935, as noted above, the method of combining retail prices into an index of the cost of food to wage earners and lower-salaried workers was changed in order to secure a more accurate representation of foods of different types. At the same time the number of items used for computing the index was increased from 42 to 84,³ and the base period changed from 1913 to an average of the years 1923-25.

The previous method of weighting average prices by purchases of the specific foods for which prices are secured gave an inadequate representation to the price movements of meats, fruits, and vegetables, and overweighted dairy products, cereals, and eggs. The new weights for the 84 items were prepared by grouping the data on food expenditures, bringing together the amounts spent for foods considered to move similarly in price, and weighting the prices of a given group of foods not by expenditures for the specific foods priced alone, but by expenditures for the entire group.

An examination of detailed figures on average quantities of food purchased in different cities in 1918-19 showed much diversity of food consumption from city to city. Accordingly, insofar as adequate figures were available, revised weights were computed for the food-cost index for each city in which prices are secured, based on the food-purchasing habits of that city. An article in the Monthly Labor Review for September 1935 explains in detail the methods used in securing these revised weights.

The revised food-cost index for the United States—that is, for the 51 cities combined—is computed from the sum of the food costs for the cities weighted by population. Heretofore the number of quotations secured in any city varied roughly with the population of that city, and it has been customary, after weighting for each city the chain-store and independent-store prices, to average without further weighting all the quotations secured for each food priced, and to multiply these average prices by weights representing average quantities purchased in the United States.

In the revised indexes, food costs for each city are weighted according to the population, not only of the metropolitan areas where the retail-price information is collected, but also of adjacent metropolitan areas where prices are considered to move in similar directions. This method of computing the indexes for the 51 cities combined permits the calculation of an average price for the United States for each of the 84 foods weighted both by family purchases in the cities represented and by the populations affected. Average prices so calculated were first published by the Bureau as of October 8, 1935.

Biweekly indexes for 84 foods from January to October 1935 will be recomputed by the new method, and comparable indexes based on 42 foods will be computed for all reporting periods from 1919 to 1935. These revised indexes are not comparable with those previously published for 42 foods on the 1913 base. Due to the amount of work involved, only a limited number of the new indexes are available

³ Articles added in 1935 are: Hominy grits, whole wheat bread, rye bread, cake, soda crackers, beef liver, veal cutlets, loin roast, strip bacon, whole ham, salt pork, breast of lamb, lamb chuck, lamb rib chops, pink salmon, cream, apples, lemons, green beans, carrots, celery, lettuce, spinach, sweetpotatoes, canned peaches, canned pears, canned pineapple, canned asparagus, canned green beans, tomato soup, dried peaches, blackeyed peas, dried lima beans, cocoa, chocolate, lard compound, salad oil, mayonnaise, peanut butter, corn sirup, molasses, and strawberry preserves.

at the time this publication goes to press. Others will be published from time to time as computations are completed. These new series, both on the 1923-25 and the 1913 bases, are shown in table 1.

TABLE 1.—INDEXES OF RETAIL FOOD COSTS FOR 51 LARGER CITIES OF THE UNITED STATES COMBINED, REVISED

Date	Index as previously published, 1913=100.0	Index as revised ¹		Date	Index as previously published, 1913=100.0	Index as revised ¹	
		1913=100.0	1923-25=100.0 ²			1913=100.0	1923-25=100.0 ²
1919—Mar. 15.....	175.3	176.0	111.0	1929—Mar. 15.....	153.0	160.7	101.4
June 15.....	184.0	185.9	117.3	June 15.....	154.8	164.3	103.7
Sept. 15.....	188.3	189.7	119.7	Sept. 15.....	160.8	171.1	108.0
Dec. 15.....	196.6	200.4	126.4	Dec. 15.....	158.0	167.5	105.7
1920—Mar. 15.....	200.0	210.8	133.0	1930—Mar. 15.....	150.1	161.7	102.0
June 15.....	218.7	231.6	146.1	June 15.....	147.9	160.4	101.2
Sept. 15.....	203.7	205.3	129.6	Sept. 15.....	145.6	155.8	98.3
Dec. 15.....	177.9	183.3	115.7	Oct. 15.....	144.4	155.0	97.8
1921—Mar. 15.....	156.1	161.8	102.1	Dec. 15.....	137.2	145.9	92.1
May 15.....	144.7	151.8	95.8	1931—Mar. 15.....	126.4	134.8	85.1
June 15.....	156.1	152.7	96.4	June 15.....	118.3	127.7	80.6
Sept. 15.....	153.1	161.7	102.1	Sept. 15.....	119.4	127.7	80.6
Dec. 15.....	149.9	157.9	99.7	Dec. 15.....	114.3	120.8	76.2
1922—Mar. 15.....	138.7	148.1	93.5	1932—Mar. 15.....	105.0	112.0	70.7
June 15.....	140.7	151.5	95.6	June 15.....	100.1	107.2	67.6
Sept. 15.....	139.7	147.9	93.3	Sept. 15.....	100.3	105.6	66.6
Dec. 15.....	146.6	153.2	96.7	Dec. 15.....	98.7	102.6	64.7
1923—Mar. 15.....	141.9	149.9	94.6	1933—Mar. 15.....	90.5	94.7	59.8
June 15.....	144.3	154.0	97.2	June 15.....	96.7	102.8	64.9
Sept. 15.....	149.3	159.4	100.6	Sept. 12.....	107.0	113.8	71.8
Dec. 15.....	150.3	157.7	99.5	Dec. 15.....	104.4	110.0	69.4
1924—Mar. 15.....	143.7	151.9	95.9	1934—Mar. 13.....	108.2	115.3	72.7
June 15.....	142.4	152.1	96.0	June 15.....	108.9	116.1	73.3
Sept. 15.....	146.8	154.1	97.3	Sept. 11.....	116.8	122.1	77.0
Dec. 15.....	151.5	157.7	99.5	Oct. 9.....	115.6	120.1	75.8
1925—Mar. 15.....	151.1	158.4	100.0	Nov. 15.....	115.0	119.1	75.2
June 15.....	155.1	165.1	104.2	1935—Jan. 2.....	115.9	120.1	75.8
Sept. 15.....	159.0	168.3	106.2	Mar. 12.....	121.7	126.1	79.6
Dec. 15.....	165.5	176.1	111.1	Mar. 26.....	121.7	126.5	79.8
1926—Mar. 15.....	159.9	172.8	109.0	Apr. 9.....	124.1	128.8	81.3
June 15.....	159.7	172.6	108.9	July 2.....	121.8	127.4	80.4
Sept. 15.....	163.5	168.4	106.2	July 16.....	121.7	127.1	80.2
Dec. 15.....	161.8	171.3	108.1	Sept. 24.....	124.0	126.6	79.9
1927—Mar. 15.....	153.8	162.8	102.8	Oct. 8.....	124.0	126.6	79.9
June 15.....	158.5	172.2	108.7	Oct. 22.....	-----	127.6	80.5
Sept. 15.....	154.0	163.9	103.4	Nov. 5.....	-----	127.4	80.4
Dec. 15.....	155.9	165.8	104.7	Nov. 19.....	-----	129.2	81.5
1928—Mar. 15.....	151.4	161.9	102.1	Dec. 3.....	-----	130.0	82.0
June 15.....	152.6	162.4	102.5	Dec. 17.....	-----	130.0	82.0
Sept. 15.....	157.8	167.2	105.5	Dec. 31.....	-----	130.7	82.5
Dec. 15.....	155.8	163.6	103.2				

¹ Total costs representing purchases of all foods for individual cities are combined with the use of population weights.

² Computed with revised weights and based upon prices of 42 foods prior to Jan. 1, 1935, and of 84 foods since that date.

Index numbers of the average retail cost of food in 51 large cities combined for those dates in 1935 for which revised indexes have been computed are shown by commodity groups in table 2.

TABLE 2.—INDEXES OF RETAIL FOOD COSTS IN 51 LARGE CITIES COMBINED,¹ BY COMMODITY GROUPS, ON SPECIFIED DATES IN 1935²

[1923-25=100.0]

Month of 1935	All foods	Cereals and bakery products	Meats	Dairy products	Eggs	Fruits and vegetables				Beverages and chocolate	Fats and oils	Sugar and sweets
						Total	Fresh	Canned	Dried			
Apr. 9.....	81.3	92.3	95.1	80.3	60.7	66.7	65.3	84.4	62.7	71.6	80.6	62.7
Apr. 23.....	82.0	92.2	96.5	79.3	61.8	68.9	67.8	84.2	63.1	71.3	80.9	63.0
May 7.....	81.6	92.4	96.9	76.8	64.9	67.7	66.4	84.4	63.0	71.0	81.0	64.2
May 21.....	81.4	92.9	98.0	75.6	65.9	66.2	64.7	84.3	62.8	70.6	80.9	64.6
June 4.....	82.0	92.3	99.9	74.5	65.9	67.9	66.6	84.4	62.9	70.8	81.5	64.9
Sept. 24.....	79.9	92.7	102.2	73.2	82.3	52.3	49.3	80.9	61.0	68.3	87.4	66.5
Oct. 8.....	79.9	93.4	101.3	73.5	83.8	51.7	48.8	79.9	60.7	68.1	87.2	66.7
Oct. 22.....	80.5	94.4	100.6	74.4	85.8	53.4	50.7	79.9	60.0	68.0	86.3	66.9
Nov. 5.....	80.4	94.9	97.1	75.1	86.7	55.4	53.1	79.8	59.4	67.8	85.1	67.1
Nov. 19.....	81.5	95.0	97.2	77.5	84.9	58.7	56.8	80.0	59.0	67.8	83.5	67.0
Dec. 3.....	82.0	95.3	97.4	78.2	82.8	60.7	59.2	79.7	58.4	67.5	83.1	66.7
Dec. 17.....	82.0	95.4	97.1	78.8	80.5	61.3	59.8	79.6	58.5	67.6	82.3	66.5
Dec. 31.....	82.5	95.6	98.2	79.4	77.2	62.7	61.4	79.6	58.6	67.6	81.2	66.4

¹ The indexes for individual cities, computed by weights representing purchases of all foods, are combined with the use of population weights.

² Computed with revised weights and based upon prices of 84 foods.

Index Numbers of Food Prices, 1913-34

IN CONSTRUCTING the index numbers of retail food prices issued by the Bureau from 1921 to 1934 average annual prices for the United States were computed for each of 42 articles by dividing the sum of all prices for an article in the 51 cities by the total number of reporting firms. The average price of each article was then multiplied by a figure denoting the average annual family consumption of that article in the United States as shown by an investigation conducted by the Bureau in 1918-19.⁴ The products for the several articles thus obtained were next added, giving the cost of a year's supply of these foods when purchased by a family at the retail prices shown. The result was then reduced to a percentage of the corresponding result for the year 1913, taken as the base. Monthly index numbers have been constructed in the same manner as the yearly index numbers by using average monthly prices instead of average yearly prices, the year 1913 being the base period in all cases.

For the years 1913 to 1920 the index numbers were uniformly computed from the prices of 22 food articles.⁵ In 1921, when the number of articles was increased to 42,⁶ the following plan was adopted: It was assumed that the total cost of the 42 articles, if this information had been obtained, would have shown the same percentage of change from 1913 to December 1920 as was shown by the 22 articles. Therefore, the index number for the 22 articles in December 1920, which was found to be 177.85, was accepted as the index number for the 42 articles. The money cost of the 42 articles in December 1920 was found to be \$461.51. The ratio of the money cost to the relative cost in December 1920 was therefore 461.51 to 177.85, or 1 to 0.3854. For each month since December 1920 the index number has been obtained by multiplying the money cost of the 42 articles by the constant ratio, 0.3854. The resulting index

⁴ See U. S. Bureau of Labor Statistics Bul. No. 357.

⁵ These are sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, cornmeal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

⁶ Articles added in 1921 are lamb, canned salmon, evaporated milk, oleomargarine, vegetable lard substitute, rolled oats, corn flakes, wheat cereal, macaroni, navy beans, onions, cabbage, baked beans, canned corn, canned peas, canned tomatoes, prunes, raisins, bananas, and oranges.

numbers are comparable with the index numbers for years and months prior to January 1921 on 22 articles.

Table 3 shows indexes of the average retail cost of 42 foods in 51 large cities combined, by commodity groups, by years 1919 to 1934, inclusive, and by reporting periods for 1934.

TABLE 3.—INDEX NUMBERS OF FOOD GROUPS IN THE UNITED STATES ON SPECIFIED DATES

Period	[1913=100]								
	All foods	Cereals	Meats	Dairy products	Eggs	Fruits and vegetables	Sugar and sweets	Beverages	Fats and oils
1919.....	185.9	198.0	184.2	176.6	182.0	205.4	207.1	135.9	222.3
1920.....	203.4	232.1	185.7	185.1	197.3	276.9	354.6	146.1	199.1
1921.....	153.3	179.8	158.1	149.5	147.5	174.9	147.7	118.8	138.4
1922.....	141.6	159.3	150.3	135.9	128.6	171.8	111.4	110.0	112.3
1923.....	146.2	156.9	149.0	147.6	134.8	169.9	186.5	121.7	133.2
1924.....	145.9	160.4	150.2	142.8	138.5	159.8	170.4	135.9	141.3
1925.....	157.4	176.2	163.0	147.1	151.0	188.1	134.3	157.2	155.2
1926.....	160.6	175.5	171.3	145.5	140.6	216.6	129.2	156.5	150.9
1927.....	155.4	170.7	169.9	148.7	131.0	186.5	136.8	150.2	138.1
1928.....	154.3	167.2	179.2	150.0	134.4	169.7	133.5	152.2	133.9
1929.....	156.7	164.1	188.4	148.6	142.0	172.6	124.6	151.9	132.4
1930.....	147.1	158.0	175.8	136.5	118.8	179.9	117.6	131.4	124.7
1931.....	121.3	135.9	147.0	114.6	91.9	126.6	108.9	114.1	101.3
1932.....	102.1	121.1	116.0	96.6	78.8	106.6	98.3	103.2	75.1
1933.....	99.7	126.6	102.7	94.6	75.6	116.6	104.1	93.1	70.2
1934.....	110.8	147.9	117.1	102.2	86.7	121.9	107.9	96.0	80.0
Jan. 2.....	104.5	142.4	100.8	95.7	89.3	124.4	106.1	92.5	70.9
Jan. 16.....	105.2	142.5	102.3	96.0	86.7	130.4	104.2	92.4	70.9
Jan. 30.....	105.8	142.8	103.0	95.9	85.8	133.5	104.2	92.6	71.2
Feb. 13.....	108.3	143.3	106.7	102.6	81.1	135.0	107.4	92.7	71.6
Feb. 27.....	108.1	143.4	107.8	101.8	74.8	137.5	104.4	93.4	73.1
Mar. 13.....	108.5	143.4	109.1	102.3	71.6	136.6	104.7	94.5	73.4
Mar. 27.....	108.0	144.7	109.7	101.1	71.3	133.7	106.3	95.0	73.8
Apr. 10.....	107.4	144.7	1.0.5	99.7	69.5	130.3	106.2	95.9	73.6
Apr. 24.....	107.3	144.0	112.6	99.0	68.1	130.5	104.4	95.3	73.4
May 8.....	108.2	144.2	114.9	99.9	67.5	131.7	104.7	96.0	73.0
May 22.....	108.4	144.4	115.3	99.9	67.8	132.2	104.7	96.4	73.2
June 5.....	108.4	145.7	116.1	100.4	68.7	127.0	103.3	96.6	73.5
June 19.....	109.1	146.5	117.8	101.1	71.3	124.1	104.8	96.5	74.9
July 3.....	109.6	146.6	120.0	101.1	73.6	121.7	106.4	96.0	75.6
July 17.....	109.9	147.7	120.5	100.8	76.2	119.0	109.7	96.4	75.9
July 31.....	110.4	149.0	120.2	101.6	80.9	116.0	111.2	96.6	76.6
Aug. 14.....	111.8	149.6	121.1	103.4	87.8	116.1	109.7	96.9	78.2
Aug. 28.....	115.3	150.8	129.2	105.6	95.3	118.0	109.5	97.4	85.9
Sept. 11.....	116.8	151.6	133.8	105.4	99.4	117.4	109.6	97.5	89.7
Sept. 25.....	116.4	151.7	131.7	105.3	102.0	114.3	109.7	98.0	91.3
Oct. 9.....	115.6	152.0	128.4	105.4	103.5	110.8	109.7	98.2	92.2
Oct. 23.....	115.4	151.8	126.4	105.4	109.0	108.4	109.8	98.5	93.0
Nov. 6.....	115.3	152.1	122.6	107.6	113.9	105.3	109.8	98.2	93.6
Nov. 20.....	114.9	150.9	120.6	108.4	116.2	104.2	108.3	98.2	95.2
Dec. 4.....	114.6	150.9	119.9	108.5	114.8	103.4	108.3	98.4	96.0
Dec. 18.....	114.3	150.9	120.1	108.8	108.1	103.6	107.0	98.2	98.4

Table 4 shows for the United States (51 cities combined) average retail prices of specified food articles for the 15th of each month, 1931 to August 1933, and for the date nearest to the 15th for September 1933 to December 1934 for which the information was collected. In all cases where the information is available, prices are shown for the year 1913 for purposes of comparison.

RETAIL PRICES IN UNITED STATES

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TABLE 4.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES FOR THE UNITED STATES (51 CITIES COMBINED), BY MONTHS, 1913 AND 1931 TO 1934¹

Article and year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average for year
Sirloin steak:	<i>Cts.</i>	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1913.....pound.....	23.8	23.9	24.7	25.5	25.6	25.9	26.4	26.4	26.3	25.7	25.4	25.1	25.4
1931.....do.....	42.5	41.0	40.3	40.0	39.5	38.7	39.2	39.5	39.4	38.6	37.3	36.3	39.4
1932.....do.....	34.9	33.2	33.0	33.4	33.0	32.8	35.3	34.9	34.4	35.1	31.4	29.9	33.3
1933.....do.....	28.9	28.5	28.2	28.0	28.4	29.7	29.8	30.2	30.1	29.9	28.8	27.8	29.0
1934.....do.....	28.1	28.5	28.8	29.6	31.2	32.0	32.9	34.8	33.8	31.4	31.3	31.3	31.3
Round steak:													
1913.....do.....	20.5	20.6	21.3	22.2	22.2	22.6	23.2	23.2	23.2	23.1	22.8	22.6	22.3
1931.....do.....	37.5	35.9	35.2	34.9	34.5	33.7	34.4	34.6	34.4	33.6	32.3	31.3	34.4
1932.....do.....	30.1	28.4	28.5	28.6	28.4	28.4	31.0	30.8	30.2	28.9	27.1	25.8	28.9
1933.....do.....	24.9	24.2	24.3	24.2	24.6	25.8	26.1	26.5	26.2	25.9	25.0	24.2	25.2
1934.....do.....	24.4	24.7	25.0	25.6	27.2	28.2	29.0	29.0	30.8	29.8	27.7	27.4	27.4
Rib roast:													
1913.....do.....	18.8	18.8	19.4	20.0	20.0	20.1	20.2	20.2	20.1	20.0	19.8	19.9	19.8
1931.....do.....	31.6	30.5	30.3	29.7	29.1	28.3	28.3	28.5	28.3	28.0	27.3	26.7	28.9
1932.....do.....	25.7	24.4	24.4	24.3	23.8	23.5	24.9	24.6	24.3	23.7	22.9	22.1	24.1
1933.....do.....	21.2	20.9	20.8	20.6	20.8	21.3	20.9	21.4	20.9	21.0	20.4	19.9	20.9
1934.....do.....	20.0	20.3	20.5	20.8	22.0	22.4	22.6	22.6	24.3	24.0	23.1	22.8	22.1
Chuck roast:													
1913.....do.....	14.9	14.9	15.6	16.2	16.1	16.3	16.4	16.5	16.4	16.4	16.3	16.2	16.0
1931.....do.....	24.4	23.3	22.7	22.3	21.7	20.9	20.8	20.8	20.9	20.7	20.2	19.6	21.5
1932.....do.....	18.5	17.3	17.3	17.4	17.0	16.9	18.1	18.0	17.8	17.3	16.6	15.8	17.3
1933.....do.....	15.3	14.9	15.0	15.0	15.1	15.4	15.2	15.5	15.3	15.3	15.1	14.8	15.2
1934.....do.....	14.8	14.9	15.1	15.5	16.1	16.4	16.6	16.5	18.3	17.9	17.0	16.9	16.3
Plate beef:													
1913.....do.....	11.1	11.3	11.8	12.2	12.2	12.2	12.2	12.2	12.3	12.3	12.4	12.4	12.1
1931.....do.....	16.7	15.9	15.5	15.1	14.5	13.6	13.4	13.3	13.5	13.5	13.3	13.1	14.3
1932.....do.....	12.3	11.8	11.6	11.6	11.1	10.7	11.2	11.2	11.2	11.3	11.1	10.7	11.3
1933.....do.....	10.4	10.0	10.0	10.0	10.0	10.0	9.6	9.9	9.9	10.1	9.9	9.7	10.0
1934.....do.....	9.9	10.2	10.3	10.2	10.5	10.4	10.5	10.4	11.8	11.6	11.4	11.5	10.7
Lamb, leg of:													
1913.....do.....	18.0	18.5	19.1	20.2	19.4	19.4	19.7	18.9	18.7	18.4	18.5	18.5	18.9
1931.....do.....	31.4	31.1	31.0	31.3	31.2	30.6	30.0	29.6	28.8	27.5	26.1	24.9	29.5
1932.....do.....	24.1	23.7	24.9	25.6	25.0	24.3	24.9	24.0	23.4	22.1	21.3	21.0	23.7
1933.....do.....	21.7	21.7	21.6	21.3	21.4	22.7	22.3	22.4	22.3	21.9	21.2	20.7	21.8
1934.....do.....	21.5	24.3	24.7	25.2	27.6	27.2	26.2	24.7	25.5	24.7	23.3	23.6	24.9
Lamb rib chops: 1934.....do.....	31.0	31.8	32.4	35.6	35.5	35.0	33.2	33.8	32.1	30.4	30.8	32.6	32.6
Lamb breast: 1934.....do.....	10.3	10.7	10.7	11.5	11.4	11.0	10.3	10.8	10.6	10.1	10.3	10.6	10.6
Lamb chuck or shoulder: 1934.....pound.....	17.7	18.1	18.1	20.2	19.8	19.3	18.2	18.8	18.2	17.4	17.6	18.3	18.3
Pork chops:													
1913.....do.....	18.7	18.9	20.3	21.6	20.9	20.8	21.7	21.9	22.8	22.6	21.5	20.3	21.0
1931.....do.....	29.8	27.6	29.4	29.7	30.1	29.4	31.8	33.3	32.2	29.3	25.0	21.8	29.1
1932.....do.....	20.9	19.1	21.5	21.5	19.9	19.7	25.5	23.3	23.8	21.5	20.2	17.6	21.2
1933.....do.....	16.5	17.6	19.0	17.8	18.0	18.5	18.2	19.7	21.7	23.7	22.2	19.8	19.6
1934.....do.....	20.0	23.7	24.6	23.7	24.3	24.5	25.5	25.8	32.4	27.4	24.4	24.3	25.0
Pork loin roast: 1934.....do.....	19.1	19.8	19.0	19.5	19.5	19.5	20.4	20.6	22.7	22.5	19.8	19.7	20.3
Bacon, sliced:													
1913.....do.....	25.4	25.5	26.1	26.8	26.9	27.3	28.0	28.3	28.1	27.8	27.2	26.7	27.0
1931.....do.....	40.2	39.2	38.6	38.1	37.6	36.9	37.0	36.6	36.2	34.3	32.1	30.3	36.4
1932.....do.....	27.4	26.1	25.7	24.9	23.9	23.2	23.7	23.9	23.5	23.2	22.5	21.6	24.1
1933.....do.....	21.4	20.8	21.0	20.9	21.3	22.5	23.3	23.2	23.1	23.3	23.3	23.1	22.3
1934.....do.....	23.4	23.7	25.1	25.8	25.9	27.4	29.2	29.8	34.6	35.0	33.3	33.4	28.9
Ham, sliced:													
1913.....do.....	25.1	25.4	26.0	26.5	26.7	27.3	28.1	28.4	28.1	27.6	26.9	26.5	26.9
1931.....do.....	50.6	49.3	48.0	47.2	46.5	45.9	46.1	46.1	45.6	44.2	41.8	39.7	45.9
1932.....do.....	37.6	36.7	36.6	36.3	35.3	34.9	36.0	35.7	35.2	34.0	31.7	30.3	36.9
1933.....do.....	28.9	28.5	29.1	28.8	29.6	31.5	32.1	32.7	32.4	32.3	32.0	31.3	30.8
1934.....do.....	31.4	32.0	32.8	33.3	33.9	37.3	38.7	39.6	42.8	42.0	39.8	39.9	36.9
Ham, whole: 1934.....do.....	17.4	18.4	18.6	18.8	18.8	21.8	23.5	23.9	26.2	24.5	23.3	23.1	21.5
Ham, picnic: 1934.....do.....	11.0	11.4	13.4	13.9	13.8	14.6	15.3	15.6	17.5	17.3	15.9	15.7	14.8
Salt pork: 1934.....do.....	14.4	15.1	15.0	15.1	15.1	15.8	16.8	17.2	21.9	22.2	21.9	22.3	17.6
Veal cutlets: 1934.....do.....	30.1	30.3	30.4	30.9	30.7	30.8	30.5	32.6	32.3	31.1	31.0	30.9	30.9
Roasting chickens:													
1913.....do.....	20.2	20.7	21.4	22.2	22.2	21.9	21.7	21.5	21.5	21.2	20.6	20.8	21.3
1931.....do.....	32.7	31.7	32.0	32.6	31.7	31.1	30.8	30.9	30.9	29.9	29.2	28.6	31.0
1932.....do.....	27.9	27.1	27.3	26.6	25.7	24.1	23.6	23.1	23.5	23.1	22.4	21.4	24.6
1933.....do.....	21.4	21.3	21.2	21.4	21.5	21.4	21.0	20.7	20.4	20.5	20.0	19.9	20.9
1934.....do.....	22.4	23.4	24.0	24.7	25.4	24.2	23.7	24.0	25.1	25.1	24.4	24.5	24.2
Salmon:													
Canned pink: 1934.....16-oz. can.....	14.3	14.2	14.3	14.2	14.2	14.2	14.1	14.1	13.9	13.6	13.4	14.2	14.2
Canned red:													
1931.....do.....	34.4	34.3	34.2	34.0	33.8	33.6	33.4	32.9	31.3	30.3	29.9	29.6	32.6
1932.....do.....	29.4	28.9	28.5	28.1	26.9	25.8	24.6	21.8	20.6	20.0	19.6	19.5	24.5
1933.....do.....	19.4	19.0	18.5	18.3	18.6	19.0	19.4	19.9	20.4	20.8	20.9	20.8	19.6
1934.....do.....	20.9	21.2	21.1	21.3	21.4	21.3	21.5	21.4	21.4	21.4	21.2	21.2	21.3

See footnote at end of table.

TABLE 4.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES FOR THE UNITED STATES (51 CITIES COMBINED), BY MONTHS, 1913 AND 1931 TO 1934—Continued.

Article and year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average for year
Lard, pure:	<i>Cts.</i>	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1913.....pound.....	15.4	15.4	15.6	15.8	15.8	15.8	15.9	16.1	16.1	16.0	15.9	15.8	15.8
1931.....do.....	15.7	14.5	14.2	14.2	13.5	13.0	13.0	12.8	12.6	12.4	12.2	11.2	13.3
1932.....do.....	10.1	9.4	9.1	8.7	8.3	7.8	8.5	8.9	9.1	9.0	8.7	8.1	8.8
1933.....do.....	8.1	7.7	7.9	7.9	8.9	9.7	10.1	10.0	9.6	9.6	9.8	9.4	9.0
1934.....do.....	9.4	9.7	10.2	10.3	10.1	10.3	10.5	11.3	14.4	14.8	15.1	15.6	11.7
Lard compound: 1934.....do.....	19.2	19.6	19.5	19.5	19.5	19.5	19.7	10.2	11.8	12.4	13.0	13.9	10.6
Vegetable lard substitute:													
1913.....do.....	15.4	15.4	15.6	15.8	15.8	15.8	15.9	16.1	16.1	16.0	15.9	15.8	15.8
1931.....do.....	23.8	23.7	23.7	23.4	23.3	23.3	23.2	23.3	23.0	22.7	22.4	22.0	23.2
1932.....do.....	21.9	21.7	21.5	21.4	20.7	19.6	19.3	19.1	19.0	19.1	18.9	18.8	20.1
1933.....do.....	18.7	18.5	18.5	18.4	18.5	18.5	18.7	18.9	19.0	19.0	19.1	19.0	18.7
1934.....do.....	19.2	19.1	19.2	19.1	19.1	19.1	18.9	19.0	19.1	19.0	19.1	19.8	19.2
Oleomargarine:													
1931.....do.....	23.7	22.7	21.9	21.2	19.6	19.0	18.4	18.1	18.3	18.8	18.9	18.8	20.0
1932.....do.....	18.0	16.5	15.9	15.4	15.1	14.9	14.5	14.6	14.5	14.3	14.3	14.5	15.2
1933.....do.....	13.4	12.7	12.4	12.3	12.8	13.0	13.3	13.7	13.6	13.4	12.8	12.5	13.0
1934.....do.....	12.5	12.5	12.6	12.6	12.6	13.3	13.6	13.4	14.2	14.6	15.5	16.0	13.5
Eggs, fresh:													
1913.....dozen.....	37.3	31.5	28.4	25.2	26.3	27.9	29.9	33.0	37.7	41.6	49.7	47.6	34.5
1931.....do.....	36.1	27.2	23.1	27.4	24.8	25.8	23.6	23.9	33.3	37.9	39.7	33.5	31.7
1932.....do.....	29.6	24.2	21.1	20.0	20.0	20.8	22.8	26.8	29.5	34.6	37.6	39.9	27.2
1933.....do.....	32.4	21.4	19.8	18.4	20.3	20.0	24.3	25.3	28.3	32.5	36.1	43.2	26.1
1934.....do.....	29.9	23.0	24.7	24.0	23.3	24.6	26.3	30.3	34.3	35.7	40.1	37.3	28.9
Butter:													
1913.....pound.....	40.9	41.2	41.4	40.4	35.9	35.2	34.8	35.4	37.7	38.2	38.7	39.7	38.3
1931.....do.....	37.7	36.3	37.3	35.2	31.2	30.9	31.7	34.4	36.8	39.9	37.3	36.5	35.4
1932.....do.....	32.3	29.5	29.5	26.8	25.1	24.1	23.0	26.8	26.9	26.7	27.5	29.8	27.4
1933.....do.....	27.1	24.8	24.8	25.4	28.2	28.1	31.0	27.2	27.9	28.3	28.4	24.1	27.3
1934.....do.....	25.5	30.3	31.9	29.3	29.6	30.3	30.1	32.1	32.9	32.1	35.1	35.4	31.0
Cheese:													
1913.....do.....	22.0	22.2	22.1	22.0	21.9	21.3	21.9	22.0	22.1	22.4	22.5	22.5	22.1
1931.....do.....	32.1	31.2	36.3	29.3	27.4	26.5	26.2	26.5	27.0	27.1	26.8	26.2	28.1
1932.....do.....	25.5	24.4	23.8	23.3	22.5	22.3	22.0	22.6	22.7	22.6	22.4	22.4	23.0
1933.....do.....	22.3	21.3	20.9	21.0	22.3	23.1	23.6	23.6	23.5	23.4	22.8	22.3	22.5
1934.....do.....	22.0	23.3	24.1	24.1	23.3	23.6	23.7	23.6	24.4	24.0	23.9	24.1	23.7
Milk, fresh:													
1913.....quart.....	8.9	8.9	8.9	8.9	8.8	8.8	8.8	8.8	8.9	9.0	9.1	9.1	8.9
1931.....do.....	13.3	13.0	12.9	12.6	12.3	12.0	12.1	12.1	12.1	12.0	12.0	11.6	12.3
1932.....do.....	11.5	11.4	11.3	11.0	10.8	10.8	10.7	10.5	10.6	10.7	10.6	10.4	10.9
1933.....do.....	10.4	10.3	10.1	10.1	10.0	10.2	10.4	10.9	11.0	11.1	11.1	11.2	10.6
1934.....do.....	11.1	11.5	11.1	11.1	11.1	11.2	11.2	11.3	11.5	11.7	11.7	11.7	11.3
Milk, evaporated:													
1931.....14½-oz. can.....	8.9	8.7	8.6	8.5	8.3	8.3	8.3	8.0	7.9	8.0	8.0	8.0	8.3
1932.....do.....	8.0	7.9	7.6	7.5	7.3	6.8	6.5	6.3	6.1	6.1	6.0	6.5	6.9
1933.....do.....	6.6	6.6	5.9	5.8	6.5	6.7	6.8	6.9	6.9	6.8	6.8	6.8	6.6
1934.....do.....	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.8	6.8	6.7	6.7	6.7	6.7
Cream: 1934.....½ pint.....	14.1	14.2	14.2	14.1	14.1	14.1	14.1	14.2	14.4	14.4	14.3	14.2	14.2
Flour, wheat, white:													
1913.....pound.....	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
1931.....do.....	4.0	4.0	3.9	3.8	3.7	3.7	3.6	3.4	3.3	3.3	3.3	3.3	3.6
1932.....do.....	3.3	3.3	3.2	3.2	3.2	3.2	3.2	3.1	3.1	3.1	3.0	2.9	3.2
1933.....do.....	2.9	2.9	3.0	3.1	3.4	3.4	4.0	4.8	4.9	4.9	4.8	4.7	3.9
1934.....do.....	4.7	4.8	4.8	4.8	4.8	4.7	4.9	4.9	5.0	5.1	5.1	5.1	4.9
Corn meal:													
1913.....do.....	3.0	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.0
1931.....do.....	5.1	5.0	5.0	4.8	4.6	4.5	4.5	4.5	4.5	4.4	4.2	4.1	4.6
1932.....do.....	4.0	4.0	3.9	3.9	3.9	3.9	3.8	3.8	3.8	3.7	3.6	3.5	3.8
1933.....do.....	3.5	3.4	3.4	3.4	3.5	3.6	3.7	3.8	4.0	3.9	4.0	4.0	3.7
1934.....do.....	4.2	4.3	4.3	4.3	4.3	4.4	4.4	4.5	4.6	4.7	4.8	4.8	4.5
Rolled oats:													
1931.....do.....	8.5	8.4	8.3	8.2	8.0	8.0	8.0	7.9	7.9	7.9	7.8	7.9	8.1
1932.....do.....	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.4	7.4	7.3	7.3	7.4
1933.....do.....	5.7	5.6	5.5	5.6	5.6	5.6	5.6	5.9	6.2	6.4	6.5	6.5	6.0
1934.....do.....	6.5	6.7	6.6	6.7	6.7	6.7	6.8	6.9	7.0	7.2	7.3	7.4	6.9
Corn flakes:													
1931.....8-oz. package.....	9.3	9.3	9.2	9.1	9.0	8.9	8.8	8.8	8.9	8.9	8.8	8.7	9.0
1932.....do.....	8.6	8.7	8.7	8.7	8.6	8.6	8.5	8.4	8.4	8.5	8.5	8.5	8.6
1933.....do.....	8.5	8.6	8.3	8.3	8.2	8.2	8.2	8.3	8.5	8.7	8.9	8.9	8.5
1934.....do.....	19.0	19.0	19.0	19.1	19.1	18.4	18.4	18.3	18.3	18.4	18.4	18.5	8.7
Wheat cereal:													
1931.....28-oz. package.....	25.2	25.2	24.9	24.5	24.1	24.0	23.9	24.0	23.4	23.3	23.1	23.0	24.1
1932.....do.....	22.8	22.8	22.7	22.6	22.5	22.5	22.5	22.5	22.5	22.4	22.4	22.3	22.5
1933.....do.....	22.4	22.3	22.2	22.3	22.3	22.4	22.8	23.4	23.7	23.9	24.0	24.1	23.0
1934.....do.....	24.2	23.9	24.3	24.3	24.2	24.2	24.2	24.3	24.2	24.3	24.3	24.3	24.2

See footnote at end of table.

TABLE 4.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES FOR THE UNITED STATES (51 CITIES COMBINED), BY MONTHS, 1913 AND 1931 TO 1934—Continued.

Article and year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average for year
Rice:													
1913..... pound.....	Cts. 8.6	Cts. 8.7											
1931..... do.....	8.9	8.9	8.6	8.4	8.3	8.2	8.1	8.1	8.0	7.8	7.5	7.4	8.2
1932..... do.....	7.4	7.3	7.1	6.9	6.7	6.6	6.9	6.5	6.5	6.4	6.2	6.0	6.7
1933..... do.....	5.9	5.8	5.7	5.7	5.8	6.0	6.2	6.4	6.6	6.8	6.9	7.0	6.2
1934..... do.....	17.5	17.7	17.8	17.9	17.9	18.1	18.2	18.2	18.3	18.3	18.2	18.1	8.0
Macaroni:													
1931..... do.....	18.2	18.0	17.7	17.4	17.1	16.9	16.6	16.5	16.4	16.2	16.1	16.0	16.9
1932..... do.....	16.0	15.7	15.6	15.5	15.4	15.4	15.2	15.2	15.1	15.1	14.9	14.8	15.3
1933..... do.....	14.7	14.6	14.5	14.4	14.4	14.4	14.9	15.5	15.6	15.8	15.8	15.8	15.0
1934..... do.....	15.6	15.5	15.5	15.6	15.6	15.6	15.6	15.7	15.8	15.9	15.8	15.8	15.7
Bread, wheat, white:													
1913..... do.....	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1931..... do.....	8.2	8.0	7.9	7.7	7.7	7.6	7.5	7.4	7.3	7.3	7.3	7.2	7.6
1932..... do.....	7.1	7.0	7.0	6.9	6.9	6.9	6.8	6.8	6.7	6.7	6.7	6.6	6.8
1933..... do.....	6.4	6.4	6.4	6.4	6.5	6.6	7.2	7.6	7.7	7.8	7.9	7.9	7.1
1934..... do.....	17.9	17.9	17.9	18.0	18.0	18.1	18.2	18.3	18.4	18.4	18.3	18.3	8.2
Bread, rye:													
1933..... do.....									18.5	18.6	18.6	18.6	-----
1934..... do.....	18.6	18.5	18.6	18.6	18.6	18.7	18.8	18.8	18.9	18.9	18.9	18.9	8.7
Bread, whole wheat: 1934..... do.....	18.6	18.6	18.7	18.7	18.7	18.7	18.8	18.9	18.9	19.0	19.0	19.0	8.8
Cake, pound: 1934..... do.....	-----	22.2	22.2	22.2	22.2	22.6	22.6	22.7	22.9	22.8	22.7	22.8	22.6
Apples: 1934..... do.....	-----	6.1	6.3	6.4	6.9	7.2	7.1	6.0	5.7	5.6	5.7	5.9	6.3
Bananas:													
1931..... dozen.....	29.1	28.7	28.7	27.8	26.6	26.1	25.7	24.1	23.9	24.0	24.4	24.8	26.2
1932..... do.....	23.8	23.7	23.5	23.6	23.2	22.9	23.0	22.7	22.2	21.7	21.9	22.9	23.9
1933..... do.....	23.0	22.7	22.0	22.7	22.4	23.6	24.8	24.0	25.1	24.6	24.0	24.8	23.7
1934..... do.....	24.1	23.2	23.0	22.1	22.5	22.9	23.2	23.5	23.6	23.9	22.8	22.3	23.1
Lemons: 1934..... do.....	-----	28.2	28.6	28.1	27.2	32.2	31.7	30.5	28.9	27.9	27.5	27.2	29.0
Oranges:													
1931..... do.....	32.5	31.6	32.3	33.1	37.8	37.6	38.2	37.3	36.5	37.2	35.3	31.3	35.1
1932..... do.....	29.6	30.1	30.7	31.9	33.0	33.5	32.8	30.7	30.4	30.5	30.7	28.6	31.0
1933..... do.....	27.1	26.5	25.2	26.2	26.0	28.0	28.0	29.1	28.7	29.8	27.6	25.8	27.4
1934..... do.....	27.8	27.0	27.6	27.7	29.7	39.4	38.1	37.5	37.0	35.9	33.5	28.8	32.9
Beans, green: 1934..... pound.....	-----	12.8	13.5	13.0	12.3	7.6	8.1	10.0	8.5	7.9	12.7	14.3	10.4
Cabbage:													
1931..... do.....	4.3	4.3	4.1	4.1	4.1	4.0	3.7	4.0	3.6	3.2	3.0	3.4	3.8
1932..... do.....	4.1	4.3	5.6	6.4	6.6	5.4	3.3	3.0	2.6	2.4	2.3	2.5	4.0
1933..... do.....	2.9	3.1	3.5	4.0	5.2	4.6	4.8	4.5	3.6	3.3	3.6	4.3	3.9
1934..... do.....	4.7	4.2	3.8	3.5	3.7	3.3	3.4	3.6	3.3	3.2	2.6	2.8	3.5
Carrots: 1934..... bunch.....	-----	5.9	5.7	5.5	5.6	5.4	5.0	4.9	5.0	4.9	5.0	5.8	5.3
Celery: 1934..... stalk.....	-----	9.5	9.7	9.7	9.8	12.8	11.3	9.6	9.1	8.8	8.8	9.5	9.8
Lettuce: 1934..... head.....	-----	8.4	8.1	8.2	10.1	9.5	8.9	9.5	9.6	8.8	8.1	9.3	8.9
Onions:													
1931..... pound.....	3.9	3.6	3.5	3.6	4.6	4.8	4.9	4.3	4.3	4.3	4.4	5.2	4.3
1932..... do.....	6.6	7.1	8.6	10.3	6.7	4.7	4.2	3.6	3.0	2.8	2.6	2.7	5.2
1933..... do.....	2.7	2.6	2.8	3.2	3.9	4.0	4.8	4.3	3.9	3.5	3.4	3.8	3.6
1934..... do.....	4.5	4.7	4.5	4.4	4.5	4.9	4.9	4.5	4.2	3.8	3.9	4.1	4.4
Potatoes:													
1913..... do.....	1.6	1.5	1.5	1.5	1.6	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.7
1931..... do.....	2.9	2.7	2.7	2.8	2.8	2.4	2.3	2.2	2.0	1.8	1.7	1.8	2.3
1932..... do.....	1.7	1.7	1.7	1.7	1.8	2.0	1.9	1.7	1.5	1.6	1.4	1.6	1.7
1933..... do.....	1.5	1.5	1.6	1.6	1.7	2.3	3.6	3.5	3.1	2.5	2.3	2.3	2.3
1934..... do.....	12.6	12.8	13.0	12.7	12.7	12.3	12.1	12.0	12.1	12.0	11.7	11.7	2.3
Sweetpotatoes: 1934..... do.....	-----	4.7	4.8	5.1	5.3	6.1	6.7	6.1	4.7	3.9	3.8	4.4	4.9
Spinach: 1934..... do.....	-----	7.4	7.1	6.7	6.8	5.9	6.7	8.8	8.3	6.8	6.7	8.9	7.0
Peaches:													
1933..... No. 2½ can.....	-----	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.4
1934..... do.....	17.6	17.7	17.8	18.0	18.1	18.2	18.3	18.6	18.9	19.2	19.4	19.3	18.4
Pears:													
1933..... do.....	-----	20.5	20.6	20.8	21.0	21.0	21.1	21.4	21.8	22.3	22.5	22.6	21.4
1934..... do.....	20.7	20.6	20.8	20.8	21.0	21.0	21.1	21.4	21.8	22.3	22.5	22.6	21.4
Pineapple: 1934..... do.....	-----	21.6	21.8	21.9	22.0	22.1	22.2	22.4	22.6	22.7	22.6	22.6	22.2
Asparagus: 1934..... No. 2 can.....	-----	23.0	23.1	23.3	23.5	23.5	23.9	23.8	24.3	24.4	24.6	24.7	23.8
Beans green, 1934..... do.....	-----	11.7	11.8	11.8	11.7	11.8	11.5	11.6	11.7	11.9	11.9	11.9	11.8
Corn:													
1931..... do.....	14.7	14.5	14.3	13.9	13.6	13.3	13.2	13.2	13.0	12.6	12.1	11.9	13.4
1932..... do.....	11.5	11.3	11.1	10.8	10.8	10.6	10.5	10.5	10.4	10.3	10.2	10.2	10.7
1933..... do.....	10.0	9.8	9.8	9.7	9.8	9.8	9.9	10.3	10.5	10.8	10.9	10.9	10.2
1934..... do.....	11.0	11.0	11.3	11.3	11.3	11.3	11.3	11.3	11.5	11.9	12.3	12.4	11.5
Peas:													
1931..... do.....	15.5	15.4	15.0	14.6	14.1	13.9	13.9	13.9	13.8	13.7	13.6	13.5	14.2
1932..... do.....	13.4	13.2	13.1	13.1	12.9	12.8	12.7	12.7	12.7	12.6	12.7	12.6	12.9
1933..... do.....	12.6	12.6	12.5	12.7	12.7	12.8	12.8	13.0	13.3	13.5	13.7	13.6	13.0
1934..... do.....	15.0	16.1	16.4	16.5	16.6	16.6	16.8	16.8	17.1	17.1	17.3	17.3	16.6

See footnote at end of table.

TABLE 4.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES FOR THE UNITED STATES (51 CITIES COMBINED), BY MONTHS, 1913 AND 1931 TO 1934—Continued.

Article and year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Average for year
Tomatoes:	<i>Cts.</i>	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1931.....No. 2 can.....	11.2	11.1	10.8	10.5	10.2	10.1	10.1	10.0	9.9	9.8	9.7	9.6	10.3
1932.....do.....	9.5	9.5	9.6	9.5	9.5	9.5	9.5	9.4	9.1	9.0	8.8	8.7	9.3
1933.....do.....	8.6	8.6	8.5	8.5	8.7	9.0	9.1	9.4	9.6	9.8	9.8	9.9	9.1
1934.....do.....	9.9	10.5	10.5	10.6	10.6	10.5	10.5	10.4	10.3	10.3	10.4	10.4	10.4
Pork and beans:													
1931.....20-oz. can.....	10.5	10.3	10.0	9.7	9.4	10.3	10.3	10.4	10.4	10.3	10.2	10.2	10.2
1932.....16-oz. can.....	8.5	8.3	8.0	7.9	7.4	7.2	7.0	7.0	7.0	6.9	6.8	6.8	7.4
1923.....do.....	6.6	6.5	6.4	6.4	6.4	6.5	6.6	6.8	6.8	6.8	6.8	6.8	6.6
1934.....do.....	6.7	6.9	6.8	6.7	6.7	6.7	6.6	6.6	6.7	6.9	6.9	6.9	6.8
Peaches, dried: 1934.....pound.....	15.0	15.3	15.4	15.5	15.5	15.5	15.5	15.3	15.5	15.7	16.0	16.1	15.7
Prunes:													
1931.....do.....	12.9	12.7	12.4	12.1	12.1	11.8	11.8	11.7	11.6	11.1	10.7	10.5	11.8
1932.....do.....	10.3	10.2	9.9	9.6	9.4	9.4	9.3	9.3	9.1	8.9	8.8	8.9	9.4
1933.....do.....	8.9	8.9	8.8	8.8	9.0	9.2	9.4	9.8	10.1	10.4	10.6	10.7	9.6
1934.....do.....	10.8	11.0	11.3	11.4	11.4	11.5	11.6	11.7	11.5	11.4	11.4	11.4	11.4
Raisins:													
1931.....do.....	11.3	11.3	11.3	11.2	11.0	11.1	11.3	11.2	11.3	11.4	11.4	11.5	11.3
1932.....do.....	11.5	11.5	11.5	11.5	11.5	11.4	11.5	11.6	11.4	10.7	9.9	9.6	11.1
1933.....do.....	9.5	9.3	9.2	9.1	9.1	9.2	9.2	9.3	9.4	9.4	9.3	9.1	9.3
1934.....do.....	9.3	9.3	9.4	9.5	9.6	9.6	9.7	9.7	9.7	9.7	9.7	9.7	9.6
Blackeyed peas: 1934.....do.....	17.6	17.5	17.5	17.5	17.4	17.3	17.3	17.5	17.6	18.0	17.9	18.0	17.6
Lima beans: 1934.....do.....	19.5	19.6	19.7	19.6	19.6	19.6	19.7	19.9	19.9	19.9	19.9	19.9	19.7
Navy beans:													
1931.....do.....	9.2	8.9	8.7	8.4	8.2	8.0	7.9	7.8	7.6	6.7	6.3	6.2	7.8
1932.....do.....	5.8	5.6	5.3	5.2	5.1	5.0	5.0	4.9	5.0	4.9	4.8	4.4	5.3
1933.....do.....	4.3	4.1	4.1	4.4	5.1	5.3	5.5	6.0	6.3	6.2	6.0	5.9	5.3
1934.....do.....	5.7	5.8	5.9	5.8	5.7	5.7	5.7	5.8	6.0	6.5	6.3	6.1	5.9
Sugar, granulated:													
1913.....do.....	5.8	5.5	5.4	5.4	5.4	5.3	5.5	5.6	5.7	5.5	5.4	5.4	5.5
1931.....do.....	5.9	5.9	5.8	5.7	5.6	5.6	5.6	5.7	5.7	5.6	5.6	5.5	5.7
1932.....do.....	5.4	5.3	5.2	5.1	4.9	4.9	5.0	5.1	5.1	5.1	5.1	5.1	5.1
1933.....do.....	5.1	5.0	5.0	5.1	5.3	5.4	5.5	5.6	5.7	5.7	5.6	5.5	5.4
1934.....do.....	5.4	5.6	5.4	5.5	5.4	5.4	5.7	5.7	5.7	5.7	5.6	5.5	5.6
Corn sirup: 1934.....24-oz. can.....	12.7	12.7	12.5	12.5	12.5	12.5	12.6	12.7	12.9	13.0	13.2	13.3	12.8
Molasses: 1934.....18-oz. can.....	13.1	13.6	13.6	13.8	13.8	14.1	14.1	13.9	13.9	13.9	13.9	13.7	13.7
Coffee:													
1913.....pound.....	29.9	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.8	29.7	29.8	29.7	29.8
1931.....do.....	37.8	37.3	36.3	34.6	33.5	33.1	32.5	32.4	32.4	32.1	31.8	31.5	33.8
1932.....do.....	31.1	31.0	30.8	30.5	30.0	29.7	29.7	29.6	30.1	30.3	30.1	29.7	30.2
1933.....do.....	28.7	27.8	27.4	27.3	27.0	27.0	27.0	27.0	26.7	26.6	26.6	26.4	27.1
1934.....do.....	26.3	26.4	27.0	27.5	27.5	27.6	27.5	27.6	27.7	28.0	28.0	27.9	27.4
Tea:													
1913.....do.....	54.3	54.3	54.3	54.3	54.4	54.4	54.4	54.4	54.5	54.5	54.5	54.5	54.4
1931.....do.....	76.7	76.5	76.0	75.2	74.5	74.4	74.7	75.4	75.8	75.6	75.1	75.1	75.4
1932.....do.....	74.1	73.6	73.3	72.4	72.0	71.0	70.3	70.1	69.9	68.5	68.1	67.8	70.9
1933.....do.....	67.2	66.1	65.2	64.8	64.4	63.5	64.1	64.5	66.0	66.8	67.0	67.8	65.6
1934.....do.....	68.3	68.4	69.1	69.7	69.9	70.4	70.8	71.4	72.1	72.1	72.1	72.8	70.5
Peanut butter: 1934.....do.....	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	17.0	17.1	17.6	17.9	16.8
Salt, table: 1934.....do.....	4.5	4.5	4.4	4.5	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.4
Soup, tomato 1934.....10½ oz. can.....	8.4	8.1	8.1	8.1	8.0	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.1
Tomato juice: 1934.....13½-oz. can.....	8.6	8.5	8.5	8.6	8.7	8.7	8.7	8.7	8.7	8.8	8.5	8.6	8.6

¹ Since the fall of 1933 prices have been collected biweekly and are shown for the following dates: 1933, Sept. 12, Oct. 10, Nov. 21, and Dec. 19; 1934, Jan. 16, Feb. and Mar. 13, Apr. 10, May 8, June 19, July 17, Aug. 14, Sept. 11, Oct. 9, Nov. 20, and Dec. 18.

Table 5 shows by index numbers the trend in the retail cost of food in the United States by years from 1890 to 1934. In addition, the percentage of increase in each year as compared with the preceding year is shown.

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TABLE 5.—INDEX NUMBERS AND PERCENTAGE OF CHANGE IN YEAR IN RETAIL COST OF FOOD FOR THE UNITED STATES, BY YEARS, 1890-1934

[1913=100.0]

Year	Index number	Per-centage of change in year	Year	Index number	Per-centage of change in year	Year	Index number	Per-centage of change in year	Year	Index number	Per-centage of change in year
1890	69.6	---	1902	75.4	+5.8	1913	100.0	+2.5	1924	145.9	-0.2
1891	70.6	+1.4	1903	75.0	- .5	1914	102.4	+2.4	1925	157.4	+7.9
1892	69.3	-1.8	1904	76.0	+1.3	1915	101.3	-1.1	1926	160.6	+2.0
1893	71.0	+2.5	1905	76.4	+ .5	1916	113.7	+12.2	1927	155.4	-3.2
1894	67.8	-4.5	1906	78.7	+2.9	1917	146.4	+28.8	1928	154.3	- .7
1895	66.5	-1.9	1907	82.0	+4.2	1918	168.3	+15.0	1929	156.7	+1.6
1896	64.9	-2.4	1908	84.3	+2.8	1919	185.9	+10.5	1930	147.1	-6.1
1897	65.4	+ .8	1909	88.7	+5.2	1920	203.4	+9.4	1931	121.3	-17.5
1898	67.1	+2.5	1910	93.0	+4.8	1921	153.3	-24.6	1932	102.1	-15.8
1899	67.7	+ .8	1911	92.0	-1.1	1922	141.6	-7.6	1933	99.7	-2.4
1900	68.7	+1.6	1912	97.6	+6.1	1923	146.2	+3.3	1934	110.8	+11.1
1901	71.5	+4.1									

Table 6 shows the relative retail prices of 34 important articles of food. Retail prices have been collected for 23 of these foods since 1913, for 4 since 1915, and for 7 since 1919. In order to show price trends retail prices for the base year 1913 were secured in 1934 from newspapers for the 11 items for which prices had not been collected in 1913.

Relative prices are shown by years 1913 and 1920 to 1934, inclusive, and also for the periods of 1931, 1932, 1933, and 1934.

TABLE 6.—RELATIVE RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS 1913 AND 1920-34, AND BY PERIODS FOR 1931-34

[1913=100.0]

Year and period	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon, sliced	Ham, sliced	Lamb, leg of	Hens	Milk, fresh	Butter
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	172.1	177.1	167.7	163.8	151.2	201.4	193.7	206.3	207.9	209.9	187.6	183.0
1921	162.8	154.3	147.0	132.6	118.2	166.2	158.2	181.4	178.3	206.9	164.0	135.0
1922	147.2	144.8	139.4	123.1	105.8	157.1	147.4	181.4	193.7	169.0	147.2	125.1
1923	153.9	150.2	143.4	126.3	106.6	144.8	144.8	169.1	194.2	164.3	155.1	144.7
1924	155.9	151.6	145.5	130.0	109.1	146.7	139.6	168.4	196.3	165.7	155.1	135.0
1925	169.8	165.6	149.5	135.0	114.1	174.3	173.8	195.5	204.2	171.8	157.3	143.1
1926	162.6	159.6	153.0	140.6	120.7	188.1	186.3	213.4	206.3	182.2	157.3	138.6
1927	167.7	166.4	158.1	143.1	127.3	175.2	174.8	204.5	205.8	173.2	158.4	145.2
1928	188.2	188.3	176.8	174.4	157.0	165.7	163.0	196.7	208.5	175.6	159.6	147.5
1929	196.9	199.1	185.4	186.9	172.7	175.7	161.1	201.2	212.2	186.4	160.7	143.9
1930	182.7	184.8	172.7	170.0	155.4	171.0	156.7	198.5	185.7	166.7	157.3	120.4
1931	155.1	154.3	146.0	134.4	118.2	138.6	134.8	170.6	156.1	145.5	138.2	92.4
1932	131.1	129.6	121.7	108.1	93.4	101.0	89.3	130.1	125.4	115.5	122.5	71.5
1933	114.2	113.0	105.6	95.0	82.6	93.3	82.6	114.5	115.3	98.1	119.1	71.3
1934	123.2	122.9	111.6	101.9	88.4	119.0	107.0	137.2	131.7	113.6	127.0	80.9
1931:												
Jan	167.3	168.2	159.1	152.5	138.0	141.9	148.9	188.1	166.1	153.5	149.4	98.4
Feb	161.4	161.0	154.0	145.6	131.4	131.4	145.2	183.3	164.6	148.8	146.1	94.8
Mar	158.7	157.8	153.0	141.9	128.1	140.0	143.0	178.4	164.0	150.2	144.9	91.9
Apr	157.5	156.5	150.0	139.4	124.8	141.4	141.1	175.5	165.6	153.1	141.6	87.0
May	155.4	154.7	147.0	135.6	119.8	143.3	139.3	172.9	165.1	148.8	138.2	81.5
June	152.4	151.1	142.9	130.6	112.4	140.0	136.7	170.6	161.9	146.0	134.8	80.7
July	154.3	154.3	142.9	130.0	110.7	151.4	137.0	171.4	158.7	144.6	136.0	82.8
Aug	155.5	155.2	143.9	130.0	109.9	158.6	135.6	171.4	156.6	145.1	136.0	89.8
Sept	155.1	154.3	142.9	130.6	111.6	153.3	134.1	169.5	152.4	145.1	136.0	96.1
Oct	152.0	150.7	141.4	129.4	111.6	139.5	127.0	164.3	145.5	140.4	134.8	104.2
Nov	146.9	144.8	137.9	126.3	109.9	119.0	118.9	155.4	138.1	137.1	134.8	97.4
Dec	142.9	140.4	134.8	122.5	108.3	103.8	112.2	147.6	131.7	134.3	130.3	95.3
1932:												
Jan	137.4	135.0	129.8	115.6	101.7	99.5	101.5	139.8	127.5	131.0	129.2	84.3
Feb	130.7	127.4	123.2	108.1	97.5	91.0	96.7	136.4	125.4	127.2	128.1	77.0
Mar	129.9	127.8	123.2	108.1	95.9	102.4	95.2	136.1	131.7	128.2	127.0	77.0
Apr	131.5	128.3	122.7	108.8	95.9	102.4	92.2	134.9	135.4	124.9	123.6	70.0
May	129.9	127.4	120.2	106.3	91.7	94.8	88.5	131.2	132.3	120.7	121.3	65.5
June	129.1	127.4	118.7	105.6	88.4	93.8	85.9	129.7	128.6	113.1	121.3	62.9

TABLE 6.—RELATIVE RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913 AND 1920-34, AND BY PERIODS FOR 1931-34—Continued

Year and period	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon, sliced	Ham, sliced	Lamb, leg of	Hens	Milk, fresh	Butter
1932—Con.												
July.....	139.0	139.0	125.8	113.1	92.6	121.4	87.8	133.8	131.7	110.8	120.2	62.4
Aug.....	137.4	138.1	124.2	112.5	92.6	111.0	88.5	132.7	127.0	108.5	118.0	70.0
Sept.....	135.4	135.4	122.7	111.3	92.6	113.3	87.0	130.9	123.8	110.3	119.1	70.2
Oct.....	130.3	129.6	119.7	108.1	93.4	102.4	85.9	126.4	116.9	108.5	120.2	69.7
Nov.....	123.6	121.5	115.7	103.8	91.7	96.2	83.3	117.8	112.7	105.2	119.1	71.8
Dec.....	117.7	115.7	111.6	98.8	88.4	83.8	80.0	112.6	111.1	99.5	116.9	77.8
1933:												
Jan. 15.....	113.8	111.7	107.1	95.6	86.0	78.6	79.3	107.4	114.8	100.5	116.9	70.8
Feb. 15.....	112.2	108.5	105.6	93.1	82.6	83.8	77.0	105.9	114.8	100.0	115.7	64.8
Mar. 15.....	111.0	109.0	105.1	93.8	82.6	90.5	77.8	108.2	114.3	99.5	113.5	64.8
Apr. 15.....	111.2	108.5	104.0	93.8	82.6	84.8	77.4	107.1	112.7	100.5	113.5	66.3
May 15.....	110.8	110.3	105.1	94.4	82.6	85.7	78.9	110.0	113.2	100.9	112.4	73.6
June 15.....	116.9	115.7	107.6	96.3	82.6	88.1	83.3	117.1	120.1	100.5	114.6	73.4
July 15.....	117.3	117.0	105.6	95.0	79.3	86.7	86.3	119.3	118.0	98.6	116.9	80.9
Aug. 15.....	118.9	118.8	108.1	96.9	81.8	93.8	85.9	121.6	118.5	97.2	122.5	71.3
Aug. 29.....	117.3	119.7	107.1	96.9	81.8	100.9	86.3	122.7	121.7	96.2	123.6	72.6
Sept. 12.....	118.5	117.5	105.6	95.6	81.8	103.3	85.6	120.4	118.0	95.8	123.6	72.8
Sept. 26.....	118.5	117.0	106.1	96.3	81.8	113.3	85.9	120.8	117.5	98.1	123.6	73.4
Oct. 10.....	117.7	116.1	106.1	95.6	83.5	112.9	86.3	120.1	115.9	96.2	124.7	73.9
Oct. 24.....	116.1	115.7	105.1	95.6	83.5	110.0	86.3	119.0	113.8	96.2	124.7	73.6
Nov. 7.....	115.4	114.3	105.1	95.6	82.6	110.5	86.3	119.3	112.7	95.3	124.7	74.2
Nov. 21.....	113.4	112.1	103.0	94.6	81.8	105.7	86.3	119.0	112.2	93.9	124.7	74.2
Dec. 5.....	111.0	109.0	102.5	93.8	81.0	93.8	85.6	117.8	111.1	93.0	125.8	73.1
Dec. 19.....	109.4	108.5	100.5	92.5	80.2	94.3	85.6	116.4	109.5	93.4	125.8	62.9
1934:												
Jan. 2.....	108.3	107.6	99.5	91.9	79.3	94.8	87.0	116.7	110.1	100.9	125.8	65.8
Jan. 16.....	110.6	109.4	101.0	92.5	81.8	95.2	86.7	116.7	113.8	105.2	124.7	66.6
Jan. 30.....	111.0	109.9	101.5	92.5	82.6	94.8	87.8	117.5	120.1	107.0	123.6	68.7
Feb. 13.....	112.2	110.8	102.5	93.1	84.3	112.9	87.8	119.0	128.6	109.9	129.2	79.1
Feb. 27.....	113.4	111.7	103.5	93.8	84.3	113.8	90.0	120.1	130.7	110.3	125.8	80.7
Mar. 13.....	113.4	112.1	103.5	94.4	85.1	117.1	93.0	121.9	130.7	112.7	124.7	83.3
Mar. 27.....	115.0	112.6	104.5	95.0	84.3	114.8	94.8	123.0	132.8	114.6	124.7	80.2
Apr. 10.....	116.5	114.8	105.1	96.8	84.3	112.9	95.6	123.8	133.3	116.0	124.7	76.5
Apr. 24.....	119.3	118.8	108.6	98.8	84.3	114.8	95.9	124.2	139.7	116.4	124.7	75.2
May 8.....	122.8	122.0	111.1	100.6	86.8	115.7	95.9	126.0	146.0	119.2	124.7	77.3
May 22.....	123.6	123.8	112.1	101.3	85.1	113.8	96.3	127.9	147.1	119.2	124.7	77.3
June 5.....	125.2	125.1	112.1	101.9	86.0	113.3	98.9	132.3	149.7	114.1	124.7	78.6
June 19.....	126.0	126.5	113.1	102.5	86.0	116.7	101.5	138.7	143.9	113.6	125.8	79.1
July 3.....	128.3	128.7	113.6	102.1	86.0	123.8	105.6	142.8	142.3	110.3	125.8	79.1
July 17.....	129.5	130.0	114.1	103.8	86.8	121.4	108.1	143.9	138.6	111.3	125.8	78.6
July 31.....	129.1	130.0	114.1	103.1	86.0	119.0	109.3	146.1	132.3	111.3	127.0	79.4
Aug. 14.....	129.5	130.0	114.1	103.1	86.0	122.9	110.4	147.2	130.7	112.7	127.0	83.8
Aug. 28.....	133.1	133.6	117.2	107.5	90.1	154.8	118.9	153.2	132.8	115.0	128.1	87.7
Sept. 11.....	137.0	138.1	122.7	114.4	97.5	164.3	128.1	159.1	134.9	117.8	129.2	85.9
Sept. 25.....	136.2	137.7	124.2	115.6	98.3	135.7	129.3	159.9	133.3	120.2	130.3	84.3
Oct. 9.....	133.1	133.6	121.2	111.9	95.9	130.5	129.6	156.1	130.7	117.8	131.5	83.8
Oct. 23.....	130.7	130.5	120.7	110.6	95.0	128.6	127.0	153.5	127.0	116.4	130.3	85.1
Nov. 6.....	126.4	126.5	117.2	108.1	95.9	120.5	124.4	149.8	124.3	114.6	131.5	89.6
Nov. 20.....	123.6	124.2	116.2	106.3	94.2	116.2	123.3	148.0	123.3	114.6	131.5	91.6
Dec. 4.....	124.0	123.3	115.7	105.6	94.2	113.8	123.3	146.1	123.8	114.6	131.5	91.6
Dec. 18.....	123.2	122.9	115.2	105.6	95.0	115.7	123.7	146.5	124.9	115.0	131.5	92.4
Year and period	Cheese	Lard	Eggs, fresh	Bread, white	Flour	Corn meal	Rice	Pota- toes	Cab- bage	Onions	Beans, navy	Beans, with pork
1913.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920.....	188.2	186.7	197.4	205.4	245.5	216.7	200.0	370.6	278.3	295.8	200.0	137.1
1921.....	153.9	113.9	147.5	176.8	176.8	150.0	109.2	182.4	217.4	228.2	143.9	118.4
1922.....	148.9	107.6	128.7	155.4	154.6	130.0	109.2	164.7	200.0	328.2	173.7	108.6
1923.....	167.0	112.0	134.8	155.4	142.4	136.7	109.2	170.6	224.8	266.7	193.0	106.1
1924.....	150.7	120.3	138.6	157.1	148.5	156.7	116.1	158.8	226.1	250.0	173.7	102.7
1925.....	166.1	147.5	151.0	167.9	184.8	180.0	127.6	211.8	221.7	295.8	173.9	101.2
1926.....	165.6	138.6	140.6	167.9	181.8	170.0	133.3	258.2	252.2	250.0	163.2	97.1
1927.....	170.1	122.2	131.0	166.1	166.7	173.3	123.3	223.5	230.4	266.7	163.2	93.9
1928.....	174.2	117.7	134.5	162.5	163.6	176.7	114.0	158.8	217.4	258.3	207.0	93.9
1929.....	171.9	115.8	142.0	160.7	154.5	176.7	111.5	188.2	221.7	283.3	245.6	96.3
1930.....	158.8	107.6	118.8	155.4	142.4	176.7	109.2	211.8	239.1	208.3	201.8	89.8
1931.....	127.1	84.2	91.9	135.7	109.1	153.3	94.3	135.3	165.2	179.2	136.8	83.3
1932.....	104.1	55.7	78.8	121.4	97.0	126.7	77.0	100.0	173.9	216.7	89.5	75.5
1933.....	101.8	57.0	75.7	126.8	118.2	123.3	71.3	135.3	169.6	150.0	93.0	67.3
1934.....	107.2	74.1	86.7	146.4	148.5	150.0	92.0	135.3	152.2	183.3	103.5	69.4

RETAIL PRICES IN UNITED STATES

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TABLE 6.—RELATIVE RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913 AND 1920-34, AND BY PERIODS FOR 1931-34—Continued

Year and period	Cheese	Lard	Eggs, fresh	Bread, white	Flour	Corn meal	Rice	Pota-toes	Cab-bage	Onions	Beans, navy	Beans, with pork
1931:												
Jan.....	145.2	99.4	104.6	146.4	121.2	170.0	102.3	170.6	187.0	162.5	161.4	85.7
Feb.....	141.2	91.8	78.8	142.9	121.2	166.7	102.3	158.8	187.0	150.0	156.1	84.1
Mar.....	137.1	89.9	82.6	141.1	118.2	166.7	98.9	158.8	178.3	145.8	152.6	81.6
Apr.....	132.6	89.9	79.4	137.5	115.2	163.3	95.6	164.7	178.3	150.0	147.4	79.2
May.....	124.0	85.4	71.9	137.5	112.1	153.3	95.4	164.7	178.3	191.7	143.9	76.7
June.....	118.9	82.3	74.8	135.7	112.1	150.0	94.3	141.2	173.9	200.0	140.4	84.1
July.....	118.6	82.3	82.9	133.9	109.1	150.0	93.1	135.3	160.9	204.2	136.6	84.1
Aug.....	119.9	81.0	92.5	132.1	103.0	150.0	93.1	129.4	173.9	179.2	136.8	84.9
Sept.....	122.2	79.8	98.0	130.4	100.0	150.0	92.0	117.7	156.5	179.2	133.3	84.9
Oct.....	122.6	78.5	109.9	130.4	100.0	146.7	86.7	103.9	139.1	179.2	117.5	84.1
Nov.....	121.3	77.2	115.1	130.4	100.0	140.0	86.2	100.0	130.4	153.3	110.5	83.3
Dec.....	118.6	70.9	111.6	128.6	100.0	136.7	85.1	105.9	147.8	216.7	108.8	83.3
1932:												
Jan.....	115.4	63.9	85.8	126.8	100.0	133.3	85.1	100.0	178.3	275.0	101.8	86.7
Feb.....	110.4	59.5	70.1	125.0	100.0	133.3	83.9	100.0	187.0	295.8	98.2	84.7
Mar.....	107.7	57.6	61.2	125.0	97.0	130.0	81.6	100.0	243.5	358.3	93.0	81.6
Apr.....	105.4	55.1	58.0	123.2	97.0	130.0	79.3	100.0	278.3	429.2	91.2	80.6
May.....	101.8	52.5	58.0	123.2	97.0	130.0	77.0	105.9	287.0	279.2	89.5	75.5
June.....	100.9	49.4	60.3	123.2	97.0	130.0	75.9	117.6	234.8	195.8	87.7	73.5
July.....	99.5	53.8	66.1	121.4	97.0	126.7	75.9	111.8	143.5	175.0	87.7	71.4
Aug.....	102.3	56.3	77.7	121.4	93.9	130.0	74.7	100.0	130.4	150.0	86.0	71.4
Sept.....	102.7	57.6	85.5	119.6	93.9	126.7	74.7	88.2	113.0	125.0	87.7	71.4
Oct.....	102.3	57.0	100.3	119.6	93.9	123.3	73.6	88.2	104.3	116.7	86.0	70.4
Nov.....	101.4	55.1	109.0	119.6	90.9	120.7	71.3	82.4	100.0	108.3	80.7	69.4
Dec.....	101.4	51.3	115.7	117.9	87.9	116.7	69.0	88.2	108.7	112.5	77.2	69.4
1933:												
Jan. 15.....	100.9	51.3	93.9	114.3	87.9	116.7	67.8	88.2	126.1	112.5	75.4	67.3
Feb. 15.....	96.4	48.7	62.0	114.3	87.9	113.3	66.7	88.2	134.8	108.3	71.9	66.3
Mar. 15.....	94.6	50.0	57.4	114.3	90.9	113.3	65.5	94.1	152.2	116.7	71.9	65.3
Apr. 15.....	95.0	50.0	53.3	114.3	93.9	113.3	65.5	94.1	173.9	133.3	77.2	65.3
May 15.....	100.9	56.3	58.8	116.1	103.0	116.7	66.7	100.0	226.1	162.5	89.5	65.3
June 15.....	104.5	61.4	58.0	117.9	103.0	120.0	69.0	135.3	200.0	191.7	93.0	66.3
July 15.....	106.8	63.9	70.4	128.6	121.2	123.3	71.3	211.8	208.7	200.0	96.5	67.3
Aug. 15.....	106.8	63.3	73.3	135.7	145.5	126.7	73.6	205.9	195.7	179.2	105.3	69.4
Aug. 29.....	105.9	62.0	76.0	135.7	151.6	130.1	73.6	194.1	173.9	170.8	107.0	69.4
Sept. 12.....	106.3	60.8	82.0	137.5	148.5	133.3	75.9	182.4	156.5	162.5	110.5	69.4
Sept. 26.....	106.3	60.8	87.8	141.1	148.5	133.3	77.0	164.7	152.2	152.2	110.5	70.4
Oct. 10.....	105.9	60.8	94.2	142.9	148.5	130.0	78.2	147.1	143.5	145.8	108.8	69.4
Oct. 24.....	105.0	60.1	97.1	142.9	145.5	130.0	78.2	135.3	139.1	141.7	105.3	70.4
Nov. 7.....	104.5	60.8	100.3	142.9	145.5	130.0	79.3	135.3	139.1	141.7	105.3	70.4
Nov. 21.....	103.2	62.0	140.6	142.9	145.5	133.3	79.3	135.3	156.5	141.7	105.3	69.4
Dec. 5.....	103.6	60.8	101.7	141.1	145.5	133.3	80.5	129.4	169.6	145.8	103.5	70.4
Dec. 19.....	100.9	59.5	93.0	141.1	142.4	133.3	80.5	135.3	187.0	158.3	103.5	69.4
1934:												
Jan. 2.....	100.0	58.9	89.3	141.1	142.4	140.0	83.9	141.2	200.0	175.0	101.8	66.3
Jan. 16.....	99.5	59.5	86.7	141.1	142.4	140.0	86.2	152.9	204.3	187.5	100.0	68.4
Jan. 30.....	101.8	59.5	85.8	141.1	142.4	146.7	86.2	158.8	195.7	195.8	101.8	69.4
Feb. 13.....	105.4	61.4	81.2	141.1	145.5	143.3	88.5	164.7	182.6	195.8	101.8	70.4
Feb. 27.....	108.1	63.9	74.8	141.1	145.5	143.3	89.7	170.6	169.6	195.8	103.5	70.4
Mar. 13.....	109.0	64.6	71.6	141.1	145.5	143.3	89.7	170.6	165.2	187.5	103.5	69.4
Mar. 27.....	109.5	65.2	71.3	142.9	145.5	143.3	89.7	164.7	160.9	187.5	101.8	70.4
Apr. 10.....	109.0	65.2	69.6	142.9	145.5	143.3	90.8	158.8	152.2	183.3	101.8	68.4
Apr. 24.....	106.8	65.2	68.1	142.9	142.4	143.3	89.7	158.8	152.2	187.5	100.0	67.3
May 8.....	105.4	63.9	67.5	142.9	142.4	150.0	90.8	158.8	160.9	183.3	100.0	68.4
May 22.....	105.9	63.9	67.8	142.9	142.4	145.5	90.8	147.1	152.2	183.3	100.0	68.4
June 5.....	106.3	63.9	68.7	144.6	145.5	143.3	90.8	147.1	152.2	183.3	100.0	68.4
June 19.....	106.8	65.2	71.3	144.6	148.5	146.7	92.1	135.3	143.5	204.2	100.0	68.4
July 3.....	106.8	65.8	73.6	144.6	148.5	146.7	94.3	129.4	139.1	212.5	100.0	68.4
July 17.....	107.2	66.5	76.2	146.4	148.5	146.7	94.3	123.5	147.8	204.2	100.0	67.3
July 31.....	106.8	67.7	80.9	148.2	148.5	146.7	94.3	117.6	152.2	195.8	100.0	67.3
Aug. 14.....	106.8	71.5	87.8	148.2	151.5	150.0	94.3	117.6	156.5	187.5	101.8	67.3
Aug. 28.....	110.0	82.9	95.4	150.0	151.5	150.0	95.4	123.5	152.2	183.3	101.8	68.4
Sept. 11.....	110.4	91.1	99.4	150.0	154.5	153.3	95.4	123.5	143.5	175.0	105.3	68.4
Sept. 25.....	109.5	93.0	102.0	150.0	154.5	153.3	95.4	117.6	134.8	166.7	108.8	69.4
Oct. 9.....	108.6	93.7	103.5	150.0	154.5	156.7	95.4	111.8	126.1	158.3	114.0	70.4
Oct. 23.....	107.2	93.7	109.0	150.0	154.5	156.7	94.3	105.9	117.4	154.2	114.0	70.4
Nov. 6.....	107.7	93.0	113.9	150.0	154.5	160.0	95.4	100.0	113.0	158.3	112.3	70.4
Nov. 20.....	108.1	95.6	116.2	148.2	154.5	160.0	94.3	100.0	113.0	162.5	110.5	70.4
Dec. 4.....	108.6	96.2	114.8	148.2	154.5	160.0	94.3	100.0	113.0	166.7	108.8	70.4
Dec. 18.....	109.0	98.7	108.1	148.2	154.5	160.0	93.1	100.0	121.7	170.8	107.0	70.4

TABLE 6.—RELATIVE RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS 1913 AND 1920-34, AND BY PERIODS FOR 1931-34—Continued

Year and period	Corn, canned	Peas, canned	Tomatoes, canned	Bananas	Oranges	Prunes	Raisins	Sugar	Tea	Coffee	All articles ¹
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	157.4	134.2	143.9	288.9	210.7	240.2	269.8	352.7	134.7	157.7	203.4
1921	138.3	124.6	118.3	262.1	165.3	169.2	281.1	145.5	128.1	121.8	153.3
1922	131.9	123.7	130.5	235.3	191.3	171.8	217.0	132.7	125.2	121.1	141.6
1923	130.9	123.7	125.6	247.1	166.0	163.2	166.0	183.6	127.8	126.5	146.2
1924	136.2	127.2	129.3	241.2	146.7	149.6	145.3	167.3	131.4	145.3	145.9
1925	151.1	128.9	132.9	233.3	185.3	147.9	136.8	130.9	138.8	172.8	157.4
1926	140.4	122.8	118.3	230.1	169.0	145.3	158.7	125.5	141.0	171.1	160.6
1927	134.0	117.5	117.1	222.2	169.7	130.8	134.0	132.7	142.5	162.1	155.4
1928	135.1	117.5	114.6	217.0	193.3	117.1	124.5	129.1	142.3	165.1	154.3
1929	134.0	116.7	126.8	211.1	144.3	131.6	111.3	120.0	142.6	164.8	156.7
1930	129.8	114.0	119.5	198.7	191.0	140.2	112.3	112.7	142.5	136.2	147.1
1931	113.8	100.0	100.0	171.2	117.0	100.9	106.6	103.6	138.6	113.4	121.3
1932	91.5	90.4	90.2	149.7	103.3	80.3	104.7	92.7	130.3	101.3	102.1
1933	87.2	91.2	89.0	154.9	91.3	82.1	87.7	98.2	120.6	90.9	99.7
1934	101.1	121.1	101.2	151.0	109.7	97.4	90.6	101.8	129.6	91.9	110.8
1931:											
Jan.	125.5	108.8	109.8	190.2	108.3	110.3	106.6	107.3	141.0	126.8	132.8
Feb.	123.4	107.9	108.5	187.6	105.0	108.5	106.6	107.3	140.6	125.2	127.0
Mar.	121.5	105.3	104.9	187.6	107.7	106.0	106.6	105.5	139.7	121.8	124.4
Apr.	118.1	102.6	102.4	181.7	110.3	103.4	105.7	103.6	138.2	116.1	124.0
May	116.0	99.1	100.0	173.9	126.0	103.4	103.8	101.8	136.9	112.4	121.0
June	112.8	97.4	98.8	170.6	125.3	100.9	104.7	101.8	136.8	111.1	118.3
July	112.8	97.4	98.8	168.0	127.3	100.9	106.6	101.8	137.3	109.1	119.0
Aug.	112.8	97.4	97.6	157.5	124.3	100.0	103.6	103.6	138.6	108.7	119.7
Sept.	110.6	96.5	96.3	156.2	121.7	99.1	106.6	103.6	139.3	108.7	119.4
Oct.	107.4	96.5	95.1	156.9	124.0	94.9	107.5	101.8	139.0	107.7	119.1
Nov.	103.2	95.6	95.1	159.5	117.7	91.5	107.5	101.8	138.1	106.7	116.7
Dec.	101.1	94.7	93.9	162.1	104.3	89.7	108.5	100.0	138.1	105.7	114.3
1932:											
Jan.	97.9	93.9	92.7	155.6	98.7	88.0	108.5	98.2	136.2	104.4	109.3
Feb.	95.7	93.0	92.7	154.9	100.3	87.2	108.5	96.4	135.3	104.0	105.3
Mar.	94.7	92.1	93.9	153.6	102.3	84.6	108.5	94.5	134.7	103.4	105.0
Apr.	91.5	92.1	92.7	154.2	106.3	82.1	108.5	92.7	133.1	102.3	103.7
May	91.5	90.4	92.7	151.6	110.0	80.3	108.5	89.1	132.4	100.7	101.3
June	90.4	89.5	92.7	149.7	111.7	80.3	107.5	89.1	130.5	99.7	100.1
July	89.4	89.5	92.7	150.3	109.3	80.3	108.5	90.9	129.2	99.7	101.0
Aug.	89.4	89.5	91.5	148.4	102.3	79.5	109.4	92.7	128.9	99.3	100.8
Sept.	88.3	89.5	89.0	145.1	101.3	77.8	107.5	92.7	128.5	101.0	100.3
Oct.	87.2	88.6	87.8	141.8	101.7	76.1	100.9	92.7	125.9	101.7	100.4
Nov.	87.2	89.5	85.4	143.1	102.3	75.2	93.4	92.7	125.2	101.0	99.4
Dec.	87.2	88.6	85.4	149.7	95.0	76.1	90.6	92.7	124.6	99.7	98.7
1933:											
Jan. 15	85.1	88.6	84.1	150.3	90.3	76.1	89.6	92.7	123.5	96.3	94.8
Feb. 15	83.0	88.6	84.1	148.4	88.3	76.1	87.7	90.9	121.5	93.3	90.9
Mar. 15	83.0	87.7	82.9	143.8	84.0	75.2	86.8	90.9	119.9	91.9	90.5
Apr. 15	83.0	89.5	82.9	148.4	84.0	75.2	85.8	92.7	119.1	91.6	90.4
May 15	83.0	89.5	85.4	146.4	86.7	76.9	85.8	96.6	118.4	90.6	93.7
June 15	83.0	89.5	87.8	154.2	93.3	78.6	86.8	98.2	116.7	90.6	96.7
July 15	84.0	89.5	89.0	162.1	95.0	80.3	86.8	100.0	117.8	90.6	104.8
Aug. 15	87.2	91.2	91.5	156.9	97.0	83.8	87.7	101.8	118.6	90.6	106.7
Aug. 29	88.3	93.0	91.5	160.1	96.3	85.5	88.7	101.8	119.1	90.9	107.1
Sept. 12	89.4	93.0	93.9	164.1	95.7	86.3	88.7	103.6	121.3	89.6	107.0
Sept. 26	90.4	93.0	95.1	166.0	99.7	88.0	88.7	103.6	122.1	89.3	107.4
Oct. 10	91.5	94.7	95.1	160.8	99.3	88.9	88.7	103.6	122.8	89.3	107.3
Oct. 24	92.6	94.7	96.3	161.4	99.0	90.6	88.7	103.6	123.0	89.3	106.6
Nov. 7	92.6	95.6	96.3	156.9	95.7	90.6	88.7	101.8	123.2	89.3	106.7
Nov. 21	92.6	95.6	95.1	156.9	92.0	90.6	87.7	101.8	122.4	89.3	106.8
Dec. 5	93.6	95.6	95.1	160.1	88.7	91.5	87.7	101.8	123.0	89.9	105.5
Dec. 19	92.6	95.6	96.3	162.1	86.0	91.5	85.8	100.0	124.3	88.6	103.9
1934:											
Jan. 2	93.6	100.0	96.3	164.1	90.0	92.3	87.7	100.0	124.8	88.6	104.5
Jan. 16	93.6	105.3	96.3	157.1	92.7	92.3	87.7	98.2	125.6	88.3	105.2
Jan. 30	94.7	113.2	101.2	151.6	92.7	94.0	87.7	98.2	125.6	88.6	105.8
Feb. 13	93.6	113.2	102.4	151.6	90.0	94.0	87.7	101.8	125.7	88.6	108.3
Feb. 27	95.7	115.8	102.4	154.2	90.3	95.7	88.7	98.2	126.7	89.3	108.1
Mar. 13	95.7	114.9	102.4	150.3	92.0	96.6	88.7	98.2	127.0	90.6	108.2
Mar. 27	95.7	116.7	102.4	147.1	92.7	96.6	88.7	100.0	127.4	91.3	108.0
Apr. 10	95.7	115.8	103.7	144.4	92.3	97.4	89.6	100.0	128.1	92.3	107.4
Apr. 24	95.7	115.8	103.7	146.4	92.3	96.6	89.6	98.2	126.7	91.9	107.3
May 8	95.7	116.7	103.7	147.1	99.0	97.4	90.6	98.2	128.5	92.3	108.2
May 22	95.7	117.5	103.7	145.1	109.7	98.3	90.6	98.2	129.0	92.6	108.4
June 5	95.7	116.7	104.9	145.8	114.0	98.3	90.6	96.4	129.8	92.6	108.4
June 19	95.7	116.7	102.4	149.7	131.3	98.3	90.6	98.2	129.4	92.6	109.1
July 3	95.7	116.7	102.4	150.3	129.7	99.1	90.6	100.0	128.5	92.3	109.6
July 17	95.7	116.7	102.4	151.6	127.0	99.1	91.5	103.6	130.1	92.3	109.9
July 31	95.7	117.5	102.4	152.9	123.0	99.1	91.5	105.5	130.7	92.3	110.4

¹ 22 articles 1913-20; 42 articles 1921-34.

TABLE 6.—RELATIVE RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913 AND 1920-34, AND BY PERIODS FOR 1931-34—Continued

Year and period	Corn, canned	Peas, canned	Tomatoes, canned	Bananas	Oranges	Prunes	Raisins	Sugar	Tea	Coffee	All articles ¹
1934:											
Aug. 14.....	95.7	117.5	101.2	153.6	125.0	100.0	91.5	103.6	131.3	92.6	111.8
Aug. 23.....	96.8	119.3	101.2	149.7	124.0	100.0	91.5	103.6	132.9	93.0	115.3
Sept. 11.....	97.9	120.2	100.0	154.2	123.3	98.3	91.5	103.6	132.5	93.0	116.8
Sept. 25.....	98.9	120.2	100.0	156.9	123.3	98.3	91.5	103.6	132.9	93.6	116.4
Oct. 9.....	101.1	120.2	100.0	156.2	119.7	98.3	91.5	103.6	132.5	94.0	115.6
Oct. 23.....	103.2	121.1	100.0	154.9	131.3	97.4	91.5	103.6	132.7	94.3	115.4
Nov. 6.....	104.3	121.1	101.2	152.3	124.7	98.3	91.5	103.6	132.9	94.0	115.3
Nov. 20.....	104.3	121.1	101.2	149.0	111.7	97.4	91.5	101.8	132.5	94.0	114.9
Dec. 4.....	105.3	121.1	101.2	147.1	101.0	97.4	91.5	101.8	133.3	94.0	114.6
Dec. 18.....	105.3	121.1	101.2	145.8	96.0	97.4	91.5	100.0	133.8	93.6	114.3

¹ 22 articles 1913-20; 42 articles 1921-34.

Year-to-year price changes are more accurate when made on relative prices and index numbers than on actual prices. This is true because of minor changes in the number of reporters and allows for adjustments in differences of package contents of the several items.

Table 7 shows by cities the changes since 1913 in the retail prices of food for specified periods covered by the Bureau in 1931, 1932, 1933, and 1934.

For 39 cities comparisons for each period are made with the average for the year 1913 as shown in index numbers of the weighted retail cost of food. For the remaining 12 cities for which prices were not collected for the year 1913 the comparisons are made on the weighted cost of food for the first year for which prices were collected, as indicated in the footnotes.

TABLE 7.—PERCENTAGE OF CHANGE SINCE 1913 IN RETAIL COST OF FOOD BY CITIES AND FOR THE UNITED STATES, BY MONTHS AND YEARS, 1931-34

City and year	Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept 15	Oct. 15	Nov. 15	Dec. 15
United States:													
1931.....	+21.3	+32.8	+27.0	+26.4	+24.0	+21.0	+18.3	+19.0	+19.7	+19.4	+19.1	+16.7	+14.3
1932.....	+2.1	+9.3	+5.3	+5.0	+3.7	+1.3	+1.1	+1.0	+8	+3	+4	-6	-1.3
1933.....	-3	-5.2	-9.1	-9.5	-9.6	-6.3	-3.3	+4.8	+6.7	+7.0	+7.3	+6.8	+3.9
1934.....	+10.8	+5.2	+8.3	+8.2	+7.4	+8.3	+8.8	+9.7	+13.5	+16.6	+15.6	+14.9	+14.3
Atlanta:													
1931.....	+21.2	+33.3	+27.6	+26.3	+25.6	+21.4	+19.8	+19.6	+19.2	+17.6	+15.3	+15.3	+11.9
1932.....	0	+6.0	+2.3	+2.3	+1.4	+7	+1	-4	-7	-1.4	-2.3	-3.7	-4.9
1933.....	-3.3	-8.0	-12.4	-14.2	-13.8	-9.5	-4.2	+9	+4.9	+5.4	+4.1	+2.9	+2.4
1934.....	+7.6	+5	+3.8	+4.7	+3.8	+5.9	+5.9	+7.1	+8.9	+14.8	+15.4	+13.2	+14.1
Baltimore:													
1931.....	+26.6	+39.1	+32.5	+32.1	+29.4	+25.3	+23.0	+23.8	+24.9	+24.7	+24.2	+20.5	+18.5
1932.....	+5.9	+13.9	+8.3	+7.2	+6.4	+2.3	+2.5	+6.4	+4.8	+5.7	+4.0	+3.8	+3.2
1933.....	+3.5	-7	-5.8	-5.8	-6.7	-2.8	-4	+6.8	+9.3	+10.5	+13.4	+12.4	+9.5
1934.....	+17.9	+10.8	+12.9	+15.8	+12.7	+14.5	+14.6	+16.2	+18.7	+24.3	+22.7	+22.5	+21.3
Birmingham:													
1931.....	+19.8	+36.6	+30.6	+26.4	+22.2	+18.5	+14.5	+16.1	+16.3	+15.8	+14.6	+13.2	+10.1
1932.....	+1.2	+7.1	+2.4	+3.4	+4.9	+1.3	-1.9	-9	+8	-1.7	-1	+1	-9
1933.....	-2.5	-7.3	-10.8	-10.4	-10.5	-6.7	-2.4	+9	+3.7	+3.0	+3.6	+4.0	+2.3
1934.....	+9.6	+5.0	+4.6	+5.3	+5.4	+6.3	+4.0	+5.9	+10.0	+17.0	+15.6	+13.6	+14.4
Boston:													
1931.....	+24.4	+34.9	+28.8	+27.9	+25.0	+21.3	+20.1	+21.4	+23.7	+23.7	+25.1	+23.9	+17.9
1932.....	+3.2	+9.7	+5.6	+4.7	+3.6	+4	-3	+3.5	+2.8	+2.2	+2.6	+2.2	+1.6
1933.....	+1.0	-1.9	-7.4	-8.2	-9.0	-6.9	-1.9	+7.4	+7.9	+8.6	+8.4	+8.1	+3.6
1934.....	+11.4	+5.4	+8.4	+8.0	+6.0	+8.0	+10.4	+11.2	+13.2	+15.9	+15.4	+13.7	+11.1
Bridgeport:²													
1931.....	-15.8	-9.7	-13.5	-14.1	-14.9	-17.1	-17.6	-18.1	-16.8	-16.1	-15.8	-17.8	-19.0
1932.....	-27.1	-22.2	-24.7	-24.4	-26.6	-25.5	-29.5	-27.4	-28.1	-28.3	-27.2	-28.4	-28.8
1933.....	-29.7	-31.4	-35.2	-37.4	-36.2	-35.0	-32.0	-29.7	-25.1	-24.3	-23.6	-24.5	-26.2
1934.....	-21.0	-25.1	-24.4	-23.4	-24.5	-24.0	-23.6	-21.6	-21.1	-18.6	-19.7	-18.3	-20.0

¹ Same as footnote at end of table.

² Since 1917.

TABLE 7.—PERCENTAGE OF CHANGE SINCE 1913 IN RETAIL COST OF FOOD BY CITIES AND FOR THE UNITED STATES, BY MONTHS AND YEARS, 1931-34—Continued

City and year	Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
Buffalo:													
1931.....	+23.6	+33.9	+29.0	+27.5	+26.1	+23.7	+21.0	+21.5	+22.6	+22.9	+23.3	+20.7	+10.3
1932.....	+5.2	+7.6	+3.5	+7.5	+10.8	+6.6	+4.7	+6.6	+6.3	+4.3	+4.5	+2.7	+3.8
1933.....	+3.7	-2.1	-7.2	-7.3	-7.3	-3.2	+4	+9.8	+13.0	+12.6	+12.1	+11.7	+8.4
1934.....	+15.5	+9.7	+14.4	+14.8	+12.5	+11.9	+15.5	+15.8	+16.7	+21.4	+19.5	+18.1	+18.3
Butte:³													
1931.....	+6.9	+11.7	+9.4	+7.5	+6.6	+5.9	+6.3	+6.2	+6.7	+6.4	+5.4	+4.6	+3.8
1932.....	-10.6	+9	-4.7	-7.6	-9.3	-11.7	-12.0	-12.2	-13.0	-13.4	-15.0	-15.6	-15.2
1933.....	-16.0	-17.0	-20.6	-20.4	-21.5	-17.1	-16.3	-9.4	-11.6	-18.3	-14.0	-14.5	-16.4
1934.....	-7.6	-16.7	-13.7	-13.9	-11.3	-13.1	-10.3	-7.0	-6.6	-1.9	-2.4	-8	-1.8
Charleston:													
1931.....	+26.1	+38.1	+32.6	+32.0	+29.5	+25.1	+23.2	+23.3	+23.9	+23.9	+23.6	+19.1	+17.8
1932.....	+6.1	+14.9	+11.0	+9.6	+8.4	+6.5	+4.4	+4.6	+4.0	+4.0	+3.3	+1.1	+1
1933.....	-1	-2.7	-8.4	-10.7	-8.5	-7.0	-5.5	+1.2	+6.7	+8.0	+7.9	+8.0	+9.3
1934.....	+10.4	+8.8	+8.9	+8.6	+8.1	+7.1	+7.1	+8.2	+9.7	+14.6	+15.2	+15.2	+14.6
Chicago:													
1931.....	+33.6	+44.9	+38.8	+36.9	+34.5	+32.1	+30.1	+32.2	+34.4	+33.8	+31.3	+29.3	+26.3
1932.....	+11.2	+19.0	+13.8	+16.3	+13.8	+9.3	+8.6	+11.2	+10.4	+9.9	+9.5	+7.9	+2.3
1933.....	+4.2	-2.3	-4.9	-5.8	-3.6	0	+2.4	+12.5	+12.9	+11.0	+10.0	+10.5	+8.0
1934.....	+13.6	+10.0	+13.0	+10.7	+8.6	+9.0	+12.5	+13.3	+15.9	+20.0	+17.8	+16.9	+17.1
Cincinnati:													
1931.....	+28.6	+41.1	+35.2	+33.5	+31.2	+27.8	+25.7	+26.8	+26.9	+26.0	+25.6	+23.2	+19.7
1932.....	+1.0	+13.1	+6.0	+5.6	+1.1	-1.0	-6	+1.2	-1.4	-2.2	-3.7	-3.5	-2.6
1933.....	-4	-4.9	-8.7	-9.8	-9.6	-7.1	-3.3	+5.5	+6.9	+6.1	+8.6	+9.1	+1.3
1934.....	+12.1	+5.2	+7.8	+8.2	+8.0	+8.2	+8.7	+10.6	+11.6	+15.9	+15.1	+15.5	+15.7
Cleveland:													
1931.....	+16.4	+28.2	+23.5	+23.8	+19.3	+18.1	+13.3	+13.8	+15.2	+14.3	+12.3	+9.5	+7.1
1932.....	-2.8	+4.3	+1.5	-1.3	-1.9	-3.4	-4.1	-1.1	-3.0	-4.6	-6.2	-7.5	-8.2
1933.....	-4.4	+1.9	-15.3	-14.7	-15.3	-11.9	-7.9	+3.8	+6.8	+5.6	+5.5	+3.2	+7
1934.....	+9.0	+2.8	+4.8	+6.1	+5.7	+5.8	+5.8	+8.1	+9.8	+14.5	+12.6	+11.2	+9.6
Columbus:²													
1931.....	-24.1	-13.6	-18.7	-18.6	-18.9	-21.1	-22.7	-23.3	-22.8	-23.1	-23.4	-25.0	-26.0
1932.....	-35.8	-31.1	-34.2	-32.9	-34.2	-36.7	-36.4	-35.0	-37.0	-37.1	-38.1	-39.2	-39.1
1933.....	-36.6	-41.2	-43.6	-43.8	-43.3	-40.9	-39.1	-31.3	-30.8	-29.6	-29.7	-31.9	-33.1
1934.....	-26.0	-31.7	-30.3	-29.3	-31.1	-30.2	-29.7	-27.5	-26.8	-23.3	-24.6	-25.5	-25.8
Dallas:													
1931.....	+17.3	+34.1	+28.1	+25.7	+19.8	+15.4	+12.2	+11.8	+13.0	+11.6	+11.8	+10.5	+12.7
1932.....	-2.6	+5.9	+9	+4	+1.0	-1.9	-7.6	-6.9	-6.0	-5.6	-4.6	-4.4	-3.8
1933.....	-4.2	-9.6	-14.3	-14.8	-13.1	-9.2	-6.0	-5	+3.9	+3.8	+2.5	+4.5	+3.2
1934.....	+7.8	+2.2	+3.8	+3.7	+3.7	+3.6	+4.9	+8.1	+7.6	+14.7	+13.2	+14.4	+15.3
Denver:													
1931.....	+10.4	+18.4	+11.9	+12.1	+11.6	+9.1	+8.5	+10.3	+10.5	+9.6	+9.5	+7.6	+5.7
1932.....	-4.4	-8	-2.9	-2.6	-4.6	-5.3	-6.5	-5.1	-4.7	-5.0	-5.3	-5.8	-5.2
1933.....	-5.1	-7.1	-12.9	-13.2	-12.7	-9.0	-6.9	+1.8	-2	+1.2	+4.9	-7	-3.0
1934.....	+4.5	-2.6	+7	+2	-1.4	+1	+3.9	+1.9	+4.0	+10.4	+12.0	+11.0	+11.4
Detroit:													
1931.....	+21.6	+34.5	+26.9	+27.2	+25.9	+23.7	+18.3	+17.6	+20.9	+21.8	+18.1	+12.6	+11.0
1932.....	-3.7	+5.1	-5	-5	-3.6	-6.3	-4.5	+6	-4.2	-5.9	-7.8	-9.0	-8.5
1933.....	-2.1	-10.4	-13.5	-13.4	-13.8	-9.2	-6.0	+5.4	+7.0	+8.3	+7.8	+6.3	+3.1
1934.....	+12.2	+5.2	+7.5	+8.4	+9.7	+10.8	+14.0	+13.0	+14.4	+18.3	+15.4	+13.6	+12.6
Fall River:													
1931.....	+18.3	+27.9	+22.1	+22.2	+21.5	+18.1	+14.5	+15.6	+15.0	+16.4	+17.5	+16.0	+13.3
1932.....	+1.2	+7.7	+4.4	+4.3	+2.8	+6	-1.6	0	+5	-3	-1.1	-2.4	-2.7
1933.....	-2.1	-6.0	-10.1	-11.5	-12.9	-9.6	-6.4	+5.0	+6.4	+5.5	+6.7	+5.1	+3.1
1934.....	+9.6	+3.9	+5.9	+6.2	+5.1	+6.3	+7.5	+9.7	+10.9	+16.2	+14.0	+14.1	+11.3
Houston:⁴													
1931.....	-37.9	-30.7	-34.8	-35.2	-35.7	-37.6	-39.9	-39.9	-39.1	-39.8	-40.0	-41.9	-40.8
1932.....	-48.6	-42.3	-44.7	-45.6	-47.4	-50.0	-50.1	-50.7	-50.2	-49.6	-50.0	-52.1	-51.7
1933.....	-49.2	-53.1	-55.0	-52.3	-52.6	-51.5	-51.0	-46.7	-45.4	-45.8	-45.8	-45.1	-45.2
1934.....	-41.1	-45.3	-44.2	-43.6	-43.4	-44.1	-43.8	-41.8	-41.7	-38.0	-37.7	-38.0	-37.3
Indianapolis:													
1931.....	+16.5	+28.8	+20.5	+22.3	+18.7	+15.1	+12.7	+15.1	+16.1	+14.8	+13.8	+10.2	+8.7
1932.....	-2.8	+2.5	+5	-5	-1.1	-4.6	-4.0	+4	-1.7	-5.1	-5.6	-7.5	-6.6
1933.....	-5.8	-12.2	-15.7	-15.9	-17.7	-13.8	-7.2	+3.8	+5.9	+4.4	+1.2	+1.2	-2.0
1934.....	+5.0	-5	+1.8	+4.0	+3.4	+3.9	+4.3	+4.7	+5.6	+9.8	+7.4	+3.4	+7.6
Jacksonville:													
1931.....	+14.3	+27.6	+22.6	+20.1	+15.5	+14.3	+12.7	+11.3	+11.5	+11.6	+10.9	+8.4	+5.3
1932.....	-6.2	+1.4	-5.4	-5.1	-5.5	-7.2	-7.2	-9.2	-5.7	-6.2	-7.4	-8.4	-9.1
1933.....	-8.8	-14.0	-17.8	-19.7	-18.0	-14.3	-12.4	-4.8	-2.0	-2	-3	-9	-2.2
1934.....	+3.0	-2.2	+1	-1.8	-1.9	-1.7	+2	+3.4	+5.0	+9.2	+9.1	+8.2	+9.4
Kansas City:													
1931.....	+20.9	+31.6	+26.1	+26.8	+26.0	+22.6	+19.8	+19.1	+17.7	+17.4	+17.4	+14.2	+13.5
1932.....	+1	+6.6	+2.3	+2.6	+1.3	-1.1	-2.2	-3.9	-2.0	-1.3	-7	-1.3	-1.5
1933.....	-1.5	-6.1	-8.6	-8.8	-8.1	-6.0	-1.8	+3.6	+5.4	+5.7	+3.5	+2.7	+3
1934.....	+10.6	+3.2	+5.9	+6.8	+5.6	+7.5	+7.9	+9.2	+14.4	+18.1	+15.1	+14.2	+14.5

¹ Same as footnote at end of table.² Since 1917.³ Since 1915.⁴ Since 1919.

RETAIL PRICES IN UNITED STATES

TABLE 7.—PERCENTAGE OF CHANGE SINCE 1913 IN RETAIL COST OF FOOD BY CITIES AND FOR THE UNITED STATES, BY MONTHS AND YEARS, 1931-34—Continued

City and year	Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
Little Rock:													
1931	+12.8	+25.4	+18.9	+19.5	+17.5	+13.3	+10.0	+10.4	+8.6	+10.4	+9.1	+5.4	+4.0
1932	-3.9	-2.0	-6.6	-7.0	-7.8	-9.5	-10.3	-10.3	-8.8	-8.5	-8.7	-10.6	-12.6
1933	-11.4	-18.7	-19.3	-20.0	-19.9	-17.1	-16.7	-10.7	-3.0	-3.1	-3.3	-2.4	-2.0
1934	+3.3	-1.0	-1.1	-2	-1.3	-2.0	-2.8	-1.2	+3.2	+11.1	+8.5	+7.0	+7.7
Los Angeles:													
1931	+10.5	+18.2	+15.5	+14.5	+11.1	+9.8	+5.5	+6.0	+7.8	+10.2	+8.6	+8.0	+5.0
1932	-6.6	+2.7	-4	-4.0	-7.2	-7.4	-10.1	-10.3	-14.6	-7.7	-7.5	-5.8	-6.2
1933	-6.6	-8.2	-13.0	-12.5	-15.1	-13.5	-11.6	-6.8	+2	+1.9	+1.3	+1	-5.1
1934	-2.1	-6.2	-6.1	-5.6	-6.5	-7.5	-3.0	-6	+3.9	+5.8	+6.4	+6.5	+5.3
Louisville:													
1931	+14.3	+26.8	+20.4	+18.6	+15.7	+14.7	+11.9	+12.6	+12.7	+11.4	+11.1	+8.4	+7.8
1932	+4.6	+3.1	-1.0	-1.2	-2.9	-4.6	-7.3	-7.0	-6.8	-7.4	-8.3	-7.9	-6.8
1933	-4.3	-11.5	-15.3	-14.9	-13.2	-9.4	-6.0	+2.3	+3.9	+5.8	+3.6	+1.0	5
1934	+7.9	+2	+2.3	+4.9	+3.9	+6.2	+5.2	+4.3	+9.4	+12.3	+11.7	+13.1	+13.2
Manchester:													
1931	+20.8	+28.7	+23.1	+23.2	+22.1	+20.3	+18.5	+19.8	+22.2	+22.0	+20.6	+18.2	+10.8
1932	+2.4	+7.3	+3.9	+3.9	+2.8	+7	-1.0	+2.1	+3.6	+2.6	+1.1	+1.5	+2
1933	+7.6	-3.9	-9.1	-9.3	-9.7	-7.5	-3.0	+9.6	+9.4	+8.5	+8.3	+5.3	+5.9
1934	+13.6	+5.8	+8.5	+8.7	+7.5	+8.2	+9.1	+13.7	+14.7	+16.9	+15.7	+16.1	+13.9
Memphis:													
1931	+12.5	+25.4	+17.7	+15.9	+15.3	+12.3	+9.8	+9.2	+10.4	+10.2	+10.2	+7.1	+5.0
1932	-5.1	+1.2	-2	-1.5	-3.0	-3.3	-7.9	-7.7	-6.6	-6.6	-7.6	-8.2	-9.6
1933	-8.3	-13.9	-17.2	-17.6	-17.5	-13.9	-10.7	-4.2	-7	-1.1	-7	-4	-1.3
1934	+5.2	-8.8	+8	+1.8	+9	+1.7	+2.2	+2.5	+7.2	+12.1	+9.4	+8.9	+9.2
Milwaukee:													
1931	+24.0	+33.4	+28.1	+26.9	+25.1	+23.7	+21.8	+23.8	+24.5	+23.2	+22.1	+19.3	+15.1
1932	+5.3	+13.7	+8.7	+9.3	+8.3	+4.6	+3.3	+5.0	+2.9	+2.2	+2.0	+1.3	+6
1933	+2.4	-4.6	-5.3	-6.5	-5.2	-2.1	0	+11.3	+11.8	+9.8	+7.7	+9.2	+3.9
1934	+15.8	+7.3	+9.3	+10.6	+8.9	+10.0	+11.2	+12.2	+12.7	+13.9	+20.3	+19.7	+13.3
Minneapolis:													
1931	+22.8	+34.3	+28.7	+27.3	+23.8	+21.9	+21.0	+23.9	+21.8	+20.3	+19.7	+17.0	+14.2
1932	+1.0	+10.4	+6.3	+5.1	+2.4	0	-7	-2	-1.7	-1.9	-1.9	-1.7	-1.9
1933	-2.3	-8.0	-13.3	-14.4	-13.9	-9.9	-6.1	+7.0	+6.7	+4.4	+6.9	+6.1	+4.7
1934	+12.9	+7.5	+9.7	+9.4	+9.6	+10.9	+12.6	+14.1	+15.2	+20.5	+17.9	+15.4	+15.2
Mobile:													
1931	-37.8	-30.8	-35.4	-36.0	-36.3	-38.6	-39.1	-39.2	-38.6	-38.4	-39.1	-40.2	-41.6
1932	-49.2	-45.3	-47.9	-47.4	-47.6	-49.8	-51.1	-50.7	-50.0	-50.1	-50.0	-50.2	-50.5
1933	-50.5	-52.1	-54.3	-54.3	-53.9	-53.4	-52.2	-40.1	-47.5	-46.4	-47.5	-47.5	-47.1
1934	-45.2	-47.4	-46.6	-47.0	-46.9	-47.2	-47.3	-46.4	-44.7	-42.1	-42.3	-43.1	-42.7
Newark:													
1931	+23.0	+30.9	+27.0	+26.2	+24.8	+23.7	+19.8	+21.0	+22.5	+22.5	+24.4	+18.7	+14.2
1932	+5.8	+9.6	+6.6	+6.7	+8.6	+5.8	+4.8	+6.5	+4.3	+5.1	+5.3	+5.1	+2.0
1933	-1	-1.5	-8.1	-9.8	-10.2	-7.0	-3.5	+3.3	+6.0	+6.5	+9.8	+8.2	+5.4
1934	+13.0	+6.1	+9.2	+10.1	+9.8	+12.4	+11.2	+12.5	+13.0	+16.0	+15.6	+16.0	+15.4
New Haven:													
1931	+27.5	+38.6	+33.7	+31.4	+28.7	+25.4	+23.5	+24.5	+25.0	+26.1	+26.0	+24.1	+22.5
1932	+9.5	+13.8	+13.9	+13.8	+12.2	+8.8	+7.3	+7.7	+7.3	+6.9	+6.4	+4.7	+4.5
1933	+4.3	+1.5	-4.0	-7.7	-5.8	-2.9	+1	+9.2	+12.8	+12.3	+13.7	+11.8	+10.2
1934	+17.9	+12.2	+14.1	+14.2	+12.7	+13.5	+14.8	+17.1	+18.2	+23.3	+21.6	+21.0	+16.0
New Orleans:													
1931	+17.9	+32.3	+26.7	+23.8	+20.5	+15.8	+12.1	+14.1	+13.9	+15.7	+14.6	+13.2	+12.2
1932	+4.4	+9.3	+6.5	+5.4	+3.9	-9	-4.3	-2.9	-3	-8	-9	-2.6	-1.1
1933	-1.2	-3.8	-8.9	-8.9	-11.1	-8.3	-6.1	+2.6	+5.2	+7.4	+6.2	+5.9	+4.3
1934	+10.6	+3.6	+7.5	+8.6	+7.3	+7.0	+6.0	+6.4	+9.8	+16.3	+17.3	+16.3	+15.7
New York:													
1931	+27.9	+37.0	+33.2	+31.0	+28.8	+27.3	+24.9	+25.5	+26.5	+26.9	+28.1	+24.4	+19.4
1932	+10.2	+15.6	+10.8	+11.5	+11.2	+10.0	+8.7	+9.3	+9.2	+9.2	+9.8	+9.0	+6.3
1933	+6.4	+2.2	-3.0	-3.9	-3.3	+1.6	+3.4	+9.9	+11.2	+12.4	+16.3	+14.1	+10.6
1934	+18.4	+12.3	+16.5	+16.5	+16.1	+17.3	+18.5	+17.7	+17.3	+21.0	+20.3	+20.8	+19.8
Norfolk:													
1931	-36.6	-28.6	-32.6	-33.7	-34.3	-37.6	-38.4	-38.9	-38.8	-38.2	-38.2	-39.1	-41.2
1932	-45.4	-40.7	-43.0	-44.4	-45.0	-46.1	-46.5	-46.3	-46.0	-45.7	-46.2	-46.6	-48.9
1933	-49.8	-50.1	-54.4	-55.1	-55.2	-53.4	-52.4	-48.6	-47.2	-46.3	-45.0	-44.9	-46.4
1934	-45.0	-46.3	-45.4	-43.6	-44.8	-44.0	-44.7	-44.1	-42.9	-39.7	-40.4	-40.7	-40.7
Omaha:													
1931	+14.4	+25.1	+18.0	+19.3	+17.4	+14.4	+14.0	+14.8	+14.3	+12.7	+11.7	+8.6	+6.2
1932	-4.7	+3.7	+1.4	+3	-1.7	-5.6	-7.7	-7.5	-8.2	-6.5	-6.7	-9.0	-9.0
1933	-6.8	-14.6	-17.5	-17.7	-16.0	-12.6	-7.8	+8	+11.2	-1.4	+1.1	+6	-1.2
1934	+6.7	+1.1	+4.0	+3.8	+2.8	+3.0	+5.0	+7.8	+9.3	+14.5	+11.1	+11.2	+11.6
Peoria:													
1931	-37.1	-30.9	-33.6	-33.7	-34.2	-38.3	-39.1	-38.6	-38.7	-39.4	-40.0	-40.9	-41.8
1932	-47.2	-44.0	-45.2	-45.1	-45.8	-47.9	-48.0	-47.2	-47.6	-48.3	-48.5	-49.0	-48.6
1933	-48.1	-51.0	-53.0	-53.1	-51.1	-50.4	-49.1	-48.6	-43.1	-44.6	-44.4	-43.7	-45.4
1934	-42.2	-43.9	-44.1	-43.4	-43.8	-44.2	-41.8	-41.1	-40.7	-38.2	-40.1	-40.0	-42.6
Philadelphia:													
1931	+28.0	+34.0	+30.1	+29.9	+29.5	+27.5	+26.3	+26.3	+27.9	+26.9	+27.4	+24.8	+22.3
1932	+5.8	+11.6	+8.6	+8.5	+7.0	+5.1	+4.7	+5.0	+4.2	+4.5	+5.1	+2.5	+7.5
1933	+2.2	-3.2	-7.4	-7.5	-8.2	-4.5	-1.0	+8.0	+6.4	+11.1	+10.8	+11.2	+8.2
1934	+18.8	+10.6	+16.6	+16.9	+16.9	+18.3	+17.4	+17.4	+18.9	+23.4	+20.1	+18.7	+18.7

1 Same as footnote at end of table.

4 Since 1919.

TABLE 7.—PERCENTAGE OF CHANGE SINCE 1913 IN RETAIL COST OF FOOD BY CITIES AND FOR THE UNITED STATES, BY MONTHS AND YEARS, 1931-34—Continued

City and year	Year	Jan. 15	Feb. 15	Mar. 15	Apr. 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15
Pittsburgh:													
1931	+21.7	+32.3	+27.3	+27.2	+25.1	+22.4	+19.6	+19.8	+20.0	+19.6	+17.6	+15.8	+11.7
1932	-3.9	+6.3	+3.1	+3.0	+2.0	-1.9	-2.8	-2.3	-2.0	-1.4	-0.9	-2.8	-3.5
1933	-3.1	-9.3	-13.0	-12.7	-11.5	-7.6	-5.9	+2.5	+3.8	+3.9	+5.3	+4.3	+2.1
1934	+10.5	+5.2	+6.5	+9.4	+8.0	+9.6	+10.3	+8.3	+10.7	+13.4	+12.3	+15.2	+15.0
Portland, Maine:⁴													
1931	-33.1	-28.9	-31.5	-32.1	-32.8	-34.3	-34.9	-33.1	-32.0	-32.9	-33.4	-33.6	-36.6
1932	-42.4	-39.4	-40.9	-40.9	-40.9	-42.4	-43.1	-42.0	-42.9	-43.5	-43.7	-44.6	-44.7
1933	-44.5	-46.4	-48.5	-49.2	-48.8	-47.2	-46.0	-40.6	-40.2	-41.0	-41.3	-41.1	-42.9
1934	-38.3	-42.0	-41.0	-40.2	-41.9	-41.5	-38.0	-38.1	-37.1	-35.3	-36.9	-36.8	-38.2
Portland, Oreg.:													
1931	+9.2	+14.5	+12.3	+11.0	+8.4	+8.9	+9.3	+8.2	+7.9	+8.0	+7.5	+7.1	+7.1
1932	-4.2	+1.1	-1.5	-2.7	-3.0	-3.3	-6.5	-5.6	-5.4	-5.1	-4.9	-7.2	-5.9
1933	-8.7	-9.8	-14.5	-14.9	-16.3	-12.0	-9.8	-4.3	-4.1	-3.3	-4.0	-5.5	-7.2
1934	+1.8	-6.4	-3.5	-4.0	-5.4	-5.1	-3.0	-7.1	+1.4	+4.9	+6.6	+7.6	+4.2
Providence:													
1931	+23.3	+32.5	+26.9	+24.9	+23.0	+19.9	+18.0	+19.8	+23.3	+24.4	+24.5	+24.0	+18.5
1932	+3.8	+10.4	+5.4	+6.0	+5.6	+3.3	+2.9	+4.1	+3.0	+2.2	+1.6	+1.7	-1.1
1933	+1.9	-1.3	-6.2	-7.3	-8.0	-4.6	-7.1	-7.5	+9.1	+9.0	+10.1	+8.5	+5.8
1934	+12.4	+6.3	+11.9	+8.7	+6.7	+7.3	+8.3	+11.1	+12.9	+18.2	+16.9	+16.4	+12.8
Richmond:													
1931	+25.4	+39.4	+32.5	+31.9	+27.3	+24.9	+22.1	+21.1	+21.4	+21.6	+21.5	+20.2	+18.6
1932	+4.7	+13.2	+9.1	+7.4	+6.5	+2.7	+1.6	+3.0	+4.0	+3.0	+4.7	+2.0	+1.1
1933	+1.8	-1.7	-8.2	-8.1	-8.5	-4.8	-2.2	+4.1	+7.9	+10.9	+12.0	+10.1	+9.0
1934	+16.0	+9.0	+11.9	+13.2	+12.9	+13.3	+14.3	+14.8	+17.4	+24.0	+21.2	+20.4	+20.4
Rochester:²													
1931	-21.2	-13.9	-15.9	-17.9	-17.3	-23.4	-24.2	-23.8	-23.5	-23.1	-22.8	-24.2	-25.2
1932	-32.5	-28.5	-30.5	-30.5	-31.3	-33.4	-34.0	-32.2	-32.1	-34.2	-34.6	-34.8	-35.7
1933	-34.5	-38.2	-40.9	-41.3	-41.3	-39.6	-37.4	-29.7	-29.4	-28.3	-28.3	-29.0	-31.1
1934	-25.6	-30.0	-27.6	-27.0	-27.7	-27.0	-25.2	-25.1	-24.8	-21.7	-23.0	-24.1	-24.6
St. Louis:													
1931	+23.7	+34.5	+29.8	+29.8	+27.6	+24.4	+21.7	+23.1	+22.6	+21.0	+19.8	+16.5	+13.7
1932	+2.6	+10.7	+7.9	+7.1	+5.1	+2.3	+2	+1.1	+5	+1	-7.8	-2	-1.8
1933	+1.4	-5.9	-9.6	-8.7	-8.6	-4.1	-1	+8.7	+11.8	+10.2	+7.9	+7.4	+4.7
1934	+14.2	+7.3	+10.9	+11.6	+10.5	+9.6	+11.6	+11.7	+15.4	+21.6	+19.0	+18.5	+17.6
St. Paul:⁵													
1931	+17.6	+28.7	+21.4	+22.3	+19.2	+18.3	+16.6	+18.9	+16.7	+14.4	+13.7	+10.6	+10.0
1932	-2.0	+6.4	+3.0	+1.5	-3	-1.2	-3.0	-1.6	-5.0	-5.7	-5.8	-5.8	-6.4
1933	-4.5	-9.4	-13.2	-15.8	-14.7	-11.9	-8.3	+4.1	+2.2	+1.6	+2.4	+3.7	+2.7
1934	+10.7	+4.0	+7.1	+7.6	+6.4	+7.5	+10.2	+12.6	+12.0	+15.8	+14.4	+13.2	+12.4
Salt Lake City:													
1931	+6.1	+11.4	+8.7	+8.7	+6.5	+6.0	+7.1	+5.7	+6.0	+5.2	+4.7	+2.9	+1.0
1932	-11.7	-5.6	-7.7	-9.2	-10.7	-10.9	-12.9	-12.8	-15.8	-18.0	-12.8	-14.2	-13.1
1933	-13.4	-17.8	-21.6	-21.2	-19.8	-17.0	-12.3	-7.6	-7.1	-9.9	-8.5	-7.0	-10.9
1934	-3.8	-10.7	-6.9	-6.5	-7.6	-7.8	-5.6	-4.4	-3.9	+2	+2.0	+2.2	+9
San Francisco:													
1931	+22.5	+33.1	+28.7	+26.8	+23.8	+22.8	+20.9	+21.0	+17.3	+19.5	+20.3	+18.9	+15.1
1932	+7.3	+12.2	+10.3	+10.0	+9.7	+7.3	+4.4	+3.2	+4.4	+5.5	+6.3	+7.0	+7.2
1933	+4.6	+2.2	-1.6	-2.2	-1.3	+1.6	+3.4	+6.7	+9.5	+10.2	+8.8	+10.3	+6.3
1934	+13.5	+4.4	+9.8	+10.5	+8.9	+8.9	+10.8	+11.5	+13.9	+17.1	+18.5	+21.1	+18.1
Savannah:⁶													
1931	-42.3	-37.0	-39.2	-39.6	-40.1	-41.8	-42.8	-44.1	-43.1	-44.0	-44.2	-45.7	-46.3
1932	-51.9	-48.1	-50.3	-51.3	-51.4	-52.8	-53.8	-53.2	-51.8	-52.0	-52.6	-53.2	-53.1
1933	-52.9	-54.7	-56.9	-57.5	-57.7	-56.9	-55.4	-50.3	-48.4	-48.5	-48.2	-49.1	-50.0
1934	-46.9	-50.0	-48.8	-48.1	-48.4	-48.8	-48.4	-48.0	-47.1	-44.3	-44.5	-44.7	-44.7
Scranton:													
1931	+28.4	+40.9	+33.9	+31.0	+30.1	+27.3	+25.5	+25.1	+26.0	+27.2	+27.6	+25.5	+21.6
1932	+8.3	+15.4	+11.0	+10.6	+11.0	+8.8	+6.9	+6.6	+6.0	+5.8	+5.9	+5.2	+4.9
1933	+6.2	+2.0	-2.5	-3.4	-3.8	-6	+2.2	+12.0	+13.5	+13.4	+13.8	+14.0	+12.0
1934	+15.4	+12.9	+14.9	+15.7	+14.3	+15.3	+14.7	+15.0	+18.2	+20.6	+17.8	+16.4	+17.3
Seattle:													
1931	+17.4	+23.4	+19.9	+20.0	+19.0	+18.7	+16.7	+15.1	+15.7	+15.2	+15.5	+14.4	+13.2
1932	+1.5	+6.9	+4.9	+4.5	+4.6	+2.8	+3	+1.1	-3	-1.3	-2.1	-1.8	-1.3
1933	-1.3	-5.9	-9.8	-9.6	-7.6	-3.1	+1.3	+3.5	+4.7	+5.3	+3.3	+3.1	0
1934	+7.1	+1.6	+5.1	+5.0	+3.2	+2.9	+3.5	+5.2	+6.6	+9.8	+11.1	+13.1	+11.5
Springfield, Ill.:													
1931	+13.8	+28.4	+23.0	+21.5	+15.9	+12.7	+10.6	+11.2	+10.9	+10.5	+7.6	+5.8	+3.5
1932	-5.1	+5	-2.5	-2.0	-2.7	-5.5	-6.8	-5.9	-6.1	-6.6	-7.3	-8.6	-8.2
1933	-5.9	-11.7	-14.6	-15.5	-12.5	-11.2	-7.5	+2.3	+3.3	+9	-6	-2	-4.1
1934	+4.3	-1.2	+5	+2.0	+7	+6	+2.7	+3.2	+6.1	+10.1	+7.5	+6.8	+7.8
Washington:													
1931	+31.0	+43.3	+35.9	+36.0	+34.1	+31.0	+27.7	+28.5	+29.9	+29.8	+28.3	+25.1	+22.1
1932	+8.1	+15.1	+10.1	+10.5	+9.8	+6.2	+6.1	+8.1	+8.7	+7.9	+7.4	+5.8	+2.3
1933	+5.7	+1.4	-2.8	-2.7	-4.5	+2	+2.7	+8.5	+10.7	+13.3	+14.8	+14.6	+10.3
1934	+18.0	+10.6	+14.4	+14.8	+13.7	+16.0	+16.9	+16.8	+17.5	+25.6	+23.5	+24.1	+22.9

¹ Since the fall of 1933 prices have been collected biweekly and are shown for the following dates: 1933—Sept. 12, Oct. 10, Nov. 21, and Dec. 19; 1934—Jan. 16, Feb. and Mar. 13, Apr. 10, May 8, June 19, July 17, Aug. 14, Sept. 11, Oct. 9, Nov. 20, and Dec. 18.

² Since 1917.

³ Since 1915.

⁴ Since 1919.

⁵ Since 1914.

⁶ Since 1920.

For a number of years the Bureau has made a comparison by index numbers in the cost of the groups of cereals, meats, and dairy products. No index had been calculated for the remaining items included in the "All foods" index. These items have been brought together under the caption of "Other foods" and an index number calculated back to 1913.

The items included in the several groups are:

Cereals.—Bread, flour, corn meal, rice, rolled oats, corn flakes, wheat cereal, and macaroni.

Meats.—Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, hens, and leg of lamb.

Dairy products.—Butter, cheese, fresh milk, and evaporated milk.

Other foods.—Canned salmon, oleomargarine, lard, vegetable lard substitute, eggs, navy beans, potatoes, onions, cabbage, beans with pork, canned corn, canned peas, canned tomatoes, sugar, tea, coffee, prunes, raisins, bananas, and oranges.

An explanation of the method used in calculating these indexes is found on page 6 of Bulletin No. 495.

Table 8 shows the index numbers for each of the groups, together with the index for all foods, by years from 1913 to 1934 and by periods for 1931 to 1934. These indexes are based upon average prices for the year 1913 as 100.

TABLE 8.—INDEX NUMBERS OF RETAIL PRICES OF FOOD, BY COMMODITY GROUPS, BY YEARS, 1913-30, AND BY YEARS AND PERIODS, JANUARY 1931 TO DECEMBER 1934

[1913=100]

Year and month	Cereals	Meats	Dairy products	Other foods	All foods	Year and month	Cereals	Meats	Dairy products	Other foods	All foods
1913.....	100.0	100.0	100.0	100.0	100.0	1933.....	126.6	102.7	94.6	98.3	99.7
1914.....	106.7	103.4	97.1	103.8	102.4	Jan. 15.....	112.3	96.9	93.3	94.1	94.8
1915.....	121.6	99.6	96.1	100.1	101.3	Feb. 15.....	112.0	99.0	90.3	84.8	90.9
1916.....	126.8	108.2	103.2	125.8	113.7	Mar. 15.....	112.3	100.1	88.3	84.3	90.5
1917.....	136.5	137.0	127.6	160.2	146.4	Apr. 15.....	112.8	98.8	88.7	84.3	90.4
1918.....	194.3	172.8	153.4	164.5	168.3	May 15.....	115.8	100.1	92.2	89.0	93.7
1919.....	198.0	184.2	176.6	191.5	185.9	June 15.....	117.2	103.7	93.5	94.9	96.9
1920.....	232.1	185.7	185.1	236.8	203.4	July 15.....	128.0	103.5	97.7	110.3	104.8
1921.....	179.8	158.1	149.5	156.1	153.3	Aug. 15.....	137.8	105.7	96.5	110.2	106.7
1922.....	159.3	150.3	135.9	147.0	141.6	Aug. 29.....	138.8	106.9	97.5	109.2	107.1
1923.....	156.9	149.0	147.6	154.3	146.2	Sept. 12.....	140.2	104.4	97.8	109.4	107.0
1924.....	160.4	150.2	142.8	154.3	145.9	Sept. 26.....	142.7	107.8	97.9	107.2	107.4
1925.....	176.2	163.0	147.1	169.8	157.4	Oct. 10.....	143.8	107.3	98.6	105.9	107.3
1926.....	175.5	171.3	145.5	175.9	160.6	Oct. 24.....	143.3	106.3	98.4	104.7	106.6
1927.....	170.7	169.9	148.7	160.8	155.4	Nov. 7.....	143.4	105.9	98.6	105.2	106.7
1928.....	167.2	179.2	150.0	152.4	154.3	Nov. 21.....	143.5	104.1	98.5	106.5	106.8
1929.....	164.1	188.4	148.6	157.0	156.7	Dec. 5.....	142.5	101.2	98.7	105.0	105.6
1930.....	158.0	175.8	136.5	148.0	147.1	Dec. 19.....	142.0	100.4	94.7	103.8	103.9
1931.....	135.9	147.0	114.6	115.9	121.3	1934.....	147.9	117.1	102.2	105.4	110.8
Jan.....	147.1	159.5	123.6	130.1	132.8	Jan. 2.....	142.4	100.8	95.7	104.6	104.5
Feb.....	144.6	153.4	120.2	120.3	127.0	Jan. 16.....	142.5	102.3	96.0	105.8	105.2
Mar.....	142.4	152.5	120.5	119.7	126.4	Jan. 30.....	142.8	103.0	95.9	106.7	105.8
Apr.....	138.9	151.4	116.5	118.3	124.0	Feb. 13.....	143.3	106.7	102.6	106.5	108.3
May.....	137.7	149.3	110.2	115.7	121.0	Feb. 27.....	143.4	107.8	101.8	105.7	108.1
June.....	136.3	145.7	108.3	112.3	118.3	Mar. 13.....	143.4	109.1	102.3	104.8	108.5
July.....	134.3	147.8	109.6	112.9	119.0	Mar. 27.....	144.7	109.7	101.1	104.1	108.0
Aug.....	132.0	149.1	111.9	113.9	119.7	Apr. 10.....	144.7	110.5	99.7	102.7	107.4
Sept.....	130.2	147.7	114.3	112.9	119.4	Apr. 24.....	144.0	112.6	99.0	102.1	107.3
Oct.....	129.8	142.7	117.0	113.1	119.1	May 8.....	144.2	114.9	99.9	102.4	108.2
Nov.....	129.1	135.4	114.4	112.9	116.7	May 22.....	144.4	115.3	99.9	102.7	108.4
Dec.....	127.8	129.3	114.4	112.6	114.3	June 5.....	145.7	116.1	100.4	101.2	108.4
1932.....	121.1	116.0	96.6	98.6	102.1	June 19.....	146.5	117.8	101.1	101.2	109.1
Jan.....	126.4	123.4	106.5	105.4	109.3	July 3.....	146.6	120.0	101.1	101.2	109.6
Feb.....	125.0	117.3	102.9	100.8	105.3	July 17.....	147.7	120.5	100.8	101.4	109.9
Mar.....	124.3	118.9	101.9	99.9	105.0	July 31.....	149.0	120.2	101.6	101.9	110.4
Apr.....	122.9	118.6	97.4	100.3	103.7	Aug. 14.....	149.6	121.1	103.4	103.8	111.8
May.....	122.6	115.3	94.3	97.2	101.3	Aug. 28.....	150.8	123.2	105.6	107.2	115.3
June.....	122.5	113.4	92.6	96.2	100.1	Sept. 11.....	151.6	123.8	105.4	108.8	116.3
July.....	121.2	112.6	91.4	94.8	101.0	Sept. 25.....	151.7	131.7	105.3	108.7	116.4
Aug.....	120.4	120.1	93.1	95.1	100.8	Oct. 9.....	152.0	128.4	105.4	108.1	115.6
Sept.....	119.2	119.2	93.5	94.5	100.3	Oct. 23.....	151.8	126.4	105.4	108.8	115.4
Oct.....	119.0	114.6	93.8	97.5	100.4	Nov. 6.....	152.1	122.6	107.6	109.0	115.3
Nov.....	118.0	109.1	93.9	98.2	99.4	Nov. 20.....	150.9	120.6	108.4	109.3	114.9
Dec.....	114.8	103.2	95.0	100.4	98.7	Dec. 4.....	150.9	119.9	108.5	108.8	114.6
						Dec. 18.....	150.9	120.1	108.8	107.2	114.3

Retail Prices of Coal

RETAIL prices of coal were collected on the 15th of each month, June 1920 to July 1935, inclusive, and quarterly beginning with October 1935 from each of the 51 cities from which retail-food prices are obtained. The prices quoted are for coal delivered to consumers but do not include charges for storing the coal in cellar or bins where an extra handling is necessary.

Average prices for the United States for bituminous coal and for stove and chestnut sizes of Pennsylvania anthracite are computed from the quotations received from retail dealers in all cities where these coals are sold for household use. The prices shown for bituminous coal are averages of prices of the several kinds. In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

Table 1 shows for the United States both average and relative prices of Pennsylvania white-ash anthracite coal, stove and chestnut sizes, and of bituminous coal on January 15 and July 15, 1913 to 1930, and for each month from January 15, 1931, to July 15, 1935, and for October 1935. An average price for the year 1913 has been made from the averages for January and July of that year. The average price for each month has been divided by the 1913 average price to obtain the relative price.

TABLE 1.—AVERAGE AND RELATIVE PRICES OF COAL FOR THE UNITED STATES ON SPECIFIED DATES FROM JANUARY 1913 TO OCTOBER 1935

Year and month	Pennsylvania anthracite, white ash				Bituminous	
	Stove		Chestnut		Average price	Relative price (1913 = 100)
	Average price	Relative price (1913 = 100)	Average price	Relative price (1913 = 100)		
1913: Average for year.....	\$7.73	100.0	\$7.91	100.0	\$5.43	100.0
January.....	7.99	103.4	8.15	103.0	5.48	100.8
July.....	7.46	96.6	7.68	97.0	5.39	99.2
1914: January.....	7.80	100.9	8.00	101.0	5.97	109.9
July.....	7.60	98.3	7.78	98.3	5.46	100.6
1915: January.....	7.83	101.3	7.99	101.0	5.71	105.2
July.....	7.54	97.6	7.73	97.7	5.44	100.1
1916: January.....	7.93	102.7	8.13	102.7	5.69	104.8
July.....	8.12	105.2	8.28	104.6	5.52	101.6
1917: January.....	9.29	120.2	9.40	118.8	6.96	128.1
July.....	9.08	117.5	9.16	115.7	7.21	132.7
1918: January.....	9.88	127.9	10.03	126.7	7.68	141.3
July.....	9.96	128.9	10.07	127.3	7.92	145.8
1919: January.....	11.51	149.0	11.61	146.7	7.90	145.3
July.....	12.14	157.2	12.17	153.8	8.10	149.1
1920: January.....	12.59	162.9	12.77	161.3	8.81	162.1
July.....	14.28	184.9	14.33	181.1	10.55	194.1
1921: January.....	15.99	207.0	16.13	203.8	11.82	217.6
July.....	14.90	192.8	14.95	188.9	10.47	192.7
1922: January.....	14.93	193.9	15.02	189.8	9.89	182.0
July.....	14.87	192.4	14.92	188.5	9.49	174.6
1923: January.....	15.43	199.7	15.46	195.3	11.18	205.7
July.....	15.10	195.5	15.05	190.1	10.04	184.7
1924: January.....	15.77	204.1	15.76	199.1	9.75	179.5
July.....	15.24	197.2	15.10	190.7	8.94	164.5
1925: January.....	15.45	200.0	15.37	194.2	9.24	170.0
July.....	15.14	196.0	14.93	188.6	8.61	158.5
1926: January.....	(1)	(1)	(1)	(1)	9.74	179.3
July.....	15.43	199.7	15.19	191.9	8.70	160.1

1 Insufficient data.

TABLE 1.—AVERAGE AND RELATIVE PRICES OF COAL FOR THE UNITED STATES ON SPECIFIED DATES FROM JANUARY 1913 TO OCTOBER 1935—Continued

Year and month	Pennsylvania anthracite, white ash				Bituminous	
	Stove		Chestnut		Average price	Relative price (1913 = 100)
	Average price	Relative price (1913 = 100)	Average price	Relative price (1913 = 100)		
1927: January	\$15.66	202.7	\$15.42	194.8	\$9.96	183.3
July	15.15	196.1	14.81	187.1	8.91	163.9
1928: January	15.44	199.8	15.08	190.6	9.30	171.1
July	14.91	192.9	14.63	184.9	8.69	159.9
1929: January	15.38	199.1	15.06	190.3	9.09	167.2
July	14.94	193.4	14.63	184.8	8.62	158.6
1930: January	15.33	198.4	15.00	189.5	9.11	167.6
July	14.84	192.1	14.53	183.6	8.65	159.1
1931:						
January	15.12	195.8	14.88	188.1	8.87	163.2
February	15.09	195.3	14.85	187.6	8.83	162.5
March	15.09	195.4	14.85	187.7	8.71	160.3
April	14.45	187.0	14.39	181.8	8.46	155.8
May	14.22	184.0	14.19	179.4	8.04	148.0
June	14.33	185.5	14.31	180.8	8.00	147.3
July	14.61	189.1	14.59	184.3	8.09	148.9
August	14.76	191.1	14.73	186.1	8.11	149.3
September	14.97	193.8	14.93	188.7	8.17	150.3
October	15.00	194.2	14.97	189.1	8.22	151.3
November	15.00	194.2	14.96	189.1	8.23	151.4
December	15.00	194.2	14.97	189.1	8.19	150.8
1932:						
January	15.00	194.2	14.97	189.1	8.17	150.3
February	14.98	193.9	14.95	188.9	8.14	149.7
March	14.54	188.2	14.45	182.6	8.01	147.4
April	13.62	176.3	13.46	170.0	7.85	144.5
May	13.30	172.2	13.11	165.6	7.60	139.9
June	13.36	173.0	13.16	166.3	7.53	138.6
July	13.37	173.0	13.16	166.2	7.50	138.0
August	13.50	174.8	13.28	167.9	7.52	138.4
September	13.74	177.9	13.52	170.8	7.54	138.7
October	13.79	178.5	13.58	171.5	7.60	139.9
November	13.83	178.9	13.60	171.9	7.59	139.7
December	13.87	179.5	13.65	172.5	7.51	138.3
1933:						
January	13.82	178.9	13.61	171.9	7.46	137.3
February	13.75	178.0	13.53	171.0	7.45	137.0
March	13.70	177.3	13.48	170.4	7.43	136.7
April	13.22	171.1	13.00	164.3	7.37	135.6
May	12.44	161.0	12.25	154.8	7.17	132.0
June	12.18	157.6	12.00	151.6	7.18	132.1
July	12.47	161.3	12.26	155.0	7.64	140.7
August	12.85	166.3	12.65	159.8	7.77	143.0
September	13.33	172.5	13.12	165.8	7.94	146.0
October	13.44	174.0	13.23	167.1	8.08	148.7
November	13.46	174.3	13.26	167.5	8.18	150.6
December	13.45	174.0	13.24	167.2	8.18	150.6
1934:						
January	13.44	174.0	13.25	167.4	8.24	151.6
February	13.46	174.3	13.27	167.7	8.22	151.3
March	13.46	174.2	13.27	167.6	8.23	151.5
April	13.14	170.1	12.94	163.5	8.18	150.5
May	12.53	162.2	12.34	155.9	8.13	149.5
June	12.60	163.0	12.40	156.7	8.18	150.5
July	12.79	165.5	12.60	159.2	8.23	151.5
August	13.02	168.5	12.83	162.1	8.30	152.7
September	13.25	171.4	13.05	164.9	8.31	153.0
October	13.32	172.4	13.11	165.7	8.35	153.6
November	13.25	171.6	13.04	164.8	8.35	153.7
December	13.22	171.1	13.02	164.5	8.36	153.8
1935:						
January	13.21	171.0	13.01	164.4	8.37	154.0
February	13.22	171.1	13.02	164.5	8.39	154.4
March	13.21	171.0	13.01	164.4	8.39	154.4
April	12.67	164.0	12.47	157.6	8.24	151.7
May	11.90	154.0	11.70	147.8	8.11	149.2
June	11.82	153.0	11.63	146.9	8.05	148.1
July	12.06	156.1	11.86	149.9	8.12	149.3
October	13.04	168.8	12.83	162.1	8.41	154.7

The average retail prices of coal for household use in 51 cities as of the 15th of January, April, July, and October, 1931 to 1934, as reported by local dealers in each city for the different types of coal, are shown in table 2.

TABLE 2.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS FOR SPECIFIED MONTHS, 1931 TO 1934, BY CITIES

City, and kind of coal	1931				1932				1933				1934			
	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15
Atlanta, Ga.:																
Bituminous, prepared sizes.....	\$7.60	\$6.66	\$6.67	\$6.78	\$6.46	\$5.73	\$5.64	\$6.20	\$6.12	\$6.15	\$5.55	\$6.92	\$7.02	\$7.02	\$6.52	\$7.02
Baltimore, Md.:																
Pennsylvania anthracite:																
Stove.....	14.25	14.00	13.50	14.00	14.00	11.50	12.25	13.25	13.25	13.25	11.92	13.25	13.25	13.25	12.50	13.00
Chestnut.....	13.75	13.50	13.25	13.75	13.75	11.25	11.75	12.75	12.75	12.75	11.67	13.00	13.00	13.00	12.25	12.75
Bituminous, run of mine: High volatile.....	7.75	7.82	7.61	7.50	7.36	6.93	6.86	6.86	6.86	6.86	6.79	7.50	7.64	7.54	7.29	7.36
Birmingham, Ala.:																
Bituminous, prepared sizes.....	7.38	6.54	6.36	6.46	6.31	5.33	4.96	5.13	5.07	4.41	4.68	6.00	6.07	6.06	6.24	6.29
Boston, Mass.:																
Pennsylvania anthracite:																
Stove.....	16.25	14.75	14.95	15.10	15.00	13.35	13.25	13.75	13.75	13.75	13.20	13.75	13.75	13.75	13.25	13.75
Chestnut.....	15.75	14.75	14.95	15.10	15.00	13.10	13.00	13.50	13.50	13.50	12.95	13.50	13.50	13.50	13.00	13.50
Bridgeport, Conn.:																
Pennsylvania anthracite:																
Stove.....	14.75	14.00	14.00	14.00	14.13	13.00	13.00	13.00	12.75	12.75	13.25	13.75	13.75	13.75	13.25	13.50
Chestnut.....	14.75	14.00	14.00	14.00	14.13	13.00	13.00	13.00	12.75	12.75	13.25	13.75	13.75	13.75	13.25	13.50
Buffalo, N. Y.:																
Pennsylvania anthracite:																
Stove.....	13.79	12.40	13.00	13.40	13.40	11.75	11.88	12.49	12.42	11.42	11.90	12.85	12.85	11.85	12.41	12.90
Chestnut.....	13.29	12.40	13.00	13.40	13.40	11.50	11.63	12.24	12.21	11.21	11.65	12.60	12.64	11.60	12.16	12.65
Butte, Mont.:																
Bituminous, prepared sizes.....	10.48	10.49	10.49	10.13	9.98	9.84	9.89	9.75	9.72	9.71	9.71	9.70	9.75	9.79	9.80	9.80
Charleston, S. C.:																
Bituminous, prepared sizes.....	9.67	9.67	9.67	9.50	9.50	9.50	9.50	8.67	8.67	8.67	8.62	9.92	9.92	9.92	9.92	10.00
Chicago, Ill.:																
Pennsylvania anthracite:																
Stove.....	16.40	16.40	16.25	16.75	16.75	16.75	15.30	15.75	15.75	16.14	13.04	13.98	13.99	13.99	13.23	13.82
Chestnut.....	16.30	16.30	16.25	16.75	16.75	16.75	15.05	15.51	15.50	15.92	12.83	13.77	13.79	13.79	12.98	13.57
Bituminous, prepared sizes:																
High volatile.....	8.09	7.93	7.54	7.89	7.92	7.86	7.53	7.20	7.25	7.47	7.50	8.09	8.21	8.18	8.03	8.24
Low volatile.....	11.89	11.46	10.36	11.36	11.41	10.41	9.22	9.98	9.98	9.52	9.39	10.57	10.83	10.79	9.77	10.01
Bituminous, run of mine: Low volatile.....	8.00	7.75	7.23	7.48	7.47	7.23	6.95	7.17	7.19	7.16	6.99	7.78	7.76	7.71	7.71	7.71
Cincinnati, Ohio:																
Bituminous, prepared sizes:																
High volatile.....	6.30	5.05	5.30	5.75	5.75	4.75	5.00	5.25	5.25	4.75	5.13	6.06	6.10	5.69	5.85	5.85
Low volatile.....	8.53	7.03	7.28	8.00	8.00	6.50	6.75	7.50	7.50	6.25	6.90	7.83	8.00	7.39	7.50	7.50
Cleveland, Ohio:																
Pennsylvania anthracite:																
Stove.....	14.56	14.56	14.06	14.38	14.38	14.44	13.63	13.69	13.69	13.69	11.50	12.44	12.38	12.38	11.85	12.48
Chestnut.....	14.44	14.44	13.94	14.31	14.31	14.31	13.38	13.44	13.44	13.44	11.25	12.19	12.13	12.13	11.60	12.23

TABLE 2.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS FOR SPECIFIED MONTHS, 1931 TO 1934, BY CITIES—Continued

City, and kind of coal	1931				1932				1933				1934			
	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15
Manchester, N. H.:																
Pennsylvania anthracite:																
Stove.....	\$16.83	\$15.50	\$16.00	\$16.33	\$16.50	\$14.50	\$14.50	\$14.83	\$14.83	\$14.83	\$14.00	\$15.00	\$15.00	\$15.00	\$14.50	\$15.33
Chestnut.....	16.83	15.50	16.00	16.33	16.50	14.50	14.50	14.83	14.83	14.83	14.00	15.00	15.00	15.00	14.50	15.33
Memphis, Tenn.:																
Bituminous, prepared sizes.....	7.44	7.66	7.03	6.89	6.78	6.82	6.94	5.67	5.68	5.67	5.57	6.68	7.18	7.15	7.20	7.18
Milwaukee, Wis.:																
Pennsylvania anthracite:																
Stove.....	15.75	15.75	15.65	16.05	16.05	15.05	14.45	15.05	15.05	14.05	12.54	13.25	13.25	13.25	12.91	13.55
Chestnut.....	15.50	15.50	15.61	16.05	16.05	14.80	14.20	14.80	14.80	13.80	12.29	13.00	13.00	13.00	12.66	13.30
Bituminous, prepared sizes:																
High volatile.....	7.70	7.70	7.45	7.48	7.45	7.45	6.97	6.97	6.94	6.88	7.01	7.52	7.51	7.51	7.98	7.98
Low volatile.....	10.57	10.60	9.75	10.01	10.01	10.01	8.75	9.29	9.29	9.29	9.09	9.62	9.83	10.11	10.36	10.70
Minneapolis, Minn.:																
Pennsylvania anthracite:																
Stove.....	16.90	16.90	17.61	18.05	18.05	16.60	16.75	17.25	17.35	14.95	14.04	15.50	15.50	14.45	15.05	15.80
Chestnut.....	16.90	16.90	17.61	18.05	18.05	16.35	16.50	17.00	17.10	14.70	13.79	15.25	15.25	14.10	14.80	15.55
Bituminous, prepared sizes:																
High volatile.....	9.85	9.61	9.91	9.88	9.78	9.34	9.62	9.60	9.56	9.03	9.11	9.91	9.93	9.93	10.18	10.31
Low volatile.....	12.63	12.63	12.34	12.54	12.54	12.04	11.87	11.85	11.79	11.50	11.52	12.24	12.17	12.17	12.96	12.97
Mobile, Ala.:																
Bituminous, prepared sizes.....	9.59	8.38	8.25	8.84	8.88	8.13	7.31	7.16	7.32	6.95	6.65	8.46	8.44	8.48	8.05	8.64
Newark, N. J.:																
Pennsylvania anthracite:																
Stove.....	13.90	12.70	13.30	13.55	13.55	11.75	11.75	12.19	12.13	10.25	11.69	12.70	12.75	11.75	12.15	13.20
Chestnut.....	13.40	12.70	13.32	13.55	13.55	11.50	11.50	11.94	11.88	10.00	11.44	12.45	12.50	11.50	11.90	12.80
New Haven, Conn.:																
Pennsylvania anthracite:																
Stove.....	14.90	14.90	14.55	14.80	14.90	13.75	13.65	13.65	13.90	13.85	12.90	13.90	13.90	13.90	13.15	13.65
Chestnut.....	14.90	14.90	14.55	14.80	14.90	13.75	13.65	13.65	13.90	13.85	12.90	13.90	13.90	13.90	13.15	13.65
New Orleans, La.:																
Bituminous, prepared sizes.....	10.93	8.07	8.07	9.93	9.93	9.93	8.07	8.07	8.57	8.29	8.07	9.07	10.10	10.10	9.60	9.93
New York, N. Y.:																
Pennsylvania anthracite:																
Stove.....	14.17	12.92	13.46	13.88	13.83	11.67	12.02	12.46	11.89	11.70	11.82	12.60	12.60	11.30	11.45	12.45
Chestnut.....	13.67	12.92	13.46	13.88	13.83	11.42	11.77	12.21	11.64	11.45	11.57	12.35	12.35	11.05	11.20	12.20
Norfolk, Va.:																
Pennsylvania anthracite:																
Stove.....	15.00	15.00	14.00	14.50	14.50	14.50	12.50	13.00	13.00	13.00	12.50	14.00	14.00	14.00	13.00	13.50
Chestnut.....	15.00	15.00	14.25	14.50	14.50	14.50	12.50	13.00	13.00	13.00	12.50	14.00	14.00	14.00	13.00	13.50

TABLE 2.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS FOR SPECIFIED MONTHS, 1931 TO 1934, BY CITIES—Continued

City, and kind of coal	1931				1932				1933				1934			
	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15	Jan. 15	Apr. 15	July 15	Oct. 15
San Francisco, Calif.:																
New Mexico anthracite: Cerillos egg.....	\$26.00	\$26.00	\$25.00	\$26.00	\$26.00	\$26.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.00	\$25.63	\$25.63	\$25.63	\$25.63	\$25.63
Colorado anthracite: Egg.....	25.75	25.50	24.50	25.50	25.50	25.50	24.50	24.50	24.50	24.50	24.50	25.11	25.11	25.11	25.11	25.11
Bituminous, prepared sizes.....	17.00	17.00	16.00	17.00	17.00	17.00	15.00	15.00	15.00	15.00	15.00	16.06	16.06	16.06	15.04	15.04
Savannah, Ga.:																
Bituminous, prepared sizes.....	2 10.53	2 9.62	2 9.62	2 9.28	2 8.53	2 8.53	2 8.28	2 8.45	2 8.28	2 8.06	2 8.44	2 10.04	2 10.04	2 9.70	2 9.53	2 10.03
Scranton, Pa.:																
Pennsylvania anthracite:																
Stove.....	10.18	9.30	9.80	10.30	10.05	8.55	8.63	9.27	8.93	8.65	8.06	8.81	8.85	7.81	8.44	8.63
Chestnut.....	9.88	9.28	9.78	10.28	10.03	8.28	8.35	9.00	8.68	8.40	7.81	8.56	8.60	7.56	8.19	8.38
Seattle, Wash.:																
Bituminous, prepared sizes.....	10.79	10.88	9.80	10.62	10.54	10.24	9.01	9.86	9.79	9.94	9.38	9.69	9.92	9.93	9.78	9.82
Springfield, Ill.:																
Bituminous, prepared sizes.....	4.34	4.34	4.34	4.34	4.34	4.34	4.39	3.79	3.68	3.79	3.75	4.06	4.06	4.08	4.10	4.54
Washington, D. C.:																
Pennsylvania anthracite:																
Stove.....	3 15.73	12.76	3 14.91	3 15.40	3 15.40	3 13.36	3 13.56	3 14.46	3 14.46	3 14.12	3 13.30	3 14.45	3 14.45	3 14.45	3 13.70	3 14.30
Chestnut.....	3 15.23	12.76	3 14.91	3 15.40	3 15.40	3 13.06	3 13.26	3 14.15	3 14.15	3 13.83	3 13.04	3 14.15	3 14.15	3 14.15	3 13.40	3 14.00
Bituminous, prepared sizes:																
High volatile.....	3 8.61	7.39	3 8.36	3 8.46	3 8.46	3 8.29	3 8.29	3 8.29	3 8.18	3 8.14	3 8.06	3 8.69	3 8.64	3 8.64	3 8.56	3 9.00
Low volatile.....	3 11.43	9.32	3 10.77	3 11.04	3 10.54	3 9.86	3 9.86	3 10.21	3 10.13	3 10.02	3 9.47	3 10.31	3 10.31	3 10.19	3 10.00	3 10.47
Bituminous, run of mine: Mixed.....	3 7.81	6.98	3 7.77	3 7.75	3 7.75	3 7.50	3 7.50	3 7.50	3 7.50	3 7.38	3 7.40	3 7.88	3 7.98	3 8.02	3 8.02	3 8.02

¹ All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

² Per ton of 2,240 pounds.

Retail Prices of Gas

THE net price per 1,000 cubic feet of gas for household use in each of 51 cities for specified months from April 1913 to November 1934 is shown in the following tables. In table 1 the average family consumption of manufactured gas is assumed to be 3,000 cubic feet per month. In cities where a service charge or a sliding scale is in operation, families using less than 3,000 cubic feet per month pay a somewhat higher rate than here shown, while those consuming more than this amount pay a lower rate. The figures here given are believed to represent quite closely the actual monthly cost of gas per 1,000 cubic feet to the average wage-earner's family. Prices for natural gas and for manufactured and natural mixed gas are shown in table 2 for those cities where it is in general use. These prices are based on an estimated average family consumption of 5,000 cubic feet per month.

TABLE 1.—NET PRICE PER 1,000 CUBIC FEET OF MANUFACTURED GAS BASED ON A FAMILY CONSUMPTION OF 3,000 CUBIC FEET, IN SPECIFIED MONTHS FROM APRIL 1913 TO NOVEMBER 1934, BY CITIES

City	Apr. 15, 1913	June 15, 1929	Dec. 15, 1929	June 15, 1930	Dec. 15, 1930	June 15, 1931	Dec. 15, 1931	June 15, 1932	Dec. 15, 1932	June 15, 1933	Dec. 15, 1933	June 15, 1934	Nov. 15, 1934
Atlanta	\$1.00	\$1.43	\$1.43										
Baltimore	.90	.85	.85	\$.85	\$.85	\$.85	\$.85	\$.85	\$.85	\$.85	\$.85	\$.85	\$.85
Birmingham	1.00	.80	.80	.80	.80	.80	.80	.80	.80	.80	.80	.80	.80
Boston	.81	1.18	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16	1.16
Butte	1.49	2.10	2.10	2.10	2.10	2.10							
Charleston, S. C.	1.10	1.55	1.55	1.55	1.55	1.45	1.45	1.45	1.45	1.45	1.45	1.40	1.40
Chicago	.80	.98	.98	.98	.98	.98	.98	.98	.98	.98	.98	.98	.98
Cleveland	.80	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Denver	.85												
Detroit	.75	.79	.79	.79	.79	.79	.79	.77	.77	.77	.79	.79	.79
Fall River	.80	1.15	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14
Houston	1.00												
Indianapolis	.60	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Jacksonville	1.20	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92	1.92
Manchester	1.10	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34
Memphis	1.00												
Milwaukee	.75	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82	.82
Minneapolis	.85	.89	.89	1.05	.96	.96	.96	.96	.96	.96	.96	.96	.96
Mobile	1.10	1.76	1.76	1.76									
Newark	1.00	1.20	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21	1.21
New Haven	.90	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
New Orleans	1.10												
New York	.84	1.25	1.24	1.24	1.24	1.24	1.24	1.23	1.23	1.21	1.22	1.21	1.21
Norfolk	1.00	1.33	1.32	1.32	1.32	1.32	1.32	1.32	1.28	1.18	1.18	1.18	1.18
Omaha	1.15	.95	.95	.95	.88	.88	.79	.79	.79	.79	.79	.76	.71
Peoria	.90	1.20	1.20	1.20	1.20	1.20	1.19						
Philadelphia	1.00	1.00	1.00	1.00	1.00	.95	.95	.95	.88	.88	.88	.88	.88
Portland, Maine	1.10	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42	1.42
Portland, Oreg.	.95	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Providence	.85	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
Richmond	.90	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29
Rochester	.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
St. Louis	.80	1.11	1.11	1.11	1.11	1.11	1.10	1.10	1.10	1.10	1.10	1.10	1.10
St. Paul	.95	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90
Salt Lake City	.87	1.51											
San Francisco	.75	.90	.90										
Savannah	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45	1.45
Scranton	.95	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
Seattle	1.00	1.45	1.45	1.43	1.43	1.43	1.43	1.43	1.48	1.48	1.42	1.48	1.48
Springfield, Ill.	1.00	1.25	1.25	1.25	1.25	1.25	1.25	1.25					
Washington, D. C.	.93	1.00	1.00	1.00	.95	.95	.95	.93	.85	.85	.85	.85	.85
Honolulu, Hawaii	1.77	1.77	1.77	1.77	1.77	1.77	1.77	1.73	1.73	1.68	1.68	1.68	1.68

¹ Price based on 15.9 therms, which is the equivalent of 3,000 cubic feet of gas of a heating value of 530 British thermal units.

² Price based on 17 therms which is the equivalent of 3,000 cubic feet of gas of a heating value of 565 British thermal units.

³ Price based on 18 therms which is the equivalent of 3,000 cubic feet of gas of a heating value of 600 British thermal units.

⁴ Price based on 24 therms which is the equivalent of 3,000 cubic feet of gas of a heating value of 800 British thermal units.

TABLE 2.—NET PRICE PER 1,000 CUBIC FEET OF NATURAL GAS AND OF MIXED MANUFACTURED AND NATURAL GAS BASED ON A FAMILY CONSUMPTION OF 5,000 CUBIC FEET, IN SPECIFIED MONTHS FROM APRIL 1913 TO NOVEMBER 1934, BY CITIES

City	Apr. 15, 1913	June 15, 1929	Dec. 15, 1929	June 15, 1930	Dec. 15, 1930	June 15, 1931	Dec. 15, 1931	June 15, 1932	Dec. 15, 1932	June 15, 1933	Dec. 15, 1933	June 15, 1934	Nov. 15, 1934
Atlanta				\$1.17	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09
Buffalo	\$0.30	\$0.65	\$0.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65
Butte						.70	.70	.70	.70	.70	.70	.70	.70
Chicago						1.32	1.32	1.32	1.32	1.32	1.30	1.30	1.30
Cincinnati	.30	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75
Cleveland	.30	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.53
Columbus	.30	.48	.48	.48	.48	.48	.48	.48	.48	.55	.55	.55	.55
Dallas	.45	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79	.79
Denver		.99	.99	.99	.99	.99	.99	.99	.99	.99	.99	.99	.96
Houston		.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75	.75
Kansas City	.27	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Little Rock	.40	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65
Los Angeles		.84	.84	.84	.84	.84	.84	.84	.82	.79	.79	.79	.79
Louisville	.65	.45	.45	.45	.45	.45	.45	.38	.45	.45	.56	.56	.58
Memphis		.97	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Mobile					1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24
New Orleans		.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95	.95
Peoria						2.195	2.195	2.195	2.195	2.195	2.195	2.195	2.195
Pittsburgh	.28	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
Salt Lake City			.99	.99	.99	.99	.99	.99	.99	.99	1.01	1.01	1.01
San Francisco				.97	.97	.97	.97	.97	.97	.97	.97	.97	.97
Springfield, Ill.								2.00	2.00	2.00	2.00	2.00	2.128

¹ Price based on 40 therms which is the equivalent of 5,000 cubic feet of gas of a heating value of 800 British thermal units.

² Price based on 50 therms which is the equivalent of 5,000 cubic feet of gas of a heating value of 1,000 British thermal units.

From the prices quoted on manufactured gas, average prices have been computed for all of the cities combined and are shown in table 3 for specified months of each year from 1913 to 1934. These prices are based on an estimated average family consumption of 3,000 cubic feet.

Relative prices have been computed by dividing the price in each year by the price in April 1913.

TABLE 3.—AVERAGE AND RELATIVE NET PRICE OF MANUFACTURED GAS, BASED ON A FAMILY CONSUMPTION OF 3,000 CUBIC FEET, FOR THE UNITED STATES, IN SPECIFIED MONTHS 1913 TO 1934

Date	Average net price per 1,000 cubic feet	Relative price (April 1913 =100)	Date	Average net price per 1,000 cubic feet	Relative price (April 1913 =100)
Apr. 15, 1913	\$0.95	100.0	Dec. 15, 1924	\$1.24	130.5
Apr. 15, 1914	.94	98.9	June 15, 1925	1.23	129.5
Apr. 15, 1915	.93	97.9	Dec. 15, 1925	1.23	129.5
Apr. 15, 1916	.92	96.8	June 15, 1926	1.23	129.5
Apr. 15, 1917	.91	95.8	Dec. 15, 1926	1.22	128.4
Apr. 15, 1918	.95	100.0	June 15, 1927	1.22	128.4
Apr. 15, 1919	1.04	109.5	Dec. 15, 1927	1.22	128.4
Apr. 15, 1920	1.09	114.7	June 15, 1928	1.21	127.4
May 15, 1921	1.32	138.9	Dec. 15, 1928	1.22	128.4
Sept. 15, 1921	1.31	137.9	June 15, 1929	1.22	128.4
Dec. 15, 1921	1.30	136.8	Dec. 15, 1929	1.21	127.4
Mar. 15, 1922	1.29	135.8	June 15, 1930	1.21	127.4
June 15, 1922	1.27	133.7	Dec. 15, 1930	1.18	124.2
Sept. 15, 1922	1.26	132.6	June 15, 1931	1.18	124.2
Dec. 15, 1922	1.25	131.6	Dec. 15, 1931	1.15	121.1
Mar. 15, 1923	1.25	131.6	June 15, 1932	1.15	121.1
June 15, 1923	1.24	130.5	Dec. 15, 1932	1.15	121.1
Sept. 15, 1923	1.24	130.5	June 15, 1933	1.14	120.0
Dec. 15, 1923	1.25	131.6	Dec. 15, 1933	1.14	120.0
Mar. 15, 1924	1.24	130.5	June 15, 1934	1.14	120.0
June 15, 1924	1.24	130.5	Nov. 15, 1934	1.14	120.0
Sept. 15, 1924	1.24	130.5			

Gas Prices, October 1935

RESIDENTIAL rates for gas are secured quarterly from 50 cities. For many years past these rates have been used for computing average prices based on the consumption of 3,000 cubic feet of manufactured gas and of 5,000 cubic feet of natural gas.

A new method of reporting prices of gas for household use has recently been developed and is presented here. Under this method prices for all cities are based on a definite number of heat units, instead of the variable number of heat units represented by 3,000 or 5,000 cubic feet of gas of widely different heating values. Total net monthly prices and average prices per thousand cubic feet and per therm have been computed for each city for four service classifications which include appliances most generally used for domestic purposes.

These prices are based on consumption factors representing the heating value of the gas expressed in therms (1 therm equals 100,000 British thermal units). The services and consumption factors used for computing prices are: Range, 10.6 therms; range and manual-type water heater, 19.6 therms; range and automatic-storage or instantaneous water heater, 30.6 therms; and range, automatic-storage or instantaneous water heater, and refrigerator, 40.6 therms.

These blocks of consumption have been determined from a careful analysis of reports representing conditions in all sections of the United States. They have been approved by engineers in the utility field as typical of the average use of gas for each service for a five-room house. Prices based on these blocks of consumption provide a means of comparing the cost for a specific service in each of the 50 cities.

The amount of gas used for various services is affected by local practices and conditions. This is particularly true of cities located in the natural gas fields where low prices encourage a generous use for the services covered in this report and, in addition, promote the use of radiant-type heaters. In cities served with manufactured gas, generated from fuel shipped from a considerable distance, the tendency is toward a conservative use of the product. These differences, however, do not detract from the value of a comparison of prices based upon a definite standard of consumption.

The number of cubic feet used for computing prices varies from city to city in accordance with the heating value of the gas. The heating value for the cities covered in this report ranges from 500 to 600 British thermal units for manufactured gas and from 800 to 1,150 British thermal units for natural gas or mixed manufactured and natural gas.

Although the heating value of natural gas is greater than that of manufactured gas, the efficiency per British thermal unit that can be utilized by the customer is somewhat less because of the sluggish nature and lazy flame of natural gas. No adjustment has been made for this difference in efficiency. Should further study indicate the need for such an adjustment, it will be included in later reports.

The total monthly bill for gas and prices per thousand cubic feet and per therm for each of the 50 cities on October 15, 1935, are shown in table 4.

Specifications used as the basis for computing prices are those applicable to a five-room house, consisting of living room, two bedrooms, dining room, and kitchen, as shown in the rate schedules.

TABLE 4.—TOTAL NET MONTHLY BILL AND PRICES PER THOUSAND CUBIC FEET AND PER THERM FOR SPECIFIED AMOUNTS OF GAS BASED ON RATES AS OF OCT. 15, 1935, BY CITIES

Region and city	Kind of gas ¹	Heating value per cubic foot in British thermal units	Average monthly consumption in cubic feet, and total net monthly bill								Average net monthly price								
			Range, 10.6 therms		Range and water heater (manual type), 19.6 therms		Range and automatic storage or instantaneous water heater, 30.6 therms		Range, automatic storage or instantaneous water heater, and refrigerator, 40.6 therms		Per thousand cubic feet for—				Per therm for—				
			Cubic feet	Price	Cubic feet	Price	Cubic feet	Price	Cubic feet	Price	Range consuming 10.6 therms	Range and water heater (manual type) consuming 19.6 therms	Range and automatic storage or instantaneous water heater consuming 30.6 therms	Range, automatic storage or instantaneous water heater, and refrigerator consuming 40.6 therms	Range consuming 10.6 therms	Range and water heater (manual type) consuming 19.6 therms	Range and automatic storage or instantaneous water heater, and heater consuming 30.6 therms	Range, automatic storage or instantaneous water heater, and refrigerator consuming 40.6 therms	
																			Dollars
New England:																			
Boston.....	M	528	2,010	2.51	3,710	4.21	5,800	5.76	7,690	7.27	1.25	1.13	0.99	0.95	23.7	21.5	18.8	Cents	17.9
.....	M	528	2,010	2.31	3,710	4.27	5,800	5.69	7,690	7.20	1.15	1.15	.98	.94	21.8	21.8	18.6		17.7
Fall River.....	M	528	2,010	2.53	3,710	4.06	5,800	5.94	7,690	7.64	1.26	1.09	1.02	.99	23.9	20.7	19.4		18.8
Manchester.....	M	525	2,020	2.85	3,730	4.82	5,830	5.67	7,730	6.92	1.41	1.29	.97	.90	26.9	24.6	18.5		17.0
New Haven.....	M	528	2,010	2.41	3,710	4.11	5,800	6.20	7,690	8.09	1.20	1.11	1.07	1.05	22.7	21.0	20.3		19.9
Portland, Maine.....	M	525	2,020	3.03	3,730	5.16	5,830	6.49	7,730	8.03	1.50	1.38	1.12	1.04	28.6	26.3	21.2		19.8
Providence.....	M	510	2,080	2.57	3,840	4.16	6,000	6.10	7,960	7.86	1.24	1.08	1.02	.99	24.2	21.2	19.9		19.4
Middle Atlantic:																			
Buffalo.....	X	900	1,180	.77	2,180	1.42	3,400	2.21	4,510	2.93	.65	.65	.65	.65	7.3	7.2	7.2		7.2
Newark.....	M	525	2,020	2.69	3,730	4.31	5,830	6.06	7,730	7.29	1.33	1.16	1.04	.94	25.4	22.0	19.8		18.0
New York: ²																			
Bronx.....	M	537	1,970	2.32	3,650	4.28	5,700	6.69	7,560	8.86	1.18	1.17	1.17	1.17	21.9	21.8	21.9		21.8
.....	M	537	1,970	2.32	3,650	4.28	5,700	6.69	7,560	8.86	1.18	1.17	1.17	1.17	21.9	21.8	21.9		21.8
Brooklyn.....	M	537	1,970	2.35	3,650	3.98	5,700	5.97	7,560	7.76	1.19	1.09	1.05	1.03	22.2	20.3	19.5		19.1
.....	M	537	1,970	2.45	3,650	4.07	5,700	6.06	7,560	7.86	1.24	1.12	1.06	1.04	23.1	20.8	19.8		19.4
.....	M	537	1,970	2.59	3,650	4.40	5,700	6.59	7,560	8.58	1.31	1.21	1.16	1.13	24.4	22.4	21.5		21.8
Manhattan.....	M	537	1,970	2.32	3,650	4.28	5,700	6.69	7,560	8.86	1.18	1.17	1.17	1.17	21.9	21.8	21.9		21.8
Queens.....	M	537	1,970	2.32	3,650	4.28	5,700	6.69	7,560	8.86	1.18	1.17	1.17	1.17	21.9	21.8	21.9		21.8
.....	M	537	1,970	2.32	3,650	4.28	5,700	6.69	7,560	8.86	1.18	1.17	1.17	1.17	21.9	21.8	21.9		21.8
Richmond.....	M	537	1,970	3.12	3,650	5.12	5,700	7.11	7,560	8.90	1.58	1.40	1.25	1.18	29.4	26.1	23.2		21.9
Philadelphia.....	M	530	2,000	1.80	3,700	3.25	5,770	5.00	7,660	6.61	.90	.88	.87	.86	17.0	16.6	16.3		16.3
Pittsburgh.....	N	1,130	940	\$ 1.00	1,730	1.04	2,710	1.63	3,590	2.15	1.06	.60	.60	.60	9.4	5.3	5.3		5.3
.....	N	1,100	960	\$ 1.00	1,780	1.07	2,780	1.67	3,690	2.21	1.04	.60	.60	.60	9.4	5.5	5.5		5.4
.....	N	1,100	960	\$ 1.00	1,780	1.07	2,780	1.67	3,690	2.21	1.04	.60	.60	.60	9.4	5.5	5.5		5.4

Rochester	M	537	1,970	1.97	3,650	3.65	5,700	5.56	7,560	7.05	1.00	1.00	.98	.93	18.6	18.6	18.2	17.4
Seranton	M	520	2,040	3.10	3,770	4.97	5,880	7.08	7,810	9.01	1.52	1.32	1.20	1.15	29.2	25.4	23.1	22.2
East North Central:																		
Chicago	X	800	1,330	1.93	2,450	3.33	3,830	4.69	5,080	5.39	1.45	1.36	1.22	1.06	18.2	17.0	15.3	13.3
Cincinnati	N	800	1,330	.98	2,450	1.74	3,830	2.64	5,080	3.40	.74	.71	.69	.67	9.2	8.9	8.6	8.4
Cleveland	N	900	1,180	¹ 75	2,180	1.10	3,400	1.77	4,510	2.38	.64	.60	.52	.53	7.1	5.6	5.8	5.9
Columbus	N	1,030	1,030	¹ 75	1,900	1.05	2,970	1.63	3,940	2.17	.73	.55	.55	.55	7.1	5.3	5.3	5.3
	N	1,030	1,030	¹ 75	1,900	.91	2,970	1.43	3,940	1.89	.73	.48	.48	.48	7.1	4.6	4.7	4.7
Detroit ⁴	M	530	2,000	1.71	3,700	3.16	5,770	4.93	7,660	6.55	.86	.85	.85	.86	16.1	16.1	16.1	16.1
Indianapolis	M	570	1,860	1.77	3,440	3.27	5,370	5.10	7,120	6.76	.95	.95	.95	.95	16.7	16.7	16.7	16.7
Milwaukee	M	520	2,040	1.73	3,770	3.03	5,880	4.61	7,810	6.02	.85	.80	.78	.77	16.3	15.5	15.1	14.8
Peoria	N	1,000	1,060	2.12	1,960	3.46	3,060	5.15	4,060	6.05	2.00	1.77	1.68	1.49	20.0	17.7	16.8	14.9
Springfield	N	1,000	1,060	1.91	1,960	3.36	3,060	4.65	4,060	5.56	1.80	1.71	1.53	1.37	18.0	17.1	15.3	13.7
West North Central:																		
Kansas City ⁴	N	1,000	1,060	1.35	1,960	2.17	3,060	3.12	4,060	3.98	1.27	1.11	1.02	.98	12.7	11.1	10.2	9.8
Minneapolis	X	800	1,330	1.96	2,450	3.09	3,830	4.47	5,080	5.68	1.47	1.26	1.17	1.12	18.5	15.8	14.6	14.0
Omaha	M	550	1,930	1.54	3,560	2.43	5,560	3.53	7,380	4.53	.80	.68	.63	.61	14.5	12.4	11.5	11.2
St. Louis ⁴	X	800	1,330	2.03	2,450	3.31	3,830	4.88	5,080	6.17	1.53	1.35	1.27	1.21	19.2	16.9	15.9	15.2
St. Paul	M	550	1,930	1.74	3,560	3.20	5,560	5.00	7,380	6.64	.90	.90	.90	.90	16.4	16.3	16.3	16.4
South Atlantic:																		
Atlanta	N	980	1,080	1.78	2,000	2.70	3,120	3.77	4,140	4.38	1.65	1.35	1.21	1.06	16.8	13.8	12.3	10.8
Baltimore	M	500	2,120	1.80	3,920	3.33	6,120	4.78	8,120	6.08	.85	.85	.78	.75	17.0	15.6	15.0	15.0
Charleston, S. C.	M	550	1,930	2.70	3,560	4.98	5,560	7.18	7,380	9.00	1.40	1.40	1.29	1.22	25.5	25.4	23.5	22.2
Jacksonville	M	535	1,980	4.03	3,660	6.34	5,720	8.20	7,590	9.88	2.04	1.73	1.43	1.30	38.0	32.3	26.8	24.3
Norfolk	M	530	2,000	2.40	3,700	4.36	5,770	6.62	7,660	8.51	1.20	1.18	1.15	1.11	22.6	22.2	21.6	21.0
Richmond	M	525	2,020	2.63	3,730	4.78	5,830	7.43	7,730	9.82	1.30	1.28	1.27	1.27	24.8	24.4	24.3	24.2
Savannah	M	575	1,840	2.30	3,410	4.26	5,320	6.65	7,060	8.83	1.25	1.25	1.25	1.25	21.7	21.7	21.7	21.7
Washington	X	600	1,770	1.55	3,270	2.77	5,100	4.20	6,770	5.49	.88	.85	.82	.81	14.6	14.1	13.7	13.5
East South Central:																		
Birmingham	M	500	2,120	1.70	3,920	3.14	6,120	4.90	8,120	6.50	.80	.80	.80	.80	16.0	16.0	16.0	16.0
Louisville ⁴	N	900	1,180	.92	2,180	1.43	3,400	2.06	4,510	2.64	.78	.66	.61	.59	8.7	7.3	6.7	6.5
Memphis	N	975	1,090	1.52	2,010	2.49	3,140	3.61	4,160	4.23	1.39	1.24	1.15	1.02	14.3	12.7	11.8	10.4
Mobile	N	960	1,100	2.33	2,040	3.60	3,190	5.02	4,230	5.70	2.12	1.76	1.57	1.35	22.0	18.4	16.4	14.0
West South Central:																		
Dallas	N	1,015	1,040	1.28	1,930	1.88	3,010	2.61	4,000	3.28	1.23	.97	.87	.82	12.1	9.6	8.5	8.1
Houston	N	1,000	1,060	1.19	1,960	1.77	3,060	2.49	4,060	3.14	1.12	.90	.81	.77	11.2	9.0	8.1	7.7
Little Rock ²	N	1,000	1,060	1.10	1,960	1.61	3,060	2.22	4,060	2.78	1.04	.82	.73	.68	10.4	8.2	7.3	6.8
New Orleans	N	950	1,120	1.26	2,060	2.10	3,220	3.15	4,270	4.09	1.13	1.02	.98	.96	11.9	10.7	10.3	10.1
Mountain:																		
Butte	N	850	1,250	1.81	2,310	2.29	3,600	2.87	4,780	3.40	1.45	.99	.80	.71	17.1	11.7	9.4	8.4
Denver ⁴	N	830	1,280	2.18	2,360	3.34	3,690	4.19	4,890	4.82	1.70	1.42	1.14	.99	20.6	17.0	13.7	11.9
Salt Lake City ³	N	865	1,230	2.12	2,270	3.26	3,540	4.15	4,690	4.86	1.72	1.44	1.17	1.04	20.0	16.6	13.6	12.0
Pacific:																		
Los Angeles	N	1,100	960	1.26	1,780	1.82	2,780	2.51	3,690	3.14	1.31	1.02	.90	.85	11.9	9.3	8.2	7.7
	N	1,100	960	1.26	1,780	1.82	2,780	2.51	3,690	3.14	1.31	1.02	.90	.85	11.9	9.3	8.2	7.7
Portland, Oreg.	M	570	1,860	2.34	3,440	3.98	5,370	5.96	7,120	7.63	1.26	1.16	1.11	1.07	22.1	20.3	19.5	18.8
San Francisco	N	1,150	920	1.33	1,700	2.05	2,660	2.56	3,530	3.60	1.50	1.21	1.08	1.02	13.0	10.5	9.3	8.9
Seattle ⁴	M	500	2,120	3.25	3,920	5.67	6,120	5.33	8,120	6.46	1.53	1.45	.87	.80	30.7	28.9	17.4	15.9

¹ The different kinds of gas are indicated as follows: M, manufactured; N, natural; and X, mixed manufactured and natural. ² Prices include 2 percent sales tax.
³ Minimum charge. ⁴ Prices include 3 percent sales tax. ⁵ Prices include 1 percent sales tax.

Retail Prices of Electricity

THE following table shows for 51 cities the net rates per kilowatt-hour of electricity used for household purposes on June 15 and December 15 for the years 1931, 1932, and 1933, and on June 15 and November 15, 1934. These rates were published each year in conjunction with the cost-of-living study. For the cities having more than one tariff for domestic consumers the rates are shown for the schedule under which most of the residences were served.

Several cities have sliding scales based on a variable number of kilowatt-hours payable at each rate. The number of kilowatt-hours payable at each rate in these cities was determined for each customer according to the watts of installation, either in whole or in part, in the individual home. The number of watts so determined is called the customer's "demand." Footnotes applicable to these cities are shown in the table.

TABLE 1.—NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE FOR 51 CITIES IN SPECIFIED MONTHS OF 1931, 1932, 1933, AND 1934

City	Measure of consumption per month	1931		1932		1933		1934	
		June 15	Dec. 15	June 15	Dec. 15 ¹	June 15 ¹	Dec. 15	June 15	Nov. 15
		<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Atlanta.....	First 25 kilowatt-hours.....	² 100.0	² 100.0	² 100.0	² 100.0	³ 100.0	6.5	6.5	6.5
	Next 35 kilowatt-hours.....	⁴ 5.0	⁴ 5.0	⁴ 5.0	⁴ 5.0	⁵ 6.0	5.0	5.0	5.0
	Next 140 kilowatt-hours.....	⁶ 3.0	⁶ 3.0	⁶ 3.0	⁶ 3.0	⁵ 4.5	3.0	3.0	3.0
	Excess.....					7 3.0	1.5	1.5	1.5
Baltimore.....	First 50 kilowatt-hours.....	⁸ 6.7	⁸ 6.7	⁸ 6.7	⁸ 6.7	5.0	5.0	5.0	5.0
	Next 175 kilowatt-hours.....	⁹ 3.4	⁹ 3.4	⁹ 3.4	⁹ 3.4	3.4	3.4	3.4	3.4
Birmingham.....	First 4 kilowatt-hours per room.....	¹⁰ 7.7	¹⁰ 7.7	¹⁰ 7.7	¹⁰ 7.7	¹⁰ 7.7	6.5	6.5	6.5
	Next 6 kilowatt-hours per room.....						5.0	5.0	5.0
Boston.....	First 2 kilowatt-hours per 100 square feet of floor area.....	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0
	Next 70 kilowatt-hours.....	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	Excess.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Bridgeport.....	First 400 kilowatt-hours.....	¹¹ 5.5	¹¹ 5.5	5.3	5.3	5.3	5.3	5.3	5.3
Buffalo.....	First 15 kilowatt-hours or less.....	¹² 5.0	¹² 5.0	¹² 5.0	¹² 5.0	¹² 5.0	¹² 5.0	75.0	75.0
	Next 45 kilowatt-hours.....	¹³ 4.0	¹³ 4.0	¹³ 4.0	¹³ 4.0	¹³ 4.0	¹³ 4.0	3.8	3.8
	Excess.....	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Butte.....	First 25 kilowatt-hours.....	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
	Next 25 kilowatt-hours.....	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
	Next 100 kilowatt-hours.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Charleston, S. C.....	First 30 kilowatt-hours.....	¹⁰ 9.0	¹⁰ 9.0	¹⁰ 9.0	¹⁰ 9.0	¹⁰ 9.0	8.5	8.5	8.5
	Next 40 kilowatt-hours.....						6.0	6.0	6.0
Chicago.....	First 3 kilowatt-hours per room.....	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
	Next 3 kilowatt-hours per room.....	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	Excess.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Cincinnati.....	First 5 kilowatt-hours per room, minimum, 20 kilowatt-hours.....	¹⁴ 10.0	¹⁴ 10.0	¹⁴ 10.0	¹⁴ 10.0	¹⁴ 10.0	¹⁴ 10.0	¹⁴ 10.0	5.0
	Next 5 kilowatt-hours per room, minimum, 20 kilowatt-hours.....	¹⁵ 5.0	¹⁵ 5.0	¹⁵ 5.0	¹⁵ 5.0	¹⁵ 5.0	¹⁵ 5.0	¹⁵ 5.0	3.0
	Excess.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0
Cleveland:									
Company A.....	First 240 kilowatt-hours.....	¹⁶ 5.0	¹⁶ 5.0	¹⁶ 5.0	¹⁶ 5.0	4.0	4.0	4.0	4.0
	Excess.....	¹⁷ 4.0	¹⁷ 4.0	¹⁷ 4.0	¹⁷ 4.0	2.8	2.8	2.8	2.8
Company B.....	Service charge.....	30.0	30.0	30.0	30.0	15.0	15.0	15.0	15.0
	First 600 kilowatt-hours.....	3.0	3.0	3.0	3.0	2.9	2.9	2.9	2.9
Columbus.....	First 30 kilowatt-hours.....	⁴ 6.0	⁴ 6.0	⁴ 6.0	⁴ 6.0	⁴ 6.0	⁴ 6.0	⁴ 6.0	5.0
	Next 60 kilowatt-hours.....	¹⁸ 5.0	¹⁸ 5.0	¹⁸ 5.0	¹⁸ 5.0	¹⁸ 5.0	¹⁸ 5.0	¹⁸ 5.0	4.5
Dallas.....	First 800 kilowatt-hours.....	6.0	6.0	6.0	5.8	5.8	5.8	5.8	5.5
Denver.....	First 40 kilowatt-hours.....	¹⁹ 7.0	¹⁹ 7.0	6.0	6.0	6.0	6.0	6.0	6.0
	Next 30 kilowatt-hours.....	6.0	6.0						
	Excess.....	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Detroit.....	First 3 kilowatt-hours per active room, minimum, 3 rooms.....	9.0	9.0	9.0	9.0	9.0	²⁰ 9.0	²⁰ 9.0	²⁰ 9.0
	Next 50 kilowatt-hours.....	3.6	3.6	3.6	3.6	3.6	²⁰ 3.6	²⁰ 3.6	²⁰ 3.6
	Excess.....	2.3	2.3	2.3	2.3	2.3	²⁰ 2.3	²⁰ 2.3	²⁰ 2.3
Fall River.....	First 25 kilowatt-hours.....	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
	Next 75 kilowatt-hours.....	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

See footnotes at end of table.

TABLE 1.—NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE FOR 51 CITIES IN SPECIFIED MONTHS OF 1931, 1932, 1933, AND 1934—Continued

City	Measure of consumption per month	1931		1932		1933		1934	
		June 15	Dec. 15	June 15	Dec. 15	June 15	Dec. 15	June 15	Nov. 15
Houston	First 3 kilowatt-hours per room, minimum, 4 rooms.	7.0	7.0	7.0	7.0	7.0	7.0	6.0	6.0
	Next 100 kilowatt-hours	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Indianapolis	First 100 kilowatt-hours	⁴ 6.5	⁴ 6.5	⁴ 6.3	⁴ 6.3	⁴ 6.3	⁴ 6.3	5.8	5.8
	Next 100 kilowatt-hours	²¹ 6.0	²¹ 6.0	^{21}6.0	^{21}6.0	^{21}6.0	^{21}6.0	5.0	5.0
Jacksonville	First 500 kilowatt-hours	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Kansas City	First 5 kilowatt-hours per room, minimum, 3 rooms.	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	Next 5 kilowatt-hours per room	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Excess	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Little Rock	Service charge for 4 rooms or less; for each additional room, 10 cents is added.	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0
	First 6 kilowatt-hours per room	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.0
	Next 6 kilowatt-hours per room	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	Next 200 kilowatt-hours	^{22}3.0	^{22}3.0	^{22}3.0	^{22}3.0	²² 3.0	²² 3.0	²² 3.0	3.0
Los Angeles	First 35 kilowatt-hours	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	Next 140 kilowatt-hours	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Louisville	First 40 kilowatt-hours	²³ 7.6	²³ 7.6	^{23}7.6	^{23}7.6	^{23}7.6	^{23}7.6	5.0	²⁰ 5.0
	Excess	3.0	3.0	3.0	3.0	3.0	3.0	3.0	²⁰ 3.0
Manchester	First block: 3 rooms, 15 kilowatt-hours; 4 rooms, 18 kilowatt-hours; 5 rooms, 21 kilowatt-hours; 6 rooms, 24 kilowatt-hours; 7 rooms, 27 kilowatt-hours; 8 rooms, 30 kilowatt-hours.	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	Second block: Number of kilowatt-hours equal to first block.	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Memphis	First 10 kilowatt-hours per room, minimum, 4 rooms.	¹⁸ 8.0	¹⁸ 8.0	¹⁸ 8.0	¹⁸ 7.0	¹⁸ 7.0	¹⁸ 7.0	5.5	5.5
	Next 500 kilowatt-hours				²⁴ 5.0	²⁴ 5.0	²⁴ 5.0	3.0	3.0
	Excess	5.0	5.0	5.0	3.0	3.0	3.0	1.5	1.5
Milwaukee	First 9 kilowatt-hours for each of the first 3 active rooms, plus first 7 kilowatt-hours for each active room in addition to the first 3.	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
	Next kilowatt-hours up to a total of 150 kilowatt-hours.	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
	Excess	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Minneapolis	First 3 kilowatt-hours per room, minimum, 2 rooms.	8.6	8.6	7.6	7.6	7.6	7.6	7.6	7.6
	Next 3 kilowatt-hours per room	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
	Excess	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Mobile	First 4 kilowatt-hours per room	²⁵ 80.0	^{25}80.0	^{25}80.0	^{25}80.0	^{25}80.0	6.5	6.5	6.5
	Next 6 kilowatt-hours per room	²⁶ 5.0	^{26}5.0	^{26}5.0	^{26}5.0	^{26}5.0	5.0	5.0	5.0
	Next 300 kilowatt-hours	^{6}3.0	^{6}3.0	^{6}3.0	^{6}3.0	⁶ 3.0	2.5	2.5	2.5
Newark	First 20 kilowatt-hours	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	Next 20 kilowatt hours	²⁷ 8.0	²⁷ 8.0	8.0	8.0	7.0	7.0	7.0	7.0
	Next 10 kilowatt-hours			7.0	7.0	6.0	6.0	6.0	6.0
	Excess	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
New Haven	First 400 kilowatt-hours	¹¹ 5.5	¹¹ 5.5	5.3	5.3	5.3	5.3	5.3	5.3
New Orleans	Service charge	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
	First 50 kilowatt-hours	²⁸ 9.1	²⁸ 9.1	^{28}9.1	^{28}9.1	^{28}9.1	^{28}9.1	7.5	7.5
	Next 50 kilowatt-hours	²⁷ 7.8	²⁷ 7.8	^{27}7.8	^{27}7.8	^{27}7.8	^{27}7.8	4.0	4.0
	Next 150 kilowatt-hours	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
New York:									
Company A.	10 kilowatt-hours or less	²⁹ 7.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Next 5 kilowatt-hours		6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Excess		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Company B.	10 kilowatt-hours or less	¹¹ 9.5	¹¹ 9.5	¹¹ 9.5	¹¹ 9.5	95.0	95.0	95.0	95.0
	Next 24 kilowatt-hours					³⁰ 9.0	³⁰ 9.0	8.0	8.0
	Next 86 kilowatt-hours					³¹ 4.0	³¹ 4.0	4.0	4.0
Company C.	10 kilowatt-hours or less	³² 7.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Next 5 kilowatt-hours		6.0	6.0	6.0	6.0	6.0	6.0	6.0
	Excess		5.0	5.0	5.0	5.0	5.0	5.0	5.0
Norfolk	First 100 kilowatt-hours	7.5	7.5	7.5	7.0	7.0	7.0	6.5	6.5
	First 10 kilowatt-hours per room	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	Next 160 kilowatt-hours	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Peoria	10 kilowatt-hours or less	³³ 9.0	^{33}9.0	^{33}9.0	^{33}9.0	^{33}9.0	75.0	75.0	75.0
	Next 6 kilowatt-hours per active room.	³⁴ 6.0	^{34}6.0	^{34}6.0	^{34}6.0	^{34}6.0	5.0	5.0	5.0
	Next 24 kilowatt-hours per active room.	³⁵ 3.0	3.0	3.0	3.0				

See footnotes at end of table.

TABLE 1.—NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE FOR 51 CITIES IN SPECIFIED MONTHS OF 1931, 1932, 1933, AND 1934—Continued

City	Measure of consumption per month	1931		1932		1933		1934	
		June 15	Dec. 15	June 15	Dec. 15	June 15	Dec. 15	June 15	Nov. 15
Philadelphia:		<i>Cents</i>	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Company A..	10 kilowatt-hours or less.....	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0
	Next 40 kilowatt-hours.....	³⁵ 6.0	³⁵ 6.0	³⁵ 6.0	³⁵ 6.0	5.5	5.5	5.5	5.5
	Next 160 kilowatt-hours.....	²² 3.0	²² 3.0	²² 3.0	²² 3.0	3.0	3.0	3.0	3.0
Company B..	First 20 kilowatt-hours.....	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
	Next 20 kilowatt-hours.....	²⁷ 8.0	²⁷ 8.0	8.0	8.0	7.0	7.0	7.0	7.0
	Next 10 kilowatt-hours.....			7.0	7.0	6.0	6.0	6.0	6.0
	Excess.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Pittsburgh.....	First 15 kilowatt-hours.....	³⁶ 8.0	³⁶ 8.0	³⁶ 8.0	7.0	7.0	7.0	7.0	7.0
	Next 15 kilowatt-hours.....	³⁷ 5.5	³⁷ 5.5	³⁷ 5.5	5.0	5.0	5.0	5.0	5.0
	Next 20 kilowatt-hours.....	²⁷ 4.0	²⁷ 4.0	²⁷ 4.0	4.0	4.0	4.0	4.0	4.0
	Excess.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Portland, Maine.	First step: 3 rooms, 15 kilowatt-hours; 4 rooms, 18 kilowatt-hours; 5 rooms, 21 kilowatt-hours; 6 rooms, 24 kilowatt-hours; 7 rooms, 27 kilowatt-hours; 8 rooms, 30 kilowatt-hours.	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
	Second step: 3 rooms, 35 kilowatt-hours; 4 rooms, 42 kilowatt-hours; 5 rooms, 49 kilowatt-hours; 6 rooms, 56 kilowatt-hours; 7 rooms, 63 kilowatt-hours; 8 rooms, 70 kilowatt-hours.	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
	Excess.....	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Portland, Oreg.:									
Company A..	First 30 kilowatt-hours for a connected load of 600 watts or less; for each additional 25 watts of connected load add 1 kilowatt-hour.	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	Next 40 kilowatt-hours.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Excess.....	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Company B..	First 30 kilowatt-hours for a connected load of 600 watts or less; for each additional 25 watts of connected load add 1 kilowatt-hour.	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	Next 40 kilowatt-hours.....	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
	Excess.....	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Providence.....	3 kilowatt-hours or less.....	² 50.0	² 50.0	50.0	50.0	50.0	50.0	50.0	50.0
	Next 60 kilowatt-hours.....	¹¹ 6.5	¹¹ 6.5	6.5	6.5	6.5	6.5	6.5	6.5
	Next 30 kilowatt-hours.....			4.0	4.0	4.0	4.0	4.0	4.0
Richmond.....	First 100 kilowatt-hours.....	7.5	7.5	7.5	7.0	7.0	7.0	6.5	6.5
Rochester.....	12 kilowatt-hours or less.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	Next 48 kilowatt-hours.....	5.5	5.5	5.5	5.5	5.5	5.0	5.0	5.0
	Next 40 kilowatt-hours.....	³⁸ 4.0	^{38}4.0	^{38}4.0	^{38}4.0	^{38}4.0	4.0	4.0	4.0
St. Louis:									
Company A..	First 32 kilowatt-hours.....	⁴⁰ 6.7	4.8	4.8	4.8				
	Next 168 kilowatt-hours.....	²² 2.4	2.4	2.4	2.4				
Company B..	First 25 kilowatt-hours.....	⁴¹ 6.7	4.3	4.3	4.3				
	Next 150 kilowatt-hours.....	^{22}2.4	^{22}2.4	^{22}2.4	^{22}2.4	²² 2.4	2.4	2.4	2.4
St. Paul.....	First 3 kilowatt-hours per room, minimum 2 rooms.	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
	Next 3 kilowatt-hours per room.....	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
	Excess.....	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Salt Lake City...	Service charge including 11 kilowatt-hours.	90.0	90.0	90.0	90.0	90.0	⁴² 90.0	⁴² 90.0	⁴² 90.0
	Excess.....	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
San Francisco.....	Service charge.....	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
	First 30 kilowatt-hours for 6 rooms or less, 5 kilowatt-hours added for each additional room.	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	Next 140 kilowatt-hours.....	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Savannah.....	First 25 kilowatt-hours.....	^{2}100.0	^{2}100.0	^{2}100.0	^{2}100.0	^{2}100.0	² 100.0	6.5	6.5
	Next 35 kilowatt-hours.....	4.6.0	4.6.0	4.6.0	4.6.0	4.6.0	4.6.0	5.0	5.0
	Next 140 kilowatt-hours.....	^{6}3.0	^{6}3.0	^{6}3.0	^{6}3.0	^{6}3.0	⁶ 3.0	3.0	3.0
Scranton.....	First 50 kilowatt-hours.....	^{2}100.0	^{2}100.0	^{2}100.0	^{2}100.0	^{2}100.0	² 100.0	7.0	7.0
	Excess.....	¹¹ 5.0	^{11}5.0	^{11}5.0	^{11}5.0	^{11}5.0	^{11}5.0	5.0	5.0

See footnotes at end of table.

TABLE 1.—NET PRICE PER KILOWATT-HOUR FOR ELECTRICITY FOR HOUSEHOLD USE FOR 51 CITIES IN SPECIFIED MONTHS OF 1931, 1932, 1933, AND 1934—Continued

City	Measure of consumption per month	1931		1932		1933		1934	
		June 15	Dec. 15	June 15	Dec. 15	June 15	Dec. 15	June 15	Nov. 15
Seattle:		<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Company A...	First 40 kilowatt-hours.....	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	Next 200 kilowatt-hours.....	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Company B...	First 40 kilowatt-hours.....	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	Next 200 kilowatt-hours.....	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Springfield, Ill.:									
Company A...	First 30 kilowatt-hours.....	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
	Next 30 kilowatt-hours.....	⁴⁹ 3.0	⁴⁹ 3.0	4.0	4.0	4.0	4.0	4.0	4.0
	Next 40 kilowatt-hours.....			3.0	3.0	3.0	3.0	3.0	3.0
Company B...	First 30 kilowatt-hours.....	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0
	Next 30 kilowatt-hours.....	⁴⁹ 3.0	⁴⁹ 3.0	4.0	4.0	4.0	4.0	4.0	4.0
	Next 40 kilowatt-hours.....			3.0	3.0	3.0	3.0	3.0	3.0
Washington.....	First 50 kilowatt-hours.....	¹¹ 4.2	¹¹ 4.2	3.9	3.9	3.9	3.9	3.9	3.9
	Next 50 kilowatt-hours.....			3.8	3.8	3.6	3.6	3.3	3.3
Honolulu, Hawaii	First 100 kilowatt-hours.....	8.0	8.0	7.5	7.5	7.5	7.5	7.5	7.5

- ¹ Federal tax of 3 percent is applicable to rates for Dec. 15, 1932, and June 15, 1933.
- ² Service charge.
- ³ Service charge including 5 kilowatt-hours.
- ⁴ First 50 kilowatt-hours.
- ⁵ Next 25 kilowatt-hours.
- ⁶ Next 150 kilowatt-hours.
- ⁷ Next 145 kilowatt-hours.
- ⁸ First 20 hours' use of demand; minimum, 25 kilowatt-hours. The demand is the maximum normal rate of use of electricity in any half-hour period of time. It may be estimated or determined by the company from time to time according to the customer's normal use of electricity and may equal the total installation reduced to kilowatts.
- ⁹ Next kilowatt-hours equal to 8 times the consumption at the primary rate; minimum, 200 kilowatt-hours.
- ¹⁰ First 100 kilowatt-hours.
- ¹¹ All current.
- ¹² First 60 hours' use of demand. The demand shall be calculated at 25 percent of the total number of lamp sockets rated at 40 watts each, minimum 250 watts, plus 2½ percent of the rating of heating and cooking devices of 1,500 watts or over, and 25 percent of other devices larger than one-half horsepower.
- ¹³ Next 120 hours' use of demand as shown in note 12.
- ¹⁴ Service charge per room.
- ¹⁵ First 6 kilowatt-hours per room; minimum, 4 rooms.
- ¹⁶ First 40 kilowatt-hours.
- ¹⁷ Next 200 kilowatt-hours.
- ¹⁸ Next 75 kilowatt-hours.
- ¹⁹ First 15 kilowatt-hours.
- ²⁰ Plus State tax of 3 percent.
- ²¹ Next 50 kilowatt-hours.
- ²² Excess.
- ²³ First 30 kilowatt-hours plus balance of consumption up to 6 kilowatt-hours per room.
- ²⁴ Next 6 kilowatt-hours per room, minimum 4 rooms.
- ²⁵ Service charge for house of 3 rooms, consumption of 5 kilowatt-hours included. Ten cents extra is charged for each additional room; not more than 10 rooms counted.
- ²⁶ Next 45 kilowatt-hours.
- ²⁷ Next 30 kilowatt-hours.
- ²⁸ First 20 kilowatt-hours.
- ²⁹ First 1,000 kilowatt-hours.
- ³⁰ Next 21 kilowatt-hours.
- ³¹ Next 89 kilowatt-hours.
- ³² First 60 hours' use of demand. The demand, when not determined by meter, has been computed at 50 percent of total installation in residences, each standard socket being rated at 50 watts, and all other outlets being rated at their actual kilowatt capacity.
- ³³ First 4 kilowatt-hours per active room.
- ³⁴ Next 4 kilowatt-hours per active room.
- ³⁵ Next 38 kilowatt-hours.
- ³⁶ First 10 kilowatt-hours.
- ³⁷ Next 20 kilowatt-hours.
- ³⁸ Next 90 kilowatt-hours.
- ³⁹ Next 34 kilowatt-hours.
- ⁴⁰ First 9 kilowatt-hours per active room.
- ⁴¹ Four rooms or less, 18 kilowatt-hours; 5 or 6 rooms, 27 kilowatt-hours; 7 or 8 rooms, 36 kilowatt-hours.
- ⁴² Plus State tax of 2 percent.
- ⁴³ Next 70 kilowatt-hours.

Electricity Prices, October 1935

RESIDENTIAL rates for electricity are secured quarterly from 51 cities. Rate schedules applicable to domestic consumption since 1913 in each of these cities have been published by the Bureau of Labor Statistics.

In November 1934 a method was devised for reporting typical bills and prices per kilowatt-hour for electricity. These bills are computed from the rate schedules for each city and are based upon the requirements of a five-room house, including living room, dining room, kitchen, and two bedrooms. They represent the use of 25 kilowatt-hours and 40 kilowatt-hours for lighting and small appliances; 100 kilowatt-hours for lighting, appliances, and refrigeration; and 250 kilowatt-hours for lighting, appliances, refrigeration, and cooking.

Since these bills are computed upon identical consumption blocks, comparisons of prices can be made between cities. These bills do not, however, measure the variations in cost insofar as it is affected by differences in average family consumption in the various cities.

Total and unit net monthly prices of electricity for each of 51 cities as of October 15, 1935, are shown in table 2.

The specifications used as the basis for application of rates are:

Floor area: 1,000 square feet.	
Connected load:	Watts
Lighting and appliances.....	700
Refrigeration.....	300
Cooking.....	6,000
Measured demand:	
Lighting and appliances.....	600
Refrigeration.....	100
Cooking.....	2,300
Outlets: Fourteen 50-watt.	
Active room count: In accordance with schedule of rates.	

TABLE 2.—TOTAL AND UNIT NET MONTHLY PRICES OF SPECIFIED AMOUNTS OF ELECTRICITY BASED ON RATES AS OF OCT. 15, 1935, BY CITIES

[P=private utility, M=municipal plant]

Region and city	Total net monthly price				Net monthly price per kilowatt-hour			
	Lighting and small appliances		Lighting, appliances, and refrigerator	Lighting, appliances, refrigerator, and range	Lighting and small appliances		Lighting, appliances, and refrigerator	Lighting, appliances, refrigerator, and range
	25 kilowatt-hours	40 kilowatt-hours	100 kilowatt-hours	250 kilowatt-hours	25 kilowatt-hours	40 kilowatt-hours	100 kilowatt-hours	250 kilowatt-hours
New England:					<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Boston.....P	\$1.55	\$2.30	\$5.10	\$9.60	6.2	5.8	5.1	3.8
Bridgeport.....P	1.31	2.05	4.87	8.90	5.3	5.1	4.9	3.6
Fall River.....P	1.75	2.60	5.20	9.35	7.0	6.5	5.2	3.7
Manchester.....P	2.00	2.80	5.00	8.00	8.0	7.0	5.0	3.2
New Haven.....P	1.31	2.05	4.87	8.90	5.3	5.1	4.9	3.6
Portland, Maine.....P	1.88	2.63	4.73	7.73	7.5	6.6	4.7	3.1
Providence.....P	1.87	2.81	5.60	9.63	7.5	7.0	5.6	3.9
Middle Atlantic:								
Buffalo.....P	1.13	1.70	3.06	5.31	4.5	4.3	3.1	2.1
Newark.....P	1.92	2.60	4.50	8.75	7.7	6.5	4.5	3.5
New York:¹								
Bronx.....P	1.79	2.55	4.90	8.21	7.2	6.4	4.9	3.3
Brooklyn.....P	1.79	2.55	4.90	8.21	7.2	6.4	4.9	3.3
Brooklyn.....P	1.79	2.55	4.90	8.21	7.2	6.4	4.9	3.3
Manhattan.....P	1.79	2.55	4.90	8.21	7.2	6.4	4.9	3.3
Queens.....P	1.79	2.55	4.90	8.21	7.2	6.4	4.9	3.3
Richmond.....P	2.19	3.26	6.38	13.01	8.7	8.2	6.4	5.2
Philadelphia.....P	1.50	2.25	4.25	7.50	6.0	7.9	5.6	3.0
Pittsburgh.....P	1.25	2.00	4.00	8.50	5.0	5.0	4.0	3.4
Rochester.....P	1.59	2.28	4.56	7.81	6.4	5.7	4.6	3.1
Scranton.....P	1.63	2.45	4.85	9.35	6.5	6.1	4.9	3.7

¹ Prices include 2 percent sales tax.

TABLE 2.—TOTAL AND UNIT NET MONTHLY PRICES OF SPECIFIED AMOUNTS OF ELECTRICITY BASED ON RATES AS OF OCT. 15, 1935, BY CITIES—Continued

[P=private utility, M=municipal plant]

Region and city	Total net monthly price				Net monthly price per kilowatt-hour			
	Lighting and small appliances		Lighting, appliances, and refrigerator	Lighting, appliances, refrigerator, and range	Lighting and small appliances		Lighting, appliances, and refrigerator	Lighting, appliances, refrigerator, and range
	25 kilowatt-hours	40 kilowatt-hours	100 kilowatt-hours	250 kilowatt-hours	25 kilowatt-hours	40 kilowatt-hours	100 kilowatt-hours	250 kilowatt-hours
East North Central:					<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Chicago ².....P	\$1.51	\$2.04	\$3.75	\$8.02	6.0	5.1	3.8	3.2
Cincinnati.....P	1.13	1.58	2.88	5.88	4.5	4.0	2.9	2.4
Cleveland.....P	1.00	1.60	4.00	9.88	4.0	4.0	4.0	4.0
.....M	.88	1.31	3.05	7.40	3.5	3.3	3.1	3.0
Columbus.....P	1.25	1.95	4.60	8.50	5.0	4.9	4.5	3.4
.....M	1.00	1.58	3.80	8.30	4.0	4.0	3.8	3.3
Detroit ³.....P	1.43	1.99	3.65	7.12	5.7	5.0	3.7	2.8
Indianapolis.....P	1.44	2.30	4.80	8.53	5.8	5.8	4.8	3.4
Milwaukee.....P	1.41	1.90	3.60	6.48	5.6	4.8	3.6	2.6
Peoria.....P	1.50	2.01	3.57	6.32	6.0	5.0	3.6	2.5
Springfield, Ill.....P	1.25	1.90	3.90	6.90	5.0	4.8	3.9	2.8
.....M	1.25	1.90	3.02	4.80	5.0	4.8	3.0	1.9
West North Central:								
Kansas City ⁴.....P	1.65	2.32	4.04	7.83	6.6	5.8	4.0	3.1
Minneapolis.....P	1.66	2.18	3.80	6.79	6.6	5.5	3.8	2.7
Omaha.....P	1.38	2.20	4.25	8.15	5.5	5.5	4.3	3.3
St. Louis ⁵.....P	1.20	1.73	3.16	6.28	4.8	4.3	3.2	2.5
.....P	1.08	1.44	2.88	5.76	4.3	3.6	2.9	2.9
St. Paul.....P	1.75	2.30	4.00	7.15	7.0	5.8	4.0	2.3
South Atlantic:								
Atlanta:								
Immediate.....P	1.62	2.37	4.57	8.32	6.5	5.9	4.6	3.3
Inducement ⁶.....P	1.45	2.12	3.95	6.57	5.8	5.3	4.0	2.6
Baltimore.....P	1.25	2.00	4.18	8.98	5.0	5.0	4.2	3.6
Charleston, S. C.:								
Immediate.....P	1.93	2.90	5.60	9.84	7.7	7.3	5.6	3.9
Objective ⁶.....P	1.71	2.54	4.62	7.24	6.8	6.4	4.6	2.9
Jacksonville.....M	1.75	2.70	4.95	7.95	7.0	6.8	5.0	3.2
Norfolk.....P	1.50	2.25	4.80	7.80	6.0	5.6	4.8	3.1
Richmond.....P	1.50	2.25	4.80	7.80	6.0	5.6	4.8	3.1
Savannah.....P	1.63	2.38	4.57	8.32	6.5	6.0	4.6	3.3
Washington.....P	.98	1.56	3.50	5.67	3.9	3.9	3.5	2.3
East South Central:								
Birmingham:								
Immediate.....P	1.55	2.30	4.05	7.60	6.2	5.8	4.1	3.0
Objective ⁶.....P	.98	1.56	3.20	6.95	3.9	3.9	3.2	2.3
Louisville ⁷.....P	1.29	2.06	3.91	8.55	5.2	5.2	3.9	3.4
Memphis.....P	1.38	2.20	4.25	8.75	5.5	5.5	4.3	3.5
Mobile:								
Present.....P	1.55	2.30	4.05	7.60	6.2	5.8	4.1	3.0
Objective ⁶.....P	1.45	2.13	3.95	6.58	5.8	5.3	4.0	2.6
West South Central:								
Dallas.....P	1.38	2.20	4.60	8.40	5.5	5.5	4.6	3.4
Houston.....P	1.30	1.90	4.30	8.28	5.2	4.8	4.3	3.3
Little Rock ¹.....P	2.14	2.96	5.20	8.79	8.6	7.4	5.2	3.9
New Orleans.....P	1.88	2.85	5.50	10.25	7.5	7.1	5.5	4.1
Mountain:								
Butte.....P	2.00	2.60	4.50	8.00	8.0	6.5	4.5	3.2
Denver ¹.....P	1.53	2.45	4.90	9.49	6.1	6.1	4.9	3.8
Salt Lake City ¹.....P	1.92	2.99	4.92	7.85	7.7	7.5	4.9	3.1
Objective ⁶.....P	1.63	2.30	3.83	7.14	6.5	5.8	3.8	2.9
Pacific:								
Los Angeles.....P	1.20	1.81	3.31	6.31	4.8	4.5	3.3	2.5
.....P	1.25	2.00	5.00	7.00	5.0	5.0	5.0	2.8
.....M	1.20	1.81	3.31	6.31	4.8	4.5	3.3	2.5
Portland, Oreg.....P	1.38	1.95	3.39	6.09	5.5	4.9	3.4	2.4
.....P	1.38	1.95	3.39	6.09	5.5	4.9	3.4	2.4
San Francisco.....P	1.53	2.10	4.20	7.85	6.1	5.3	4.2	3.1
Seattle.....P	1.25	2.00	3.20	6.08	5.0	5.0	3.2	2.4
.....M	1.25	2.00	3.20	6.10	5.0	5.0	3.2	2.4

¹ Prices include 2 percent sales tax.

² Prices include free lamp-renewal service.

³ Prices include free lamp-renewal service and 3 percent sales tax.

⁴ Prices include 1 percent sales tax.

⁵ Prices include free lamp-renewal service and 1 percent sales tax.

⁶ The "inducement" rate in Atlanta and "objective" rate in Charleston, S. C., Birmingham, Mobile, and Salt Lake City are designed to encourage greater use of electricity.

⁷ Prices include 3 percent sales tax.

Retail Prices of Food in the United States and in Foreign Countries

THE index numbers of retail prices of food published by certain foreign countries have been brought together with those of the United States Bureau of Labor Statistics in the accompanying table. The base period for the different series of indexes is as given in the original reports.

The number of articles included in the index numbers of the different countries is widely variable, and no attempt has been made to correlate the results. The figures are here published merely to show price trends and not actual differences in prices in the several countries. They should not, therefore, be considered as closely comparable one with another.

In certain instances the figures are not absolutely comparable from month to month over the entire period. These variations are due both to slight changes in the list of commodities included and the number of localities covered on successive dates. Caution should be observed in the use of the figures because of these differences.

The table shows the trend in the general cost of food for each year from 1926 to 1934, and for all months for which this information is available from January 1933 to December 1935.

INDEX NUMBERS OF RETAIL FOOD PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES

Country.....	United States	Australia	Austria	Belgium	Bulgaria	Canada	China	Czecho-slovakia
Computing agency.....	Bureau of Labor Statistics	Bureau of Census and Statistics	Federal Statistics Bureau	Ministry of Industry, Labor, and Social Welfare	General Director of Statistics	Dominion Bureau of Statistics	National Tariff Commission	Central Bureau of Statistics
Number of localities.....	51	30	Vienna	59	12	69	Shanghai	Prague
Commodities included.....	42 foods	44 ¹ foods and groceries	18 foods	33 foods	35 foods	46 foods	24 foods	35 foods
Base=100.....	1913	1923-27 (1000)	July 1914	1921	1926	1926	1926	July 1914
1926.....	160.6	1027	116	\$ 170.7	100.0	100.0	100.0	\$ 117.8
1927.....	155.4	1004	119	\$ 207.5	97.8	98.0	106.7	\$ 128.2
1928.....	154.3	989	119	\$ 207.4	102.5	98.6	92.1	\$ 125.5
1929.....	156.7	1047	122	\$ 218.4	106.4	101.0	98.4	\$ 129.1
1930.....	147.1	946	118	\$ 208.6	96.7	98.6	118.8	114.3
1931.....	121.3	830	108	\$ 176.4	68.0	77.3	107.5	104.2
1932.....	102.1	801	110	\$ 149.9	62.8	64.3	101.3	99.0
1933.....	99.7	754	104	\$ 149.8	59.7	63.7	86.9	95.7
1934.....	110.8	786	101	\$ 142.5	59.6	69.4	86.4	79.4
1933								
January.....	94.8	747	106	154.4	62.9	62.8	87.3	100.4
February.....	90.9	742	103	156.1	63.3	60.6	94.8	99.3
March.....	90.5	734	103	150.4	63.1	60.4	92.3	94.9
April.....	90.4	746	103	147.7	61.8	61.3	85.2	94.1
May.....	93.7	750	103	143.0	60.6	61.9	86.0	96.8
June.....	96.7	759	106	143.4	60.2	62.2	84.1	98.8
July.....	104.8	754	104	144.0	60.9	63.2	86.3	96.8
August.....	\$ 106.9	767	104	146.6	60.4	67.8	90.0	95.2
September.....	\$ 107.2	768	104	151.2	60.4	65.9	88.0	94.2
October.....	\$ 107.0	764	104	153.3	60.7	65.4	88.1	94.2
November.....	\$ 106.8	750	104	153.6	61.6	65.8	83.2	94.6
December.....	\$ 104.7	769	104	153.6	62.4	66.6	79.8	92.7
1934								
January.....	\$ 105.2	767	104	150.3	62.9	67.7	78.0	92.9
February.....	\$ 108.2	771	102	146.8	64.0	69.4	80.4	91.3
March.....	\$ 108.3	774	101	141.1	62.7	72.9	75.0	75.9
April.....	\$ 107.4	791	101	136.5	61.5	71.0	74.2	75.5
May.....	\$ 108.3	798	100	132.1	60.9	68.6	74.4	76.8
June.....	\$ 108.8	777	102	134.0	60.7	67.6	75.4	79.6
July.....	\$ 110.0	779	100	136.8	61.7	68.4	90.2	79.6
August.....	\$ 113.6	789	100	143.3	60.8	69.3	102.8	78.9
September.....	\$ 116.6	791	101	146.1	61.0	68.8	106.7	77.1
October.....	\$ 115.5	805	101	149.4	61.8	69.4	98.9	77.1
November.....	\$ 115.1	795	102	150.0	62.1	69.9	89.7	76.1
December.....	\$ 114.5	794	100	144.0	62.1	69.3	90.4	75.8
1935								
January.....	\$ 118.1	800	100	142.0	61.4	68.8	90.8	75.5
February.....	\$ 122.2	798	99	138.2	62.3	69.2	91.0	76.2
March.....	\$ 121.7	795	98	130.8	60.7	69.5	85.7	76.7
April.....	\$ 124.7	795	97	133.4	60.3	68.6	88.6	76.8
May.....	\$ 124.3	802	98	138.0	59.6	68.7	88.6	78.3
June.....	\$ 123.4	805	103	141.4	60.0	69.3	89.5	82.7
July.....	\$ 121.6	812	102	143.8	61.1	69.3	90.3	83.5
August.....	\$ 122.7	820	101	146.6	59.1	71.3	88.6	83.6
September.....	\$ 124.0	826	101	154.3	59.1	70.9	89.8	81.8
October.....	(⁶)	827	103	159.5	59.6	72.4	86.3	81.4
November.....	(⁶)	-----	103	-----	-----	73.2	90.3	81.0
December.....	(⁶)	-----	102	-----	-----	73.7	88.9	81.6

¹ 46 until third quarter of 1932. ² Computed average. ³ July. ⁴ Average.
⁵ Comparable indexes are not available. For revised indexes of 84 foods, see p. 634.

INDEX NUMBERS OF RETAIL FOOD PRICES IN THE UNITED STATES AND
IN FOREIGN COUNTRIES—Continued

Country.....	Estonia	Finland	France	Germany	Hungary	India	Ireland	Italy
Computing agency..	Bureau of Statistics	Ministry of Social Affairs	Commission of Cost of Living	Federal Statistical Bureau	Central Office of Statistics	Labor Office	Department of Industry and Commerce	Office Provincial of Economy
Number of localities..	Tallinn	21	Paris	72	Budapest	Bombay	105	Milan
Commodities included.....	52 foods	14 foods	Foods	37 foods	12 foods	17 foods	29 foods	18 foods
Base=100.....	1913	January-June 1914	January-June 1914	October 1913-July 1914	1913	July 1914	July 1914	January-June 1914
1926.....	118	1107.8	2 529	144.4	113.3	2 152	179	654.7
1927.....	112	1115.1	2 536	151.9	124.8	2 151	170	558.7
1928.....	120	1150.2	2 539	153.0	127.7	2 143	169	517.0
1929.....	126	1123.5	2 584	155.7	124.1	2 146	169	542.3
1930.....	103	971.2	2 600	145.7	105.1	2 134	160	519.3
1931.....	90	860.0	2 611	131.0	96.2	2 102	147	451.9
1932.....	80	897.3	2 548	115.5	81.2	101	141	431.0
1933.....	77	894.0	2 538	113.3	80.7	93	131	406.8
1934.....	76	875.8	2 533	118.3	77.0	87	135	392.7
1933								
January.....	75	894.1	-----	111.3	86.5	101	-----	426.1
February.....	74	883.5	-----	110.3	86.2	98	130	422.8
March.....	75	869.8	542	109.7	86.1	98	-----	416.6
April.....	73	868.0	-----	109.5	85.5	93	-----	405.1
May.....	74	867.8	-----	112.8	84.7	91	126	398.3
June.....	74	881.7	532	113.7	84.4	95	-----	402.9
July.....	77	907.1	-----	113.5	79.2	95	-----	402.4
August.....	81	919.9	-----	113.4	77.8	94	129	391.2
September.....	81	920.1	530	114.4	77.3	94	-----	401.5
October.....	77	923.2	-----	115.9	73.7	91	-----	405.1
November.....	78	911.0	-----	117.1	72.2	92	140	400.5
December.....	79	881.2	548	117.8	74.3	88	-----	408.9
1934								
January.....	78	853.4	-----	117.6	74.8	86	-----	421.9
February.....	79	843.1	-----	117.2	76.1	85	133	407.9
March.....	78	865.3	548	116.5	75.7	84	-----	406.3
April.....	79	853.8	-----	116.4	76.1	83	-----	404.3
May.....	79	850.5	-----	116.1	80.2	83	129	391.7
June.....	77	852.0	544	117.8	79.6	85	-----	383.3
July.....	77	854.6	-----	120.0	77.2	87	-----	383.5
August.....	75	884.2	-----	120.7	77.9	87	134	376.7
September.....	73	885.7	525	119.2	77.9	90	-----	377.8
October.....	72	903.3	-----	119.3	77.7	91	-----	381.1
November.....	72	941.7	-----	119.5	76.0	92	143	386.7
December.....	72	922.1	516	119.1	75.7	90	-----	390.5
1935								
January.....	74	908.3	-----	119.4	75.8	88	-----	386.8
February.....	77	893.8	-----	119.5	76.9	90	136	389.9
March.....	76	884.6	494	118.8	78.2	89	-----	389.8
April.....	76	886.1	-----	119.0	78.0	88	-----	395.2
May.....	75	875.7	-----	120.2	78.2	90	132	392.6
June.....	73	837.5	491	120.6	79.8	92	-----	398.5
July.....	76	908.9	-----	122.9	84.7	93	-----	397.4
August.....	77	934.5	-----	123.2	86.3	94	140	402.3
September.....	77	930.4	466	120.0	85.0	94	-----	403.9
October.....	83	947.1	-----	119.6	84.2	94	-----	-----
November.....	83	943.2	-----	119.9	83.6	96	150	-----
December.....	83	936.4	-----	120.9	-----	96	-----	-----

*Computed average.

INDEX NUMBERS OF RETAIL FOOD PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES—Continued

Country.....	Nether-lands	New Zealand	Norway	Poland	South Africa	Sweden	Switzer-land	United Kingdom
Computing agency..	Bureau of Sta-tistics	Census and Sta-tistics Office	Central Bureau of Sta-tistics	Central Statisti-cal Office	Office of Census and Sta-tistics	Board of Social Welfare	Federal Labor Office	Ministry of Labor
Number of localities..	Amster-dam	25	31	Warsaw	9	49	34	509
Commodities in-cluded.....	15 foods	58 foods	89 foods	25 foods	20 foods	49 foods	28 foods	14 foods
Base=100.....	1911-13	1926-30 (1000)	July 1914	1928	1914 (1000)	July 1914	June 1914	July 1914
1926.....	\$ 161.3	1026	\$ 198	88.5	\$ 1178	\$ 158	160	164
1927.....	\$ 163.0	983	\$ 175	102.0	\$ 1185	\$ 152	158	160
1928.....	\$ 166.4	1004	108	100.0	\$ 1169	\$ 154	157	157
1929.....	\$ 162.4	1013	158	97.0	\$ 1153	\$ 150	156	154
1930.....	\$ 150.2	974	152	83.7	\$ 1101	\$ 140	152	145
1931.....	\$ 135.8	845	139	73.9	\$ 1049	\$ 131	141	130
1932.....	\$ 119.2	775	134	64.9	\$ 988	\$ 125	125	125
1933.....	\$ 120.4	732	131	58.0	\$ 985	\$ 121	117	120
1934.....	\$ 123.6	774	133	52.3	\$ 1037	\$ 122	115	125
1933								
January.....		707	130	57.4	931	123	118	123
February.....		727	130	58.6	938		117	122
March.....	115.5	712	130	60.0	950		116	119
April.....		714	130	60.4	966	119	116	115
May.....		727	130	60.0	976		116	114
June.....	116.5	723	130	59.5	989		116	114
July.....		732	132	60.4	980	120	116	118
August.....		741	133	55.3	971		116	119
September.....	121.1	746	132	56.0	987		117	122
October.....		753	132	55.9	1029	123	117	123
November.....		751	130	55.9	1052		117	126
December.....	128.3	751	129	56.5	1050		117	126
1934								
January.....		750	128	54.8	1035	120	117	124
February.....		763	128	55.3	1038		116	122
March.....	125.5	769	128	54.6	1038		115	120
April.....		777	130	55.0	1054	120	115	118
May.....		780	130	52.6	1055		115	116
June.....	123.1	778	132	51.2	1041		115	117
July.....		780	133	51.5	1032	123	115	122
August.....		774	136	52.1	1035		114	123
September.....	123.6	771	135	51.4	1027		114	126
October.....		771	135	51.4	1039	125	114	125
November.....		780	134	49.4	1028		115	127
December.....	122.3	792	134	48.6	1021		114	127
1935								
January.....		798	133	48.7	1021	124	113	125
February.....		821	134	48.0	1023		112	124
March.....	118.3	819	135	47.4	1024		112	122
April.....		824	135	47.2	1030	126	111	119
May.....		829	136	48.5	1034		111	118
June.....	117.6	835	135	49.6	1039		113	120
July.....		826	140	52.0	1019	129	115	126
August.....		828	141	51.7	1038		116	126
September.....	117.2	837	140	52.2	1033		116	125
October.....		875	142	52.4	998	131	117	128
November.....		873	142	52.0	1006		118	131
December.....			142	48.7			118	131

* Computed average.

* July.

Wholesale Prices in the United States

WHOLESALE prices in representative markets of the country are collected either daily, weekly, or monthly by the United States Bureau of Labor Statistics for approximately 2,500 individual items. In some cases prices for a particular grade or quality of an article of special importance are obtained in several different localities in order to show the influence of local conditions. In other instances prices for several different grades of important articles are obtained in the same locality. In either case the quotations constitute an individual price series. Of the total number of items included in the Bureau's compilation, 784 are used in constructing the series of weighted index numbers.

Approximately 50 percent of the price quotations are obtained from standard trade journals. This applies particularly to articles classed as farm products, foods, metals, and chemicals and drugs. In most instances weekly prices are taken. For the remainder of the items prices are obtained directly from manufacturers or sales agents, officials of boards of trade, and other confidential sources. For a limited number of articles averages for the month represent an average of daily quotations or an average for all sales during the month.

As far as possible the quotations for the various commodities are secured in their primary markets. For example, the prices quoted for livestock and most animal products, as well as for most of the grains, are for Chicago; flour prices are mainly for Kansas City, Minneapolis, and St. Louis; pig iron and steel for Pittsburgh, etc. For those commodities whose prices are quite stable or are not subject to daily and weekly changes, only once-a-month prices are taken.

Method of Computing Index Numbers

THE average price of each article in the base year was multiplied by the estimated quantity of that article marketed for the two preceding census periods. The several products thus obtained were then added together, giving the approximate value in exchange for the base year of all articles in the group or in the total list of commodities. Similarly, aggregates were likewise made for each period by multiplying the average price by the quantity marketed and adding the results. The index number of each period was then obtained by comparing the aggregate for such period with the aggregate for the base period, which was taken as 100.0.

The weighting factors used are changed when the results of the latest census of manufactures are available. These weighting factors represent a simple average of the quantities reported as marketed during the latest two census periods, to which has been added the average of the imports for consumption for corresponding dates.

The weekly index number of wholesale commodity prices was begun by the Bureau in January 1932. In the construction of these indexes the same list of commodities is used as in the calculation of the monthly and yearly indexes. The same weighting factors are employed and the indexes are constructed by the use of the same method, namely, the aggregative method.

Trend of Wholesale Prices, 1801 to 1935

THE trend of wholesale prices in the United States since the beginning of the last century is shown by the figures in table 1. The index numbers for the years 1801 to 1840 are arithmetic means of unweighted relative prices of commodities as published in Bulletin No. 367 (pp. 235-238). The index numbers for 1841 to 1889 also are arithmetic averages of unweighted relative prices and have been taken from the Report of Committee on Finance of the United States Senate on Wholesale Prices, Wages, and Transportation, March 3, 1893 (52d Cong., 2d sess., Rept. No. 1394, pt. 1, p. 9). As originally published, these figures were computed with 1860 as the base year. They are here converted to the 1926 base. The prices used are in currency and the number of commodities varies from approximately 150 in the earlier years to 250 in the later years of the period.

The index numbers from 1890 to 1935 are the Bureau's regular weighted series. In using the data in this table it should be borne in mind that the figures in the three series here joined are not strictly comparable, since they are based on different lists of commodities in different markets and are, moreover, unweighted for the years prior to 1890. They are believed, however, to reflect with a fair degree of accuracy wholesale-price changes in general over the period stated.

TABLE 1.—INDEX NUMBERS OF WHOLESALE PRICES, BY YEARS, 1801 TO 1935

[1926=100.0]

Year	Index number								
1801	111.8	1828	68.3	1855	68.9	1882	66.1	1909	67.6
1802	91.8	1829	67.6	1856	68.9	1883	64.6	1910	70.4
1803	93.9	1830	65.6	1857	68.5	1884	60.5	1911	64.9
1804	101.5	1831	70.4	1858	62.0	1885	56.6	1912	69.1
1805	104.2	1832	71.1	1859	61.0	1886	56.0	1913	69.8
1806	102.2	1833	70.4	1860	60.9	1887	56.4	1914	68.1
1807	96.0	1834	65.6	1861	61.3	1888	57.4	1915	69.5
1808	93.9	1835	74.6	1862	71.7	1889	57.4	1916	85.5
1809	98.7	1836	83.5	1863	90.5	1890	56.2	1917	117.5
1810	107.7	1837	82.8	1864	116.0	1891	55.8	1918	131.3
1811	104.9	1838	79.4	1865	132.0	1892	52.2	1919	138.6
1812	106.3	1839	83.5	1866	116.3	1893	53.4	1920	154.4
1813	123.6	1840	71.1	1867	104.9	1894	47.9	1921	97.6
1814	154.6	1841	70.5	1868	97.7	1895	48.8	1922	96.7
1815	121.5	1842	65.7	1869	93.5	1896	46.5	1923	100.6
1816	103.5	1843	61.8	1870	86.7	1897	46.6	1924	98.1
1817	104.2	1844	62.1	1871	82.8	1898	48.5	1925	103.5
1818	102.2	1845	62.6	1872	84.5	1899	52.2	1926	100.0
1819	89.7	1846	64.8	1873	83.7	1900	56.1	1927	95.4
1820	76.6	1847	64.9	1874	81.0	1901	55.3	1928	96.7
1821	73.2	1848	61.8	1875	77.7	1902	58.9	1929	98.3
1822	75.2	1849	60.1	1876	72.0	1903	59.6	1930	86.4
1823	71.8	1850	62.3	1877	67.5	1904	59.7	1931	73.0
1824	71.1	1851	64.5	1878	61.7	1905	60.1	1932	64.8
1825	71.8	1852	62.5	1879	58.8	1906	61.8	1933	65.9
1826	71.1	1853	66.4	1880	65.1	1907	65.2	1934	74.9
1827	71.8	1854	68.8	1881	64.4	1908	62.9	1935	80.0

In table 2 the index numbers of wholesale prices as computed by the Bureau for the 10 major groups of commodities have been extended back to 1890, the earliest year for which wholesale prices were collected by the Bureau. While results here given prior to 1913 are necessarily based on a smaller number of commodities than are those for the years since 1913, they may be considered comparable for all practical purposes.

TABLE 2.—INDEX NUMBERS OF WHOLESALE PRICES, 1890 TO 1935

[1926=100.0]

Year	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities
1890.....	50.4	55.5	47.5	57.8	38.1	105.3	46.5	73.2	49.9	97.9	56.2
1891.....	54.2	54.8	47.9	54.6	37.0	92.2	44.2	74.0	50.4	94.3	55.8
1892.....	49.5	51.0	47.2	55.2	34.8	84.0	41.7	74.6	48.1	86.6	52.2
1893.....	51.3	54.7	45.1	54.1	35.3	76.8	41.6	72.7	48.1	89.0	53.4
1894.....	44.6	48.2	43.0	46.1	34.3	65.7	39.8	65.5	45.3	86.4	47.9
1895.....	43.9	47.3	49.4	44.3	40.3	70.4	38.8	64.7	43.5	88.9	48.8
1896.....	39.6	44.1	45.2	43.1	39.5	71.2	38.9	65.0	43.4	90.2	46.5
1897.....	42.5	45.5	45.9	42.9	33.9	65.0	37.4	70.9	42.5	92.5	46.6
1898.....	44.9	47.8	48.3	44.9	34.5	65.3	39.6	77.4	44.0	93.4	48.5
1899.....	45.8	47.7	49.4	47.7	41.2	100.0	43.6	81.1	45.0	97.4	52.2
1900.....	50.5	50.8	49.4	53.3	46.3	98.0	46.2	82.1	48.9	102.0	56.1
1901.....	52.8	50.5	48.9	48.1	44.6	93.1	44.3	84.2	48.9	93.4	55.3
1902.....	58.4	53.3	50.8	49.4	51.8	91.0	45.3	86.5	49.2	88.1	58.9
1903.....	55.6	52.0	49.9	52.8	60.3	90.2	46.7	84.1	50.9	98.9	59.6
1904.....	58.5	54.0	49.7	52.9	53.3	79.9	45.0	84.1	50.3	109.5	59.7
1905.....	56.4	55.1	53.9	54.1	49.6	89.1	48.1	82.3	49.7	117.4	60.1
1906.....	57.3	53.4	57.7	58.7	52.0	102.4	54.0	76.8	51.3	115.3	61.8
1907.....	62.2	57.0	58.0	63.5	54.4	109.3	56.8	78.5	55.0	108.2	65.2
1908.....	62.2	58.7	55.6	54.8	53.7	86.3	52.0	79.6	51.6	97.8	62.9
1909.....	69.6	62.6	61.5	56.5	51.6	84.5	53.7	79.9	51.7	129.6	67.6
1910.....	74.3	64.9	60.2	58.4	47.6	85.2	55.3	82.0	54.0	152.7	70.4
1911.....	66.8	62.0	58.8	55.5	46.7	80.8	55.3	81.6	52.7	108.6	64.9
1912.....	72.6	66.8	64.5	55.7	51.4	89.5	55.9	80.7	53.0	106.4	69.1
1913.....	71.5	64.2	68.1	57.3	61.3	90.8	56.7	80.2	56.3	93.1	69.8
1914.....	71.2	64.7	70.9	54.6	56.6	80.2	52.7	81.4	56.8	89.9	68.1
1915.....	71.5	65.4	75.5	54.1	51.8	86.3	53.5	112.0	56.0	86.9	69.5
1916.....	84.4	75.7	93.4	70.4	74.3	116.5	67.6	160.7	61.4	100.6	85.5
1917.....	129.0	104.5	123.8	98.7	105.4	150.6	88.2	165.0	74.2	122.1	117.5
1918.....	148.0	119.1	125.7	137.2	109.2	136.5	98.6	182.3	93.3	134.4	131.3
1919.....	157.6	129.5	174.1	135.3	104.3	180.9	115.6	157.0	105.9	139.1	138.6
1920.....	150.7	137.4	171.3	164.8	163.7	149.4	150.1	164.7	141.8	167.5	154.4
1921.....	88.4	90.6	109.2	94.5	96.8	117.5	97.4	115.0	113.0	109.2	97.6
1922.....	93.8	87.6	104.6	100.2	107.3	102.9	97.3	100.3	103.5	92.8	96.7
1923.....	98.6	92.7	104.2	111.3	97.3	103.3	108.7	101.1	108.9	99.7	100.6
1924.....	100.0	91.0	101.5	106.7	92.0	106.3	102.3	98.9	104.9	93.6	98.1
1925.....	109.8	100.2	105.3	108.3	96.5	103.2	101.7	101.8	103.1	109.0	103.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	99.4	96.7	107.7	95.6	88.3	96.3	94.7	96.8	97.5	91.0	95.4
1928.....	105.9	101.0	121.4	95.5	84.3	97.0	94.1	95.6	95.1	85.4	96.7
1929.....	104.9	99.9	109.1	90.4	83.0	100.5	95.4	94.2	94.3	82.6	95.3
1930.....	88.3	90.5	100.0	80.3	78.5	92.1	89.9	89.1	92.7	77.7	86.4
1931.....	64.8	74.6	86.1	66.3	67.5	84.5	79.2	79.3	84.9	69.8	73.0
1932.....	48.2	61.0	72.9	54.9	70.3	80.2	71.4	73.5	75.1	64.4	64.8
1933.....	51.4	60.5	80.9	64.8	66.3	79.8	77.0	72.6	75.8	62.5	65.9
1934.....	65.3	70.5	86.6	72.9	73.3	86.9	86.2	75.9	81.5	69.7	74.9
1935.....	78.8	83.7	89.6	70.9	73.5	86.4	85.3	80.5	80.6	68.3	80.0

Since 1913 the 10 major commodity groups have been broken down into subgroups comprising a smaller number of closely related items. Table 3 shows index numbers by groups and subgroups by years from 1913 to 1935, and by months from January 1931 to December 1935.

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935

[1926=100.0]

Year and month	Farm products				Foods					
	Grains	Live-stock and poultry	Other farm products	All farm products	Butter, cheese, and milk	Cereal products	Fruits and vegetables	Meats	Other foods	All foods
1913.....	71.1	73.2	70.8	71.5	65.9	-----	-----	59.8	65.9	64.2
1914.....	77.1	74.6	66.7	71.2	62.9	-----	-----	62.6	66.0	64.7
1915.....	93.8	68.8	63.3	71.5	62.4	-----	-----	57.6	71.0	65.4
1916.....	99.6	82.8	78.4	84.4	69.7	-----	-----	66.4	83.3	75.7
1917.....	170.4	119.4	116.2	129.0	91.5	-----	-----	92.9	116.1	104.5
1918.....	168.6	141.0	142.1	148.0	110.3	-----	-----	115.2	123.8	119.1
1919.....	177.4	148.7	153.0	157.6	125.1	-----	-----	117.6	138.0	129.5
1920.....	176.4	126.1	155.3	160.7	125.2	-----	-----	108.0	157.9	137.4
1921.....	89.1	78.2	93.8	88.4	97.5	-----	-----	77.4	94.3	90.6
1922.....	85.0	83.2	103.4	93.8	91.4	-----	-----	76.6	93.6	87.6
1923.....	88.0	77.7	116.7	98.6	103.4	-----	-----	76.2	99.6	92.7
1924.....	100.6	79.3	114.2	100.0	94.5	-----	-----	75.7	100.0	91.0
1925.....	118.3	98.9	114.5	109.8	101.1	-----	-----	93.3	104.5	100.2
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	100.9	98.9	99.2	99.4	103.9	94.4	96.7	92.7	98.0	96.7
1928.....	107.3	105.4	105.8	105.9	105.5	93.6	96.5	107.0	97.6	101.0
1929.....	97.4	106.1	106.6	104.9	105.6	88.0	97.8	109.1	93.9	99.9
1930.....	78.3	89.2	91.1	88.3	95.5	81.5	96.6	98.4	80.9	90.5
1931.....	53.0	63.9	69.2	64.8	81.8	73.1	72.4	75.4	69.8	74.6
1932.....	39.4	48.2	51.4	48.2	61.3	66.4	58.0	58.2	60.7	61.0
1933.....	53.1	43.4	55.8	51.4	60.7	75.0	61.7	50.0	61.1	60.5
1934.....	74.5	51.5	70.5	65.3	72.7	88.7	67.5	62.9	66.6	70.5
1935.....	82.5	85.1	73.4	78.8	79.8	94.1	63.6	94.5	77.7	83.7
1931										
January.....	62.4	75.2	75.3	73.1	83.7	75.7	76.9	88.4	74.5	80.7
February.....	60.4	69.6	73.6	70.1	83.0	75.5	74.2	83.6	71.1	78.0
March.....	59.3	70.7	74.2	70.6	83.5	74.5	74.3	82.0	71.4	77.6
April.....	59.5	70.3	73.4	70.1	80.6	74.3	76.2	79.9	69.9	76.3
May.....	59.6	64.1	71.5	67.1	78.1	74.6	76.1	74.4	67.9	73.8
June.....	56.0	61.9	70.8	65.4	78.8	74.3	76.4	71.3	68.5	73.3
July.....	49.0	63.0	71.3	64.9	80.6	71.5	74.2	73.4	70.6	74.0
August.....	44.8	67.0	67.3	63.5	82.2	70.9	73.4	76.0	69.6	74.6
September.....	44.2	61.0	65.4	60.5	84.6	70.3	71.0	73.6	68.5	73.7
October.....	44.3	57.6	64.2	58.8	86.1	70.6	68.2	71.1	69.7	73.3
November.....	51.3	55.7	63.1	58.7	80.7	73.1	65.1	67.7	68.0	71.0
December.....	47.0	51.7	61.2	55.7	79.8	72.2	63.5	63.2	67.2	69.1
1932										
January.....	46.7	53.4	54.8	52.8	67.8	71.0	62.2	61.9	61.9	64.7
February.....	46.1	50.3	52.7	50.6	64.1	69.6	61.8	59.5	59.4	62.5
March.....	43.5	51.4	52.1	50.2	64.2	68.3	62.3	61.4	57.1	62.3
April.....	44.5	49.2	51.2	49.2	61.6	68.2	62.3	59.8	55.8	61.0
May.....	42.6	44.4	49.6	46.6	59.6	68.1	61.5	56.5	54.9	59.3
June.....	37.7	46.7	48.2	45.7	57.4	66.8	62.4	56.0	55.4	58.8
July.....	36.7	54.1	48.4	47.9	58.2	65.7	59.7	62.0	58.5	60.9
August.....	38.2	52.8	50.8	49.1	60.2	66.0	55.6	61.9	62.1	61.8
September.....	37.4	51.2	52.1	49.1	60.6	65.8	52.5	60.9	64.6	61.8
October.....	34.4	45.0	52.1	46.9	60.5	64.1	52.2	56.4	65.4	60.5
November.....	33.2	41.9	53.9	46.7	62.3	62.7	52.4	53.7	67.7	60.6
December.....	31.7	38.7	51.3	44.1	59.5	61.7	52.8	49.4	66.1	58.3
1933										
January.....	32.9	37.8	48.7	42.6	55.2	60.9	53.0	49.5	60.1	55.8
February.....	32.7	40.1	44.2	40.9	52.4	60.4	52.4	50.2	54.1	53.7
March.....	36.0	43.0	45.3	42.8	50.9	62.7	54.3	50.5	55.8	54.6
April.....	44.8	41.0	46.7	44.5	53.1	65.9	57.8	50.3	56.6	56.1
May.....	52.8	46.8	51.8	50.2	58.8	69.3	63.8	53.3	59.4	59.4
June.....	57.4	46.6	56.2	53.2	63.1	70.7	63.9	62.4	61.1	61.2
July.....	73.4	47.4	63.7	60.1	66.1	83.3	75.6	60.8	63.7	65.5
August.....	64.6	45.9	62.5	57.6	65.7	84.8	71.1	51.0	62.6	64.8
September.....	63.9	46.7	61.2	57.0	65.8	84.7	66.8	51.5	64.5	64.9
October.....	58.2	45.4	61.2	55.7	66.0	85.0	62.5	51.0	64.4	64.2
November.....	61.3	41.2	64.3	56.6	67.2	85.8	61.7	48.2	66.4	64.3
December.....	60.4	38.0	64.3	55.5	65.1	84.7	63.0	46.0	63.4	62.5

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Farm products				Foods					
	Grains	Livestock and poultry	Other farm products	All farm products	Butter, cheese, and milk	Cereal products	Fruits and vegetables	Meats	Other foods	All foods
1934										
January.....	63.7	41.1	67.4	58.7	65.0	85.8	68.0	48.9	64.0	64.3
February.....	63.2	48.2	68.3	61.3	69.1	85.7	71.7	53.3	64.1	66.7
March.....	62.3	49.5	67.7	61.3	68.9	85.3	71.6	56.5	63.5	67.3
April.....	58.8	49.2	65.7	59.6	66.5	84.8	67.9	57.3	62.1	66.2
May.....	63.9	47.8	65.0	59.6	67.1	87.3	68.2	60.0	60.8	67.1
June.....	72.4	48.3	69.4	63.3	73.0	89.2	70.1	62.2	62.8	69.8
July.....	74.8	48.8	70.5	64.5	74.8	88.9	68.2	63.4	64.5	70.6
August.....	86.0	56.2	73.1	69.8	77.3	91.0	65.6	69.4	68.9	73.9
September.....	88.1	64.1	74.4	73.4	76.2	91.9	66.0	76.6	70.0	76.1
October.....	85.0	55.3	75.4	70.6	77.1	91.0	67.6	70.0	71.0	74.8
November.....	87.2	54.0	75.8	70.8	78.6	91.0	65.3	68.4	74.0	75.1
December.....	91.5	57.2	75.1	72.0	79.6	92.2	62.4	69.0	74.3	75.3
1935										
January.....	88.8	73.3	76.6	77.6	83.5	91.6	62.8	81.6	76.2	79.9
February.....	87.4	78.4	76.8	79.1	87.0	91.9	63.6	87.9	77.2	82.7
March.....	82.8	85.8	72.1	78.3	82.9	92.1	63.2	91.6	73.4	81.9
April.....	87.9	85.9	74.5	80.4	84.9	93.3	67.3	94.3	76.2	84.5
May.....	83.2	87.6	75.0	80.6	77.7	92.3	66.3	97.0	77.7	84.1
June.....	76.9	84.8	74.3	78.3	74.6	90.5	68.7	94.5	77.2	82.8
July.....	73.3	82.8	72.9	77.1	74.0	92.7	65.1	93.3	76.7	82.1
August.....	79.3	91.6	71.4	79.3	75.7	94.6	60.5	102.0	78.6	84.9
September.....	83.5	92.0	70.4	79.5	76.0	96.8	60.0	102.9	80.8	86.1
October.....	86.4	86.6	70.3	78.2	77.0	98.9	59.1	97.1	81.2	85.0
November.....	77.9	83.1	73.5	77.5	81.1	97.2	63.2	94.3	80.8	85.1
December.....	76.6	87.4	72.8	78.3	83.7	97.2	63.7	97.5	77.5	85.7
Hides and leather products										
Year and month	Hides and leather products					Textile products				
	Boots and shoes	Hides and skins	Leather	Other leather products	All hides and leather products	Clothing	Cotton goods	Knit goods	Silk and rayon	Woolen and worsted goods
1913.....	54.5	106.8	69.1	50.8	68.1	-----	58.0	-----	71.8	53.7
1914.....	56.3	113.4	72.5	51.4	70.9	-----	56.0	-----	71.3	50.5
1915.....	58.6	129.2	75.8	55.3	75.5	-----	52.3	-----	68.3	55.0
1916.....	69.1	151.5	107.2	64.5	93.4	-----	68.7	-----	87.1	70.4
1917.....	91.5	201.3	141.9	85.3	123.8	-----	98.7	-----	98.4	101.7
1918.....	97.9	194.2	135.3	97.2	125.7	-----	146.6	-----	116.4	138.6
1919.....	134.7	267.4	187.5	133.1	174.1	-----	147.5	-----	145.5	124.3
1920.....	151.1	206.7	188.2	140.8	171.3	-----	190.7	-----	162.7	153.7
1921.....	111.5	89.5	111.7	118.6	109.2	-----	99.5	-----	110.5	91.9
1922.....	98.1	115.8	105.2	113.5	104.6	-----	104.3	-----	121.0	95.7
1923.....	99.1	117.6	104.1	103.7	104.2	-----	116.9	-----	129.5	107.5
1924.....	98.4	110.2	99.8	103.7	101.5	-----	114.7	-----	103.1	106.8
1925.....	100.5	118.7	104.8	102.8	105.3	-----	110.0	-----	104.5	110.2
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	102.6	120.3	109.2	102.8	107.7	95.8	97.1	91.9	87.1	97.8
1928.....	109.9	148.6	126.3	108.2	121.4	93.2	100.4	90.1	83.7	100.1
1929.....	106.3	112.7	113.2	106.4	109.1	90.0	98.8	88.5	80.4	88.3
1930.....	102.0	91.0	101.3	105.5	100.0	86.2	84.7	80.0	60.2	79.0
1931.....	93.7	60.2	86.2	101.4	86.1	75.9	66.1	60.9	43.5	68.2
1932.....	86.1	42.1	65.1	90.1	72.9	63.0	54.0	51.6	31.0	57.7
1933.....	90.2	67.1	71.4	81.1	80.9	72.2	71.2	58.9	30.6	69.3
1934.....	98.1	68.6	75.0	86.6	86.6	82.5	86.5	63.2	26.7	79.7
1935.....	98.0	80.8	80.1	85.0	89.6	79.8	83.4	61.8	30.2	76.1
1931										
January.....	95.1	64.4	90.8	102.3	88.7	79.1	73.5	64.8	49.0	73.7
February.....	95.0	57.7	89.0	102.0	86.9	79.1	73.1	64.5	47.0	73.5
March.....	94.9	62.1	88.4	102.0	87.6	78.1	72.4	63.8	45.8	71.8
April.....	94.8	62.0	88.4	101.6	87.5	76.9	71.4	60.7	43.4	69.0
May.....	94.8	62.6	88.1	101.4	87.6	76.9	69.2	60.7	41.4	68.5

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Hides and leather products					Textile products				
	Boots and shoes	Hides and skins	Leather	Other leather products	All hides and leather products	Clothing	Cotton goods	Knit goods	Silk and rayon	Woolen and worsted goods
1931										
June.....	94.6	65.5	87.8	101.4	88.0	76.3	67.6	59.8	41.9	68.0
July.....	93.5	72.7	89.8	101.4	89.4	76.1	66.8	60.0	43.8	67.4
August.....	93.5	69.1	90.3	101.4	88.7	75.9	64.0	59.2	43.7	67.4
September.....	93.5	58.6	83.4	101.1	85.0	75.5	61.5	59.2	43.5	65.7
October.....	93.1	50.0	80.7	101.1	82.5	73.9	59.7	59.2	41.7	64.6
November.....	92.5	49.0	78.8	101.1	81.6	72.6	58.1	59.0	41.8	64.2
December.....	89.2	48.8	78.6	99.7	79.8	70.8	56.4	59.5	39.0	63.9
1932										
January.....	88.8	49.0	77.5	98.9	79.3	69.6	55.8	55.8	37.7	63.3
February.....	88.5	46.1	76.5	98.8	78.3	69.4	56.4	55.8	36.5	63.1
March.....	88.5	44.7	73.4	98.8	77.3	66.1	56.2	54.9	33.5	62.7
April.....	88.4	40.8	67.2	98.0	75.0	64.9	55.1	51.9	31.3	59.7
May.....	88.4	35.7	60.6	97.9	72.5	62.9	52.9	50.5	29.1	58.3
June.....	87.5	32.5	58.7	96.4	70.8	62.2	51.0	49.6	27.5	55.0
July.....	84.4	33.5	60.0	83.7	68.6	60.9	50.0	47.8	26.2	53.6
August.....	84.4	39.3	60.0	82.3	69.7	61.0	52.6	48.5	29.5	53.4
September.....	84.4	48.2	63.2	81.5	72.2	61.8	57.9	50.4	32.6	56.7
October.....	84.6	49.6	64.1	81.9	72.8	62.5	56.2	50.9	30.8	56.5
November.....	84.2	46.1	61.9	81.9	71.4	62.2	53.6	51.0	29.5	55.3
December.....	83.8	41.7	59.2	81.9	69.6	62.5	51.7	49.3	29.3	54.2
1933										
January.....	83.3	43.0	57.1	78.2	68.9	61.9	50.1	48.4	27.0	53.4
February.....	83.3	40.9	55.3	77.9	68.0	61.2	49.1	48.3	25.6	53.2
March.....	83.2	41.4	55.6	77.9	68.1	61.3	50.0	47.1	25.5	53.2
April.....	83.2	45.8	57.2	77.2	69.4	61.4	50.7	47.2	26.3	53.3
May.....	83.6	67.3	68.3	77.2	76.9	61.9	57.9	48.0	29.1	61.5
June.....	85.5	81.4	74.3	78.5	82.4	64.5	67.1	50.9	35.2	68.8
July.....	88.3	88.7	78.0	80.0	86.3	70.6	80.2	55.2	37.9	72.3
August.....	96.1	91.5	82.5	81.2	91.7	74.4	93.5	69.4	34.6	78.9
September.....	98.9	84.1	85.4	84.6	92.3	81.1	91.3	74.8	34.5	82.7
October.....	98.9	71.2	83.2	85.1	89.0	84.8	88.8	74.7	32.0	84.5
November.....	99.0	70.1	79.3	87.9	88.2	88.0	86.0	72.5	30.4	84.4
December.....	98.6	74.9	80.1	87.6	89.2	87.9	85.5	71.2	29.6	84.3
1934										
January.....	98.5	77.2	79.9	87.0	89.5	87.5	86.5	70.6	29.7	84.3
February.....	98.4	78.0	80.1	86.9	89.6	87.2	88.6	67.0	31.0	84.3
March.....	98.5	73.4	79.7	86.7	88.7	87.2	89.1	65.6	29.4	84.0
April.....	98.5	76.7	78.4	86.7	88.9	85.7	88.2	64.2	28.4	82.0
May.....	98.5	73.5	76.3	86.8	87.9	82.7	86.3	65.3	26.5	81.0
June.....	98.4	70.1	75.3	86.8	87.1	82.6	86.0	62.8	25.0	80.8
July.....	98.0	66.6	75.1	86.8	86.3	81.9	85.1	59.5	24.5	80.7
August.....	97.9	57.4	71.3	86.8	83.8	79.5	86.4	59.3	24.4	78.9
September.....	97.9	60.4	70.6	86.5	84.1	79.7	87.8	59.9	24.3	78.0
October.....	97.7	59.7	70.5	85.9	83.8	79.1	86.6	60.5	24.8	74.8
November.....	97.3	63.1	70.8	85.7	84.2	78.4	84.4	61.0	25.8	74.1
December.....	97.2	67.4	71.8	85.7	85.1	78.4	84.3	61.9	27.1	74.0
1935										
January.....	97.1	71.1	74.3	85.0	86.2	78.4	84.1	63.5	28.6	73.8
February.....	97.2	69.6	74.6	84.6	86.0	78.5	83.3	63.6	28.1	73.6
March.....	97.2	66.6	74.2	84.6	85.4	78.5	82.4	62.5	27.3	73.1
April.....	97.2	71.2	74.9	84.6	86.3	78.5	81.8	61.6	27.6	73.1
May.....	97.2	76.1	79.6	84.4	88.3	78.5	82.7	60.4	27.6	73.5
June.....	97.3	78.0	80.5	84.4	88.9	80.7	82.5	59.5	27.2	75.6
July.....	97.8	79.8	80.2	84.4	89.3	80.7	82.0	59.9	27.9	76.4
August.....	98.3	80.4	80.2	84.4	89.6	80.5	82.5	60.2	31.0	76.4
September.....	98.3	83.8	83.0	84.5	90.9	80.8	83.2	61.6	32.9	76.9
October.....	98.8	92.9	86.6	85.0	93.6	80.8	84.6	63.2	35.1	79.1
November.....	96.6	96.0	88.1	86.3	95.0	80.7	85.8	63.2	35.0	80.7
December.....	100.1	96.5	87.6	87.1	95.4	81.0	86.0	62.2	33.7	81.0

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Textile products—Continued		Fuel and lighting						
	Other textile products	All textile products	Anthracite coal	Bituminous coal	Coke	Electricity	Gas	Petroleum products	All fuel and lighting
1913.....	62.7	57.3	58.9	38.1	46.3	-----	78.1	73.3	61.3
1914.....	55.0	54.6	59.6	34.8	37.5	-----	78.4	65.8	56.6
1915.....	60.3	54.1	59.5	33.9	37.3	-----	78.3	54.1	51.8
1916.....	81.9	70.4	63.9	55.5	52.0	-----	78.0	37.3	74.3
1917.....	132.2	98.7	72.4	98.4	106.6	-----	76.5	112.1	105.4
1918.....	169.7	137.2	82.3	81.4	100.9	-----	79.4	135.3	109.2
1919.....	124.2	135.3	75.8	79.8	84.4	-----	86.4	128.0	104.3
1920.....	104.5	104.8	92.5	165.4	162.3	-----	98.2	153.5	163.7
1921.....	63.1	94.5	92.5	77.7	90.6	-----	115.6	104.4	96.8
1922.....	70.8	100.2	95.3	113.1	119.1	-----	110.3	102.9	107.3
1923.....	77.4	111.3	100.8	113.4	118.8	-----	104.8	82.6	97.3
1924.....	87.1	106.7	98.6	99.7	97.2	-----	102.9	83.5	92.0
1925.....	104.1	108.3	99.7	96.5	97.7	-----	101.9	95.0	96.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	98.2	95.6	96.3	100.3	94.4	102.9	98.0	72.7	88.3
1928.....	95.4	95.5	91.7	93.6	84.6	96.6	94.9	72.0	84.3
1929.....	93.1	90.4	90.1	91.3	84.6	94.5	93.1	71.3	83.0
1930.....	84.2	80.3	89.1	89.4	84.0	97.7	97.3	61.5	78.5
1931.....	75.1	66.3	91.1	84.6	82.4	93.8	98.7	39.5	67.5
1932.....	67.9	54.9	88.4	82.0	77.7	104.7	101.3	45.4	70.3
1933.....	72.5	64.8	82.2	82.8	77.9	94.3	97.5	41.0	66.3
1934.....	73.1	72.9	80.1	94.5	84.8	91.8	93.4	50.5	73.3
1935.....	68.5	70.9	79.7	96.7	88.6	87.8	89.3	51.3	73.5
1931									
January.....	77.2	71.3	88.9	88.1	83.8	90.9	95.8	50.4	73.3
February.....	77.8	70.9	88.9	87.8	83.8	94.5	95.8	50.2	72.5
March.....	77.0	70.0	88.4	86.0	83.7	95.9	94.6	41.8	68.3
April.....	76.2	68.2	86.4	84.4	83.7	93.7	96.1	37.4	65.4
May.....	76.7	67.4	87.5	83.9	83.7	98.0	99.0	35.9	65.3
June.....	75.5	66.6	88.8	83.2	81.5	98.6	101.9	30.7	62.9
July.....	75.2	66.5	90.8	83.5	81.5	97.9	103.5	30.3	62.9
August.....	74.4	65.5	92.2	83.7	81.5	98.4	103.2	37.5	66.5
September.....	74.1	64.5	94.3	83.9	81.5	100.6	103.4	38.9	67.4
October.....	72.4	63.0	94.2	83.6	81.5	102.1	100.8	39.2	67.8
November.....	72.5	62.2	94.2	83.7	81.4	103.4	100.1	42.5	69.4
December.....	71.3	60.8	94.8	83.8	81.1	104.1	98.2	39.6	68.3
1932									
January.....	70.7	59.6	94.8	84.4	80.5	107.5	98.6	38.8	67.9
February.....	69.7	59.5	94.8	84.3	80.4	104.8	98.0	38.6	68.3
March.....	69.5	58.0	89.9	83.5	80.4	104.4	97.5	39.8	67.9
April.....	68.2	56.1	85.7	82.7	79.8	103.5	99.1	45.5	70.2
May.....	67.2	54.3	85.6	82.0	77.1	106.1	103.0	47.2	70.7
June.....	66.7	52.7	85.3	81.8	76.9	105.5	106.3	48.2	71.6
July.....	66.5	51.5	84.5	81.6	76.3	105.8	108.3	49.7	72.3
August.....	67.4	52.7	86.0	81.3	76.7	104.4	107.0	48.9	72.1
September.....	68.6	55.6	87.7	81.1	76.7	103.4	107.6	46.7	70.8
October.....	67.7	55.0	88.7	81.1	76.7	104.6	104.4	47.4	71.1
November.....	67.1	53.9	88.8	80.4	75.6	103.1	100.0	45.2	71.4
December.....	66.6	53.0	88.7	80.2	75.3	104.1	96.5	45.0	69.3
1933									
January.....	66.3	51.9	88.7	79.8	75.3	103.2	96.7	38.7	66.0
February.....	66.2	51.2	88.7	79.4	75.2	102.9	96.6	34.3	63.6
March.....	66.7	51.3	88.3	79.3	75.2	100.5	96.6	33.1	62.9
April.....	67.5	51.8	81.4	78.1	75.2	98.3	97.5	32.5	61.5
May.....	70.8	55.9	78.5	78.3	75.2	94.6	99.5	31.2	60.4
June.....	73.6	61.5	76.8	78.3	75.3	91.4	101.7	34.4	61.5
July.....	76.7	68.0	77.9	81.0	76.0	89.4	100.2	41.3	65.3
August.....	73.8	74.6	79.2	83.6	77.4	88.8	99.5	40.9	65.5
September.....	76.5	76.9	82.0	84.7	79.7	90.4	101.5	46.6	70.4
October.....	75.3	77.1	81.8	89.8	82.6	92.3	100.5	52.7	73.6
November.....	75.8	76.8	81.8	90.7	83.2	93.8	94.6	51.6	73.5
December.....	75.9	76.4	81.5	90.6	83.6	94.0	92.2	51.6	73.4

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Textile products—Continued		Fuel and lighting						
	Other textile products	All textile products	Anthracite coal	Bituminous coal	Coke	Electricity	Gas	Petroleum products	All fuel and lighting
1934									
January.....	76.9	76.5	81.5	90.8	83.5	92.3	90.8	51.1	73.1
February.....	77.8	76.9	81.2	91.1	83.5	91.8	89.3	50.3	72.4
March.....	78.5	76.5	81.2	91.1	83.4	88.5	89.4	48.7	71.4
April.....	78.9	75.3	78.1	93.7	84.3	88.3	92.2	49.4	71.7
May.....	77.3	73.6	75.7	94.6	84.5	88.9	95.6	50.7	72.5
June.....	74.8	72.7	76.9	95.0	85.0	90.6	97.5	50.6	72.8
July.....	69.6	71.5	78.6	95.7	85.6	92.4	99.2	51.3	73.9
August.....	69.7	70.8	79.9	96.2	85.6	92.6	99.2	51.6	74.6
September.....	69.1	71.1	81.3	96.3	85.6	95.2	99.3	51.3	74.6
October.....	68.5	70.3	82.0	96.4	85.6	94.5	96.9	50.4	74.6
November.....	68.5	69.7	82.1	96.4	85.6	94.0	92.4	50.5	74.4
December.....	68.6	70.0	82.3	96.5	85.6	93.1	89.3	49.8	73.7
1935									
January.....	68.8	70.3	82.3	96.3	86.4	89.9	87.6	48.8	72.9
February.....	68.6	70.1	82.3	96.4	88.8	90.3	87.7	48.7	72.5
March.....	67.7	69.4	81.1	96.3	88.8	88.3	88.6	49.8	73.0
April.....	67.5	69.2	75.5	95.4	88.7	87.8	88.0	51.0	72.8
May.....	68.2	69.4	73.0	95.7	88.7	88.7	92.0	52.2	73.1
June.....	68.9	70.1	74.0	96.1	88.7	90.2	95.2	53.2	74.2
July.....	69.1	70.2	77.0	96.5	88.6	87.8	94.0	52.9	74.7
August.....	69.1	70.9	78.6	96.0	88.6	86.7	91.8	52.4	74.1
September.....	69.9	71.8	80.6	96.2	88.6	87.5	91.9	50.6	73.0
October.....	68.3	72.9	82.5	98.0	88.6	86.3	89.0	50.1	73.4
November.....	68.5	73.4	83.0	98.5	88.9	86.2	86.6	52.5	74.5
December.....	68.1	73.2	82.9	98.7	89.6	84.9	84.5	52.8	74.6

Year and month	Metals and metal products							Building materials			
	Farm equipment	Iron and steel	Motor vehicles	Non-ferrous metals	Plumbing and heating	Other metal products	All metals and metal products	Brick and tile	Cement	Lumber	Paint materials
1913.....	72.9	70.9	147.5	88.9	-----	53.7	90.8	38.9	50.6	54.0	50.8
1914.....	73.1	61.4	125.0	76.3	-----	53.8	80.2	38.8	55.0	49.9	50.7
1915.....	71.2	64.7	115.5	108.6	-----	54.2	86.3	39.1	51.0	48.7	54.8
1916.....	71.0	109.7	107.6	160.2	-----	56.3	116.5	42.4	65.4	55.1	77.1
1917.....	86.3	176.7	110.4	165.7	-----	62.3	150.6	50.2	80.8	72.2	95.3
1918.....	114.0	147.0	121.0	144.4	-----	74.2	136.5	66.7	94.6	88.5	121.9
1919.....	113.8	130.0	142.5	118.9	-----	81.5	130.9	91.9	102.3	113.0	140.3
1920.....	111.9	157.1	160.7	118.3	-----	100.9	149.4	113.4	117.2	165.2	148.1
1921.....	111.4	109.4	143.4	78.3	-----	97.6	117.5	105.7	110.8	88.9	83.9
1922.....	88.2	98.1	116.6	83.5	-----	94.7	102.9	99.4	103.5	99.1	93.8
1923.....	98.8	117.3	108.7	95.3	-----	103.3	109.3	103.6	107.9	111.8	101.3
1924.....	105.7	109.4	107.5	93.0	-----	101.7	106.3	103.4	105.7	99.3	99.7
1925.....	100.4	102.2	105.3	101.4	-----	100.5	103.2	100.1	102.6	100.6	109.3
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	99.7	94.2	100.4	92.8	92.0	-----	96.3	95.7	96.7	93.1	96.3
1928.....	99.3	93.5	102.9	94.0	95.1	-----	97.0	95.6	95.9	90.5	93.1
1929.....	98.7	94.9	106.7	106.1	95.0	-----	100.5	94.3	91.8	93.8	94.9
1930.....	95.0	89.1	100.3	82.4	88.6	-----	92.1	89.8	91.8	85.8	90.5
1931.....	92.1	83.3	94.8	61.9	84.7	-----	84.5	83.6	79.4	69.5	79.4
1932.....	84.9	79.4	94.1	49.8	66.8	-----	80.2	77.3	77.2	58.5	71.1
1933.....	83.5	78.6	90.2	59.6	67.1	-----	79.8	79.2	86.1	70.7	73.3
1934.....	89.6	86.7	95.9	67.7	72.6	-----	86.9	90.2	93.2	84.5	79.5
1935.....	93.7	86.7	93.9	68.6	63.9	-----	86.4	89.4	95.3	81.1	79.8

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Metals and metal products							Building materials			
	Farm equipment	Iron and steel	Motor vehicles	Non-ferrous metals	Plumbing and heating	Other metal products	All metals and metal products	Brick and tile	Cement	Lumber	Paint materials
1931											
January	94.4	85.5	95.1	69.5	87.4	-----	86.9	87.0	90.3	76.4	83.2
February	94.3	85.6	94.4	68.4	86.6	-----	86.5	86.3	87.9	74.0	80.5
March	94.3	85.4	94.0	69.3	86.6	-----	86.4	85.0	84.1	74.7	81.4
April	94.3	84.1	94.5	67.5	86.6	-----	85.7	83.9	81.0	73.4	81.2
May	94.3	83.8	94.5	63.3	86.6	-----	85.0	83.7	79.7	69.4	80.2
June	94.2	83.5	94.2	61.2	86.6	-----	84.4	83.7	77.7	68.5	80.0
July	94.2	82.7	94.7	61.4	86.8	-----	84.3	83.4	75.8	67.2	79.6
August	94.3	82.4	94.7	60.1	83.8	-----	83.9	82.9	75.8	66.9	78.4
September	94.1	82.3	95.4	59.0	82.6	-----	83.9	82.6	75.8	66.9	77.6
October	85.6	81.7	95.4	54.9	81.6	-----	82.8	82.6	75.1	65.2	77.0
November	85.5	81.5	95.2	54.7	81.4	-----	82.6	81.4	74.6	65.9	77.5
December	85.5	81.0	95.2	53.8	79.9	-----	82.2	80.0	74.6	65.8	76.6
1932											
January	85.5	79.9	95.3	55.4	74.1	-----	81.8	79.3	75.2	65.6	75.4
February	85.1	79.3	95.3	52.7	65.8	-----	80.9	79.3	75.3	62.9	75.1
March	85.0	79.7	95.3	50.5	64.4	-----	80.8	79.3	75.0	61.5	75.4
April	85.0	80.1	93.8	49.3	64.4	-----	80.3	78.4	75.0	60.0	74.7
May	84.9	80.0	93.8	48.3	64.4	-----	80.1	77.4	75.0	59.5	73.9
June	84.9	79.8	93.8	47.5	66.7	-----	79.9	76.1	77.1	57.6	73.3
July	84.9	77.2	95.3	47.0	67.1	-----	79.2	75.9	77.3	56.9	66.8
August	84.9	78.7	95.3	48.5	67.1	-----	80.1	75.2	79.0	55.5	67.2
September	84.9	79.7	92.7	51.6	66.8	-----	80.1	75.4	79.0	56.3	68.2
October	84.7	80.4	92.7	50.7	67.5	-----	80.3	75.3	79.0	56.6	68.3
November	84.6	79.4	92.7	49.1	67.5	-----	79.6	75.4	79.0	56.6	68.5
December	84.5	78.8	93.0	48.3	67.5	-----	79.4	75.1	81.1	56.5	68.1
1933											
January	84.5	78.5	91.3	46.4	62.8	-----	78.2	74.9	81.2	55.9	68.1
February	83.1	77.3	90.9	46.2	59.4	-----	77.4	75.1	81.8	56.4	68.0
March	83.1	76.4	90.9	47.9	59.4	-----	77.2	74.9	81.8	57.8	68.4
April	83.1	75.7	90.4	49.2	59.4	-----	76.9	75.0	81.8	57.9	68.9
May	83.0	75.2	90.4	56.6	61.3	-----	77.7	75.2	81.8	59.6	70.7
June	83.0	76.2	90.4	63.2	67.4	-----	79.3	77.0	81.8	67.4	71.9
July	83.0	77.7	90.4	67.6	69.4	-----	80.6	78.2	88.2	75.9	77.9
August	83.2	78.6	90.4	68.2	70.3	-----	81.2	81.5	90.3	79.4	77.5
September	83.2	80.3	90.4	68.5	74.7	-----	82.1	82.6	90.8	82.0	77.3
October	83.7	82.4	90.9	67.0	74.7	-----	83.0	84.6	91.2	84.2	76.1
November	83.7	81.5	90.9	68.0	73.7	-----	82.7	84.7	91.2	86.5	76.3
December	85.1	83.6	90.9	66.6	72.5	-----	83.5	85.7	91.2	88.0	77.5
1934											
January	85.2	83.6	96.9	66.1	72.5	-----	85.5	86.6	93.9	87.4	73.4
February	85.2	86.3	97.8	65.8	72.7	-----	87.0	87.2	93.9	87.3	79.3
March	85.2	86.3	97.8	66.3	72.7	-----	87.1	88.5	93.9	86.4	79.7
April	85.2	87.3	97.8	68.0	76.2	-----	87.9	90.7	89.7	87.2	79.8
May	91.1	90.2	97.3	68.1	75.0	-----	89.1	91.2	89.4	85.9	80.3
June	91.1	88.6	95.0	68.5	75.1	-----	87.7	91.1	93.9	86.3	80.3
July	92.0	86.7	94.6	68.8	75.0	-----	86.8	91.3	93.9	85.3	79.8
August	92.0	86.6	94.6	68.9	75.0	-----	86.7	91.3	93.9	81.8	79.9
September	92.0	86.5	94.7	68.4	71.6	-----	86.6	91.3	93.9	82.3	79.5
October	92.0	86.2	94.7	68.1	68.1	-----	86.3	91.2	93.9	82.0	79.4
November	91.9	86.0	94.7	67.7	68.8	-----	86.2	91.2	93.9	81.2	78.8
December	92.7	85.6	94.6	67.5	68.8	-----	85.9	91.2	93.9	81.2	78.8
1935											
January	92.7	85.7	94.1	67.6	68.0	-----	85.8	91.1	93.9	79.9	79.0
February	93.6	86.1	93.6	67.2	67.1	-----	85.8	90.6	93.9	80.5	78.8
March	93.6	86.0	93.6	67.1	67.2	-----	85.7	90.2	94.4	79.9	79.4
April	93.6	86.0	93.6	68.2	67.1	-----	85.9	89.7	94.9	79.9	79.2
May	93.6	86.6	94.4	69.2	67.1	-----	86.6	89.3	94.9	79.8	79.9
June	93.6	87.1	94.7	69.1	66.2	-----	86.9	89.2	94.9	81.6	79.8
July	93.6	87.0	94.7	66.1	68.8	-----	86.4	89.1	94.9	81.7	79.1
August	93.6	87.1	94.7	66.9	71.1	-----	86.6	89.0	94.9	82.0	78.6
September	93.7	86.8	94.3	68.6	71.1	-----	86.6	88.8	94.9	82.1	80.8
October	93.7	86.9	92.9	70.9	71.1	-----	86.5	88.3	95.5	82.0	81.9
November	94.6	87.0	93.8	71.3	71.1	-----	86.9	88.3	95.5	81.8	80.3
December	94.6	86.9	93.6	70.6	71.1	-----	86.8	88.9	95.5	81.5	80.0

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Building materials—Continued				Chemicals and drugs				
	Plumb- ing and heating	Struc- tural steel	Other building ma- terials	All building ma- terials	Chem- icals	Drugs and pharma- ceuticals	Fertiliz- er ma- terials	Mixed fertiliz- ers	All chemi- cals and drugs
1913.....		77.1	63.1	56.7	89.4	56.6	85.5	84.3	80.2
1914.....		60.0	59.7	52.7	91.0	60.8	78.3	85.5	81.4
1915.....		65.3	65.1	53.5	127.8	82.9	133.7	92.0	112.0
1916.....		128.9	87.8	67.6	196.9	88.8	205.2	142.2	160.7
1917.....		190.8	114.0	88.2	187.6	108.3	228.0	137.7	165.0
1918.....		153.2	121.0	98.6	187.3	130.2	236.9	195.0	182.3
1919.....		128.7	116.8	115.6	145.8	113.7	191.8	221.7	157.0
1920.....		144.4	135.0	150.1	166.5	119.8	211.6	177.1	164.7
1921.....		104.4	111.1	97.4	108.9	96.2	117.9	162.5	115.0
1922.....		88.5	95.3	97.3	97.2	93.3	102.3	119.0	100.3
1923.....		123.7	105.5	108.7	100.6	95.7	102.5	107.4	101.1
1924.....		114.2	104.0	102.3	102.2	95.8	92.6	95.9	98.9
1925.....		102.2	100.4	101.7	101.4	97.7	98.8	100.4	101.8
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	92.0	94.7	95.4	94.7	99.6	88.4	96.2	93.0	96.8
1928.....	95.1	95.2	96.7	94.1	100.5	72.6	94.6	97.3	95.6
1929.....	95.0	98.1	97.7	95.4	99.1	71.5	92.1	97.2	94.2
1930.....	88.6	87.3	93.3	89.9	93.7	68.0	85.6	93.6	89.1
1931.....	84.7	83.1	84.8	79.2	83.0	62.8	76.8	82.0	79.3
1932.....	66.8	80.9	79.5	71.4	79.5	57.7	66.9	69.3	73.5
1933.....	67.1	83.1	82.7	77.0	79.6	56.3	65.9	64.5	72.6
1934.....	72.6	90.8	90.3	86.2	79.6	72.1	67.1	72.5	75.9
1935.....	68.9	92.0	90.1	85.3	86.9	73.9	66.3	70.6	80.5
1931									
January.....	87.4	83.0	87.8	83.8	88.3	65.3	81.4	90.4	84.5
February.....	86.6	84.3	87.8	82.5	86.6	65.2	81.1	89.1	83.3
March.....	86.6	84.3	87.6	82.5	86.4	64.8	80.8	88.7	82.9
April.....	86.6	84.3	86.9	81.5	85.1	63.4	80.6	83.5	81.3
May.....	86.6	84.3	86.3	80.0	83.9	63.2	80.5	82.8	80.5
June.....	86.6	84.3	85.4	79.3	83.5	62.6	79.8	82.4	79.4
July.....	86.8	84.3	83.7	78.1	82.4	62.1	78.7	80.2	78.9
August.....	83.8	81.7	83.7	77.6	80.5	61.9	74.4	78.7	76.9
September.....	82.6	81.7	82.6	77.0	79.8	61.7	74.2	77.6	76.3
October.....	81.6	81.7	82.0	76.1	79.7	61.6	70.2	77.2	75.6
November.....	81.4	81.7	81.9	76.2	80.6	61.3	70.1	77.7	76.1
December.....	79.9	81.7	81.5	75.7	80.8	61.0	70.1	77.1	76.1
1932									
January.....	74.1	77.3	81.0	74.8	80.6	60.6	69.9	75.5	75.7
February.....	65.8	77.9	80.2	73.4	80.8	60.1	69.8	73.7	75.5
March.....	64.4	79.7	80.6	73.2	80.9	59.7	68.6	73.2	75.3
April.....	64.4	81.7	80.2	72.5	79.7	58.9	70.1	71.1	74.4
May.....	64.4	81.7	78.2	71.5	79.1	58.7	69.4	69.0	73.6
June.....	66.7	81.7	77.6	70.8	78.6	58.3	68.0	69.0	73.1
July.....	67.1	81.7	77.9	69.7	78.9	57.6	66.8	68.3	73.0
August.....	67.1	81.7	78.3	69.6	79.7	57.0	66.4	68.3	73.3
September.....	66.8	81.7	79.9	70.5	79.8	56.6	63.6	66.9	72.9
October.....	67.5	81.7	80.0	70.7	79.8	55.9	63.4	66.5	72.7
November.....	67.5	81.7	80.1	70.7	79.7	55.0	63.5	65.6	72.4
December.....	67.5	81.7	80.1	70.8	79.7	54.7	63.1	65.6	72.3
1933									
January.....	62.8	81.7	79.4	70.1	79.3	54.9	62.3	62.7	71.6
February.....	59.4	81.7	78.5	69.8	79.0	54.8	61.5	62.4	71.3
March.....	59.4	81.7	78.4	70.3	79.3	54.8	61.9	60.1	71.2
April.....	59.4	81.7	77.9	70.2	79.5	54.6	62.9	60.0	71.4
May.....	61.3	81.7	78.8	71.4	80.9	55.0	66.8	63.1	73.2
June.....	67.4	81.7	80.6	74.7	81.5	55.5	68.0	63.0	73.7
July.....	69.4	81.7	83.3	79.5	80.3	56.8	68.6	63.3	73.2
August.....	70.3	81.7	85.0	81.3	79.6	57.6	69.0	64.4	73.1
September.....	74.7	82.4	85.9	82.7	78.8	56.8	66.6	67.8	72.7
October.....	74.7	86.8	87.1	83.0	78.6	56.8	67.6	68.3	72.7
November.....	73.7	86.8	88.4	84.9	79.2	58.4	67.8	68.5	73.4
December.....	72.5	86.8	88.6	85.6	79.2	59.0	68.1	69.9	73.7
1934									
January.....	72.5	86.8	89.8	86.3	78.8	65.2	68.4	71.2	74.4
February.....	72.7	86.8	90.3	86.6	78.8	71.5	69.2	72.5	75.5
March.....	72.7	86.8	89.9	86.4	79.0	71.9	69.5	72.6	75.7
April.....	76.2	86.8	90.4	86.7	78.6	72.2	68.7	72.7	75.5

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued

Year and month	Building materials—Continued				Chemicals and drugs				
	Plumbing and heating	Structural steel	Other building materials	All building materials	Chemicals	Drugs and pharmaceuticals	Fertilizer materials	Mixed fertilizers	All chemicals and drugs
1934									
May	75.0	94.5	92.0	87.3	78.6	72.8	66.4	73.2	75.4
June	75.1	94.5	92.0	87.8	78.6	73.1	67.9	73.4	75.6
July	75.0	92.5	90.9	87.0	78.5	73.0	67.6	72.8	75.4
August	75.0	92.0	90.0	85.8	79.2	72.7	64.8	73.0	75.7
September	71.6	92.0	89.8	85.6	80.3	72.7	66.4	73.0	76.5
October	68.1	92.0	89.3	85.2	81.1	73.5	65.7	73.0	77.1
November	68.8	92.0	89.4	85.0	80.9	73.5	64.6	73.5	76.9
December	68.8	92.0	89.8	85.1	82.2	73.4	65.3	73.7	77.8
1935									
January	68.0	92.0	90.3	84.9	84.5	73.1	66.5	73.3	79.3
February	67.1	92.0	90.3	85.0	86.5	73.1	66.2	72.8	80.4
March	67.2	92.0	90.1	84.9	88.1	73.0	66.3	72.8	81.5
April	67.1	92.0	89.4	84.6	87.2	73.8	66.0	72.9	81.0
May	67.1	92.0	89.8	84.8	87.5	74.2	65.9	73.1	81.2
June	66.2	92.0	90.0	85.3	86.3	74.3	65.7	74.5	80.7
July	68.8	92.0	89.7	85.2	84.6	74.0	65.7	68.6	78.7
August	71.1	92.0	90.1	85.4	84.3	73.8	66.8	68.1	78.6
September	71.1	92.0	90.3	85.9	86.9	73.8	67.2	67.8	80.2
October	71.1	92.0	90.5	86.1	88.3	74.2	67.2	67.9	81.1
November	71.1	92.0	90.6	85.8	88.4	74.7	67.5	67.6	81.2
December	71.1	92.0	90.0	85.5	87.7	74.7	64.5	67.7	80.6

Year and month	House-furnishing goods				Miscellaneous					All commodities
	Furnishings	Furniture	All house-furnishing goods	Auto tires and tubes	Cattle feed	Paper and pulp	Rubber, crude	Other miscellaneous	All miscellaneous	
1913	47.9	70.7	56.3	207.2	82.2	59.4	170.2	64.4	93.1	69.8
1914	48.7	70.6	56.8	173.1	87.6	58.2	135.2	64.5	89.9	68.1
1915	47.1	70.9	56.0	155.1	89.1	56.7	135.4	64.3	86.9	69.5
1916	54.8	72.8	61.4	160.4	95.5	89.0	150.0	68.5	100.6	85.5
1917	70.3	81.7	74.2	198.0	140.2	112.7	149.2	78.6	122.1	117.5
1918	94.5	93.3	93.3	229.2	146.2	106.7	124.4	107.6	134.4	131.3
1919	101.4	114.7	105.9	209.2	185.7	115.1	100.7	120.5	139.1	138.6
1920	128.5	165.6	141.8	232.5	184.3	181.8	72.6	150.2	167.5	154.4
1921	103.3	129.9	113.0	179.0	89.2	107.6	34.4	107.5	109.2	97.6
1922	97.0	114.6	103.5	115.4	107.3	91.6	36.0	100.4	92.8	96.7
1923	104.8	116.7	108.9	109.5	118.5	102.8	61.3	102.0	99.7	100.6
1924	103.4	107.9	104.9	92.6	110.2	100.7	54.3	100.8	93.6	98.1
1925	102.2	104.6	103.1	98.6	112.7	105.2	149.9	99.6	109.0	103.5
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	97.4	97.7	97.5	74.9	117.8	93.8	77.9	98.8	91.0	95.4
1928	93.7	96.7	95.1	63.4	138.1	91.4	46.4	96.9	85.4	96.7
1929	93.6	95.0	94.3	54.5	121.6	88.9	42.3	98.4	82.6	95.3
1930	91.4	94.0	92.7	51.3	99.7	86.1	24.5	95.5	77.7	86.4
1931	82.2	88.0	84.9	46.0	62.7	81.4	12.8	88.0	69.8	73.0
1932	75.4	75.0	75.1	41.1	46.0	75.5	7.3	83.7	64.4	64.8
1933	76.6	75.1	75.8	42.1	57.9	76.6	12.2	76.2	62.5	65.9
1934	84.1	79.0	81.5	44.9	89.4	82.7	26.5	82.1	69.7	74.9
1935	84.2	77.0	80.6	45.7	88.3	80.0	25.4	80.0	68.3	80.0
1931										
January	84.9	92.1	88.3	47.2	75.0	83.6	17.1	89.9	72.2	78.2
February	84.6	92.0	88.1	46.9	71.6	83.1	16.1	89.3	71.5	76.8
March	84.5	91.9	88.0	46.9	82.1	82.6	16.0	89.6	72.0	76.0
April	84.2	91.9	87.9	46.9	81.2	82.1	13.3	89.3	71.5	74.8
May	83.6	90.4	86.8	46.9	67.9	81.5	13.7	88.5	70.5	73.2
June	83.4	89.8	86.4	46.0	61.1	80.7	13.3	88.2	69.7	72.1
July	82.8	89.1	85.7	46.0	55.8	80.6	13.2	88.6	69.7	72.0
August	81.7	88.6	84.9	46.0	50.8	80.6	11.2	86.4	68.3	71.2
September	81.2	84.6	82.7	46.0	44.0	80.7	10.2	86.7	68.2	71.2
October	79.8	82.4	81.0	46.0	49.4	80.5	10.6	86.9	66.6	70.3
November	79.7	82.3	80.9	46.0	59.8	80.8	9.6	86.7	68.7	70.2
December	76.6	80.6	78.5	40.8	53.9	80.8	9.5	85.9	66.8	68.6

TABLE 3.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES, BY YEARS, 1913-35, AND BY MONTHS, JANUARY 1931 TO DECEMBER 1935—Continued.

Year and month	House-furnishing goods			Miscellaneous					All commodities	
	Furnishings	Furniture	All house-furnishing goods	Auto tires and tubes	Cattle feed	Paper and pulp	Rubber crude	Other miscellaneous		All miscellaneous
1932										
January	76.1	79.5	77.7	39.7	53.0	78.0	9.3	85.2	65.6	67.3
February	75.9	79.5	77.5	39.5	48.2	76.7	8.6	84.4	64.7	66.3
March	75.4	79.1	77.1	39.2	52.4	76.8	7.2	84.5	64.7	66.0
April	75.4	77.4	76.3	39.2	53.4	76.8	6.6	84.5	64.7	65.5
May	75.5	74.1	74.8	39.2	45.9	76.5	6.7	84.6	64.4	64.4
June	75.4	74.0	74.7	39.6	42.1	76.2	5.8	84.6	64.2	63.9
July	75.1	73.0	74.0	40.1	42.2	76.2	6.1	84.5	64.3	64.5
August	74.8	72.6	73.6	40.1	47.4	76.3	7.9	84.2	64.6	65.2
September	74.7	72.7	73.7	42.7	45.9	75.5	8.2	83.2	64.7	65.3
October	74.7	72.8	73.7	44.6	42.7	73.4	7.3	82.1	64.1	64.4
November	74.7	72.7	73.7	44.6	40.8	73.4	7.2	81.5	63.7	63.9
December	74.7	72.7	73.6	44.6	37.1	73.0	6.8	81.8	63.4	62.6
1933										
January	73.5	72.3	72.9	44.6	38.2	72.0	6.5	76.8	61.2	61.0
February	72.9	71.9	72.3	42.6	40.6	72.1	6.1	73.3	59.2	59.8
March	72.9	71.8	72.2	41.3	47.3	72.2	6.3	72.6	58.9	60.2
April	71.7	71.5	71.5	37.4	49.5	70.6	7.4	72.7	57.8	60.4
May	72.0	71.6	71.7	37.6	54.4	70.7	10.2	74.0	58.9	62.7
June	73.6	73.4	73.4	40.1	55.8	73.5	12.6	75.0	60.8	65.0
July	75.1	74.6	74.8	41.4	82.4	78.1	16.3	76.3	64.0	68.9
August	78.6	76.8	77.6	43.2	78.0	81.0	14.9	77.8	65.4	69.5
September	80.5	78.4	79.3	43.2	64.2	82.2	14.9	78.1	65.1	70.8
October	82.8	79.8	81.2	43.2	60.4	82.4	15.6	78.6	65.3	71.2
November	82.8	79.4	81.0	43.2	63.5	82.5	17.5	78.4	65.5	71.1
December	82.9	79.3	81.0	43.2	60.3	82.5	18.0	79.0	65.7	70.8
1934										
January	82.9	78.8	80.8	43.2	68.5	83.0	18.9	81.8	67.5	72.2
February	83.0	79.2	81.0	43.5	73.4	82.7	21.4	83.2	68.5	73.6
March	83.2	79.8	81.4	44.6	79.6	82.7	22.8	83.2	69.3	73.7
April	83.5	79.9	81.6	44.6	76.1	83.6	24.6	83.2	69.5	73.3
May	84.1	80.1	82.0	44.6	72.5	83.7	27.7	83.6	69.8	73.7
June	85.1	79.0	82.0	44.6	86.9	85.5	27.7	83.1	70.2	74.6
July	84.8	78.5	81.6	44.6	88.8	82.4	29.9	82.3	69.9	74.8
August	84.6	78.9	81.8	44.7	104.0	82.4	31.7	81.0	70.2	76.4
September	84.8	78.8	81.8	44.7	100.7	82.4	31.5	81.4	70.2	77.6
October	84.4	79.0	81.7	44.7	97.6	82.4	28.6	81.1	69.7	76.5
November	84.3	78.4	81.3	47.5	108.2	82.1	26.6	80.8	70.6	76.5
December	84.2	78.2	81.2	47.5	123.1	81.5	26.4	80.7	71.0	76.9
1935										
January	84.3	78.2	81.2	47.5	116.2	81.5	26.5	80.4	70.7	78.8
February	84.1	77.2	80.7	47.5	109.0	80.9	26.2	80.1	70.1	79.5
March	84.1	77.3	80.7	46.6	102.2	80.6	23.5	80.1	69.2	79.4
April	84.2	77.1	80.7	46.3	104.9	80.4	23.7	79.0	68.7	80.1
May	84.1	77.1	80.6	45.0	107.0	80.0	24.9	79.4	68.7	80.2
June	83.9	77.1	80.5	45.0	92.2	79.7	26.0	80.1	68.4	79.8
July	84.0	76.8	80.4	45.0	78.6	79.7	25.0	80.1	67.7	79.4
August	84.0	77.0	80.5	45.0	71.3	79.7	24.5	80.0	67.3	80.5
September	84.0	76.9	80.5	45.0	67.9	79.7	24.0	80.0	67.1	80.7
October	84.2	76.9	80.6	45.0	71.6	79.7	26.0	80.2	67.5	80.5
November	84.7	77.1	81.0	45.0	69.1	79.4	27.1	80.2	67.4	80.6
December	84.7	77.1	81.0	45.0	70.8	79.2	27.2	80.2	67.5	80.9

Since January 1932 the Bureau has constructed a weekly index number. This index number is calculated for the 10 major commodity groups and for all commodities other than farm products and foods. Table 4 shows the weekly indexes for the periods for which they have been calculated through December 1935.

TABLE 4.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COMMODITIES, BY WEEKS, 1932 THROUGH DECEMBER 1936

[1926=100.0]

Week ending—	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities, less farm products and foods	All commodities
1932												
Jan. 2.....	54.6	68.7	79.5	60.5	67.8	82.3	76.0	76.4	78.5	66.6	72.1	68.3
Jan. 9.....	55.6	67.7	79.7	60.4	67.7	81.9	75.2	76.2	78.5	66.6	71.7	68.1
Jan. 16.....	55.5	66.7	79.6	59.6	67.8	81.7	74.7	75.8	78.7	66.0	71.8	67.9
Jan. 23.....	54.6	65.7	79.7	60.1	68.0	81.7	74.9	75.8	78.7	65.5	71.8	67.6
Jan. 30.....	51.1	63.1	79.2	60.1	68.2	81.6	74.7	75.8	78.7	65.0	71.7	66.7
Feb. 6.....	52.1	63.0	79.1	60.0	68.1	81.3	73.8	75.8	78.7	64.9	71.5	66.7
Feb. 13.....	50.7	62.4	78.5	59.9	68.0	81.0	73.3	75.7	78.7	64.5	71.3	66.2
Feb. 20.....	50.9	62.9	78.1	59.9	67.8	80.9	73.2	75.5	78.7	64.7	71.2	66.3
Feb. 27.....	51.2	62.9	77.9	59.7	67.8	80.9	73.6	75.7	78.6	64.6	71.2	66.3
Mar. 5.....	50.9	62.7	77.9	59.1	67.9	80.6	73.4	75.2	78.6	64.6	71.0	66.2
Mar. 12.....	51.0	62.9	77.9	59.0	68.7	80.8	73.4	75.3	78.6	64.8	71.2	66.5
Mar. 19.....	51.6	62.4	77.7	58.8	69.1	80.7	73.4	75.1	78.6	64.7	71.2	66.5
Mar. 26.....	50.5	62.4	76.3	58.7	69.1	80.6	73.3	74.9	78.6	64.6	71.1	66.2
Apr. 2.....	49.5	61.7	75.8	58.4	69.5	80.8	73.1	74.4	78.3	64.7	71.1	65.9
Apr. 9.....	49.7	61.4	75.6	57.7	69.8	80.2	72.9	74.3	78.2	64.6	70.9	65.7
Apr. 16.....	50.1	61.3	75.6	57.2	71.7	80.1	72.4	74.5	78.2	64.8	71.3	66.0
Apr. 23.....	49.7	61.0	74.4	56.3	71.7	80.2	72.2	74.5	78.2	64.8	71.0	65.8
Apr. 30.....	48.3	61.0	73.9	56.5	72.0	80.2	72.4	74.4	78.3	64.6	71.0	65.5
May 7.....	47.9	60.2	73.3	56.5	71.7	80.2	71.7	74.0	78.2	64.7	70.8	65.1
May 14.....	47.8	59.9	73.3	56.1	71.6	80.1	71.7	73.7	78.0	64.6	70.7	64.9
May 21.....	47.1	59.1	72.2	55.8	71.4	79.9	71.8	73.6	78.0	64.4	70.5	64.5
May 28.....	46.3	59.3	72.1	55.4	71.4	79.8	71.3	73.4	78.0	64.1	70.3	64.3
June 4.....	45.6	58.6	72.0	54.8	71.3	79.9	71.0	73.2	78.8	64.0	70.1	64.0
June 11.....	45.8	58.6	71.5	54.3	71.3	79.9	71.0	73.1	78.6	64.0	70.1	63.8
June 18.....	45.4	58.5	71.2	53.6	71.6	79.9	70.9	73.0	78.7	64.0	70.0	63.7
June 25.....	46.4	59.5	70.1	53.5	71.8	79.8	70.7	72.9	78.7	64.2	70.0	64.0
July 2.....	46.9	60.1	70.0	52.4	72.6	79.8	70.3	72.7	78.7	64.5	70.1	64.4
July 9.....	48.1	60.7	69.2	51.9	73.3	80.1	70.7	73.0	78.6	64.2	70.3	64.8
July 16.....	48.7	61.2	68.5	51.5	72.8	80.3	69.7	73.0	78.6	64.3	70.0	65.0
July 23.....	47.8	61.0	68.5	51.3	72.8	79.0	69.5	73.0	78.6	64.3	69.7	64.5
July 30.....	48.4	61.5	69.3	51.4	72.8	79.1	69.5	73.2	78.0	64.5	69.7	64.7
Aug. 6.....	47.9	61.9	69.9	51.5	73.0	79.2	69.6	73.4	74.9	64.5	69.9	64.8
Aug. 13.....	49.4	62.5	70.2	52.1	72.9	79.4	69.4	73.4	74.9	64.7	70.0	65.2
Aug. 20.....	49.9	61.8	70.6	52.7	72.8	80.1	69.6	73.5	74.9	64.7	70.2	65.4
Aug. 27.....	49.5	61.6	70.8	53.0	72.7	80.0	69.6	73.0	74.9	64.4	70.2	65.2
Sept. 3.....	50.4	61.6	70.6	54.2	72.2	80.2	69.9	73.2	74.8	64.7	70.4	65.5
Sept. 10.....	50.4	62.3	71.4	55.1	71.9	80.4	70.2	73.0	74.6	64.5	70.5	65.7
Sept. 17.....	49.2	62.1	72.4	55.2	71.8	79.6	70.4	73.0	74.6	65.1	70.4	65.4
Sept. 24.....	49.3	62.1	73.2	55.4	71.7	80.1	70.7	72.9	74.6	64.9	70.6	65.5
Oct. 1.....	49.5	62.0	73.3	55.3	71.7	80.0	70.6	73.0	74.6	64.5	70.5	65.4
Oct. 8.....	48.8	61.5	73.0	55.3	71.3	80.1	70.5	72.9	74.1	64.1	70.3	64.9
Oct. 15.....	47.4	60.7	72.5	54.9	71.3	80.1	70.5	72.7	72.5	63.9	70.2	64.4
Oct. 22.....	47.0	60.8	72.8	54.7	71.9	80.3	70.5	72.7	72.5	63.9	70.3	64.4
Oct. 29.....	46.2	60.1	72.2	54.5	72.8	79.9	70.6	72.4	72.5	63.9	70.4	64.1
Nov. 5.....	45.9	59.3	71.6	54.2	72.8	79.9	70.7	72.4	72.5	63.8	70.3	63.9
Nov. 12.....	46.6	60.2	71.3	54.0	72.2	79.8	70.6	72.2	72.5	63.6	70.1	64.0
Nov. 19.....	48.3	61.3	71.4	53.6	72.0	79.6	70.7	72.7	72.5	63.6	70.0	64.2
Nov. 26.....	47.3	61.6	71.4	53.4	72.1	79.5	70.7	72.7	72.5	63.5	69.9	64.0
Dec. 3.....	46.8	60.7	71.1	53.0	71.9	79.5	70.5	72.5	72.5	63.5	69.8	63.6
Dec. 10.....	44.7	58.7	70.8	52.8	71.6	79.4	70.6	72.3	73.5	63.3	69.6	63.1
Dec. 17.....	44.7	58.8	69.3	53.0	71.5	79.3	70.6	72.3	73.5	63.2	69.5	63.0
Dec. 24.....	44.3	58.4	69.1	52.8	69.5	79.3	70.9	72.3	73.5	63.2	69.0	62.5
Dec. 31.....	43.7	57.9	69.1	52.5	69.0	79.3	70.8	72.2	73.5	63.1	68.8	62.2
1933												
Jan. 7.....	43.8	58.1	68.9	52.7	68.1	79.1	70.7	72.0	73.3	61.4	68.2	61.9
Jan. 14.....	45.2	58.2	69.2	52.3	67.8	79.0	70.6	72.1	73.3	61.5	68.1	62.0
Jan. 21.....	43.0	56.0	69.0	51.9	67.6	78.2	70.3	71.9	72.8	60.8	67.6	61.2
Jan. 28.....	41.3	54.1	68.6	51.8	65.2	78.2	70.2	71.9	72.8	60.8	67.0	60.4
Feb. 4.....	40.2	53.6	68.3	51.4	64.7	78.1	70.0	71.8	72.8	60.8	66.8	60.0
Feb. 11.....	41.2	54.4	68.1	51.0	64.7	77.9	69.6	71.4	72.7	60.6	66.6	60.2
Feb. 18.....	41.9	54.3	67.9	51.0	64.4	77.6	69.6	71.4	72.7	59.7	66.3	60.1
Feb. 25.....	40.8	53.7	67.6	50.7	64.3	77.4	69.9	71.3	72.7	59.6	66.2	59.7
Mar. 4.....	40.6	53.4	67.6	50.6	64.4	77.4	70.1	71.3	72.7	59.6	66.2	59.6
Mar. 11.....	42.7	55.0	67.5	50.7	63.9	77.2	70.0	71.4	72.3	59.2	66.0	60.2
Mar. 18.....	43.4	54.8	68.1	51.1	63.7	77.5	70.1	71.5	72.3	59.3	66.1	60.4
Mar. 25.....	43.6	55.4	68.8	51.1	63.6	77.4	70.2	71.7	72.3	59.3	66.1	60.5
Apr. 1.....	43.4	54.7	68.7	51.0	63.2	77.0	70.4	71.6	72.3	57.7	65.7	60.1
Apr. 8.....	44.0	55.3	68.5	50.9	62.9	76.7	69.9	71.3	72.3	57.6	65.5	60.1
Apr. 15.....	44.5	55.7	68.3	50.9	62.6	76.9	70.4	71.2	72.2	57.9	65.6	60.3
Apr. 22.....	44.6	56.2	69.1	51.4	62.4	76.8	70.2	71.3	72.2	57.7	65.5	60.4
Apr. 29.....	46.4	58.1	71.8	52.4	62.5	77.6	70.5	72.0	72.3	58.6	66.2	61.5
May 6.....	47.8	58.2	73.3	53.7	62.1	77.5	70.8	72.4	71.7	58.8	66.4	61.9

TABLE 4.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COMMODITIES, BY WEEKS, 1932 THROUGH DECEMBER 1935—Continued

[1926=100.0]

Week ending—	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities, less farm products and foods	All commodities
1933												
May 13.....	49.0	59.1	75.8	54.0	61.3	77.9	70.8	72.6	71.8	59.0	66.5	62.3
May 20.....	50.9	59.9	77.9	55.3	61.2	77.9	71.1	72.9	71.9	65.9	66.8	63.0
May 27.....	52.4	60.3	78.9	56.2	61.0	78.1	71.5	73.2	71.9	58.8	67.0	63.3
June 3.....	53.2	61.0	79.9	57.5	61.1	78.2	71.8	73.2	71.9	59.2	67.3	63.8
June 10.....	52.5	61.0	80.9	58.7	60.8	78.7	72.9	73.8	72.4	59.5	67.8	64.0
June 17.....	52.8	61.0	82.8	60.2	61.4	78.9	73.4	73.8	72.8	60.6	68.5	64.5
June 24.....	53.2	61.4	83.5	61.5	63.6	78.9	74.2	73.6	72.8	61.1	69.4	65.1
July 1.....	56.9	62.6	83.3	62.2	64.3	79.2	75.9	73.5	73.2	62.1	70.1	66.3
July 8.....	58.5	62.9	83.7	64.1	65.7	79.9	77.0	73.0	73.6	62.9	71.1	67.2
July 15.....	61.1	65.9	85.4	66.5	66.7	80.6	78.8	72.9	74.0	63.5	72.2	68.9
July 22.....	62.7	66.5	87.8	68.3	66.8	80.7	79.1	73.2	74.3	64.6	72.9	69.7
July 29.....	59.6	66.1	88.3	68.4	67.0	80.8	80.1	73.4	74.6	65.1	73.2	69.2
Aug. 5.....	58.7	65.1	90.4	70.8	66.6	80.8	80.9	73.4	75.4	65.0	73.6	69.2
Aug. 12.....	58.5	64.9	91.4	72.9	66.8	80.8	80.7	73.1	76.0	65.2	74.1	69.4
Aug. 19.....	57.5	64.4	90.9	74.1	66.5	80.8	80.8	72.9	76.4	65.5	74.2	69.3
Aug. 26.....	58.2	65.0	92.8	74.2	66.7	81.2	80.7	72.5	76.9	65.2	74.4	69.6
Sept. 2.....	57.1	65.3	92.9	74.2	67.2	81.4	81.0	72.2	77.0	65.2	74.6	69.7
Sept. 9.....	56.6	65.0	92.8	73.9	67.6	81.7	81.4	72.3	78.6	64.9	74.8	69.7
Sept. 16.....	55.9	65.1	92.0	75.5	72.5	81.7	82.0	72.1	78.7	64.8	76.1	70.5
Sept. 23.....	59.3	65.9	92.0	76.4	72.8	81.8	82.3	72.1	78.8	65.1	76.5	71.5
Sept. 30.....	58.0	64.9	91.9	76.3	72.6	82.0	83.2	72.2	79.4	65.1	76.6	71.1
Oct. 7.....	57.5	65.0	91.8	76.3	73.4	82.4	83.7	72.7	81.1	65.0	77.1	71.3
Oct. 14.....	56.7	64.8	88.8	76.2	73.8	82.3	83.9	72.7	81.2	65.0	77.0	71.1
Oct. 21.....	54.2	63.7	88.8	76.2	74.0	82.0	83.6	72.6	81.3	64.9	77.0	70.4
Oct. 28.....	55.6	64.2	87.7	76.3	74.5	82.4	83.5	72.7	81.3	65.2	77.1	70.9
Nov. 4.....	55.5	64.2	87.6	76.1	74.6	82.5	83.8	72.6	81.3	65.3	77.2	70.9
Nov. 11.....	55.6	65.0	87.5	76.0	74.7	83.4	84.4	73.2	82.2	65.4	77.5	71.2
Nov. 18.....	58.7	65.4	88.5	75.8	74.5	83.5	84.7	73.5	82.1	65.4	77.5	71.7
Nov. 25.....	56.8	63.9	88.9	75.8	73.9	83.5	85.1	73.8	82.0	65.4	77.5	71.0
Dec. 2.....	55.9	63.2	89.1	75.4	73.8	83.4	85.2	73.7	82.0	65.3	77.4	70.7
Dec. 9.....	56.0	63.3	89.0	75.9	74.5	83.3	85.3	73.6	81.8	65.6	77.6	70.9
Dec. 16.....	55.9	63.0	88.6	76.0	74.2	83.1	85.3	73.4	81.7	65.6	77.5	70.8
Dec. 23.....	54.8	61.6	89.2	76.0	74.4	83.2	85.3	73.4	81.9	65.5	77.6	70.4
Dec. 30.....	56.0	62.5	89.6	76.0	74.5	83.3	85.4	73.3	81.9	65.6	77.6	70.8
1934												
Jan. 6.....	57.4	62.7	90.0	76.0	74.3	83.3	85.5	73.3	81.7	65.9	77.6	71.0
Jan. 13.....	58.6	64.2	90.2	76.1	74.4	83.7	85.6	73.5	81.7	66.2	77.9	71.7
Jan. 20.....	59.0	64.6	90.3	76.4	74.2	85.1	86.5	75.0	81.7	67.5	78.6	72.3
Jan. 27.....	59.5	65.0	90.4	76.4	74.0	84.7	86.2	75.1	81.7	68.1	78.5	72.4
Feb. 3.....	60.5	65.7	90.5	76.5	73.9	85.1	86.4	75.0	81.8	68.4	78.7	72.8
Feb. 10.....	61.4	66.8	90.5	76.4	73.9	85.0	86.3	75.1	81.9	68.5	78.7	73.3
Feb. 17.....	62.1	67.4	90.4	76.6	73.8	85.0	86.7	75.4	81.9	68.6	78.7	73.7
Feb. 24.....	61.2	67.0	90.1	76.7	73.6	85.0	86.6	75.4	82.1	68.5	78.7	73.4
Mar. 3.....	62.0	67.5	89.8	76.6	73.5	85.1	86.5	75.4	82.3	68.6	78.6	73.6
Mar. 10.....	62.0	68.1	89.0	76.3	73.0	86.4	86.2	75.7	82.5	68.8	78.7	73.8
Mar. 17.....	62.0	67.7	88.8	76.0	72.6	86.5	86.2	75.8	82.4	69.2	78.6	73.7
Mar. 24.....	61.4	67.3	88.8	76.0	72.4	86.4	86.2	75.8	82.5	69.2	78.6	73.5
Mar. 31.....	61.4	66.5	89.4	75.8	72.4	86.4	86.3	75.8	82.5	69.3	78.6	73.4
Apr. 7.....	60.4	66.1	89.5	75.7	72.6	86.5	86.7	75.5	82.5	69.7	78.7	73.3
Apr. 14.....	60.5	65.8	89.8	75.5	72.9	86.9	86.5	75.4	82.8	69.6	78.9	73.3
Apr. 21.....	59.7	66.6	89.7	75.2	73.1	87.0	86.3	75.5	83.1	69.3	78.8	73.3
Apr. 28.....	59.1	66.6	89.6	75.0	73.5	88.3	87.1	75.3	83.0	69.2	79.2	73.5
May 5.....	59.1	66.6	89.5	74.1	72.7	88.7	87.4	75.3	83.1	69.6	79.0	73.4
May 12.....	60.5	67.3	89.3	73.5	73.0	88.8	87.4	75.3	83.0	70.1	79.1	73.8
May 19.....	59.6	67.2	88.5	73.5	73.2	88.7	87.0	75.4	83.0	69.7	79.0	73.5
May 26.....	60.1	67.4	88.0	73.1	73.4	88.7	87.2	75.3	83.9	69.7	79.0	73.7
June 2.....	60.6	67.7	87.7	72.7	73.7	88.7	87.6	75.3	83.6	69.6	79.0	73.9
June 9.....	60.7	67.6	87.2	72.7	73.8	87.8	87.8	75.4	83.4	70.0	78.9	73.8
June 16.....	63.7	70.2	87.6	72.5	73.7	88.0	87.7	75.4	83.4	70.3	78.9	74.6
June 23.....	65.8	71.3	88.1	72.5	73.4	87.1	87.6	75.5	83.2	70.6	78.7	75.0
June 30.....	64.8	70.9	88.2	71.8	73.3	87.0	87.8	75.8	83.2	70.1	78.5	74.8
July 7.....	64.1	71.0	87.9	71.5	74.2	86.9	87.5	75.7	83.1	69.9	78.6	74.7
July 14.....	64.5	70.8	87.6	71.4	73.8	86.4	86.9	75.5	83.1	69.9	78.3	74.5
July 21.....	66.1	71.2	87.0	71.6	74.7	86.4	87.4	75.6	83.0	70.0	78.6	75.1
July 28.....	64.5	70.8	86.1	71.4	74.7	86.3	86.7	75.6	83.0	70.1	78.5	74.7
Aug. 4.....	66.6	71.8	85.1	71.1	74.7	86.2	87.1	75.5	83.0	69.9	78.4	75.1
Aug. 11.....	67.3	72.2	84.6	70.8	75.3	85.9	86.5	75.5	82.8	70.1	78.4	75.4
Aug. 18.....	68.9	74.1	84.2	71.1	75.2	85.9	86.4	75.9	82.9	70.3	78.4	76.1
Aug. 25.....	71.8	75.5	84.6	71.1	75.2	85.9	86.4	76.0	82.9	70.1	78.4	76.9
Sept. 1.....	73.5	76.6	84.5	71.3	75.1	85.9	86.3	76.3	82.9	70.3	78.4	77.5

TABLE 4.—INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COMMODITIES, BY WEEKS, 1932 THROUGH DECEMBER 1935—Continued

[1926=100.0]

Week ending—	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities, less farm products and foods	All commodities
1934												
Sept. 8.....	74.3	77.2	84.6	70.6	75.4	85.9	86.3	76.3	82.9	70.6	78.5	77.8
Sept. 15.....	73.7	76.2	84.8	70.6	75.5	85.9	85.9	76.5	83.0	70.7	78.5	77.5
Sept. 22.....	73.6	76.7	84.9	70.8	75.5	85.7	85.4	76.8	83.1	70.4	78.4	77.5
Sept. 29.....	72.8	76.0	84.9	70.7	75.5	85.7	85.3	77.0	83.1	70.3	78.4	77.2
Oct. 6.....	71.0	75.2	84.3	70.2	75.5	85.7	85.4	77.3	82.8	70.1	78.2	76.6
Oct. 13.....	71.0	74.8	84.4	70.1	75.4	85.6	85.2	77.1	82.8	69.7	78.1	76.4
Oct. 20.....	70.9	74.9	84.6	70.0	74.8	85.6	85.0	77.2	82.8	69.7	77.9	76.2
Oct. 27.....	70.8	75.4	84.5	69.9	75.0	85.5	85.2	77.2	82.8	69.8	78.0	76.2
Nov. 3.....	69.9	75.4	84.4	69.5	74.9	85.5	84.9	76.9	82.8	69.6	77.8	76.0
Nov. 10.....	71.1	75.9	84.9	69.4	75.6	85.4	85.1	76.8	82.7	70.5	78.1	76.6
Nov. 17.....	71.5	75.5	84.9	69.3	76.1	85.3	85.0	77.0	82.7	70.6	78.3	76.7
Nov. 24.....	70.6	75.0	84.9	69.3	75.6	85.3	84.9	77.1	82.7	70.6	78.1	76.3
Dec. 1.....	71.1	75.0	84.9	69.3	75.7	85.3	84.9	77.4	82.7	70.8	78.2	76.5
Dec. 8.....	71.7	74.9	85.0	69.3	76.0	85.4	85.1	77.8	82.4	71.0	78.3	76.7
Dec. 15.....	71.1	75.4	85.7	69.4	75.2	85.4	85.0	78.0	82.4	71.2	78.2	76.7
Dec. 22.....	71.2	75.4	86.4	69.7	75.0	85.5	84.7	78.1	82.5	71.1	78.2	76.7
Dec. 29.....	72.6	76.3	86.6	69.7	74.7	85.5	84.9	78.3	82.5	71.1	78.1	77.1
1935												
Jan. 5.....	75.6	78.5	86.8	70.0	74.1	85.6	84.6	79.1	82.3	71.9	78.0	77.9
Jan. 12.....	77.2	79.7	86.9	70.0	74.2	85.6	84.8	79.6	82.2	71.0	78.1	78.6
Jan. 19.....	76.7	79.8	86.8	70.0	74.0	85.3	84.8	79.8	82.1	70.7	77.9	78.5
Jan. 26.....	79.0	80.9	86.8	70.0	74.3	85.2	84.9	80.0	82.1	70.6	77.9	79.0
Feb. 2.....	78.3	81.5	86.8	69.9	74.4	85.2	84.9	80.2	82.2	70.2	77.9	79.1
Feb. 9.....	78.1	82.3	86.6	69.6	74.3	85.2	84.7	80.4	82.3	70.1	77.8	79.1
Feb. 16.....	79.2	83.1	86.7	69.7	74.0	85.1	84.6	80.4	82.1	70.2	77.7	79.4
Feb. 23.....	79.9	83.2	86.8	69.7	73.9	85.1	84.8	81.0	81.9	70.2	77.7	79.6
Mar. 2.....	80.0	82.5	86.6	69.4	73.9	85.0	84.7	81.6	81.9	69.9	77.6	79.6
Mar. 9.....	80.0	82.1	86.4	69.3	73.8	85.1	85.0	81.6	82.0	69.8	77.5	79.6
Mar. 16.....	79.2	82.6	86.0	69.0	73.8	85.0	84.6	81.5	81.9	69.0	77.3	79.4
Mar. 23.....	77.6	81.1	85.8	68.8	74.0	84.9	85.0	80.9	81.9	68.8	77.3	78.5
Mar. 30.....	77.5	81.8	85.7	68.8	74.2	85.0	84.9	80.4	81.9	68.8	77.3	78.9
Apr. 6.....	78.6	82.9	85.6	68.8	74.0	85.0	84.3	80.2	81.9	68.4	77.2	79.2
Apr. 13.....	81.0	84.5	85.9	69.0	74.0	85.0	84.5	80.5	81.9	68.4	77.3	79.3
Apr. 20.....	81.8	85.3	86.5	69.0	74.0	85.1	84.3	80.7	81.9	68.7	77.3	80.3
Apr. 27.....	81.7	85.4	87.0	68.8	74.3	85.2	84.4	80.8	82.0	68.9	77.5	80.3
May 4.....	81.1	84.9	88.0	68.7	74.4	85.2	84.0	80.8	82.0	68.9	77.5	80.1
May 11.....	80.8	84.1	88.1	68.7	74.4	85.2	84.7	80.7	82.0	68.9	77.5	79.9
May 18.....	80.9	83.8	88.4	68.8	74.2	85.3	84.8	80.8	82.0	69.0	77.6	80.0
May 25.....	81.5	84.3	89.5	69.4	74.1	85.6	84.9	81.0	82.0	69.0	77.8	80.3
June 1.....	80.7	84.4	89.9	69.3	74.4	85.6	84.9	80.8	82.0	69.0	77.8	80.2
June 8.....	79.9	83.7	89.1	69.3	74.7	85.6	85.1	80.7	81.8	68.9	77.8	79.9
June 15.....	79.9	83.4	89.4	69.1	74.9	85.9	85.3	80.4	81.7	68.4	77.9	79.8
June 22.....	78.0	82.5	89.3	69.7	74.7	85.9	85.1	80.0	81.7	68.4	77.9	79.3
June 29.....	77.1	81.6	89.6	69.7	74.8	86.1	84.9	79.5	81.8	68.0	77.9	78.9
July 6.....	78.0	81.9	89.8	69.7	74.9	85.7	84.8	79.5	81.8	68.0	77.8	79.1
July 13.....	77.7	82.0	89.8	69.9	75.3	85.7	85.0	79.5	81.8	67.8	78.0	79.2
July 20.....	77.2	82.0	89.8	69.8	75.3	85.7	84.9	79.5	81.8	67.6	77.9	79.1
July 27.....	77.1	82.2	90.1	69.9	75.2	85.7	85.1	78.4	81.9	67.5	77.9	79.2
Aug. 3.....	78.4	83.4	90.0	70.0	75.0	85.8	85.3	78.5	81.9	67.5	77.9	79.6
Aug. 10.....	79.7	84.2	90.1	70.1	75.4	85.8	85.0	78.5	81.7	67.5	78.0	80.1
Aug. 17.....	80.3	85.4	90.1	70.5	75.4	85.8	85.1	78.7	81.7	67.2	78.0	80.5
Aug. 24.....	80.7	86.1	90.2	70.7	75.4	86.0	85.1	79.3	81.7	67.2	78.1	80.8
Aug. 31.....	79.2	86.0	90.4	70.9	75.4	86.0	85.3	79.0	81.8	67.1	78.1	80.5
Sept. 7.....	79.9	85.9	90.5	71.0	74.6	86.0	85.4	79.2	81.8	66.8	77.9	80.4
Sept. 14.....	81.2	86.4	91.6	71.2	74.7	86.0	85.3	78.9	81.8	66.9	78.0	80.8
Sept. 21.....	81.3	86.2	91.8	71.3	74.8	86.3	86.3	79.2	81.7	67.0	78.2	81.0
Sept. 28.....	80.9	86.6	91.8	71.6	74.5	86.2	86.1	79.3	81.7	67.2	78.2	81.0
Oct. 5.....	79.5	85.3	92.5	71.7	74.6	86.3	86.1	80.2	81.8	67.2	78.3	80.5
Oct. 12.....	80.1	85.7	93.8	72.1	74.1	85.8	86.1	80.7	81.8	67.5	78.2	80.7
Oct. 19.....	79.5	85.6	94.4	72.5	74.2	85.9	86.2	81.1	81.8	67.6	78.4	80.7
Oct. 26.....	78.6	84.8	95.1	72.8	74.3	85.9	85.9	81.3	81.9	67.4	78.4	80.3
Nov. 2.....	77.4	83.8	95.1	72.7	74.3	85.9	85.6	81.1	82.0	67.5	78.4	79.8
Nov. 9.....	77.5	84.1	95.6	72.8	75.5	86.2	85.7	81.1	82.1	67.4	78.9	80.1
Nov. 16.....	77.8	84.9	95.8	73.0	75.6	86.3	86.0	81.1	82.1	67.4	79.0	80.4
Nov. 23.....	78.2	85.8	95.7	73.1	75.7	86.4	85.8	80.9	82.1	67.4	79.0	80.6
Nov. 30.....	78.5	85.9	95.6	72.9	75.9	86.3	85.4	81.0	82.1	67.5	79.0	80.8
Dec. 7.....	79.1	86.4	94.8	72.9	75.9	86.4	85.4	80.7	82.2	67.4	78.9	80.9
Dec. 14.....	79.2	86.8	95.4	72.8	75.7	86.3	85.3	80.5	82.2	67.4	78.9	80.8
Dec. 21.....	77.3	85.3	96.2	72.7	75.7	86.2	85.2	80.2	82.2	67.5	78.8	80.4
Dec. 28.....	78.4	85.3	96.4	72.8	75.6	85.9	85.1	80.0	82.2	67.5	78.8	80.6

Purchasing Power of the Dollar at Wholesale

TABLE 5 shows the purchasing power of the dollar in terms of wholesale commodity prices by groups of commodities and for the all-commodities group, by years from 1913 to 1935 and by months from January 1931 to December 1935. The figures in this table are reciprocals of the index numbers. To illustrate, the index number representing the level of all commodities at wholesale in December 1935 with average prices for the year 1926 as the base, is shown to be 80.9. The reciprocal of this index number is 0.01236 which, translated into dollars and cents, becomes \$1.236. Thus table 5 shows that the dollar had increased its buying value from \$1 in 1926 to \$1.236 in December 1935 in the purchase of all commodities at wholesale.

TABLE 5.—PURCHASING POWER OF THE DOLLAR BY GROUPS OF COMMODITIES, 1913 TO DECEMBER 1935

[1926 = \$1.000]

Year and month	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities less farm products and foods	All commodities
1913.....	\$1.399	\$1.558	\$1.468	\$1.745	\$1.631	\$1.101	\$1.704	\$1.247	\$1.776	\$1.074	\$1.429	\$1.433
1914.....	1.404	1.546	1.410	1.832	1.767	1.247	1.898	1.229	1.761	1.112	1.506	1.468
1915.....	1.399	1.529	1.325	1.848	1.931	1.159	1.869	.893	1.786	1.151	1.471	1.439
1916.....	1.185	1.321	1.071	1.420	1.346	.858	1.479	.622	1.629	.994	1.133	1.170
1917.....	.775	.957	.808	1.013	.949	.664	1.134	.606	1.348	.819	.876	.851
1918.....	.676	.840	.796	.729	.916	.733	1.014	.549	1.072	.744	.803	.762
1919.....	.635	.772	.574	.739	.959	.764	.865	.637	.944	.719	.776	.722
1920.....	.664	.728	.584	.607	.611	.669	.666	.607	.705	.597	.620	.648
1921.....	1.131	1.104	.916	1.058	1.033	.851	1.027	.870	.885	.916	.953	1.025
1922.....	1.066	1.142	.956	.998	.932	.972	1.028	.997	.966	1.078	.977	1.034
1923.....	1.014	1.079	.960	.898	1.028	.915	.920	.989	.918	1.003	.959	.994
1924.....	1.000	1.099	.985	.937	1.087	.941	.978	1.011	.953	1.068	1.003	1.019
1925.....	.911	.998	.950	.923	1.036	.969	.983	.982	.970	.917	.975	.966
1926.....	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1927.....	1.006	1.034	.929	1.046	1.133	1.038	1.056	1.033	1.026	1.099	1.064	1.048
1928.....	.944	.990	.824	1.047	1.186	1.031	1.063	1.046	1.052	1.171	1.076	1.034
1929.....	.953	1.001	.917	1.106	1.205	.995	1.048	1.062	1.060	1.211	1.092	1.049
1930.....	1.133	1.105	1.000	1.245	1.274	1.066	1.112	1.122	1.079	1.287	1.174	1.157
1931.....	1.543	1.340	1.161	1.508	1.481	1.183	1.263	1.261	1.178	1.433	1.333	1.370
1932.....	2.075	1.639	1.372	1.821	1.422	1.247	1.401	1.361	1.332	1.553	1.425	1.543
1933.....	1.946	1.653	1.236	1.543	1.508	1.263	1.299	1.377	1.319	1.600	1.404	1.517
1934.....	1.531	1.418	1.155	1.372	1.364	1.151	1.160	1.318	1.227	1.435	1.276	1.335
1935.....	1.289	1.195	1.116	1.410	1.361	1.157	1.172	1.242	1.241	1.464	1.284	1.250
1931												
January.....	1.368	1.239	1.127	1.403	1.364	1.151	1.193	1.183	1.133	1.385	1.266	1.279
February.....	1.427	1.282	1.151	1.410	1.379	1.156	1.212	1.200	1.135	1.399	1.277	1.302
March.....	1.416	1.289	1.142	1.429	1.464	1.157	1.212	1.206	1.136	1.389	1.295	1.316
April.....	1.427	1.311	1.143	1.464	1.529	1.167	1.227	1.230	1.138	1.399	1.318	1.337
May.....	1.490	1.355	1.142	1.486	1.531	1.176	1.250	1.242	1.152	1.418	1.332	1.366
June.....	1.529	1.364	1.136	1.502	1.590	1.185	1.261	1.259	1.157	1.435	1.350	1.387
July.....	1.541	1.351	1.119	1.504	1.590	1.186	1.280	1.267	1.167	1.435	1.353	1.389
August.....	1.575	1.340	1.127	1.527	1.504	1.192	1.289	1.300	1.178	1.464	1.348	1.387
September.....	1.653	1.357	1.176	1.550	1.484	1.192	1.299	1.311	1.209	1.466	1.353	1.404
October.....	1.701	1.364	1.212	1.587	1.475	1.208	1.314	1.323	1.235	1.502	1.372	1.422
November.....	1.704	1.408	1.225	1.608	1.441	1.211	1.312	1.314	1.236	1.456	1.361	1.425
December.....	1.795	1.447	1.253	1.645	1.464	1.217	1.321	1.314	1.274	1.497	1.383	1.458
1932												
January.....	1.894	1.546	1.261	1.678	1.473	1.222	1.337	1.321	1.287	1.524	1.395	1.486
February.....	1.976	1.600	1.277	1.681	1.464	1.236	1.362	1.325	1.290	1.546	1.408	1.508
March.....	1.992	1.605	1.294	1.724	1.473	1.238	1.366	1.328	1.297	1.546	1.410	1.515
April.....	2.033	1.639	1.333	1.783	1.425	1.245	1.379	1.344	1.311	1.546	1.410	1.527
May.....	2.146	1.686	1.379	1.842	1.414	1.248	1.399	1.359	1.337	1.553	1.420	1.553
June.....	2.188	1.701	1.412	1.898	1.397	1.252	1.412	1.368	1.339	1.558	1.427	1.565
July.....	2.088	1.642	1.458	1.942	1.383	1.263	1.435	1.370	1.351	1.555	1.435	1.550
August.....	2.037	1.618	1.435	1.898	1.387	1.248	1.437	1.364	1.359	1.548	1.427	1.534
September.....	2.037	1.618	1.385	1.799	1.412	1.248	1.418	1.372	1.357	1.546	1.420	1.531
October.....	2.132	1.653	1.374	1.818	1.406	1.245	1.414	1.376	1.357	1.560	1.425	1.553
November.....	2.141	1.660	1.401	1.855	1.401	1.256	1.414	1.381	1.357	1.570	1.433	1.565
December.....	2.268	1.715	1.437	1.887	1.443	1.259	1.412	1.383	1.359	1.577	1.449	1.597

TABLE 5.—PURCHASING POWER OF THE DOLLAR BY GROUPS OF COMMODITIES,
1913 TO DECEMBER 1935

[1926=\$1.000]

Year, month, and week	Farm products	Foods	Hides and leather products	Textile products	Fuel and light- ing	Metals and metal products	Build- ing mate- rials	Chem- icals and drugs	House- fur- nish- ing goods	Mis- cella- neous	All com- modi- ties less farm prod- ucts and foods	All com- modi- ties
1933												
January.....	\$2.347	\$1.792	\$1.451	\$1.927	\$1.515	\$1.279	\$1.427	\$1.397	\$1.372	\$1.634	\$1.486	\$1.639
February.....	2.445	1.862	1.471	1.953	1.572	1.292	1.433	1.403	1.383	1.689	1.515	1.672
March.....	2.336	1.832	1.468	1.949	1.590	1.295	1.422	1.404	1.385	1.698	1.520	1.661
April.....	2.247	1.783	1.441	1.931	1.626	1.300	1.425	1.401	1.399	1.730	1.531	1.656
May.....	1.992	1.684	1.300	1.789	1.656	1.287	1.401	1.366	1.395	1.698	1.504	1.595
June.....	1.880	1.634	1.214	1.626	1.626	1.261	1.339	1.357	1.362	1.645	1.451	1.538
July.....	1.684	1.527	1.159	1.471	1.531	1.241	1.258	1.366	1.337	1.563	1.385	1.451
August.....	1.736	1.543	1.091	1.340	1.527	1.232	1.230	1.368	1.289	1.529	1.350	1.439
September.....	1.754	1.541	1.083	1.300	1.420	1.218	1.209	1.376	1.261	1.536	1.314	1.412
October.....	1.795	1.558	1.124	1.297	1.359	1.205	1.192	1.376	1.232	1.531	1.295	1.404
November.....	1.767	1.555	1.134	1.262	1.361	1.209	1.178	1.362	1.235	1.527	1.295	1.406
December.....	1.802	1.600	1.121	1.309	1.362	1.198	1.168	1.357	1.235	1.522	1.290	1.412
1934												
January.....	1.704	1.555	1.117	1.307	1.368	1.170	1.159	1.344	1.238	1.481	1.277	1.385
February.....	1.631	1.499	1.116	1.300	1.381	1.149	1.155	1.325	1.235	1.460	1.271	1.359
March.....	1.631	1.486	1.127	1.307	1.401	1.148	1.157	1.321	1.229	1.443	1.274	1.357
April.....	1.678	1.511	1.125	1.328	1.395	1.138	1.153	1.325	1.225	1.439	1.272	1.364
May.....	1.678	1.490	1.138	1.359	1.379	1.122	1.145	1.326	1.220	1.433	1.267	1.357
June.....	1.580	1.433	1.148	1.376	1.374	1.140	1.139	1.323	1.220	1.425	1.279	1.340
July.....	1.560	1.416	1.159	1.399	1.353	1.152	1.149	1.326	1.225	1.431	1.276	1.337
August.....	1.433	1.353	1.193	1.412	1.340	1.153	1.166	1.321	1.222	1.425	1.277	1.309
September.....	1.362	1.314	1.189	1.406	1.340	1.155	1.168	1.307	1.222	1.425	1.277	1.289
October.....	1.416	1.337	1.193	1.422	1.340	1.159	1.174	1.297	1.224	1.435	1.282	1.307
November.....	1.412	1.332	1.188	1.435	1.344	1.160	1.176	1.300	1.230	1.416	1.282	1.307
December.....	1.389	1.328	1.175	1.429	1.357	1.164	1.175	1.285	1.232	1.408	1.282	1.300
1935												
January.....	1.289	1.252	1.160	1.422	1.372	1.166	1.178	1.261	1.232	1.414	1.287	1.269
February.....	1.264	1.209	1.163	1.427	1.379	1.166	1.176	1.244	1.239	1.427	1.292	1.258
March.....	1.277	1.221	1.171	1.441	1.370	1.167	1.178	1.227	1.239	1.445	1.294	1.259
April.....	1.244	1.183	1.159	1.445	1.374	1.164	1.182	1.235	1.239	1.456	1.295	1.248
May.....	1.241	1.189	1.133	1.441	1.368	1.155	1.179	1.232	1.241	1.456	1.289	1.247
June.....	1.277	1.208	1.125	1.427	1.348	1.151	1.172	1.239	1.242	1.462	1.282	1.247
July.....	1.297	1.218	1.120	1.426	1.339	1.157	1.174	1.271	1.244	1.477	1.282	1.259
August.....	1.261	1.178	1.116	1.410	1.350	1.155	1.171	1.272	1.242	1.468	1.284	1.242
September.....	1.288	1.161	1.100	1.398	1.330	1.155	1.164	1.247	1.242	1.490	1.285	1.239
October.....	1.279	1.176	1.068	1.372	1.362	1.156	1.161	1.233	1.241	1.481	1.277	1.242
November.....	1.290	1.175	1.053	1.362	1.342	1.151	1.166	1.232	1.235	1.484	1.269	1.241
December.....	1.277	1.167	1.048	1.366	1.340	1.152	1.170	1.241	1.235	1.481	1.271	1.236

Index Numbers of Specified Groups of Commodities

IN TABLE 6 the price trend since 1913 is shown for the following groups of commodities:

Raw materials.—All farm products (67 quotations), bananas, cocoa beans, coffee (2 quotations), copra, pepper, hides and skins (7 quotations), raw silk (4 quotations), hemp, jute, sisal, coal (6 quotations), crude petroleum (3 quotations), iron ore (2 quotations), scrap steel, gravel, sand, crushed stone, crude sulphur, phosphate rock, nitrate of soda, tankage, crude rubber (3 quotations); total, 109.

Semimanufactured articles.—Oleo oil, raw sugar, vegetable oil (6 quotations), leather (7 quotations), print cloth (2 quotations), tire fabric (2 quotations), cotton yarn (5 quotations), rayon (4 quotations), silk yarn (6 quotations), worsted yarn (3 quotations), artificial leather (2 quotations), jute yarn (2 quotations), bar iron (2 quotations), steel bars (3 quotations), steel billets, malleable castings, pig iron (7 quotations), wire rods, skelp, steel strips, aluminum, anti-mony, ingot copper, pig lead, nickel, quicksilver, brass rods, copper rods, silver, pig tin, pig zinc, barytes, butyl acetate, carbon black, iron oxide black, Prussian blue, ethyl acetate, chrome green, copal gum, chinawood oil, linseed oil, rosin, turpentine, whiting, yellow chrome, plaster, tar, pine oil, camphor, opium, wood pulp (4 quotations), paraffin wax; total, 93.

Finished products.—Butter (18 quotations), cheese (3 quotations), milk (3 quotations), cereal products (28 quotations), canned fruit (6 quotations), dried fruit (6 quotations), canned vegetables (7 quotations), meats (14 quotations), beverages (3 quotations), powdered cocoa, fish (6 quotations), glucose, grape jam, lard, molasses, oleomargarine, peanut butter, salt, tomato soup, cornstarch, granulated sugar, edible tallow, tea, vegetable oil (2 quotations), vinegar, shoes (21 quotations), other leather products (6 quotations), clothing (20 quotations), cotton goods (except print cloth, tire fabric, and yarn) (26 quotations), knit goods (9 quotations), woolen textiles (15 quotations), burlap, rope (3 quotations), thread (2 quotations), twine (3 quotations), coke (4 quotations), electricity, gas, fuel oil (2 quotations), gasoline (5 quotations), kerosene (2 quotations), agricultural implements (31 quotations), angle bars, augers, axes, reinforcing bars, steel barrels, boiler tubes, bolts (4 quotations), butts, sanitary cans, chisels, files, hammers, hatchets, knives, knobs, locks, nails, pipe (3 quotations), planes, plates, rails, rivets (2 quotations), saws (2 quotations), steel sheets (3 quotations), spikes, structural steel, terneplate, tieplates, tinplate, vises, wire fence (4 quotations), wood screws, motor vehicles (7 quotations), babbitt metal, lead pipe, brass sheets, copper sheets, zinc sheets, solder, brass tubes, wire (2 quotations), plumbing and heating (8 quotations), brick and tile (12 quotations), cement, lath (2 quotations), lumber (16 quotations), shingles (2 quotations), prepared paint (6 quotations), paint materials (9 quotations), asphalt, building board (2 quotations), doors, frames (2 quotations), glass (4 quotations), lime (2 quotations), sewer pipe, prepared roofing (4 quotations), slate roofing, window sash, acid (12 quotations), alcohol (3 quotations), aluminum sulphate, ammonia (2 quotations), anilin oil, arsenic, baking powder (2 quotations), benzene, bleaching powder, borax, calcium compounds (4 quotations), coal-tar colors (4 quotations), coppers, copper sulphate, cresote oil, formaldehyde, logwood extract, naphthalene, potash, quebracho extract, sal soda, salt cake, granulated salt, sodium compounds (5 quotations), tallow, toluene, caffeine, castor oil, chlorine, chloroform, cream of tartar, epsom salts, glycerine, iodine, menthol, peroxide of hydrogen, phenol, potassium iodide, quinine sulphate, soda phosphate, strychnine, zinc chloride, ammonia sulphate, ground bones, kainit, manure salts, muriate potash, sulphate potash, superphosphate, mixed fertilizers (6 quotations), housefurnishing goods (61 quotations), automobile tires and tubes (3 quotations), cattle feed (4 quotations), boxboard (3 quotations), paper (4 quotations), wooden barrels, batteries (2 quotations), caskets (2 quotations), cigar boxes, matches (2 quotations), mirrors, lubricating oil (4 quotations), pipe covering, rubber heels (2 quotations), rubber hose, rubber overshoes, shipping cases, soap (5 quotations), starch, tobacco products (5 quotations); total, 582.

TABLE 6.—INDEX NUMBERS OF WHOLESALE PRICES OF SPECIAL GROUPS OF COMMODITIES AND ALL COMMODITIES, 1913 TO DECEMBER 1935

[1926=100.0]

Year and month	Farm products	Nonagricultural	Raw materials	Semi-manufactured articles	Finished products	All commodities less farm products and foods	All commodities
1913.....	71.5	69.0	68.8	74.9	69.4	70.0	69.8
1914.....	71.2	66.8	67.6	70.0	67.8	66.4	68.1
1915.....	71.5	68.5	67.2	81.2	68.9	68.0	69.5
1916.....	84.4	85.3	82.6	118.3	82.3	88.3	85.5
1917.....	129.0	113.1	122.6	150.4	109.2	114.2	117.5
1918.....	148.0	125.1	135.8	153.8	124.7	124.6	131.3
1919.....	157.6	131.6	145.9	157.9	130.6	128.8	138.6
1920.....	150.7	154.8	151.8	198.2	149.8	161.3	154.4
1921.....	88.4	100.1	88.3	96.1	103.3	104.9	97.6
1922.....	93.8	97.3	96.0	98.9	96.5	102.4	96.7
1923.....	98.6	100.9	98.5	118.6	99.2	104.3	100.6
1924.....	100.0	97.1	97.6	108.7	96.3	99.7	98.1
1925.....	109.8	101.4	106.7	105.3	100.6	102.6	103.5
1926.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927.....	99.4	94.6	96.5	94.3	95.0	94.0	95.4
1928.....	105.9	94.8	99.1	94.5	95.9	92.9	96.7
1929.....	104.9	93.3	97.5	93.9	94.5	91.6	95.3
1930.....	83.3	85.9	84.3	81.8	88.0	85.2	86.4
1931.....	64.8	74.6	65.6	69.0	77.0	75.0	73.0
1932.....	48.2	68.3	55.1	59.3	70.3	70.2	64.8
1933.....	51.4	69.0	56.5	65.4	70.5	71.2	65.9
1934.....	65.3	76.9	68.6	72.8	78.2	78.4	74.9
1935.....	78.8	80.2	77.1	73.6	82.2	77.9	80.0

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TABLE 6.—INDEX NUMBERS OF WHOLESALE PRICES OF SPECIAL GROUPS OF COMMODITIES AND ALL COMMODITIES, 1913 TO DECEMBER 1935—Continued

[1926=100.0]

Year and month	Farm products	Nonagricultural	Raw materials	Semi-manufactured articles	Finished products	All commodities less farm products and foods	All commodities
1931: January.....	73.1	79.3	72.7	73.7	81.5	79.0	78.2
February.....	70.1	78.2	70.6	73.0	80.3	78.3	76.8
March.....	70.6	77.2	69.5	72.9	79.6	77.2	76.0
April.....	70.1	75.7	68.3	71.5	78.3	75.9	74.8
May.....	67.1	74.5	66.5	69.8	76.9	75.1	73.2
June.....	65.4	73.4	64.7	69.3	76.0	74.1	72.1
July.....	64.9	73.5	64.3	69.3	76.1	73.9	72.0
August.....	63.5	73.9	64.1	68.3	76.4	74.2	72.1
September.....	60.5	73.4	62.7	66.7	75.9	73.9	71.2
October.....	58.8	72.6	61.5	65.2	75.1	72.9	70.3
November.....	58.7	72.6	62.0	64.9	74.8	73.5	70.2
December.....	55.7	71.3	60.2	63.7	73.3	72.3	68.6
1932: January.....	52.8	70.3	58.3	63.1	72.1	71.7	67.3
February.....	50.6	69.6	56.9	61.9	71.4	71.3	66.3
March.....	50.2	69.3	56.1	60.8	71.5	70.9	66.0
April.....	49.2	68.9	55.5	59.6	71.1	70.9	65.5
May.....	46.6	68.1	53.9	58.1	70.3	70.4	64.4
June.....	45.7	67.8	53.2	57.6	70.0	70.1	63.9
July.....	47.9	68.0	54.7	55.5	70.5	69.7	64.5
August.....	49.1	68.5	55.7	57.9	70.7	70.1	65.2
September.....	49.1	68.7	56.2	60.7	70.4	70.4	65.3
October.....	46.9	68.1	54.6	60.7	69.6	70.2	64.4
November.....	46.7	67.5	54.2	58.9	69.3	69.8	63.9
December.....	44.1	66.5	52.1	57.7	68.4	69.0	62.6
1933: January.....	42.6	64.9	50.2	56.9	66.7	67.3	61.0
February.....	40.9	63.7	48.4	56.3	65.7	66.0	59.8
March.....	42.8	63.8	49.4	56.9	65.7	65.8	60.2
April.....	44.5	63.7	50.0	57.3	65.7	65.3	60.4
May.....	50.2	65.4	53.7	61.3	67.2	66.5	62.7
June.....	53.2	67.4	56.2	65.3	69.0	68.9	65.0
July.....	60.1	70.7	61.8	69.1	72.2	72.2	68.9
August.....	57.6	72.0	60.6	71.7	73.4	74.1	69.5
September.....	57.0	73.7	61.7	72.9	74.8	76.1	70.8
October.....	55.7	74.4	61.8	72.8	75.4	77.2	71.2
November.....	56.6	74.2	62.4	71.4	75.2	77.2	71.1
December.....	55.5	74.0	61.9	72.3	74.8	77.5	70.3
1934: January.....	58.7	75.0	64.1	71.9	76.0	78.3	72.2
February.....	61.3	76.1	66.0	74.8	77.0	78.7	73.6
March.....	61.3	76.2	65.9	74.3	77.2	78.5	73.7
April.....	59.6	76.2	65.1	73.9	77.1	78.6	73.3
May.....	59.6	76.6	65.1	73.7	77.8	78.9	73.7
June.....	63.3	76.9	67.3	72.9	78.2	78.2	74.6
July.....	64.5	76.9	68.3	72.7	78.2	78.4	74.8
August.....	69.8	77.8	71.6	72.6	79.2	78.3	76.4
September.....	73.4	78.4	73.9	71.8	80.1	78.3	77.6
October.....	70.6	77.6	72.1	71.5	79.2	78.0	76.5
November.....	70.8	77.7	72.2	71.1	79.3	78.0	76.5
December.....	72.0	77.8	73.1	71.0	79.5	78.0	76.9
1935: January.....	77.6	78.9	76.6	71.2	80.8	77.7	78.8
February.....	79.1	79.4	77.4	71.7	81.5	77.4	79.5
March.....	78.3	79.5	76.6	71.8	81.7	77.3	79.4
April.....	80.4	79.9	77.5	72.3	82.3	77.2	80.1
May.....	80.6	80.0	77.6	73.5	82.4	77.6	80.2
June.....	78.3	80.0	76.4	73.9	82.2	78.0	79.8
July.....	77.1	79.8	75.8	72.8	82.0	78.0	79.4
August.....	79.3	80.6	77.1	73.2	83.0	79.9	80.5
September.....	79.5	80.8	77.3	74.4	83.1	77.8	80.7
October.....	78.2	80.9	77.1	76.3	82.7	78.3	80.5
November.....	77.5	81.1	77.2	76.2	82.7	78.8	80.6
December.....	78.3	81.3	77.7	75.2	83.1	78.7	80.9

Wholesale Prices in the United States and in Foreign Countries

INDEX numbers of wholesale prices of the Bureau of Labor Statistics of the United States Department of Labor, and those of certain foreign countries, have been brought together in the following table in order that the trend of prices in the several countries may be compared. The base periods here shown are those appearing in the original sources

from which the information has been drawn, in certain cases being the year 1913 or some other pre-war period. Only general comparisons can be made from these figures, since, in addition to differences in the base periods, and the kind and number of articles included, there are important differences in the composition of the index numbers themselves. Indexes are shown for the years 1926-34 inclusive, and by months since January 1933.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES

Country.....	United States	Australia	Austria	Belgium	Bulgaria	Canada	Chile	China
Computing agency.....	Bureau of Labor Statistics	Bureau of Census and Statistics	Federal Statistical Bureau	Ministry of Labor and Social Welfare	General Statistical Bureau	Dominion Bureau of Statistics	General Statistical Bureau	National Tariff Commission, Shanghai
Base period.....	1926 (100)	1911 (1000)	January-June 1914 (100)	April 1914 (100)	1926 (100)	1926 (100)	1913 (100)	1926 (100)
Commodities.....	784	92	47	(Paper) 125	(Gold) 55	567 ¹	(Paper)	(Silver) 155 ²
1926.....	100.0	1832	123	744	100.0	100.0	-----	100.0
1927.....	95.4	1817	133	847	102.4	97.7	-----	104.4
1928.....	96.7	1792	130	843	109.8	96.4	195.5	101.7
1929.....	95.3	1803	130	851	117.0	95.6	192.4	104.5
1930.....	86.4	1596	117	744	94.6	86.6	166.9	114.8
1931.....	73.0	1428	108	626	70.1	72.1	152.2	126.7
1932.....	64.8	1411	112	532	70.3	68.7	230.4	112.4
1933.....	65.9	1409	108	501	61.8	67.1	346.0	103.8
1934.....	74.9	1471	110	473	63.6	71.6	343.6	97.1
1933								
January.....	61.0	1344	108	521	63.5	63.8	346.0	108.6
February.....	59.8	1330	106	512	62.5	63.5	344.7	107.6
March.....	60.2	1333	107	504	61.0	64.3	343.4	106.7
April.....	60.4	1358	107	501	61.5	65.3	351.2	104.5
May.....	62.7	1406	108	502	62.1	66.7	357.6	104.2
June.....	65.0	1439	109	507	61.3	67.5	357.8	104.5
July.....	68.9	1455	111	506	62.6	70.5	353.2	103.4
August.....	69.5	1464	108	501	60.9	69.5	355.8	101.7
September.....	70.8	1481	108	496	62.4	68.9	351.5	100.4
October.....	71.2	1445	109	489	61.0	67.9	338.5	100.3
November.....	71.1	1414	108	485	62.1	68.9	330.2	99.9
December.....	70.8	1436	108	484	60.8	69.0	322.0	98.4
1934								
January.....	72.2	1456	109	484	59.1	70.7	328.6	97.2
February.....	73.6	1452	110	483	62.6	72.1	331.4	98.0
March.....	73.7	1459	113	478	61.7	72.1	336.9	96.6
April.....	73.3	1471	112	474	61.6	71.3	342.6	94.6
May.....	73.7	1456	110	470	63.0	71.1	343.1	94.9
June.....	74.6	1463	110	472	64.2	72.0	351.7	95.7
July.....	74.8	1483	110	471	64.2	72.0	352.5	97.1
August.....	76.4	1500	110	474	65.7	72.2	354.1	99.8
September.....	77.6	1493	108	470	65.5	71.9	352.6	97.3
October.....	76.5	1493	108	467	66.2	71.3	344.2	96.1
November.....	76.5	1470	109	466	64.8	71.1	343.3	98.3
December.....	76.9	1459	109	468	63.8	71.1	341.8	99.0
1935								
January.....	78.8	1459	110	472	64.5	71.4	346.7	99.4
February.....	79.5	1451	109	466	64.3	71.9	340.3	99.9
March.....	79.4	1443	109	464	64.2	72.0	336.7	96.4
April.....	80.1	1444	109	531	66.0	72.5	334.9	95.9
May.....	80.2	1453	110	552	64.7	72.3	339.3	95.0
June.....	79.8	1466	111	555	64.3	71.5	339.6	92.1
July.....	79.4	1479	112	553	64.2	71.5	342.4	90.5
August.....	80.5	1498	111	552	64.0	71.6	343.3	91.9
September.....	80.7	1495	111	560	64.4	72.3	346.2	91.1
October.....	80.5	1498	109	574	66.6	73.1	-----	94.1
November.....	80.6	-----	109	532	-----	72.7	-----	103.3
December.....	80.9	-----	109	579	-----	72.6	-----	106.3

¹ Revised for commodities since January 1934.

² Quotations, 154 since January 1932.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES—Continued

Country.....	Czecho- slovakia	Den- mark	Finland	France	Ger- many	India	Italy	Japan	Nether- lands
Computing agency.....	Central Bureau of Sta- tistics	Statisti- cal De- part- ment	Central Bureau of Sta- tistics	General Statisti- cal Bu- reau	Federal Statisti- cal Bu- reau	Depart- ment, etc., ³ Calcutta	Riccardo Bachi	Bank of Japan, Tokyo	Central Bureau of Sta- tistics
Base period.....	July 1914 (100)	1913 (100)	1926 (100)	1913 (100)	1913 (100)	July 1914 (100)	1913 (100)	October 1900 (100)	1913 (100)
Commodities.....	(Gold) 69	118	120	(Paper) 126	400	72	(Paper) 140	56	48
1926.....	⁴ 944	163	100	695	134.4	148	602.0	236.7	145
1927.....	⁴ 968	153	101	642	137.6	148	495.3	224.6	148
1928.....	⁴ 969	153	102	645	140.0	145	461.6	226.1	149
1929.....	⁴ 913	150	98	627	137.2	141	445.3	219.8	142
1930.....	118.6	130	90	554	124.6	116	383.0	181.0	117
1931.....	107.5	114	84	502	110.9	96	328.4	153.0	97
1932.....	99.5	117	90	427	96.5	91	303.7	161.1	79
1933.....	96.3	125	89	398	93.3	87	279.5	179.5	74
1934.....	83.9	132	90	376	98.4	89	273.0	177.6	78
1933									
January.....	96.6	117	90	411	91.0	88	292.0	185.0	75
February.....	96.3	124	89	404	91.2	86	236.3	179.6	74
March.....	95.5	123	89	390	91.1	82	281.3	177.4	72
April.....	94.6	122	88	387	90.7	84	279.1	176.2	71
May.....	96.3	123	88	383	91.9	87	278.8	176.8	72
June.....	98.3	123	89	403	92.9	89	281.2	179.6	73
July.....	98.3	125	90	401	93.9	91	278.9	182.1	73
August.....	97.4	126	90	397	94.2	89	278.3	180.0	73
September.....	96.5	128	90	397	94.9	88	275.8	182.4	75
October.....	96.2	127	90	397	95.7	88	274.1	180.4	75
November.....	95.7	128	90	403	96.0	88	272.9	178.7	76
December.....	95.0	129	89	407	96.2	89	275.3	175.5	77
1934									
January.....	94.6	130	90	404	96.3	90	275.7	175.5	79
February.....	94.3	131	90	400	96.2	89	274.6	177.5	80
March.....	⁵ 81.1	129	90	394	95.9	88	275.2	176.9	79
April.....	⁵ 80.8	128	89	387	95.8	89	273.1	176.9	79
May.....	⁵ 80.2	128	89	381	96.2	90	272.6	176.2	77
June.....	⁵ 80.5	128	89	379	97.2	90	272.2	174.5	76
July.....	⁵ 85.1	129	89	373	98.9	89	269.8	174.1	77
August.....	⁵ 83.9	134	90	370	100.1	89	271.4	176.9	78
September.....	⁵ 84.0	135	90	365	100.4	89	269.9	179.2	77
October.....	⁵ 83.8	135	90	357	101.0	89	271.8	181.8	77
November.....	⁵ 84.2	136	90	356	101.2	88	274.1	181.1	77
December.....	⁵ 84.2	135	90	344	101.0	88	275.9	181.1	78
1935									
January.....	⁵ 84.5	135	90	350	101.1	94	277.2	181.5	78
February.....	⁵ 85.1	135	90	343	100.9	90	275.4	184.1	77
March.....	⁵ 85.3	132	90	335	100.7	87	288.3	183.5	75
April.....	⁵ 84.9	132	90	336	100.8	88	296.1	182.3	76
May.....	⁵ 85.7	131	90	340	100.8	91	302.3	182.4	75
June.....	⁵ 86.1	130	90	330	101.2	91	307.8	180.2	75
July.....	⁵ 88.0	131	90	322	101.8	91	310.1	180.2	74
August.....	⁵ 86.0	134	90	330	102.4	86	322.9	182.9	73
September.....	⁵ 85.9	136	91	332	102.3	89	329.6	188.9	75
October.....	⁵ 85.6	139	92	342	102.8	93	351.3	194.0	78
November.....	⁵ 86.2	139	91	348	103.1	92	-----	193.6	78
December.....	⁵ 86.2	139	-----	354	103.4	-----	-----	191.9	-----

³ Department of Commercial Intelligence and Statistics.⁴ Paper, revised.⁵ New gold parity.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES—Continued

Country	New Zealand, revised	Norway	Peru	Poland	South Africa	Sweden	Switzerland	United Kingdom	Yugoslavia
Computing agency	Census and Statistics Office	Central Bureau of Statistics	Central Bank of Reserve	Central Office of Statistics	Office of Census and Statistics	Board of Trade	Federal Labor Department	Board of Trade	National Bank
Base period	1900-13 (1000)	1913 (100)	1913 (100)	1928 (100)	1910 (1000)	1913 (100)	July 1914 (100)	1930 (100)	1926 (100)
Commodities	180	95	(Paper) 58	238	188	160	77	* 200	55
1926	1553		203.2		1387	149	144.5		100.0
1927	1478		202.6		1395	146	142.2		103.4
1928	1492	157	191.9	100.0	1354	148	144.6		106.2
1929	1488	149	185.7		1305	140	141.2		100.6
1930	1449	137	178.0	85.5	1155	122	126.5	100.0	86.6
1931	1346	122	175.1	74.6	1119	111	109.7	87.8	72.9
1932	1297	122	170.3	65.5	1032	109	96.0	85.6	65.2
1933	1308	122	180.2	59.1	1047	107	91.0	85.7	64.4
1934	1330	124	188.1	55.8	1143	114	89.8	88.1	63.2
1933									
January	1266	122	172.2	59.3	983	106	91.3	84.7	67.6
February	1315	121	172.1	60.4		106	90.1	83.5	68.4
March	1316	121	173.7	59.8		105	90.0	82.7	67.0
April	1315	121	178.6	59.9	1013	105	91.1	82.8	66.3
May	1323	121	178.4	59.6		106	91.6	84.3	64.9
June	1321	121	180.0	60.1		106	91.2	86.2	66.1
July	1327	121	181.0	60.6	1072	108	91.7	86.8	63.7
August	1325	122	182.1	57.9		108	90.9	87.2	60.7
September	1317	123	184.2	58.1		109	90.8	87.8	60.7
October	1317	123	186.6	57.9	1122	109	90.7	87.5	61.5
November	1318	122	186.3	57.6		110	91.0	87.6	63.1
December	1320	122	186.9	57.6		110	91.3	87.6	62.3
1934									
January	1336	120	186.8	57.8	1193	112	91.8	88.8	62.9
February	1339	122	186.6	57.6		112	91.4	89.2	63.6
March	1340	122	184.1	57.3		112	90.9	88.2	63.3
April	1332	123	187.4	56.8	1171	113	89.6	87.7	63.0
May	1340	123	187.8	56.0		113	89.0	87.2	64.1
June	1337	123	189.8	55.8		114	89.0	87.9	65.6
July	1336	124	188.8	55.9	1102	114	88.9	87.3	62.8
August	1342	127	191.4	55.8		114	89.8	89.0	61.1
September	1337	126	190.0	55.0		114	89.1	88.4	63.2
October	1338	127	187.9	54.4	1109	114	89.6	87.8	63.6
November	1340	126	187.0	53.6		115	89.4	87.5	62.7
December	1338	125	185.3	53.4		115	89.0	87.8	62.3
1935									
January	1345	125	186.3	52.7	1074	115	88.3	88.3	64.5
February	1360	125	188.2	52.2		115	87.6	88.0	63.9
March	1365	126	191.2	52.1		115	86.4	86.9	63.0
April	1367	125	190.6	52.2	1044	115	87.1	87.5	62.9
May	1371	125	190.4	52.7		115	87.6	88.2	64.0
June	1382	126	191.5	52.6		116	88.6	88.4	63.9
July	1395	127	190.7	52.9	1069	116	89.9	88.0	63.3
August	1403	128	188.6	53.6		115	91.4	88.4	64.8
September	1430	128	186.7	54.2		115	92.2	89.6	67.8
October	1446	130	188.0	54.5	1080	117	93.3	91.1	70.0
November	1428	130	188.1	54.4		118		91.2	71.2
December		131		54.7		118		91.4	71.6

* Revised for commodities since January 1930.

PRISON LABOR

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Prison Labor in the United States, 1932

THE extent and character of prison labor in the United States have been surveyed by the United States Bureau of Labor Statistics at intervals of 9 or 10 years. The latest survey, covering 1932, while similar in methods to the earlier ones, was considerably broader in scope, city and county jails being included as well as Federal and State prisons. The city and county jails were found to be important as regards number of prisoners, but of minor importance as producers of goods, and consequently the report of the survey, which is published in full in Bulletin No. 595 and here summarized, deals primarily with Federal and State institutions.

Federal and State Prisons

THE survey covered 12 Federal and 116 State prisons, the latter including 1 county and 1 city prison which house State prisoners under an arrangement with the respective State. The report for each institution covered the latest fiscal year for which data were available, in the majority of cases ending in the latter part of 1932. The data were obtained by agents of the Bureau from the records either of the institution or of the contractor manufacturing goods under the contract and piece-price systems.

In these 128 prisons, 158,947 prisoners were confined during 1932 as compared with 84,761 in 1923.¹ This was an increase of 87 percent during the 9-year period, while the increase in the general population during the same period was only 12 percent.

Table 1 shows, by States, the number of prisoners and the value of prison products in State and Federal prisons in 1932 as compared with 1923:

TABLE 1.—NUMBER OF PRISONERS AND VALUE OF PRISON PRODUCTS IN STATE AND FEDERAL INSTITUTIONS, 1923 AND 1932, BY STATES

Class of prisons, and State	Average number of prisoners		Average number of prisoners employed at productive labor		Value of articles produced	
	1923	1932	1923	1932	1923	1932
State prisons:						
Alabama.....	2,988	4,837	2,553	3,763	\$6,153,387	\$5,525,751
Arizona.....	383	591	56	225	69,573	262,416
Arkansas.....	1,295	1,425	1,053	867	300,623	232,409
California.....	3,841	7,675	2,541	4,394	1,463,332	2,651,567
Colorado.....	1,003	1,369	795	354	322,378	137,187
Connecticut.....	916	1,378	528	738	2,421,119	698,804
Delaware.....	359	527	245	312	431,661	225,013
District of Columbia.....	539	1,580	220	676	297,479	712,020
Florida.....	1,426	2,736	1,028	1,739	2,199,706	2,205,647
Georgia.....	3,322	4,197	3,698	3,328	5,084,188	4,962,727
Idaho.....	280	307	42	203	20,045	198,613
Illinois.....	4,450	10,453	2,531	4,577	1,320,687	2,030,032
Indiana.....	2,946	6,309	1,369	3,780	1,702,369	2,233,989

¹ The year of the Bureau's latest previous study.

TABLE 1.—NUMBER OF PRISONERS AND VALUE OF PRISON PRODUCTS IN STATE AND FEDERAL INSTITUTIONS, 1923 AND 1932, BY STATES—Continued

Class of prisons, and State	Average number of prisoners		Average number of prisoners employed at productive labor		Value of articles produced	
	1923	1932	1923	1932	1923	1932
State prisons—Continued.						
Iowa.....	1,851	2,004	1,400	1,988	\$2,051,389	\$2,721,769
Kansas.....	1,225	2,731	881	1,326	807,453	657,364
Kentucky.....	2,043	3,575	1,695	2,407	6,061,220	3,115,445
Louisiana.....	1,596	2,782	1,110	1,644	257,092	979,230
Maine.....	338	515	278	152	454,154	83,435
Maryland.....	1,495	2,586	1,212	1,341	2,771,143	2,099,867
Massachusetts.....	1,964	3,586	966	1,781	1,161,921	2,002,267
Michigan.....	3,381	9,735	2,110	4,164	3,637,829	4,203,736
Minnesota.....	1,488	2,449	875	1,321	2,664,253	2,989,332
Mississippi.....	1,572	2,104	1,252	1,370	779,571	393,663
Missouri.....	2,828	4,981	1,813	2,222	4,426,097	3,103,964
Montana.....	340	615	119	107	71,874	194,853
Nebraska.....	805	1,212	627	830	677,947	866,226
Nevada.....	147	255	30	74	22,769	71,473
New Hampshire.....	138	179	100	140	218,000	186,577
New Jersey.....	1,850	3,349	503	1,421	409,363	1,210,588
New Mexico.....	399	560	193	263	37,175	59,217
New York.....	6,512	11,485	2,395	4,321	1,789,397	3,780,581
North Carolina.....	1,102	2,877	935	1,834	1,638,233	805,211
North Dakota.....	220	417	122	197	374,448	436,967
Ohio.....	4,128	8,941	1,751	3,886	1,323,291	2,290,190
Oklahoma.....	2,051	4,117	1,271	2,064	1,940,751	979,592
Oregon.....	424	851	163	352	129,402	265,301
Pennsylvania.....	4,336	6,314	987	2,148	1,148,163	2,492,075
Rhode Island.....	570	657	329	421	1,458,471	464,788
South Carolina.....	537	1,142	452	459	381,302	393,797
South Dakota.....	309	524	232	405	267,731	528,415
Tennessee.....	1,691	2,941	1,359	2,063	2,120,055	1,609,161
Texas.....	3,474	5,550	2,749	4,462	925,291	1,371,572
Utah.....	188	312	39	37	86,847	16,573
Vermont.....	344	430	243	266	615,280	291,816
Virginia.....	1,439	3,719	857	2,944	2,303,610	3,328,290
Washington.....	1,094	1,976	302	566	215,604	368,684
West Virginia.....	1,645	2,642	1,281	1,555	2,879,329	2,592,645
Wisconsin.....	1,188	2,554	782	1,502	2,558,562	1,565,052
Wyoming.....	399	420	264	278	1,716,325	259,565
Total.....	79,350	145,421	48,336	77,267	73,668,879	71,306,061
Federal prisons:						
Georgia (Atlanta).....	2,479	3,526	2,066	1,626	1,992,779	1,566,898
Kansas (Leavenworth).....	2,454	3,229	1,270	1,032	283,943	932,936
Washington (McNeil Island).....	478	943	127	285	151,359	410,351
9 prisons not covered in 1923.....		5,828		2,066		1,153,225
Total.....	5,411	13,526	3,463	5,009	2,428,081	4,063,410
Grand total.....	84,761	158,947	51,799	82,276	76,096,960	75,369,471

¹ Includes the Detroit House of Correction, in existence but not studied in 1923.

While there was an increase in the number of prisoners employed at productive work from 51,799 in 1923 to 82,276 in 1932, the decline in the proportion of total prisoners productively employed, which began many years ago, continued, the percent in 1885 being 75; in 1895, 72; in 1923, 61; and in 1932, 52 or about one-half. In the State prisons 53.1 percent of the prisoners were employed at productive labor in 1932, as against 37 percent in the Federal prisons. The percent employed in ordinary prison duties was 31.6 in State institutions, and 51.9 in Federal prisons. The remainder of the prisoners were either sick or idle.

The productive work of the prisoners in State and Federal prisons is carried on under several systems. These systems are: (1) Contract system, under which an outside contractor contracts with the insti-

tution for the labor of the prisoners, during which time the institution houses, clothes, feeds, and guards, etc., the prisoners; (2) piece-price system, which is nearly the same as the contract system except that under the piece-price system the contractor agrees to pay a specified price per unit of output rather than a stipulated price per day as under the contract system; (3) State account system, by which the State engages the prisoners in productive enterprises and sells the product on the open market and assumes all business risks; (4) State-use system, where the institution carries on the business of production, but the use or sale of goods is limited exclusively to State departments and agencies; (5) public works and ways system, under which the prisoners are engaged in the construction and repair of public works and ways rather than in the production of goods for consumption; (6) lease system, under which the State leases the prisoners to a contractor for a specific amount per man per day, and the contractor is usually given exclusive control of the prisoners.

The lease system has apparently disappeared from practice, no instances of its use being found either in 1923 or 1932. The 1932 survey showed a continued increase in the State-use system at the expense of the other systems. In 1932 no less than 65 percent were working under the State-use system (including public works and ways) as compared with 55 percent in 1923, 33 percent in 1914, and 26 percent in 1905.

The percent of all the prisoners employed at productive work, and the respective percents of those employed at productive work under the different systems, are shown in table 2:

TABLE 2.—PERCENT OF PRISONERS EMPLOYED AT PRODUCTIVE LABOR UNDER DIFFERENT SYSTEMS IN SPECIFIED YEARS

System	1885	1895	1905	1914	1923	1932
Prisoners employed at productive labor under—						
Lease system.....	26	19	9	4	0	0
Contract system.....	40	34	36	26	12	5
Piece-price system.....	8	14	8	6	7	11
State-account system.....			21	31	26	19
State-use system.....	1 26	1 33	18	22	36	42
Public works and ways system.....			8	11	19	23
Total.....	100	100	100	100	100	100
Percent of all prisoners.....	75	72	65	(?)	61	52

1 No separation made of State account, State use, and public works and ways system in this year.
 2 Not reported.

In 1932 the total value of the goods manufactured by the 82,276 State and Federal prisoners employed at productive work was approximately \$75,000,000 as compared with \$76,000,000 in 1923. If allowance is made for the general decline in wholesale prices, instead of the nominal decrease shown the actual output of prison-made goods appears to be considerably greater in 1932 than in 1923.

The largest number of prisoners—approximately 19,000, or 23 percent—were engaged in the manufacture of clothing, more than 22,000,000 shirts, valued at over \$8,000,000, being produced in 1932. Another important item was binder twine, with a total value of some \$4,000,000 in the same year. Some 36,000,000 automobile license tags were made in 1932 by prison labor.

Table 3 shows the number of prisoners employed at productive labor in State and in Federal institutions, and the value of prison production therein, for 1923 and 1932, by groups of commodities.

TABLE 3.—NUMBER OF PRISONERS EMPLOYED AT PRODUCTIVE LABOR AND VALUE OF GOODS PRODUCED IN STATE AND FEDERAL INSTITUTIONS, 1923 AND 1932, BY COMMODITY GROUPS

Class of prison and group of commodities produced	Average number of prisoners employed at productive labor		Value of goods produced	
	1923	1932	1923	1932
State prisons:				
Agricultural implements.....	163.0	147.6	\$236,765	\$485,066
Agricultural implements, parts.....		25.3		87,600
Bakery products, commercial.....	4.0	25.7	15,454	35,577
Baskets.....	100.0	209.6	36,234	57,546
Brooms, brushes, and mops.....	575.0	671.0	1,816,189	897,948
Clay, cement, and stone products.....	2,411.0	5,145.1	1,527,788	1,575,222
Clothing.....	10,656.0	19,029.7	28,970,139	21,044,782
Coal mining.....	1,965.0	1,057.0	4,105,424	312,018
Coffee roasting.....	2.0	6.0	29,040	59,974
Construction.....	9,077.0	16,471.4	15,295,076	23,583,052
Farm, garden, and dairy.....	11,858.0	17,991.8	5,693,630	6,475,079
Furniture and furnishings.....	3,208.0	3,978.7	3,030,096	2,784,257
Harness, pieces.....		93.0	213,210	123,918
Harness, sets.....	235.0	21.8	316,940	30,210
Highway markers.....	54.0	207.4	103,466	267,188
Land development.....		999.6		469,616
Laundry, commercial.....	32.0	203.1	27,567	90,561
Lumber and timber products.....	348.0	340.1	914,887	231,989
Metal products.....	1,113.0	2,136.1	2,146,230	3,006,423
Printing and binding.....	521.0	957.6	324,254	673,435
Repair and shop work.....	845.0	315.4	434,118	122,663
Soap and soap powder.....	58.0	61.2	115,601	135,666
Sugar.....		124.0		179,566
Textiles and textile products.....	4,793.0	6,511.1	8,098,086	8,059,910
Toys.....	22.0	146.8	14,069	70,691
Whips.....	83.0	31.0	63,200	43,782
Other manufactured products.....	108.0	302.2	81,416	346,318
Miscellaneous labor only.....	12.0	101.2	60,000	56,004
Total.....	48,336.0	77,267.0	73,668,879	71,306,061
Federal prisons:				
Bakery products, commercial.....		10.0		12,622
Brooms, brushes, and mops.....	6.0	155.0	2,396	283,081
Clay, cement, and stone products.....	45.0	134.0	9,372	34,252
Clothing.....	254.0	1,039.1	186,436	797,491
Construction.....	762.0	1,034.0	130,001	1,064,745
Farm, garden, and dairy.....	298.0	980.0	137,939	306,290
Furniture and furnishings.....	16.0	49.3	7,932	20,274
Land development.....		192.0		41,740
Laundry, commercial.....		138.0		113,945
Lumber and timber products.....		26.0		13,230
Printing and binding.....	33.0	82.0	6,369	54,365
Repair and shop work.....	338.0	61.0	204,515	16,077
Textiles and textile products.....	1,683.0	969.6	1,718,304	1,201,548
Other manufactured products.....		50.0		54,306
Miscellaneous labor only.....	28.0	89.0	24,817	49,444
Total.....	3,463.0	5,009.0	2,428,081	4,063,410
Grand total.....	51,799.0	82,276.0	76,096,960	75,369,471

The nominal working hours of 1.3 percent of the prisoners employed at productive labor were less than 24 per week, and of 55.2 percent 44 or less per week, while 21.8 percent worked 60 hours or over per week.

In California 2,413 of the 4,394 prisoners, and in Illinois 4,168 of the 4,577 prison inmates, worked less than 36 hours per week, and in New York 3,163 of a total of 4,321 worked less than 40 hours per week. In contrast all the prisoners in the State prisons in Alabama, Georgia, Louisiana, and Mississippi, and 1,817 of the 1,834 prisoners in North Carolina worked 60 hours per week.

Sixty-six of the 116 State prisons paid money compensation to all or part of the inmates, 48 paid no compensation of any kind, and 2 allowed credit on the sentences for prisoners doing certain kinds of work. Seven of the Federal prisons paid wages to prisoners and five did not. The pay in most of the institutions was nominal, ranging from 2 to 15 cents per day, though a few prisons had considerably higher rates.

County and City Prisons

THE Bureau's survey of county and city prisons covered 2,721 (or 88.6 percent) of the 3,072 counties in the United States and all of the 92 cities having a population of 100,000 or over.

The 2,721 reporting counties had a total prison population of 44,014. Of these, 18.8 percent were engaged in road work; 5.4 percent in farm, garden, or dairy work; and 5.4 percent in other productive work.

Of the 92 cities having a population of 100,000 or over, 39 have no city jails other than those used as detention quarters, sentenced prisoners being confined in the county jail. In the other 53 cities 11,446 prisoners were confined. Of this number 5.3 percent were engaged on road work, 7.9 percent at farm, garden, and dairy work, and 18.6 percent at other productive work.

The number of prisoners under sentence in county and city jails reported as employed is shown in table 4, by type of work.

TABLE 4.—NUMBER OF PRISONERS UNDER SENTENCE IN COUNTY AND CITY JAILS IN THE UNITED STATES REPORTED AS EMPLOYED, 1932-33, BY TYPE OF WORK

Type of work	Prisoners employed at specified type of work in—			
	County prisons		City prisons	
	Number	Percent	Number	Percent
All types of work.....	44,014	100.0	11,446	100.0
Ordinary prison duties, or idle, sick, or invalid.....	30,968	70.4	7,806	68.2
Road work.....	8,260	18.8	608	5.3
Farm, garden, and dairy work.....	2,395	5.4	907	7.9
Other work.....	2,391	5.4	2,125	18.6

While most of the county and city jails were either not engaged in manufacturing activities or doing so on a very limited scale, in 13 prisons manufacturing was being done on a large scale. The total value of all articles produced in 12 of these prisons during the year was \$567,619, of which 86.7 percent was for sale and 13.3 percent for use in State institutions. Approximately 21 percent of the prisoners were employed in such work. The average number of prisoners employed and the value of the articles produced in county and city jails during the year are shown in table 5.

TABLE 5.—NUMBER OF PRISONERS EMPLOYED AND VALUE OF GOODS MANUFACTURED AND SOLD DURING YEAR IN COUNTY AND CITY JAILS, BY COMMODITY GROUPS

Group of commodities produced	Average number of inmates engaged	Value of articles—		
		Produced	Sold	Used in State institutions
All groups of commodities.....	1, 080	\$567, 619. 20	\$491, 893. 04	\$75, 726. 16
Brooms, brushes, etc.....	168	319, 836. 25	286, 325. 00	33, 611. 25
Clothing.....	1 46	25, 273. 26	(?)	25, 273. 26
Furniture and furnishings.....	3 859	205, 927. 53	202, 827. 53	3, 100. 00
Lumber.....	5	2, 100. 00	(?)	2, 100. 00
Repair and shop work.....	21	10, 568. 51	2, 740. 51	7, 828. 00
Textiles and textile products.....	4 26	3, 813. 65	(?)	3, 813. 65

¹ Includes 19 who were also engaged in the manufacture of furniture and furnishings and textiles and 7 who were also employed on textiles.

² None sold.

³ Includes 19 who also worked on clothing and textiles.

⁴ 19 of these were also employed on clothing and furniture and furnishings and 7 on clothing.

Report on Competition of Prison Labor with Cotton-Garment Industry

NO REAL solution of the prison-labor problem other than complete withdrawal of prison-made products from competitive trade and commerce was seen by the special committee appointed to study the competition of products of prison labor² with those of the cotton-garment industry. This committee was named in accordance with the Executive order of October 12, 1934, which reduced working time and increased wages in the cotton-garment industry. Although the prison-labor compact³ was drawn up as a result of a real desire to solve the problems arising out of competition of prison-made goods and had been fairly administered, the committee found that it had failed to meet the existing needs. This is true because (1) the basic aims of labor were incompatible with the purposes of the compact; (2) the cotton-garment industry regarded it as unworkable, thereby making it so, since the cooperation of this industry would be essential to success of the compact; and (3) other industries feared the competition of prison-made goods, should the market for prison products expand into new fields under the N. R. A. label. The committee believed, however, that pending the development of a comprehensive regulatory system governing the products of prison labor the compact was the best instrument of control. With this in mind, it was believed essential that the compact should be whole-heartedly supported and that only its ultimate purpose should be modified. State use of prison-made goods was recommended by the committee. If these products were kept off the general market, the committee pointed out, the price structure would not be affected by this type of production, and the labor involved would not enter into direct competition with free labor, thus preventing any demoralization of the wage structure for free labor.

Testimony heard by the committee showed that the competition of prison goods created present and potential problems for the cotton-

¹ Report of committee, Nov. 26, 1934. (Mimeographed.)

² See p. 705, post.

garment industry that called for immediate attention and relief. Owing to the overexpanded condition of the cotton-garment industry, prison activity in this field endangered the existence of that industry. Withdrawal of the cotton-garment industry from its code as a result of such competition, the committee stated, would be a disaster for labor, as it would mean a return to sweatshop conditions. This was to be avoided at any cost, and cooperation was necessary so that the cotton-garment industry might be rehabilitated, even though this might temporarily increase prison idleness and add to the cost of prison maintenance.

The committee outlined its plan for solving the problem, recommending that the National Industrial Recovery Board use its good offices to secure from the President a fund of \$50,000,000 from the Public Works Administration to help the States reorganize their prison industries so that they might not compete in the open market. The committee hoped in this way to "end the prison-labor controversy which has burdened American industrial and political life for so long a time." Until such time as the reorganization of the prison industries could be effected, it was suggested that the National Industrial Recovery Board seek to establish a system whereby the Federal Emergency Relief Administration would purchase goods from the prisons or utilize prison labor to manufacture garments that might be needed, whichever was deemed preferable. Such purchases were to be scheduled on a declining scale so that all orders might cease at the end of 2 years. Accompanying this program the committee recommended that the Blue-Eagle label be withdrawn from prison goods or that it be modified to read "prison made." It was the opinion of the committee that the Prison Labor Authority should be continued and that any loss in funds accruing to that body from the withdrawal of the label or its modification should be made up from funds set aside by the Public Works Administration. Where industries compete with prison goods, it was recommended that an Executive order be promulgated empowering the National Industrial Recovery Board to require the Prison Labor Authority and the code authorities of industries affected by prison goods to enter into agreements each time a change in price or costs occurred. If this were not accomplished voluntarily, an impartial chairman was to be designated to see that an agreement was reached. It was suggested that the National Industrial Recovery Board, the Prison Labor Authority, and code authorities establish a quota system limiting the production of prison goods for the open market at the level of production existing at the time the prison-labor compact came into existence. To meet fully the new conditions the committee recommended that all State, county, and city institutions producing for the open market subscribe to the compact if they had not already done so.

Action Resulting from Committee's Recommendations

ACTING upon the recommendations of the committee, the National Industrial Recovery Board announced on December 3, 1934, that it had designated two of its members and a division administrator to conduct negotiations with the Federal Emergency Relief Administration looking toward the utilization of prison-made clothing by the latter body.⁴ The Board deferred action on the other recommenda-

⁴ National Recovery Administration. Press release no. 9078, Dec. 3, 1934.

tions submitted pending the collection of further data, legal and other opinions.

On December 6, 1934, the Attorney General of the United States announced that the President had appointed five persons as the board of directors of the Federal Prison Industries Corporation, the appointees being: Sanford Bates, Thomas A. Rickert, John J. Miller, M. L. Brittain, and Sam A. Lewisohn. It was stated that this body would use its influence to secure greater variety in the goods produced by prisons, in order that no one industry, such as the manufacture of cotton garments, would bear more than its share of the competition of prison-made products.

Laws Relating to Prison Labor

WHILE regular work is generally recognized as being beneficial to prisoners, much opposition has arisen to the sale of prison-made goods in the open market. This opposition is due to the fact that no matter what system is used in the production of such goods, prison labor competes to some extent with free labor.

The various States have therefore attempted by legislation to regulate the sale of prison-made goods. Generally, the laws have specified the kinds of work on which prisoners may be employed, the system under which they may not be employed, and in many instances the conditions of employment. The Bureau of Labor Statistics has in Bulletin No. 596 brought together the provisions of the laws having direct application to the nature of the employment, the method of work, the disposition of the product, the earnings allowed prisoners, and similar regulations immediately affecting the employment of State, county, and municipal prisoners. The courts, however, held that such laws could apply only to goods produced in prisons within the State, as goods arriving from a prison in another State, were, in fact, in interstate commerce and therefore beyond the regulatory powers of the individual States.⁵

Because of the inability of the States to regulate or prohibit the sale of convict-made goods coming into the State through the channels of interstate commerce, efforts were made over a period of 25 years to have Congress enact some form of legislation to curb the traffic in prison-made goods between the States. The fruition of these efforts materialized in 1929 in the passage of the Hawes-Cooper Convict Labor Act (45 Stat. 1084). This act divests convict-made goods of their interstate character, thereby enabling the States to enact statutes regulating or prohibiting the sale of such goods within the State.

The act was approved by the President on January 19, 1929, and became effective 5 years from that date, namely January 19, 1934.⁶ Up to December 1935, the following States had taken advantage of this act to pass laws either prohibiting or regulating the sale of prison-made goods shipped into the State: Arizona, Arkansas, California, Colorado, Idaho, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Ohio,

⁵ See *People v. Hawkins* (51 N. E. 257); *Phillips v. Raney* (198, N. Y. 539); *Arnold v. Yanders* (47 N. E. 50); and the advisory opinion rendered by the Massachusetts Supreme Judicial Court in 1912.

⁶The constitutionality of this act was upheld by the United States Supreme Court, Mar. 2, 1936.

Oregon, Pennsylvania, Rhode Island, South Dakota, Texas, Utah, Virginia, and Washington.

An early attempt was made by the State of Alabama to have the Federal convict-labor law declared unconstitutional as being a burden on interstate commerce or as depriving the States of property without due process of law. The United States Supreme Court, however, refused to hear the case presented because of multifariousness in the pleading and because a sufficient cause was not shown in the bill (*Alabama v. Arizona et al.*, 291 U. S. 286). In declining to hear the case the Court refused to express an opinion as to the constitutionality of the law, as declaratory judgments or advisory opinions are not rendered by that Court.

An act (Public, No. 215, 74th Cong.), approved by the President July 24, 1935, makes it a Federal offense to transport, or cause to be transported, any prison-made goods (except commodities manufactured in Federal prisons for use of the Federal Government) into any State in violation of any law of such State. Violations of the act are punishable, upon conviction in any court having jurisdiction of crime within the district where the offense was committed or from or into which the goods were transported, by a fine of not more than \$1,000 and forfeiture of the goods.

State Compact on Prison-Made Goods Under the National Recovery Administration

A COMPACT of fair competition governing the manufacture and use of prison-made goods, approved by the National Recovery Administrator, had, at the beginning of November 1934, been ratified by the following 30 States: Alabama, Connecticut, Delaware, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, New Hampshire, New York, North Dakota, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Vermont, West Virginia, Wisconsin, and Wyoming. It was also ratified by the proper authorities of the District of Columbia and the Department of Justice.

Under the agreement, working hours in prison shops were not to exceed those established for competing private industry, and prison-made goods were not to be sold below the fair current price in the markets where normally sold. In computing the cost of production of prison-made goods for the purpose of fixing prices, the same allowances for labor and overhead paid in private industry on competing and comparable products were to be taken into account. The terms of the agreement did not apply to prison-made goods used only in tax-supported institutions, nor to "the construction of public works or ways financed wholly from funds of the State or its political subdivisions."

The administration of the compact was by a committee known as the "Prison Labor Authority", consisting of 9 members, 6 elected annually by representatives of the signatory States and 3 being Presidential appointees representing labor, industry, and consumers, respectively.

Regulations Regarding Importation of Convict-Made Goods

THE importation of goods made by convict labor or forced or indentured labor is prohibited by section 307 of the Tariff Act of 1930 (ch. 497, 46 Stat. 590), approved by the President on June 17, 1930. That section in part provides that:

All goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by convict labor or/and forced labor or/and indentured labor under penal sanctions shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited, and the Secretary of the Treasury is authorized and directed to prescribe such regulations as may be necessary for the enforcement of this provision.

The above-quoted provision did not become effective until January 1, 1932, and the provision is not applicable if production of such goods in the United States is not equal to consumptive demands. Under the terms of the provision, "forced labor" is defined to mean "all work or service which is exacted from any person under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily."

On November 24, 1930, the Treasury Department, by authority granted in said section 307, promulgated regulations against the importation of convict-made goods. The regulations in general provide that all importers and shippers must show that importations from all countries are not produced by convict labor.

PRODUCTIVITY OF LABOR

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Productivity of Labor and Industry, Technological Changes, and Labor Displacement

THE Bureau of Labor Statistics for several years has been making special studies of man-hour productivity of labor as a means of measuring, over a period of time, the effect upon output of the changes brought about by increased mechanization and use of power in industry, improvements in processes and methods of work, greater managerial ability, standardization of product, and elimination of waste; and of determining the actual displacement of labor and decreased employment opportunities resulting from the increased per capita output which has attended these various technological changes. Most of the Bureau's productivity studies are first-hand investigations of the various industries.

Summaries are presented below of all the important studies of this character published by the Bureau since the 1931 edition of the Handbook (Bul. No. 541) and up to the latter part of 1935. A digest of all the Bureau's data on the subject up to November 1932, with the exception of its material on agriculture, was published in the November 1932 Monthly Labor Review (p. 1031).

Although the terms "productivity of labor", "labor displacement", and "technological changes" in industry have become current in recent years, and are much more widely understood than when the Bureau began its studies, it may be of service to give here the Bureau's interpretation of these terms.

"Productivity of labor" means work done in a given time; ordinarily it is best expressed as the output per man per hour, although it may be stated as output per man per day, per crew, per week, etc. The advantage of using man-hour output as a basis of measurement is that it is more precise and exact than the others. The "productivity" of labor must be clearly differentiated from the "efficiency" of labor, or from any term which is narrowed down to express only the output due to the ability and willing cooperation of the workers themselves.

In determining productivity, the laborer is simply used as the unit of measurement in expressing the technical progress or decline of an industry over a period of time, regardless of whether the changes in output were due to new machinery, managerial skill, or better work by the employees.

The phrase "technological change" is defined to include all change, whether in the nature of the product, method of production, type of labor, hours worked, or machinery and equipment used, which results in higher productivity per man-hour.

Usually the object of technological changes is to reduce the labor cost of operation. This reduction is measured by the difference in the labor requirements per unit of output before and after the change in technology took place, which may or may not result in the imme-

diate elimination of jobs or workers from the plant. It produces a surplus of labor time, and unless there is a corresponding increase in the total output, some workers will eventually be eliminated as a direct result of the technological change. This condition, which the Bureau calls "labor displacement", is frequently referred to also as "technological unemployment."

Agriculture

THE Yearbook of Agriculture for 1932 (pp. 411-455) contains a series of articles written by experts of the Department of Agriculture, in which the progress of farm mechanization is traced, its more important economic and social effects indicated, and the principal limitations upon further development explained. Following is a brief summary of the facts and conclusions set forth in these articles.¹

The history of American agriculture has been especially characterized by a rapidly increasing utilization of improved tools and implements, beginning with the substitution of the metal for the wooden plow, the invention of the first reaping machines during the first quarter of the nineteenth century, and, more recently, the rapid replacement of animal by mechanical power. The progress of farm mechanization has been marked throughout by a relative increase in the amount of farm equipment required per acre of land cultivated and by a corresponding or greater reduction in the man-labor requirement.

The most important factors limiting farm mechanization are the demand for and the selling price of farm products. On the whole, mechanization results in an increased total output. It also results in an increased output per unit of labor applied.

The progress of farm mechanization has been very uneven in the several geographical areas of the United States. A similar inequality is observed among the principal farm industries—the growing of small grains, the production of corn, the dairy industry, etc. Geographically, there has been most progress in the semi-arid regions of the Great Plains, and least in the New England States and in the old South; while as among industries, the greater progress appears in the growing of small grains, and the least in dairying.

All things considered, the Great Plains region has offered the most favorable opportunities for the carrying on of large-scale mechanized farming. Between 1919 and 1929 the number of tractors on Great Plains farms increased from 82,000 to 274,000; trucks from 27,000 to 100,000; and automobiles from 500,000 to 1,000,000, while the number of horses and mules decreased 13 percent.

In the Corn Belt, conditions especially favoring farm mechanization are gentle topography, fertile soils, a climate favorable to the growing of a number of different crops, and comparatively large farms. The extent of the progress in mechanization in this region is indicated both by the increase in the number of tractors and trucks and in the decrease in the number of horses and mules between 1910 and 1930. Although in 1930 there was only 1 tractor for every 3 farms in States of maximum corn production, only 1 to every 4 farms in Ohio and Indiana and 1 to 10 in Missouri, yet this is higher than

¹ See Monthly Labor Review, March 1933, p. 511.

the average for the entire country, which is 1 tractor to every 7 farms. The utilization of mechanical equipment on Corn Belt farms varies with the size of the farm. Moreover, improvements in general farm technique have been such that there would have been in any case some reduction in the power requirement per acre.

A general summary of the effects of farm mechanization in these areas is given in the 1932 report of the Secretary of Agriculture, which says in part:

With modern equipment one man can now handle 160 acres or more in the Corn Belt, as compared with an average of only about 80 acres a few years ago. Two- and four-row cultivators handle nearly 2 and 4 times as much corn as the old 1-row cultivator handled. Two-row mechanical corn pickers, with 2 men to run them, do as much work as 6 hand pickers. Duck-foot cultivators and row weeders almost eliminate the necessity for plowing in the summer fallow wheat areas of the West, and increase materially the summer fallow handled by one man. In the Great Plains a 16-foot combine harvests and threshes 35 to 40 acres of wheat a day. One such harvester can handle 500 acres of grain in 15 days. In 1928 the cost of harvesting an acre in Kansas by the combine was about \$2.20, as compared with \$3.50 for harvesting with a header and thresher, and \$4.40 for harvesting with a binder and thresher. Nearly 66,000 combines were sold in the United States in the period 1927-30. In Kansas the number of combines increased from 2,796 in 1923 to 16,631 in 1929. Combines are now used in every State in which small grains are of any importance. In the Mississippi Delta, with modern power machinery only 30 to 35 hours of man labor are required to grow an acre of cotton ready to pick, as compared with 80 hours under the old 1- or 2-mule system. In haying, 1 man, with a tractor-drawn mower and a side-delivery rake, covers 25 acres a day, or 50 times the area 1 man could cut and rake a century ago. If the windrow needs turning, it can be done with a tractor and the side-delivery rake. Production costs are reduced also by the use of better seed and more fertilizer, and by more scientific handling and feeding of livestock. In the Southeastern States yields of both corn and cotton have been greatly increased through the use of winter legumes.

The relative slowness in mechanized development on dairy farms is due chiefly to the fact that 50 percent of the total labor requirement on specialized farms is for taking care of the herd, and that the greater part of this labor is of a kind that renders mechanization especially difficult. Milking requires approximately one-half of the work involved in the care of the dairy herd. This one operation, when done by hand, limits to 10 or 12 the number of cows that can be kept per worker. Many of the farms using milking machines have not yet fully adapted the size of their farms and other factors so as to attain the maximum relative efficiency. Another way in which labor requirements on dairy farms have been reduced is by the installation of mechanical equipment in the production of feed for the cows, and of supplementary crops grown in connection with dairying operations.

The effect of mechanization upon labor requirements in the dairying industry as a whole is indicated by the fact that from 1909 to 1929 crop acres handled per worker increased in nearly all the dairying States. In Vermont the increase was from 26 in 1909 to 30 in 1929; in New York, from 25 to 31; and in Wisconsin, from 31 to 36 crop acres per worker. But a part of this increase is to be ascribed to factors other than mechanization.

As in the case of the Corn Belt farms, only a small percentage of the dairying industry has thus far been mechanized.

In the South, farm mechanization has been retarded by a number of factors, some of which are peculiar to that region, such as the character of the labor supply and the prevailing system of cultivation. With an abundance of cheap labor the "cropper" system

of cultivation in the growing of cotton has prevailed, under which the plantations are cultivated in small areas, almost entirely by hand and mule power. In the old South this system stands in the way of combining fields so as to facilitate mechanical cultivation; and the cropper system is in large part bound up with the necessity of picking cotton by hand. A number of cotton-picking machines, according to unbiased observers, are nearing practicability. Cane planters and harvesters have also been invented that have possibilities of success.

Labor Displacement in Agriculture

AN EARLIER study, based on secondary sources and published in the *Monthly Labor Review*, October 1931, covering the same field and developing practically the same productivity rates, gives additional data upon labor displacement resulting from increased mechanization.

In this study comparisons are made between the still undeveloped methods of 1850 and the mechanized processes of the present. Some of the conclusions reached as to actual and potential elimination of man-power in large-scale industrialized farming are here briefly summarized.

The labor efficiency of the latest improved plowing equipment as compared with the 1-man, 2-horse plow is 5,900 percent, and the labor displacement is 98.3 percent.

In 1850 the labor cost of preparing the seedbed and planting corn was 13.8 man-hours per acre. The standard requirement for planting corn with a motorized planter is 3.6 man-hours. This is a gain in production per unit of man labor of 289 percent over 1850 and a labor displacement of 60 percent.

When harvesting and threshing are combined in a single operation, the results in labor saving are almost beyond belief. Combines operated by 5 men have cut as high as 100 acres per day. At this rate, the labor requirement for cutting, threshing, and delivering the wheat, sacked or in the bin, is only 0.5 man-hour per acre. Estimating an average of 50 acres per day for the larger combines, the labor requirement for both harvesting and threshing is only 1 man-hour per acre. The gain in efficiency per unit of labor of the most modern method over the most primitive is 4,700 percent, and the labor displacement 98 percent.

The Ohio Agriculture Experiment Station gives the per-acre labor requirement (1920-24) for husking and cribbing corn from the stalk by hand as 8.66 man-hours, while with the shredder it is 6.13 man-hours, a gain in efficiency of 71 percent and a labor displacement of 29 percent. The United States Department of Agriculture found that one man could pick by hand 59 bushels of corn in a day. With a mechanical picker, operated by one man, from 69 to 102 bushels were harvested in a day. An average of these figures shows a gain for the machine of 26 bushels per day, or 44 percent. The labor requirement is 0.17 man-hour per bushel where the corn is picked by hand, and 0.118 man-hour where the machine is used. The labor displacement is 0.052 man-hour per bushel, or about 30 percent. The labor requirement for shelling 100 bushels of corn by hand in 1895 was 166.67 man-hours, with the hand machine it was 33 man-hours, and with the power machine 1.67 man-hours. The

gain in efficiency per unit of labor is therefore 9,800 percent, and the labor displacement 99 percent.

The hand-labor requirement for harvesting an acre of hay averages 11 man-hours, that of machines available in 1927, 1.6 man-hours. These figures represent a 60 percent gain in efficiency over the machine methods of 1895, and of 1,200 percent over the hand methods of 1850, indicating the improvement in the efficiency of hay-harvesting machines achieved during the last 30 years. The labor displacement of the 1927 machines as compared with the hand methods of 1850 is approximately 84 percent.

From the beginning of agricultural mechanization until the year 1910, there was no net decrease in the number of farm workers, taking the country as a whole, although there was continuous labor displacement. Between 1880 and 1910 there was, in fact, an increase of approximately 3,000,000, or 37.6 percent, in the number of farm workers. During this same period there was a technological displacement, as measured in terms of crop-acres cultivated per worker, of approximately 40 percent. This would have resulted in the release from the industry of 3,400,000 workers during these years, except for the fact that conditions favoring the expansion of the industry enabled it to absorb the whole of the displacement. Not only was this absorption accomplished, but the industry took on an additional 3,000,000 workers.

From 1919 to 1927, the technological displacement was approximately 23 percent, and the decline in agricultural employment 7 percent. If none of the agricultural workers technologically displaced during this period had been reemployed in the industry, 2,530,000 would have had to find employment elsewhere or remain unemployed. The actual number who were shifted out of the industry was 800,000.

When the migration of farm labor indicated by the shrinkage in total farm population between 1920 and 1927 is taken into consideration, it appears that a much larger number of workers must have left the farms. If it is assumed that 3 out of 5 of the more than 3 000,000 persons who left the farms during these years were in search of employment, or would have been unemployed if they had remained on the farms—not a high estimate, when it is remembered that a large percentage of the migrants were between the ages of 18 and 25 years—it will appear that the shrinkage in farm employment between 1920 and 1927 was approximately 2,000,000 workers.

Amusement Industry

A STUDY of the effects of technological changes in the amusement industry² showed that the extent of displacement depended largely upon the kind of theater, and ranged from none at all to practical elimination of certain classes of workers, musicians chiefly. The amusement industry is made up of several independent but closely related units, such as legitimate drama, musical comedy, vaudeville, and motion pictures. While technical advances have been made for facilitating and improving stage performances, these for the most part require for their operation an increased rather than a decreased labor force.

² See *Monthly Labor Review*, August 1931, p. 1.

Changes introduced into the motion-picture theater, however, have been revolutionary. The introduction of sound in connection with pictures displaced musicians entirely in small theaters and resulted in about 50 percent loss of employment among theatrical musicians in general, in spite of the fact that motion-picture theaters of the de luxe type have kept their concert orchestras intact.

Sound pictures also completed the elimination of the legitimate theater outside the large cities. Stock companies, which in 1929 numbered 140 throughout the country, were reduced to 80 by December 1, 1930. Vaudeville houses as distinct from motion-picture theaters presenting vaudeville performances have practically ceased to exist, except for a very few "burlesque" houses still operating in some large cities.

A further technological development in the amusement field, radio broadcasting, affords a degree of compensation for displacement by furnishing employment to musicians, and to a less extent, to individual performers.

Washington, D. C., was selected for an analytical study³ of the effects of the sound picture on the industry and the individual workers affected by the change. It was found that the introduction of sound pictures into the motion-picture theaters of that city was accompanied by substantial increases in the earnings of licensed machine operators, and by the elevation of assistant and apprentice operators to journeyman status. Musicians, however, lost their jobs because of the installation of mechanical musical devices. In the white theaters about 60 percent and in the colored houses 91 percent were thus thrown out of employment. Some 30 percent of these "technological casualties" were reabsorbed into the musical profession, on either a full-time or part-time basis.

Bituminous-Coal Industry

THE output per man per day in the bituminous-coal industry increased 40.2 percent between 1910 and 1929, and 46.2 percent between 1910 and 1930, according to a study of employment and productivity in relation to mechanization made by the Bureau of Labor Statistics.⁴ The data are based upon reports of the United States Bureau of Mines and upon a first-hand field survey of a small group of mines in Illinois, Pennsylvania, and Wyoming using mechanical loaders.

Undoubtedly many factors other than technological changes contributed to the increased productivity noted. Among these factors are a tendency toward better attendance, stricter observance of working hours, and improved personnel methods, often in conjunction with introduction of mechanized mining processes; the shutdown or abandonment of many of the least efficient mines, due to the depression in the industry, and a reduction in nonproductive development work both underground and on the surface; and the opening up of newer mining districts with relatively higher rates of output per man per day. In considerable part, however, this increased productivity must be attributed to improve mining technology.

The best available measure of productivity in the coal industry is the average number of tons produced per man per day, a figure

³ Monthly Labor Review, November 1931, p. 1.

⁴ Idem, February 1933, p. 256.

arrived at by dividing the total tonnage produced by the number of man-days worked in a given period. Although the unit of product (the ton) is satisfactory from the statistical standpoint, the "man-day" in this industry is not an exact quantity, owing to the fact that mines do not keep an actual day-to-day record of the employees' attendance or working time.

With few exceptions the average output per man per day has increased steadily, the rate of increase between 1920 and 1930 having been greater than between 1910 and 1920 and the index of output per man per day (base 1910-14) having risen to 107.0 in 1915-19, 119.8 in 1920-24, and to 129.0 in 1925-29.

The man-day output of all mine labor increased from 3.46 net tons in 1910 to 4.85 net tons in 1929 and to 5.06 net tons in 1930; this is an increase of 40.2 and 46.2 percent, respectively, over 1910. During the same period the number of persons employed dropped from 555,533 to 502,993, and then to 493,202. Had the man-day output remained at the same level as in 1910, 722,584 persons, instead of the 493,202 actually employed, would have been required to produce the 1930 tonnage in 187 days (the average number of days of operation in that year); while for the 1929 output 706,032, instead of 502,993 persons, would have been required.

A number of factors have contributed to the increased productivity of mine labor. The greatest single cause is, undoubtedly, the introduction of power equipment adapted to mining requirements, i. e., the machine cutter, power drills for shot holes, electrically operated pumps, the power-driven steam shovel, the mechanized loader and conveyor, the electrically driven mine car, and in some sections improved mechanical cleaning apparatus. Improvement in technology and the spread of established labor-saving methods are going forward at a remarkable rate. Other elements contributing to increased productivity include improved mine management and layout, the tendency toward developing mines to the optimum size, shutdown of less efficient mines, removal of operations to better mine locations, and more effective use of labor.

Many of the improvements in methods and mechanization cannot be measured statistically in relation to their effect on employment opportunities. For the strip mines and the mines using mechanical loaders, however, sufficient data are available for the purpose. These two classes of mines have high rates of productivity, their output per man-day in 1930 being 13.92 and 7.16 tons, respectively, whereas the output per man-day of all the bituminous mines in 1930, excluding these two classes, was only 4.76 tons. At this latter rate of productivity (4.76 tons) 525,240 persons would have been required for the 1930 production instead of the 493,202 actually employed.

Strip Mining

BITUMINOUS coal mined from the surface, by stripping methods, amounted to 19,842,359 tons, or 4.3 percent of the total product, in 1930. This constitutes 15 times the total production stripped in 1914, the first year for which statistics are available, and 7 times the 1915 total. Output per man per day in power strip pits increased

from 5.1 tons in 1914 to 16.2 tons in 1930, as compared with an increase from 3.71 to 5.06 tons for the bituminous industry as a whole. The rise in output per man per day was 217.6 percent for stripping operations and 36.4 percent for all operations during this 17-year period.

Increased Use of Loading Equipment

THE loading of coal on mine cars for removal from the working place has always constituted one of the most labor-consuming processes connected with mine operation. Loaders have always formed the most numerous class among mine laborers, constituting 58.5 percent of all underground laborers in over 1,900 mines for which the United States Coal Commission secured earnings data in 1921. Accordingly, the perfecting of equipment to reduce the amount of labor needed for this process is a technological advance that presages increasing man-day productivity and a further reduction in labor requirements.

Not only the tonnage mechanically loaded, but also the number of mines using mechanical loaders and the number of such loaders in use, show a significant increase. Up to the present, mechanization of this character has made considerable progress in Illinois, Pennsylvania, Indiana, Kentucky, West Virginia, Alabama, Montana, Utah, and Wyoming. In Illinois alone 22,846,000 tons were mechanically loaded in 1930 out of the United States total of 46,982,000 tons, and Pennsylvania ran second with 7,035,000 tons. The importance of mechanical loading in Montana, Illinois, Wyoming, Indiana, Utah, and Alabama is shown by the fact that 57.0, 48.0, 47.7, 32.3, 20.3, and 13.4 percent, respectively, of the 1930 production was mechanically loaded.

In the absence of statistics showing the productivity rates in all mines where loading is mechanized, the Bureau of Labor Statistics obtained, through direct inquiry from a group of operators, information as to the changes in productivity rates since hand shoveling has been partially or almost entirely superseded by mechanical loading. This inquiry covered a few relatively large mines in Illinois, Pennsylvania, and Wyoming, where mechanical loaders and conveyor systems are in use, producing about 5,653,000 tons of coal in 1931 and having an average of 4,000 employees on their combined pay rolls.

Although it cannot be stated with certainty that the increase in productivity found to have taken place in this sample group of mines is characteristic of what has occurred in all mines using mechanized loading and conveyor systems, it is believed that the increase here shown is not unduly high. Table 1 shows output per man per day for typical periods before and after mechanization of loading, and the percent of increase or decrease in productivity that has resulted from the change.

TABLE 1.—CHANGES IN PRODUCTIVITY RATES UNDER MECHANICAL LOADING AS COMPARED WITH HAND LOADING IN EIGHT INDIVIDUAL MINES

Mine	Thickness of seam	Output (tons) per man per day		
		Before mechanization	After mechanization	Percent of change
Mines fully mechanized:				
Mine A.....	6 feet or over....	7.0	13.5	+92.9
Mine B.....	do.....	4.9	8.8	+79.6
Mine C.....	do.....	7.8	12.2	+56.4
Mine D.....	do.....	5.8	8.7	+50.0
Weighted average.....	.....	.....	.....	¹ +65.7
Mines partially mechanized:				
Mine E.....	Under 6 feet.....	(²)	5.7	³ +20.0-25.0
Mine F.....	do.....	(²)	4.9	³ +20.0-25.0
Mine G.....	6 feet or over....	5.4	5.9	+9.3
Mine H.....	do.....	8.4	7.4	-11.9
Weighted average, all mines.....	.....	.....	.....	¹ +46.8
Weighted average, mines A-G.....	.....	.....	.....	¹ +53.4

¹ Weighted on basis of production after mechanization and percent of increase in productivity.
² No data. ³ Operator's estimate.

As between the individual mines there has been little uniformity in the rate of increase obtained through mechanization. In mine A, for example, output per man per day increased by 92.9 percent, which means the displacement of practically one man out of every two, whereas in mine D the increase was 50 percent. Again, while the average output for mine A was only 21 percent higher than in mine D prior to mechanization, it was 55 percent higher after the loading was mechanized.

Labor Productivity in 1931

For 1931 an increase in output per man per day in the bituminous-coal industry, accompanied by a decline in working time, employment, and total production, is shown in the preliminary statistics published by the United States Bureau of Mines.⁴ In 1931 the output per man per day amounted to 5.30 tons as compared with 5.06 tons in 1930. Table 2 shows output per man per day in the industry in 1913, 1923, and 1928 to 1931, and also the average days worked and men employed, and total production in these years. Index numbers have been calculated, using the figures for 1913 as the base, or 100.

TABLE 2.—AVERAGE NUMBER OF DAYS WORKED AND MEN EMPLOYED AND TOTAL AND MAN-HOUR PRODUCTION IN THE BITUMINOUS-COAL INDUSTRY IN SPECIFIED YEARS

Year	Average number of days worked	Average number of men employed	Production (tons)	Output per man per day (tons)
1913.....	232	571,882	478,435,297	3.61
1923.....	179	704,793	564,564,662	4.47
1928.....	203	522,150	500,744,970	4.73
1929.....	219	502,993	534,988,593	4.85
1930.....	187	493,202	467,526,299	5.06
1931.....	160	450,213	382,069,396	5.30
Index numbers (1913=100)				
1913.....	100.0	100.0	100.0	100.0
1923.....	77.2	123.2	118.0	123.8
1928.....	87.5	91.3	104.7	131.0
1929.....	94.4	88.0	111.8	134.3
1930.....	80.6	86.2	97.7	140.2
1931.....	69.0	78.7	79.9	146.8

⁴ U. S. Department of Commerce. Bureau of Mines. Bituminous Coal Tables, 1931, by F. G. Tryon and L. Mann. Washington, 1932. (Mimeographed.)

As between 1913 and 1931 the greatest drop occurred in average number of days worked, the index in the later year being 69.0 as compared with 100.0 in 1913. The employment and production indexes have shrunk to practically the same extent, the respective indexes in 1931 being 78.7 and 79.9, respectively. However, in the years between 1913 and 1931 these two indexes have not been characterized by the same movement, the production indexes, for example, having risen to 104.7 in 1928 and 111.8 in 1929, years when the indexes of employment fell below 100.0, or to 91.3 and 88.0, respectively.

In contrast with the other indexes shown in table 2 the indexes of output per man per day have increased steadily, the increase between 1913 and 1923, or from 100.0 to 123.8, being only slightly greater than that for the period from 1923 to 1931, or from 123.8 to 146.8. Thus output per man per day has increased by almost as much in the 8 latest years for which statistics are available (1923-31) as in the preceding 10-year period (1913-23). A further significant fact shown in these statistics is that the year-to-year increase in output per man per day has been more rapid in years of depression, i. e., 1930 and 1931, than in the year of more active coal demand, 1929.

Cigar Industry

A STUDY of technological changes in the cigar industry, with special reference to the machine now being used in the making of long-filler cigars, was made by the Bureau of Labor Statistics and published in the *Monthly Labor Review* of December 1931 (p. 1275).

The first successful machine for the making of a completely headed long-filler cigar was patented and placed in operation in 1917. Such was its success that the number of these machines in operation showed a material increase from year to year, and it is estimated that approximately 50 percent of the United States output of long-filler cigars is now manufactured on these machines.

The output of the machine is about twice that of the hand workers, and it carries out all the necessary operations for the complete manufacture of a long-filler cigar, from the feeding of the filler leaf into the machine by the first operator to the inspection of the cigar by the last operator.

Each machine requires 4 employees—1 filler feeder, 1 binder layer, 1 wrapper layer, and 1 inspector—and the part-time services of a mechanic and an oiler.

Mass production by machinery has changed the industry from small hand plants to large-scale factories, frequently located in small communities, instead of in cities as were the hand plants. In 1930, 0.46 percent of the factories produced 49.8 percent of all the cigars manufactured. It is estimated that 21,356 employees had been displaced by 1932.

Electric-Lamp Industry

TECHNOLOGICAL changes and employment in the electric-lamp industry from 1920 to 1931 are treated in Bulletin No. 593 of the Bureau of Labor Statistics, a summary of which follows.

The various parts of an electric lamp are produced in separate plants, or at least in separate departments. In the making of these various parts and also in assembling them, hundreds of technological

changes affecting employment have recently been introduced. Two developments are of outstanding importance. One of these is the group or unit system of manufacture. The underlying principle is the coordination and synchronized operation of the various related parts of a production unit, and it is extensively applied throughout the industry. A typical instance is the high-speed unit lamp-assembly machine in five sections for (1) stem making, (2) stem inserting, (3) filament mounting, (4) sealing the mount in the bulb and exhausting the air, and (5) attaching the base. The second outstanding technological development is the perfecting of a widely used mechanism operated electrically by a main cam shaft and a complicated series of secondary driving cams.

The time required per lamp in lamp-assembly plants in 1920 was 0.099809 man-hour, and in 1931, 0.022743 man-hour, a reduction of 77.2 percent. Stated reciprocally, in terms of the number of lamps produced per man-hour, the number in 1920 was 10.018 lamps, and in 1931, 43.968 lamps. With 1920 as the base, or 100, the index of productivity of labor increased to 438.9 in 1931.

For the entire industry, including the nonmanufacturing divisions, the index of productivity ranged from 100 in 1920 to approximately 340 in 1929 and 329 in 1931.

The rate of productivity of labor in each of the four main classifications of the electric-lamp industry in 1920, 1929, and 1931, based on less extensive data than the lamp-assembly figures given above, is shown in the following table:

RATE OF PRODUCTIVITY OF LABOR IN THE MAIN CLASSIFICATIONS OF THE ELECTRIC-LAMP INDUSTRY, 1920, 1929, AND 1931

Classification	1920	1929	1931
All classes of the industry.....	100	340	329
Lamp-assembly plants.....	100	448	457
Manufacturing of parts.....	100	349	324
Equipment divisions.....	100	166	167
Nonmanufacturing divisions.....	100	192	175

The effects of improved machinery in multiplying the productivity of labor are illustrated in a remarkable manner by the data for the making of 25- and 40-watt glass bulbs for large electric lamps. These may be regarded as typical of the standardized types. The effects of the more important steps in the transition from hand production to automatic production are clearly shown by means of typical samples of output. The index of output per man-hour from 1916 to 1932 runs from 100 to 8,645.5—more than an eighty-six-fold increase—in the case of 25-watt bulbs, and from 100 to 7,171.3—nearly a seventy-two-fold increase—in the case of 40-watt bulbs.

Electric Light and Power Industry

ONE OF the Bureau of Labor Statistics studies of technological changes covers the electric light and power industry.^a Special emphasis was given to the effects of these changes upon labor.

So great has been the increase in output per employee in this industry that, at a conservative estimate, it would require between

^a See Monthly Labor Review, August 1932, p. 249.

75 and 100 percent more operating and maintenance employees to produce, transmit, and distribute the present output, using the same sizes and types of equipment and with the same output per employee found 15 or 20 years ago.

There has, however, been little, if any, actual displacement of labor except, as in most other industries, through the curtailment that took place as a result of the current depression. In most instances in which positions have been abolished because of the installation of larger units or automatic devices, the employees affected, generally speaking, have been absorbed through the tremendous expansion of the industry in recent years. Another labor-absorbing factor has been the increased number of activities undertaken to give reliable and uninterrupted service.

Expansion of the industry has resulted in an increased output per employee of 260 percent as between 1902 and 1927. The principal reasons for this greatly increased productivity are (1) increased size and efficiency and improved construction of the generating units, boilers, and auxiliary equipment, resulting in a proportionately smaller number of employees per unit of equipment; and (2) long-distance transmission, mass production from centralized establishments, and the elimination of small local generating plants.

Iron and Steel Industry ⁶

THE Bureau of Labor Statistics early in 1935 made a study of the total man-hours required in the manufacture of steel. The analysis was based on the experience of 15 representative steel mills at a time when they were operating at from 55 to 60 percent of capacity.

Analysis was made of the amount of labor expended in the production of pig iron as well as in the manufacturing process.

The labor requirements per gross ton of pig iron were found to be as follows:

Mining:	<i>Man-hours</i>
Iron ore, including cinder, etc.....	1. 8
Coal.....	2. 4
Fluxing material.....	. 2
Total.....	<u>4. 4</u>
Transportation:	
Iron ore.....	2. 0
Coal.....	1. 6
Fluxing material.....	. 5
Total.....	<u>4. 1</u>
Manufacturing:	
Blast-furnace operation.....	2. 3
Converting coal to coke.....	1. 2
Total.....	<u>3. 5</u>
Grand total.....	<u>12. 0</u>

In the aggregate, the production of all the additional materials used in the manufacture of steel, together with additional labor required in transportation and manufacture, accounts for 5 or more man-hours of

⁶ Summary of article by Bernard H. Topkis and H. O. Rogers in the Monthly Labor Review, May 1935 (p. 1155).

employment. This brings the total labor requirements per gross ton of steel ingots to 17 man-hours. Of the total additional man-hours of employment created in the production of steel ingots, approximately 3 are allocated to manufacture and 1 each to transportation and extraction.

The man-hours required in the manufacture of semifinished and certain important groups of finished steel products are summarized in table 1.

TABLE 1.—AVERAGE MAN-HOURS REQUIRED PER GROSS TON OF STEEL PRODUCTS, WITH PLANTS OPERATING AT FROM 55 TO 60 PERCENT OF CAPACITY

Product	Number of man-hours required					
	Total	Extraction	Transportation	Coke manufacture	Manufacture	Administrative ¹
Average, all products.....	53.00	7.75	8.00	1.50	34.43	1.32
Billets and slabs.....	29.03	6.69	6.48	1.33	13.98	.55
Structural shapes, in rolled form, not fabricated.....	33.91	7.27	7.04	1.45	17.46	.69
Wire rods.....	35.60	6.92	7.70	1.38	18.85	.75
Plates, sheared and universal.....	36.54	7.96	7.70	1.58	18.56	.74
Concrete reinforcing bars.....	36.97	7.38	7.64	1.47	19.70	.78
Standard rails, including fastenings.....	38.54	7.80	7.55	1.55	20.82	.82
Bar steel (merchant steel bars, light shapes, etc.).....	39.35	7.85	7.60	1.56	21.49	.85
Hoops and bands.....	42.00	7.85	7.60	1.56	24.04	.95
Wire, drawn.....	51.19	7.17	8.04	1.43	33.23	1.32
Sheets, all grades.....	58.19	8.70	9.62	1.73	36.68	1.46
Wire fencing.....	60.37	7.38	8.24	1.47	41.63	1.65
Wire nails.....	61.61	7.48	8.24	1.49	42.70	1.70
Pipe and tubing.....	62.72	9.00	9.02	1.80	41.26	1.64
Steel car wheels (rolled).....	63.97	9.75	9.44	1.94	41.20	1.64
Railroad axles.....	64.07	10.28	10.15	2.05	40.00	1.59
Wire, flat, including steel in strips.....	67.00	8.43	9.46	1.68	45.62	1.81
Tin plate—terneplate.....	80.63	8.64	9.56	1.72	58.39	2.32
Fabricated structural work.....	84.00	8.00	8.95	1.60	62.95	2.50

¹ Includes salaried workers, sales force, and other general administrative employees. The allocation of man-hours to the respective classes of finished products is obviously to some extent made arbitrarily.

With the mills operating at from 55 to 60 percent of capacity, the table shows that for all finished steel products combined an average of 53 man-hours per ton is required. But wide variations are shown in requirements for the different products, depending upon the degree of fabrication. Structural shapes, for example, which in the manufacturing process are only a short step in advance of blooms, require only 33.91 man-hours per ton. On the other hand, 84 man-hours are necessary to produce a ton of finished fabricated structural-steel work.

It should also be noted that the study does not take into account the electric furnaces where high-test steels and specialized products are manufactured.

One of the most interesting findings of the study is that the labor requirements depend largely upon the rate of operation. Most of the modern steel mills are designed for high-speed volume production. They are most efficient when operating close to capacity and when the operating rate slows down there is a marked increase in the labor requirements per ton of output.

Table 2 shows how the man-hours required in the production of steel increase as the rate of operation declines. The results shown in this table are based on statistics published by the American Iron and Steel Institute.

TABLE 2.—VARIATIONS IN MAN-HOURS REQUIRED IN MANUFACTURING A GROSS TON OF FINISHED STEEL PRODUCTS AT SPECIFIED RATES OF PLANT OPERATING CAPACITY¹

[Average for all finished steel products]

Percent of total plant capacity	Actual average man-hours		Index of man-hours required	
	Manufacture	Administration	Manufacture	Administration
55 to 60 percent.....	34.43	1.32	100	100
50 to 55 percent.....	36.15	1.47	105	111
45 to 50 percent.....	38.22	1.73	111	131
40 to 45 percent.....	40.63	1.94	118	147
35 to 40 percent.....	42.34	2.25	123	170
30 to 35 percent.....	43.73	2.65	127	201
25 to 30 percent.....	45.10	2.92	131	221
20 to 25 percent.....	46.48	3.26	135	247

¹ Does not include transportation and extraction.

Iron and Steel Industry—Sheet Department

PRODUCTIVITY of labor in the sheet department of the iron and steel industry showed a steady gain in average output per man-hour from 1925 to 1929, except in the annealing operations.⁷ For bar shearing, the increase was from 1.893 net tons per man-hour in 1925 to 2.200 in 1929; for cold rolling, from 1.159 to 1.480 net tons; for sheet pickling, from 0.702 to 0.857 ton; and for hot rolling, from 0.072 to 0.077 ton. In the annealing department the gain in output per man-hour was more than offset by the increased labor time required to meet the increasing demand for full-finished sheets of deep-drawing quality.

Among the factors affecting productivity are the substitution of machinery for labor, better-designed machinery, improvement in management, working conditions, etc. In general, however, the real gain in labor productivity due to improvement in technology and management was obscured by the increase in labor time required in the production of high-grade sheets for use in the manufacture of automobile bodies, electric refrigerators, and metal furniture.

Leather Industry

THE displacement of labor in the five major branches of the leather industry in the United States resulting from recent changes in equipment, processes, and management represents a gross loss of 16,277 employment opportunities from 1923 to 1931.⁸ Almost one-third of this labor displacement can be attributed directly to the increase in hourly output. The main cause of the greater man-hour productivity was undoubtedly improved management of labor.

The quantity output per hour in the leather industry has risen materially since 1923. This increase ranges in the various branches from a little over 4 percent in the manufacture of sheepskins to more than 27 percent in the manufacture of side leather. For the whole industry the increase may be placed at approximately 15 percent. This change is not, of course, great in comparison with some other American industries whose methods have of late years been subject

⁷ See Monthly Labor Review, January 1932, p. 19.⁸ *Idem*, September 1932, p. 1.

to spectacular alteration; and the number of men displaced has been kept down by the fact that the leather industry has never been one of great volume from an employment standpoint. Nevertheless this supplies a clear-cut case of labor displacement in recent years, where there seemed to be little reason to look for it because technological development has not been an important factor in the industry, and skilled hand labor is still a requisite. Most of the machines now in use in tanneries had been introduced in much their present form at least 30 or 40 years ago, hence mechanization has played only a small part in increasing output. The principal cause of the increase has been the improved management of labor and the accompanying taking up of slack in the expenditure of the time of the labor force. The estimated displacement between 1923 and 1931 due to greater efficiency was 6,685 workers.

Lumber Industry⁹

DATA regarding man-hour rates of production for the lumber and timber products industry in California, Oregon, and Washington in 1929 were collected by the Bureau of the Census in its biennial census of manufactures for that year. The study was confined to large mills, as only establishments which reported products valued at \$100,000 or more were covered by the Census Bureau.

The measure of physical output in the lumber industry is a thousand board-feet. Efficiency, as measured by man-hour productivity, depends largely upon the extent of mechanization. In fact, the most reliable indicator of efficiency in this industry is horsepower per wage earner employed, the increase in productivity with increase in horsepower per wage earner being appreciable. Thus Oregon, where the average horsepower per wage earner was 7.1, ranked highest in productivity, showing an average output of lumber, in thousand board-feet, of 0.062 per man-hour. The lowest output per man-hour was 0.035 in California, where the average horsepower per wage earner was 5.5. Washington, while showing a somewhat lower average horsepower per wage earner employed than California (5.2), had a higher productivity rate (0.052 per man-hour). These figures apply to mills which did their own logging. The average output of lumber (in thousand board-feet) per man-hour in mills which bought their logs was 0.084 in California, 0.129 in Oregon, and 0.131 in Washington.

Petroleum-Refining Industry

STATISTICS dealing with the petroleum-refining industry as presented in the Census of Manufactures for 1929 make possible an analysis of man-hour productivity in that industry.¹⁰ The figures cover 146 establishments, of which 90 are "cracking" plants—that is, those which break up the crude oil primarily to produce gasoline; and 56 are plants producing lubricating oil and grease as well as gasoline.

An analysis of the cracking plants by States and groups of States shows that California, the State with the highest productivity (12.279 barrels of oil per man-hour), paid the highest average hourly wage, 82.7 cents, but had the lowest wage cost, 6.7 cents per barrel of oil

⁹ See *Monthly Labor Review*, October 1932, p. 818.

¹⁰ *Idem*, December 1932, p. 1283.

refined. On the other hand, the two-State group of Arkansas and Louisiana showed a productivity of only 2.737 barrels per man-hour and paid 22.3 cents as wages for each barrel of oil refined, the highest labor cost shown in the table. These differences in productivity and wages are accompanied by a striking range in the figures for horsepower per wage earner. California, with the highest rate of productivity and lowest unit labor cost, reported 32.58 used horsepower for each wage earner employed, whereas Arkansas and Louisiana, with the lowest productivity and highest unit labor cost, reported only 4.27 used horsepower per wage earner.

The same general situation is shown by the figures in the section covering the 56 plants producing lubricating oils and greases (in addition to gasoline). California, with the highest productivity, of 8.767 barrels per man-hour, had the lowest average unit labor cost, 9.0 cents per barrel refined, whereas the five-State combination of Illinois, Indiana, Kentucky, Ohio, and West Virginia showed the lowest productivity of 3.400 barrels per man-hour and the highest labor cost of 18.6 cents per barrel.

By a different classification of the 146 establishments, man-hour productivity on the basis of the quantity of oil produced is developed. For the gasoline-producing plants, the average productivity of those refining less than 4 barrels per man-hour was 2.792 barrels, at an average wage cost of 20.6 cents per barrel, whereas for those refining 6 or more barrels per man-hour the average productivity was 9.892 barrels, at an average wage cost of only 6.7 cents per barrel. In other words, the productivity of the latter was $3\frac{5}{10}$ times that of the former, but the wage cost was less than one-third that of the former, and the horsepower per wage earner $3\frac{1}{10}$ times as great.

Road Building

COMPARATIVE productivity and efficiency of employees and machinery in the building of concrete roads in 1919, 1925, and 1931, are shown by the records of a road-building contractor in Illinois.¹¹

On the basis of number of cubic yards of dirt moved and number of hours consumed by the subgrading crew in cutting the channel in the roadbed for the concrete slab, the excavation of a cubic yard of dirt required an average of 0.97 man-hour in 1919; 0.63 man-hour in 1925; and 0.45 man-hour in 1930. Thus, the productivity of the crew in 1925 was 54 percent more than in 1919; in 1930 its productivity was 40 percent more than in 1925 and 115 percent more than in 1919. The increased productivity per man-hour in 1925, as compared with 1919, and in 1930, as compared with 1925 and 1919, was due primarily to the introduction and increasing use of labor-saving machinery and the increased skill of the crew in the operation of the machinery.

The paving crew includes employees engaged in delivering materials to the mixer, in mixing, laying, and finishing the concrete road. This crew completed a cubic yard of concrete in an average of 5.17 man-hours in 1919, 4.25 man-hours in 1925, and 3.27 man-hours in 1930. Thus, its productivity in 1925 was 21.6 percent more than that in 1919, the productivity in 1930 was 29.9 percent more than that in 1925 and 58.1 percent more than that in 1919. In the case of this

¹¹ See Monthly Labor Review, November 1932, p. 1026.

crew, also, the increase in productivity was due to more efficient labor-saving machinery and increased skill in the operation of the machinery.

A street rebuilding job in Washington, D. C., was studied¹² to determine the various processes and operations involved, the size and character of the crews, and the kind of machinery called for in each process. Where possible, man-hour performance was reported.

Under modern labor-saving methods the work of paving streets is considerably subdivided. The main operations, in the sequence in which they are performed, are the breaking up and removal of the old pavement, the removal of old curb and setting of the new, the grading of the roadbed, the pouring of the concrete base, the laying of the gutter, and finally the application of the binder and finish coats.

The rebuilding work includes also the repair of such sidewalk along the curb and street intersections as it is necessary to break.

A compressor machine used in road-repair and repaving work, driven by a gasoline motor and equipped with air-compressor drills, cutter, spade, sprayer and blower, is manned by an operator and one or two laborers. The air-compressor drill will in less than 35 minutes break a hole in an old paving large enough to permit the spade to begin operating; the same work would require 3 hours of one man's time with a sledge hammer and pick. A power shovel, of 1¼ cubic yards' capacity, will dig up and dump 93 cubic yards of paving per hour, which is the equivalent of the labor of 62 men working 1 hour with hand shovels.

On a road-building job in which the most modern road-building machinery was used, the average number of cubic yards of concrete mixed and poured per man-hour was 0.943.

A ditch-digging machine operated by 1 man, preceded by a laborer to clear the way for the machine, will dig 22 cubic yards of trench per man-hour, an output which would require 44 men working by hand.

Slaughtering and Meat-Packing Industry¹³

In 1932 the Bureau of Labor Statistics made a study of labor productivity in certain departments of 3 large and 3 medium-sized slaughtering and meat-packing establishments in the United States. In these establishments cattle-killing, hog-killing, hog-cutting, calf-killing, and sheep-killing departments were studied. The period covered was 1914-31 for the large plants and 1921-31 for the medium-sized plants.

The average number of men employed in 1931 in the departments studied was 3,336. Of this number, 2,072 were in the large plants and 1,264 in the medium-sized plants.

In the large plants, from 1914 to 1919, productivity per man-hour decreased in all the departments except sheep killing and in some instances continued below the 1914 level until 1921 and later. From 1921 to 1931 the trend in productivity was rather regularly upward, reaching the highest point of the period in 1931. The net gain in man-hour efficiency (as shown by production per head) from 1914 to 1931 was lowest in the cattle-killing department (5.7 percent) and highest in the sheep-killing department (61.0 percent).

¹² Details in *Monthly Labor Review*, December 1931, p. 1265.

¹³ See *Monthly Labor Review*, November 1932, p. 1018.

This increase in efficiency was secured in various ways: Elimination of waste motion, frequently increasing output with no increased effort on the part of the workers; change of layout rendering unnecessary the transfer of the product from one part of the plant to another during processing; combination of two jobs, each involving much idle time, so that one worker may do both; adoption of production bonuses, or other incentive plans, etc.

There was, of course, a corresponding loss in employment opportunities in these large plants. It would have required 2,585 men working at the 1914 rate of productivity to do the work which required 2,072 men to do in 1931; there was thus a loss of 513 full-time jobs (or 19.8 percent) from 1914 to 1931. The number of employment opportunities lost during the period 1921-31 was even greater than during the period 1914-31; thus it would have required 2,752 men working at the 1921 rate to do the work done in 1931 by 2,072 men—a loss of 680 full-time jobs, or 24.7 percent.

In the medium-sized plants, it would have required 2,020 men working at the 1921 rate of production to do the work of 1,264 men working at the 1931 rate, a loss of 756 jobs, or 37.4 percent.

The net result was that in 1931 there were 513 fewer employment opportunities in the large plants and 756 fewer in the medium-sized plants than there would have been had there been no increase in man-hour production over that of 1914 and 1921.

Steam-Railroad Transportation ¹⁴

TECHNOLOGICAL improvements in the railroad industry have been extremely varied, and have made possible the maintenance of traffic facilities and the handling of a given amount of traffic with a constantly diminishing amount of labor. Locomotives and cars have been increased in size, capacity, durability, and ease of operation. Rails and ties have been improved as to quality of materials, durability, and resistance to impact of rolling stock. Roadbeds have been made sturdier and less dependent on maintenance work. Mechanical devices, such as mobile power units, rail layers, tie tampers, and track and right-of-way cleaners, have greatly reduced the amount of work required for the maintenance of ways and structures. In the maintenance of equipment and stores, the amount of work has been reduced by the improved quality and capacity of engines and cars and by the modernizing of machine shops, car shops, roundhouses, etc. In connection with communications and the control of train movements, the principal changes have involved automatic signals, interlocking plants, and centralized traffic control for combining the functions of issuing train orders and the handling of signals and switches. Highway-crossing protection has included the extension of automatic signals and grade separations. Administrative and clerical employees have been most vitally affected by office appliances, such as calculating machines, by methods of management, and by mergers and consolidations.

The ultimate economic basis on which the railroad system rests is revenue traffic. In the final analysis the product of railroad labor, and, therefore, its productivity, must be expressed in terms of revenue

¹⁴ A Abstract of a series of articles by Witt Bowden on Productivity, Hours, and Compensation of Railroad Labor, appearing in the Monthly Labor Review as follows: Pt. 1, All Employees, December 1933; pt. 2, Classes Other Than Transportation Employees, January 1934; pt. 3, Transportation Employees, February 1934.

traffic, which is a standard measurement. The usually accepted unit of passenger service is the passenger-mile, that is, the carrying of 1 passenger 1 mile. Similarly, in freight service the basic unit is the ton-mile, the carrying of 1 ton 1 mile. In combining passenger- and ton-miles, the passenger-miles may be weighted in accordance with their approximate comparative importance, the weight used herein being 2.6, and added to ton-miles, the sum commonly being described as revenue traffic units.

However, the effects of technological changes on the amount of labor required in railroad operation are to be found not so much in the productivity of labor in terms of revenue traffic as in the smaller amount of labor required for maintaining traffic facilities. In regard to labor as a whole, the transportation traffic unit is probably the most adequate measure of services necessitated by the fact that trains must run and other facilities for handling passengers and freight must be maintained, whether revenue traffic is heavy or light. The transportation traffic unit ¹⁵ is an approximate measure of the amount of service normally rendered by railroad workers to their employers in maintaining facilities for traffic, as distinguished from the amount of revenue traffic handled for patrons of the railroads.

For all employees except executive groups, indexes of man-hour productivity in terms of revenue traffic units, of transportation traffic units, and of car-miles to the number of man-hours worked are shown in table 1.

TABLE 1.—INDEXES OF MAN-HOUR PRODUCTIVITY, IN TERMS OF SPECIFIED UNITS, OF ALL EMPLOYEES EXCEPT EXECUTIVE GROUPS, CLASS I RAILROADS, 1916-32

[1926=100]

Year	Revenue traffic units	Transportation traffic units	Car-miles	Year	Revenue traffic units	Transportation traffic units	Car-miles
1916.....	73.4	-----	71.4	1925.....	96.9	96.8	96.6
1917.....	77.0	-----	68.5	1926.....	100.0	100.0	100.0
1918.....	76.0	-----	63.4	1927.....	99.8	102.7	102.9
1919.....	80.6	-----	68.3	1928.....	104.8	109.1	110.1
1920.....	81.8	-----	68.2	1929.....	106.7	111.3	112.1
1921.....	83.1	83.8	81.0	1930.....	108.7	117.3	116.6
1922.....	86.5	84.9	82.0	1931.....	107.4	125.3	123.6
1923.....	89.4	85.6	84.3	1932.....	105.0	130.5	126.3
1924.....	91.8	91.4	90.2				

With 1926 as the base year, man-hour productivity, as expressed by the indexed ratios of revenue traffic units to man-hours, rose from 73.4 in 1916 to 83.1 in 1921, and to 107.4 in 1931, and declined to 105.0 in 1932. The ratios of transportation traffic units to man-hours ranged from 83.8 in 1921 to 130.5 in 1932. The ratios of car-miles to man-hours ranged from 71.4 in 1916 to 81.0 in 1921, and 126.3 in 1932.

Taking revenue traffic units as a measure of output and 1921 as the base year, and assuming a constant ratio of revenue traffic units to man-hours, the number of man-hours required in 1932 would have

¹⁵ The formula for transportation traffic units or equated gross ton-miles was developed by the American Railway Engineering Association, and in its simplest form consists of freight ton-miles (including cars) X1; freight locomotive ton-miles X2; and passenger car miles X144. (See A. R. E. A., Proceedings, vol. 31, pp. 1144, 1145; and A. R. E. A., Manual, 1929, pp. 1421-1435. See also testimony of Otto Beyer, in Interstate Commerce Commission, Ex parte 106, vol. 8, p. 2070 and passim (hearings on proposed 6-hour day).)

been about 2,782,000,000 instead of 2,201,000,000, the number actually employed.

Taking transportation traffic units as a measure of services rendered by employees in maintaining facilities for handling revenue traffic, and assuming a constant ratio of transportation traffic units to man-hours, the number of man-hours required in 1932 would have been about 3,429,000,000, instead of 2,201,000,000, the number actually employed. The difference, 1,228,000,000 man-hours, is an approximate indication of the effects of technological changes on the amount of employment.

For many classes of railroad employees there is no adequate unit, such as the transportation traffic unit, for comparison with revenue traffic. For subdivisions of employees, the amount of revenue traffic is itself misleading unless used in comparison with some other unit indicating the amount of service normally required for maintaining facilities for revenue traffic. In connection with those groups of employees whose services are of such nature as to make possible approximate measurement in terms other than revenue traffic, comparisons of man-hour productivity in terms of revenue traffic and of other units are shown in table 2, the figures being reduced to index form with 1926 as the base year, or 100.

TABLE 2.—INDEXES OF MAN-HOUR PRODUCTIVITY OF SPECIFIED GROUPS OF RAILROAD LABOR, IN TERMS OF SPECIFIED UNITS, CLASS I RAILROADS, 1922-32

Group, and specified unit	[1926=100]										
	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
Maintenance of way and structures:											
Revenue traffic units.....	93.6	97.6	97.9	101.8	100.0	96.0	101.2	100.6	105.7	115.7	123.2
Transportation traffic units....	91.9	93.4	97.5	101.6	100.0	98.8	105.3	104.9	116.3	135.1	153.1
Maintenance of equipment and stores:											
Revenue traffic units.....	86.7	81.5	88.1	94.4	100.0	102.8	109.1	112.2	114.5	118.0	117.9
Transportation traffic units....	85.1	78.0	87.7	94.2	100.0	105.8	113.5	117.1	126.0	137.7	146.5
Machinists:											
Revenue traffic units.....	90.8	80.9	88.5	95.0	100.0	101.2	106.4	109.6	109.4	108.9	104.3
Transportation traffic units....	89.2	77.4	88.1	94.9	100.0	104.1	110.7	114.3	120.3	127.1	129.7
Carmen:											
Revenue traffic units.....	83.3	77.9	87.0	93.1	100.0	104.3	109.3	111.6	118.0	124.9	126.8
Car-miles.....	81.7	74.5	86.6	92.9	100.0	107.3	113.8	116.4	129.9	145.7	157.6
Road passenger employees:											
Revenue passenger miles.....	97.7	101.3	98.0	99.7	100.0	97.6	95.6	95.4	88.2	83.2	77.5
Passenger train miles.....	92.2	92.7	95.1	97.7	100.0	102.0	105.0	106.5	109.7	113.0	117.0
Road freight employees:											
Revenue ton-miles.....	81.6	83.5	90.1	96.4	100.0	103.4	111.2	114.1	119.1	121.2	116.4
Freight train miles.....	93.3	91.0	97.6	100.0	100.0	103.0	108.2	109.2	116.1	125.0	130.8

Telephone and Telegraph Industries

Telephone Industry

THE complete substitution of the dial telephone system for the manual system, as analyzed by the Bureau of Labor Statistics,¹⁶ will apparently decrease employment opportunities for operators about two-thirds. In 1921 dial telephones formed 2.7 percent of the total number in the Bell system. The number of operators in the Bell system was 118,470, and they handled an average of 1,260,-619,367 calls (local and toll combined) per month, or 10,641 per operator. In 1930, 31.9 percent of the total number of telephones

¹⁶ See Monthly Labor Review, February 1932, p. 235.

in the Bell system were dial operated, and 143,979 operators were employed. They handled an average of 2,270,756,065 calls per month, or 15,771 per operator, an increase of 48.2 percent over the operator productivity of 1921.

If the number of connections demanded in 1930 had been made manually on the basis of the output per operator prevailing in 1921, 69,421 additional operators would have been needed. Hence the lost employment opportunities represented by actual installations is 32.5 percent. With the extension of the dial program, however, the percent of loss of employment opportunities will not keep pace with the percent of automatic installations, because operators will still be needed for special services, long-distance connections, etc.

Private-Wire Systems ¹⁷

PRIVATE-WIRE systems include private telephone exchanges, railroad wires, leased wire circuits of news agencies, the lines of brokers and investment bankers, networks used for transmitting radio programs, and wires used for interior communication in industrial establishments, institutions, etc. Private branch exchange telephones, while increasing in number, have continued in practically the same ratio to the total number of telephones in the Bell system since 1921, constituting about 19 percent of the total. In large cities the proportion of private branch exchanges is much larger than for the entire country. The number of operators required to handle private branch exchange business was estimated by telephone officials in 1931 at 135,000 for exchanges connected with the Bell system, and at 145,000 for the entire country. Information on the extent of transition from manual to dial operation in private exchanges is not readily available, but it has not been so material as in the public exchanges. Private telephone employment has thus provided opportunities for telephone operators displaced by the machine in the wider field of public service. With the progressive extension of automatic operation to private exchanges, however, those opportunities will necessarily shrink.

Telegraph Industry

A STUDY of labor displacement due to technological changes in telegraphy was made by the Bureau of Labor Statistics, covering the various branches of the industry. The results were published in a series of articles in the Monthly Labor Review, March to July 1932. A brief digest of each of these articles is presented here.

Commercial Telegraphy ¹⁸

THE printer telegraph has reduced the proportion of Morse telegraphers in commercial telegraph offices to 21.5 percent of all operators. By 1931 printer circuits accounted for nearly 90 percent of all commercial-message handlings of one large company. In the principal telegraph offices the productivity of printer operators averages about twice that of Morse operators, with a resulting technological displacement of about 50 percent. This means not

¹⁷ See Monthly Labor Review, July 1932, p. 9.

¹⁸ Idem, March 1932, p. 501.

only the elimination of the skilled Morse telegrapher but the substitution of women for men. The training required to operate a printer telegraph is practically the same as for operating a typewriter, and any good typist can operate a teletype.

At the end of June 1931, in all the commercial telegraph offices of the major companies, 3,678 Morse manual operators, constituting 21.5 percent of the total number of operators, were employed. Of these 3,678 Morse operators, 83.9 percent were men. Multiplex printer operators numbered 5,127, or 30.1 percent of the total number of operators. Women comprised 83.6 percent of the multiplex printer operators. The largest single group was the simplex printer operators, who numbered 8,249 and represented almost half (48.4 percent) of the total number employed. Of these, 66.6 percent were women. In 1931 women constituted 60.8 percent of the total of all classes combined, while in 1902, when the Morse system was used exclusively, only 22.3 percent of the operators were women.

One leading telegraph company instituted training schools to give Morse operators the opportunity to learn the simplex method of telegraphy. At the end of July 1931, as a result of that policy, 31.2 percent of the total number of simplex operators employed in functional offices were former Morse operators. Of the male simplex operators so employed 58.8 percent had changed from the Morse to the new system.

Ticker Telegraphy¹⁹

THE new high-speed ticker for handling stock-market quotations is a most remarkable labor-saving mechanism. For example, on a given day, with 17 operators it automatically printed the New York stock-exchange quotations on 8,623 stock tickers in 43 States and Territories, and in Canada, with circuits in 377 cities. The 17 operators also handled the transmission of bond quotations which were automatically recorded on 928 bond tickers.

In 1890 some 395 tickers were in daily use in the financial district of New York City, employing 8 operators and 12 other employees. In 1930 the number of tickers had increased to 3,812, the number of operators to 17, and the total number of employees to 157. Taking 1890 as the base, or 100, the index of changes in output per operator ranged from 100 in 1890 to 1,695 in 1930, practically a 1,600 percent increase, while the productivity of all employees combined ranged from 100 in 1890 to 459 in 1930, more than a 350 percent increase. Taking 1920 as the base, or 100, the index of productivity of operators more than tripled, ranging from 100 in 1920 to 311 in 1930, while the index for all employees ranged from 100 in 1920 to 145 in 1930. On the basis of 1890 productivity, 288 operators instead of 17 would be required for the output of 1930; on the basis of 1920 productivity, 53 operators would be required for the output of 1930.

Actual displacement, however, exceeds hypothetical displacement. Outside of a few great centers, particularly the financial district of New York, both the transmission and reception of market quotations were formerly handled by Morse telegraphers who served newspapers and brokers' offices. This service has now been almost entirely eliminated by the use of tickers and teletype service. Reception in many brokers' offices is now handled by the "teleregister", a device which

¹⁹ See Monthly Labor Review, June 1932, p. 1269.

automatically displays market changes in customers' offices, and by a magnified and illuminated projection of the moving ticker tape on a screen. By 1931 teleregisters had been installed in more than 200 brokers' offices as far west as Chicago, with remoter installations planned, all handled by a single operating center in New York City. The extent of displacements as a result of these various technological changes cannot be measured statistically, but in the aggregate it is very large.

Transmission of News ²⁰

MORSE telegraphers engaged in the transmission of news have in the past 15 years been largely superseded by operators of the printer telegraph (teletype). This instrument is operated very much like a typewriter and not only sends messages but prints them upon receiving machines, thus eliminating the telegrapher at the receiving end, because reception is automatic. The sending machine in teletype operation can transmit to as many receiving machines as its circuit carries. The speed of the printer is about twice that of the Morse operator.

Because of the growth of press associations, chain newspapers, and news-feature syndicates, all of which call for large sending organizations, the number of Morse operators engaged in newspaper work increased from 1,114 in 1915 to 1,549 in 1922. After the latter year the adoption of the printer telegraph (teletype), which had been introduced in 1915, grew rapidly. By 1931 only 586 Morse operators were employed by the principal news organizations. Teletype operators, on the other hand, who had numbered only 11 in news work in 1915, had increased to 335 in 1931. If Morse operators were required to render service equivalent in speed and sustained effort to that now possible with the teletype, 3,737 telegraphers would be necessary to do the work now done by 243 printers (i. e., 335 operators reduced to an equivalent full-time basis). "Expressed in another way, the productivity of the operator of the printer telegraph is more than 15 times as great as the productivity of the Morse operator in this particular field." Fewer than 40 Morse telegraphers employed by press associations were retained as printer operators.

Railroad Telegraphy ²¹

TELEPHONES, printer telegraphs, automatic block-signal systems, interlocking machines, and centralized traffic-control systems used in the movement of trains are rapidly eliminating the telegraph formerly used to transmit train orders and are thus displacing Morse operators. Printer-telegraph machines used in handling freight-yard traffic are displacing not only Morse telegraph operators but messengers. Information relating to train movements and orders, formerly furnished to the dispatching service by telegraphers and telephoners, now comes through moving lights on a miniature railway system or by an automatic graph which provides a permanent record. Employment in the train-movement group known as telegraphers, telephoners, and towermen declined from 27,226 in 1921 to 18,185 at the close of 1931, a decline of 33.2 percent. Messengers and office assistants,

²⁰ See Monthly Labor Review, April 1932, p. 753.

²¹ Idem, May 1932, p. 1017.

who were affected by the use of the telephone and teletype on local and intraoffice circuits, dropped from 6,819 in 1921 to 4,642 at the end of 1931, or 31.9 percent. The decline in employment level between 1921 and 1931 of the entire group of railroad employees classed as communications group, which has been most definitely affected by the technological changes under discussion, was 24.2 percent.

A centralized traffic-control installation governing 43 miles of single and 19 miles of double track took over the handling of 131 signals and switches and dispensed with 16 operators. A centralized traffic-control machine installed in an interlocking tower regulated traffic on 30.3 miles of single track and displaced 7 telegraphers; in a similar instance involving 33.7 miles of road 11 operators were released. Where train orders are transmitted by teletype there may be no numerical displacement, but typists take the place of skilled Morse operators. Telephony in railroading is passing from manual to automatic operation through the dial system.

Tire Industry

SINCE 1914 the man-hour output of six representative tire-manufacturing plants which, in 1931, produced 59.8 percent of the total output of pneumatic tires in this country has risen 581.05 percent. The rise was steady but comparatively slow until 1929, when the index of man-hour output, based on 1914 as 100, stood at 506.25. In 1930 it jumped to 581.03, which is an increase of nearly 75 points above 1929, and in 1931 it made even a larger jump to 681.05, registering an increase of 100 points over 1930.

These are some of the facts disclosed by the Bureau of Labor Statistics in its study of labor productivity and labor employment in the tire industry.²² The tire industry offers an instance in which the increased productivity of labor was due more to the so-called "evolutionary" small change in production than to any revolutionary change in the process of tire manufacturing. Essentially there has been but one major change in the manufacture of pneumatic tires, and that occurred when the core process of tire building gave way to the flat-drum process. In some plants this change occurred as early as 1919. Among the factors other than technological changes which have contributed to increased output may be mentioned the sharp reduction in labor turn-over, the elimination of the less efficient machines and less efficient workers, and the introduction of "motion time studies." It is frankly admitted by the managers and engineers in charge of operations that during the last year these motion time studies have been, more than any other factor or factors, responsible for the increased output per man-hour.

The output per man per hour, measured in terms of tires produced, rose from 0.70 tire in 1922 to 0.82 tire in 1924. It declined to 0.80 tire in 1925, a circumstance that can be attributed to the experimentation with balloon tires, which made their first appearance late in 1924. Beginning with 1926, the man-hour output showed a continuous rise, somewhat slow until 1929, but accelerating decidedly in 1930 and particularly in 1931. The increase is even more noticeable if the man-

²² U. S. Bureau of Labor Statistics Bul. No. 585. See also *Monthly Labor Review*, December 1932, p. 1252.

hour output is measured in terms of weight. In 1922 the average output per man per hour was 11.28 pounds. In 1925, although the number of tires produced per man-hour declined slightly, there was a considerable increase in the number of pounds produced per man-hour. This, of course, was due to the fact that the balloon tire required a larger amount of rubber and fabric than the average high-pressure tire. From 1926 through 1931 the output in pounds per man-hour showed a trend similar to that of the man-hour output of tires, but the increase was more rapid. Thus, from 1926 to 1927 the index of man-hour output of tires rose 7.20 points, while that of man-hour output in pounds rose 14.17 points. From 1930 to 1931 a very considerable rise occurred in man-hour output, the index of tire output registering a gain of 25.08 points and that of pounds output a gain of 27.33 points. During the period from 1922 to 1931 the man-hour output of tires nearly doubled and that of pounds nearly tripled.

Actual production and output per man-hour in pounds and volume of technological labor displacement in the plants studied, from 1922 to 1931, are shown in the following table:

ACTUAL PRODUCTION AND VOLUME OF TECHNOLOGICAL LABOR DISPLACEMENT
IN 6 REPRESENTATIVE TIRE PLANTS, 1922-31, BY YEARS

Year	Actual production			Increase or decrease compared with previous year in—		Net increase or decrease in man-hours	Technological displacement, in man-hours
	Total output	Total man-hours	Output per man-hour	Total output	Man-hours, caused by change in total output		
	1	2	3	4	5		
	<i>Pounds</i>		<i>Pounds</i>	<i>Pounds</i>			
1922	295,222,000	26,165,000	11.28				
1923	324,544,000	26,431,000	12.28	+29,322,000	+2,388,000	+268,000	2,122,000
1924	357,863,000	28,161,000	12.71	+33,319,000	+2,622,000	+1,730,000	892,000
1925	466,238,000	33,860,000	13.77	+108,375,000	+7,870,000	+5,699,000	2,171,000
1926	501,513,000	30,427,000	16.48	+35,275,000	+2,140,000	-8,433,000	5,573,000
1927	599,642,000	31,867,000	18.82	+98,129,000	+5,215,000	+1,440,000	3,775,000
1928	752,333,000	35,885,000	20.97	+152,691,000	+7,283,000	+4,018,000	3,265,000
1929	801,725,000	35,167,000	22.80	+49,392,000	+2,167,000	-718,000	2,885,000
1930	684,645,000	26,166,000	26.17	-117,080,000	-5,135,000	-9,001,000	3,866,000
1931	648,648,000	21,150,000	30.67	-35,997,000	-1,376,000	-5,016,000	3,640,000
Cumulative effects, 1922-31 ¹				+353,426,000	+23,174,000	-5,015,000	23,189,000

¹ Result obtained by subtracting total decrease from total increase.

Between the peak of 1928 and 1931 the six plants dropped as surplus labor 14,735,000 man-hours, or 41 percent of their 1928 total. Of the men who lost their jobs because of this labor surplus, 71 percent were technologically unemployed and the remaining 29 percent were unemployed because of a drop in the total production of the six plants.

United States Postal Service

EFFICIENCY in the handling of mails by the United States Postal Service has been shown by the Bureau of Labor Statistics²³ to have been promoted in recent years both by mechanization and by improved administrative methods. Mechanical tables, canceling and

²³ See Monthly Labor Review, October 1932, p. 745, and Bulletin No. 574 of the U. S. Bureau of Labor Statistics.

postmarking machines, automatic conveyors, and automotive transportation are among the mechanical devices which have been instituted to expedite the handling and distribution of both letter and package mail.

The index of productivity in the Postal Service increased from a base of 100.0 in 1908 to 171.8 in 1930, declining, because of falling off in business, to 163.4 in 1931. The index of total volume of output handled rose from 100.0 in 1908 to 265.2 in 1930 and fell to 294.4 in 1931.

Estimating output on the basis of 1908 efficiency, at which time the average output per employee was 82,086 units, 196,623 more employees would have been required to handle the peak load of 1930 than were actually employed, and in 1931, 171,739 more workers would have been necessary. Thus, the percent of employment opportunities lost through greater efficiency in the Postal Service increased from 9.2 percent in 1910 to 40.2 in 1926 and 41.8 in 1930. The decrease in the amount of postal business brought the figure for 1931 below that of 1926, or to 38.8 percent.

Influence of Nonmechanical Factors on Productivity

THE significance of nonmechanical factors in increasing labor productivity and thereby affecting the volume of employment is discussed in an article in the November 1933 issue of the *Monthly Labor Review*. An abstract of this article follows.

While machinery and mechanical power have been from the beginning of the modern industrial era the more obvious, and especially the more dramatic factors making for industrial efficiency and progress, there are other factors that from the beginning, though not so obvious nor so dramatic, have been possibly of equal importance. Many discoveries have been made and many processes invented and utilized which would have been of very great benefit even in the absence of elaborate machinery or mechanical power. Indeed, the contributions of the science of chemistry to industrial efficiency have been and still are in many respects more important than the development and application of mechanical power as such. Moreover, machine production is largely dependent upon these discoveries and processes; while, on the other hand, many of the contributions of industrial chemistry are relatively independent of mechanical agencies. During recent years, these discoveries of the chemists, together with equally important discoveries of the physicists, have even tended greatly to reduce both the volume of machine equipment and the quantity of mechanical energy required per unit of output.

As early as 1928 it was noted that the progress in industrial efficiency which had been achieved in this country during the post-war decade was due in very large part to factors other than the increase in machine equipment or in the number of power units utilized. Now that additional data have become available it is even more apparent that this is true. Recent investigations have indicated that the volume of machinery and equipment replacement in manufacturing industries during the decade 1919-29 was hardly, if at all, greater than normal.²⁴ This implies that a considerable part of the increased

²⁴The *Business Week*, Aug. 24, 1932, p. 14.

efficiency that marked the period must have been due to other than mechanical causes.

Among the causes other than machinery equipment and power contributing to the large increases in total output and in output per worker during recent years are the following:

(1) A more adequate and a more even flow of raw materials to the manufacturing industries.

(2) More easily workable materials, better adaptation of materials to purposes of manufacture, and standardization of materials.

(3) A faster and more even flow of products from the mines, the farms, and the factories to markets, reducing inventories and obviating the congestion of goods in warehouses.

(4) Improved factory layout and machine assembly, and more efficient utilization of machinery and equipment.

(5) More economical distribution and application of power.

(6) Improved working conditions and better adjustment of working time.

(7) Better organization of the working force, including personnel selection and distribution.

(8) More effective application of the energy and skill of workers (rationalization of movements, etc.).

(9) Direct increase in individual efficiency.

It is known that most of these factors were operative during the period under consideration, but in most cases it is impossible to determine their relative importance.

Among the human factors making directly for increased efficiency are the following: (1) Improved organization and management; (2) increased energy, skill, or diligence on the part of operatives; (3) selection of personnel and organization of the working force; (4) cooperation between management and operatives; (5) adaptability to and liking for the job; (6) incentives—wages, bonuses, profit sharing, etc.

Other important factors that are either relatively independent of the machine set-up, or that greatly add to its efficiency, are conditions with regard to (a) safety; (b) light and sound; (c) ventilation and temperature (air conditioning); (d) fitness and accessibility of tools; (e) working conveniences—seating, work benches, tables, etc.; (f) routing of materials to and from machines, and from one worker to another; (g) machine set-up, assembly and control; (h) synchronization of operations and processes.

In most cases where the working shift has been shortened, there has been an increase in the per-hour performance of labor. This is naturally to be expected, since monotony, fatigue, and exhaustion through too greatly prolonged activity are apt not only to slow up the performance of the operative but to entail considerable losses in spoilage, breakage, and damage to tools or machinery. But it is not so easily understandable that not only the output per hour but the output per day, week, or year may be and often has been increased by shortening the working time. Perhaps the most notable example of this is found in the experience of the iron and steel industries in changing from the 10- and 12-hour to the 8-hour shift.

While there has been no such general change from a longer to a shorter working time in any other large industrial group as in the iron and steel industries, nor sufficient data indicating such changes as

have been made, information is available which tends strongly to indicate that in most cases the shortening of the work day or week results in an increased man-hour output.

Another nonmechanical factor making for increased industrial efficiency is that of standardization. In general, standardization aims at uniformity of materials, products, or methods, or the simplification of processes, whenever output can be increased thereby or waste eliminated.

Machinery and mechanical power, instead of being the controlling factors in modern industrial progress, have been merely the principal instrumentalities by which progress has been achieved. Throughout the entire development in this country, and even back to the beginning of the modern industrial age in the Old World, the moving forces making for economic progress have been scientific research, invention, organization, management, and cooperation. These have throughout been motivated by a persistent striving for individual and social betterment, which, as achieved, has reacted to aid and accelerate economic progress, by raising standards of living, improving working conditions, increasing the energy and skill of workers, and facilitating cooperation between workers and employers.

RECREATION AND LEISURE TIME

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

The Use of Leisure Time

THE gradual curtailment of working hours which had been taking place for some years prior to the World War, but which was accelerated in the years following its close, has become of increasing social importance since the beginning of the depression. Whether the increased leisure is a result of the shorter workday or a result of unemployment, it is generally recognized that if this leisure is to represent an asset to the Nation it is essential that opportunities for its use in a manner which will benefit the individual as well as the community in general should be provided.

Leaders in education, industry, government, and other fields agree that this new leisure, if wisely spent, presents a rich opportunity for individual happiness and development. A great responsibility, therefore, rests upon the community to provide both suitable training for the wise use of leisure and adequate opportunities for enjoying and participating in wholesome recreation activities.

Recreational Facilities Provided by Park Systems in the United States

THE importance of the movement for the preservation and development of park recreation areas, which has been in progress for many years, has been receiving increasing recognition during recent years, with the result that more and more emphasis is being laid upon the provision and use of these facilities. A survey conducted by the Bureau of Labor Statistics and the National Recreation Association shows the accomplishments of the different types of communities in the provision of park and recreation centers and in supplying the special services and leadership which are necessary to make them fully useful. This article summarizes certain of the results of this survey, the full report having been published by the Bureau.¹

Land permanently dedicated to park use is essential to a well-balanced outdoor community recreation program. A large percentage of the public outdoor recreation facilities in American cities today is provided by public park and recreation departments.

Although the park movement has undergone many changes, there is probably no other respect in which the present-day park system differs more widely from that of earlier years than in the type and scope of its service to the people. The first parks were for passive and semipassive forms of recreation; today they are also used for a limitless variety of active recreation. The early attempts to provide active play facilities were to meet the needs of children; today a large percentage of these facilities is for young people and adults.

¹ U. S. Bureau of Labor Statistics Bul. No. 565: *Park Recreation Areas in the United States, 1930*. Washington, 1932.

Not so many years ago the park season lasted only a few months; in recent years the park has become a year-round recreation center. Even today in many cities park authorities consider that their field of service is limited to park properties; on the other hand, many park systems provide recreation leadership and service throughout the entire city—in schools, churches, and private property, as well as within the parks. It is largely because of these changes, many of which have developed gradually, that the well-organized park department is prepared today to make a vital contribution to the solution of the leisure-time problem.

Recreation and Unemployment

IN TIMES of business depression it is often urged that municipal appropriations for recreation service be reduced, and occasionally the cry is raised that they should be eliminated. Fortunately officials in most American cities today realize that the need for wholesome community recreation activities is increased and not decreased during such periods, not only because of the greater amount of leisure but because people out of work cannot afford to indulge in various forms of commercial amusements.

One of the greatest contributions which parks have made and are continuing to make in the present period of depression is the providing of work opportunities for large numbers of "relief workers." There is perhaps no type of municipal service in which it is possible to employ to advantage as large numbers of unskilled workers as in improving park properties. In dozens of cities funds raised for unemployment have been used to employ men for this work. New York is an example of such use of unemployment funds, valuable service having been rendered in the parks of each borough.

Municipal Park Acreage, 1930

LAND dedicated permanently to park and recreation use is a fundamental and essential factor in all park service and the acquisition of properties is a preliminary step to the establishing of park facilities and programs.

A total area of 308,804.87 acres was reported in the 1930 study, representing the city-owned park properties in 898 communities of 5,000 or more population. Some 250 communities which reported a total of nearly 37,000 acres of parks in 1925-26² failed to submit information for use in the later study. A conservative estimate of the municipal park area in 1930 in towns and cities of more than 5,000 population is therefore 350,000 acres. According to their officials, 174 communities did not have a single park.

Many communities of less than 10,000 people have as yet failed to make any provision for parks and recreation areas. Nearly 28 percent of the 448 municipalities with 5,000 to 10,000 inhabitants submitting data in this study reported having no parks. It is probable that a large percentage of those failing to report also totally lack park areas. Probably the school playgrounds in these communities provide some facilities for outdoor play and recreation, but there can be little doubt that there is a great need for added recreation areas in the towns and small cities.

² U. S. Bureau of Labor Statistics Bul. No. 462: *Park Recreation Areas in the United States*. Washington, 1928.

A study of the ratio of parks to population in cities of various sizes reveals that the greatest shortage of park space is in the largest centers. There is, however, no definite relationship between the size of a city and the ratio of its park acreage to population.

One of the most striking and encouraging facts revealed in the study was the tremendous increase in municipal park acreage since 1925. Although in many large cities population increased faster than park acreage it is significant that in 3 of the 6 largest cities in the country—New York, Chicago, and Cleveland—park acquisitions more than kept pace with population growth.

Types of Park Properties

ALTHOUGH the total park acreage in a city is the simplest measurement of the extent to which the city has provided parks, it does not indicate the adequacy of the city's park system. A well-balanced park system requires not only ample park area but also a sufficient number of properly located parks of various types providing a variety of uses. Among the types of properties included in such a system are small in-town parks, children's playgrounds, neighborhood parks, neighborhood playfields, large parks, and parkways.

Authorities differ in their opinions as to the number, size, and distribution of the various types of areas comprising an adequate park and recreation system. There is considerable agreement, however, that a greater number of children's playgrounds are needed than of any other type, the next in number needed being the neighborhood parks and neighborhood playfields. Most of the other kinds of properties are likely to be few in number and their location dependent upon local factors such as topography, transportation facilities, population density, and the availability of suitable land and water areas.

Park Workers

FOR THE maintenance of the vast properties comprising city park systems, for the operation of their facilities, and for the leadership essential to the varied recreation programs, a great staff of workers is needed. Naturally the personnel required is dependent largely upon the park acreage, the nature and extent of its development, and the kinds of service rendered to the public. In the large park systems a highly organized staff is needed, whereas in the smaller communities having only one or two parks of limited acreage no special park workers are required. In these communities the necessary maintenance work is often done by workers with the street, public works, or other department. Although some of the park authorities in the larger cities and many in the smaller cities failed to report the number of workers, a total of 44,431 persons employed for park service was reported.

Park Expenditures

EXPENDITURES for public services is a question of much general interest, especially during the present period. Since parks in many cities comprise the largest and most valuable of municipal properties information concerning their cost is of considerable importance.

Park expenditures may be roughly classified under two types: (1) Capital expenditures or outlays for land, improvements, and structures; (2) operating expenditures, including the cost of maintaining properties and of providing the various types of park service. In cities where the park system is being extended and developed the former items will be large, but in well-established systems which are not being expanded most of the funds are spent for operation.

In the Bureau's study, information concerning park expenditures was received from more than 700 cities. That 1930 expenditures for park purposes exceeded \$100,000,000 is one of the outstanding findings of the study. The large percentage of this amount spent for salaries and wages is another item of special significance in the present situation, indicating as it does the importance of parks as a means of providing employment. Capital expenditures totaling nearly \$200,000,000 in 416 cities during the 5-year period 1926-30 indicate the importance of parks in city fiscal planning and also the marked impetus given to the park movement during the period. The extent to which funds for these outlays are secured from bond issues is illustrated by the amount of bond issues reported by 148 cities during these years, namely, \$153,000,000.

Sources of Park Funds

SINCE the establishment and operation of city parks are almost universally recognized in the United States as municipal functions, it is assumed that the expense of providing this service should be met from public funds. An analysis of the reports from 647 cities shows that more than 80 percent of the money which was made available for park purposes in these cities in 1930 came either directly or indirectly from public taxation. The most common method of raising money for parks in 1930 was through city appropriations. Among the sources of park revenue which supplement municipal funds in many cities are gifts, concessions, fees and charges, and the sale of property. In recent years charges for the use of special recreation facilities such as golf courses, bowling greens, swimming pools, and skating rinks have resulted in a considerable income to park departments or municipalities.

County Parks

DURING the quarter century following the establishment of the first "municipal park" in America, many cities acquired park areas, and several of them made considerable progress in the development of municipal park systems. The movement for county parks, on the other hand, developed very slowly.

In 1930 the total number of counties that had established parks was 74, indicating that during the more recent years there had been a marked growth in the movement for county parks. The total park

acreage in 1930 was 108,484.94, representing an increase of 60 percent over that reported 5 years earlier. The nearly 39,000 acres in county parks reported as acquired during the 5-year period 1926-30 represented more than one-third of the total acreage.

It seems probable that the same factors which have brought about the establishment of parks in so many counties during the later years will continue to give impetus to the movement. With the growth of cities and the increasing difficulty in securing at a reasonable price within the city limits large areas suitable for park and recreation use, there has been a tendency, as mentioned before, for cities to acquire tracts outside and often at a considerable distance from the city. Since such areas serve not only the people in the city acquiring the park but also those in the surrounding region, and since the county is often the governmental unit controlling the region, it is reasonable that the expense of acquiring, improving, and operating the parks should be met by the county. As might be expected, the forms of recreation carried on in county parks are for the most part less highly organized than in the city areas.

Parks in Metropolitan Districts

UNTIL recent years the opportunities which people have had for taking part in recreational activities or enjoying areas of natural beauty have been limited to those in the vicinity of their homes, except on rare occasions or during vacation periods. The shorter working day, the 5-day week, rapid transit lines, the automobile, and good roads have helped to make it possible for people to go farther afield for their recreation. The establishment of regional and county planning commissions and associations which have conducted surveys and educational campaigns, emphasizing parks as an essential feature of the regional or county plan, has been an important factor in bringing about the acquisition of additional parks in several metropolitan regions. It is probable that to an increasing extent, especially in the large cities, future park planning will be based upon regional rather than municipal needs and will involve the cooperation of all communities in the region.



Community Recreation in the United States, 1933

SIGNIFICANT trends "suggest an increased use of national income for educational, recreational, and cultural pursuits—those concerned not with the production of goods, but with the provision of opportunities for more abundant living." The 1933 report of the National Recreation Association,³ from which the above statement was taken, covers the public recreation facilities, leadership, expenditures, and programs of American municipalities, and recreation programs provided by industrial concerns and other private organizations for the use of the entire community. A total

³ Recreation (New York), May 1934, pp. 53-63.

of 1,036 cities ⁴ reported on their activities in this field during the year as compared with 1,012 in 1932.

The number of workers, employed as leaders for community recreation activities, who were paid from regular funds was reported by 761 cities to be 21,085, of whom 2,346 were employed throughout the year. In addition to these workers, 179 cities reported 7,283 leaders paid from emergency funds, of whom 1,405 were employed full time throughout the year. Volunteer workers to the number of 13,482 were reported by 335 cities, approximately 50 percent more than were reported in 1932.

The salaries and wages for leaders and other services were reported by 682 cities as \$12,485,011.04, while in addition there was extensive use of emergency funds for the payment of salaries. The total expenditure for recreation as reported for 1933 was \$27,065,854.28, a decrease of 3.7 percent from the amount spent in 1932. As emergency funds, following the inauguration of the C. W. A., were not available until the end of 1933, these funds do not figure largely in the expenditures for the year.

A total of 15,038 play areas and centers under leadership were reported, of which 551 were open in 1933 for the first time. The recreation facilities provided for the cities furnishing the information included 7,434 outdoor playgrounds, 777 recreation buildings, and 3,702 indoor recreation centers, part of these facilities being provided for colored residents. The total yearly attendance of participants and spectators at outdoor playgrounds was reported by 499 cities as 233,780,307, while the attendance at indoor recreation centers in 226 cities was 22,408,193. These figures do not include the millions of persons using the athletic fields, bathing beaches and swimming pools, golf courses, summer camps, and other recreation areas.

The sources of support of the community recreation activities and facilities were principally municipal and county funds, public and private funds, and fees and charges. Approximately 81 percent of expenditures, the source of which was reported, was derived from taxation.



The Public School as a Factor in the Utilization of Leisure Time

SINCE there is now more leisure for the majority of people than ever before in the world's history and all signs point to still more in the near future, the attention of many is being turned to the problem of the utilization of this free time and the best agencies to be employed for its satisfactory use.

A study ⁵ made for the National Recreation Association deals with the schools as an important factor in the use of leisure time. Since schools are supposed to train for life, and leisure is an increasing segment of life, the purpose of this study was to ascertain if the

⁴ A report for the year 1934 received subsequent to the preparation of this article shows a very great extension of recreation facilities, the number of cities and towns reporting such facilities having risen to 2,190. A corresponding increase was reported in the number of men and women employed as leaders, while total expenditures for recreation were \$41,864,630.

⁵ National Education Association. The New Leisure Challenges the Schools, by Eugene T. Lies. Washington, 1201 Sixteenth Street, 1933.

public schools of the country are sufficiently alive to their opportunities in this respect. It is said that the educational world has been evidencing a growing interest in the problem of leisure and in addition a growing concern as to whether the schools are doing all that they can or should do to fit young people to face a comparatively new social situation. The records show that considerable advances have been made in the last quarter of a century, and particularly since the World War, in stressing studies, such as music, dramatics, physical activities, reading, art, and the handicrafts, which are of importance when people use their leisure recreationally. Also, in 1918 when the National Education Association promulgated its "seven objectives of education" one of the seven was "training for the worthy use of leisure." While at first these objectives were connected with secondary education alone, they were rather quickly accepted as applicable to all education, although, as yet, the schools have not attained a full realization of the possibilities of their use in the training for leisure. It is said, however, that educators have come to see more and more clearly the growth values, particularly the character values, inherent in play and recreation, rightly handled; and by some, the use of the spirit of play, in the creative sense, in the schools is regarded as a psychological necessity for effective education. In addition to the development of this field during school hours the public schools have in many places expanded their programs to take in after-school recreational activities, summer recreation, and general community recreation, although the extent of their use in this manner is dependent upon financial limitations upon school authorities and the existence of other leisure-time agencies in individual communities.

Emphasis in the study under review is naturally placed upon leisure in its recreational aspects, since the basic nature of the work of the association is recreation and also because most people do use their free time in recreational ways. The study covered the public schools in cities of 5,000 and over, all grades through the high school being included, and in addition progressive schools under private auspices were taken into consideration insofar as their practices and ideals were affecting the public schools. Personal visits were made to 36 large and small public-school systems, most of which it was known were doing things worthy of study, and questionnaires were sent to 1,448 school systems, usable returns being received from 418.

Preparation for leisure through physical education as a conscious major objective is said to be increasing throughout the public-school system. At present 35 States have laws requiring physical education, although there are still only 18 State directors and 3 acting directors. In the high-school programs in the advanced school systems it was found that more activities of the types which can be continued in later life were carried on than was formerly the case. Music, dramatics, and art and handicrafts are activities carried on in the schools which carry over into later life as leisure-time activities, such activities having developed greatly during the past few years. Evening schools which offer opportunities for adult education, it was found, are not maintained as largely as facilities would warrant. Shops and laboratories of junior and senior high schools offer a great resource which is too little used in the field of adult education. In a number of the cities community centers are maintained parallel with

their night schools and in them the tendency is to include opportunities of cultural and recreational types while the regular evening schools program is devoted exclusively to academic, vocational, and citizenship courses.

In a number of States, the State departments of education have in recent years been vigorously promoting adult-education programs, among these States being Pennsylvania, Connecticut, California, Alabama, Delaware, and the District of Columbia. In these localities adult illiteracy is being attacked and general academic and cultural opportunities are being increasingly promoted.

It is stated in the report that in general there is a gradually growing sentiment among school authorities in favor of extension of the service of school systems to the adults of the community. This is based on economic, educational, and sociological reasons. On economic grounds it is considered that greater use should be made of the costly school plants than is done by conducting only the regular day program; on educational grounds it is the view that youth and adults are educable beyond the intellectual status which they have attained at any particular time and the school system should provide opportunities, therefore, for those who wish them no matter what their age; while on sociological grounds the view is held that there is "need of effort to substitute integrating for the many present-day disintegrating forces in society, also to promote neighborliness and cooperation, to enhance happiness and health, to provide opportunity, under informal conditions and in an atmosphere of freedom, for indulging in activities that should give satisfaction to thwarted personalities, to those who desire self-expression and enlargement in physical, mental, manual, and æsthetic pursuits."

In summing up the objectives which should be striven for in every community recreation system, it is said that it should be the aim to serve people of all ages; the service should function for the entire year and not during the summer or some other season only, and it should include special advisory service and at times also leadership for homes, institutions, and organizations. Community centers with both indoor and outdoor facilities should be located at strategic points and facilities should be provided for games and sports. It is considered that it should be possible to draw freely upon the school facilities, and arrangements should also be made to utilize special facilities in churches, clubs, etc., at least occasionally, if not throughout the year. It is regarded as desirable that some division of the city government should be in control of the community recreation system; whether that division should be the park department, the board of education, or a special recreation commission, it is said, depends upon a variety of factors in the individual community.

Leisure-Time Activities and Desires

HOME activities not involving any expense were the most usual types of leisure-time activity engaged in during 1933, though the movies and swimming were also included. This was shown by a study by the National Recreation Association,⁶ undertaken to

⁶ National Recreation Association. *The Leisure Hours of 5,000 People*. New York, 315 Fourth Avenue, 1934. (Mimeographed.)

determine what people were doing in their free time, what changes had occurred in the use of their free time during that year, and what they would really have enjoyed doing if given the opportunity.

The study was made by means of questionnaires, sent to persons in 29 cities of different types and sizes, to which 5,002 replies were received. The report was based on these replies and also upon interviews with individuals and various agencies. More than 80 percent of the replies were from persons 21 years of age or older. Of those replying as to their employment status, 43 percent were employed full time, 28 percent part time, and the remainder either occasionally or not at all.

The home activities which were the most usual types of leisure-time activity included reading, writing letters, and listening to the radio. As such a large proportion of the activities reported were in the home, it seemed that, if it could be assumed that people were doing the things they most enjoyed, the recreational facilities and leadership provided by public and private agencies were of relatively small importance. A study of people's desires, however, indicated that this was not the case. It was found that in comparison with previous years, leisure-time activity was more largely centered in the home, the cost of outside activities having been the determining factor in this change. The greatest relative net increase in outside activities was found in activities of an educational or social nature, many of which were free or available at low cost. It appears, therefore, that the things which people were doing were not what they most wanted to do but what they were able to do with the limited resources at their disposal.

The free-time interests and activities of 1,646 persons in Boston and Newark were analyzed on the basis of their employment status. Of these persons, 60 percent were employed full time, 22 percent part time, 9 percent occasionally, and 8 percent not at all. There was little difference among the four groups in their participation in home activities, but in outside activities the part-time and occasionally employed groups were most active, while the unemployed group recorded the lowest participation.

The outstanding facts brought out by the study may be summed up as follows:

- (1) The home is the center for a large and increasing percentage of leisure-time activity for large numbers of people.

- (2) The average number of activities taken part in outside the home, especially often, is relatively small and did not increase during the past year.

- (3) To a considerable degree leisure-time activity at the present time is largely determined by low cost and availability, rather than by the real desires of people.

- (4) The expressed desires of large numbers of individuals can be realized only as opportunities are made available through community provision for them.

- (5) The limited evidence available indicates that people working comparatively short hours but with reasonable security are utilizing their leisure increasingly in a wider range of varied activities than are people of any other employment status.

- (6) Age, sex, and marital status are factors which have a considerable and varying influence upon people's leisure-time activities and desires.

SICKNESS AND DEATH STATISTICS

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Causes of Illness in 9,000 Families

THE most comprehensive survey ever made in the United States to ascertain the causes and incidence of illness was carried out under the direction of the Committee on the Costs of Medical Care in the years 1928 to 1931. The survey covered 8,758 white families, comprising 39,185 individuals, in 18 States, the actual canvassing being done by health-department or other visiting nurses in the different communities.¹

The persons covered by this survey were somewhat of a selected group as regards medical attention, since, as the study was made through the cooperation of State and local health departments and visiting nurses, the data were necessarily confined to localities having such services.

The information secured by the investigators furnished a complete record of illness and of medical and dental care in the families scheduled for an entire year, and included the cause of the illness, date of onset, duration of illness, and many and detailed facts about the nature and extent of medical care of various kinds by different practitioners and institutions. The average number of calls on a family was 5 or 6 a year, but some received as few as 4 and others as high as 8 visits, with additional calls in some cases to check up incomplete records.

Although the period of observation for each family was 12 consecutive months, the date of the observation periods ranged from February 1928 to June 1931, the peak being reached in December 1929. As only about one-fourth of the families were under observation during the rather extensive influenza epidemic in the last of 1928 and the first of 1929, the respiratory-illness records were not unduly affected by the inclusion of this epidemic period.

A comparison of certain characteristics of this group with those of the general population as given in the census of 1930 shows that a comparatively large proportion of the group lived in large cities and also that the mean size of the surveyed families was somewhat larger than those of the general population. The modal white family in the United States in 1930 consisted of only 2 persons, while in the surveyed group it consisted of 4 persons. The surveyed group also showed an excess of children and a deficiency of older persons as compared with white persons in the general population. As no one-person families were included in the study, the excess of children is partly accounted for by this fact.

As family income is of vital importance in any study of the character and extent of medical service, the families included were chosen so as to afford a reasonably adequate sample of different income levels. Forty-eight percent of the families had incomes of less than \$2,000, and of these 15.1 percent received less than \$1,200 per year.

¹ U. S. Public Health Service. Public Health Reports, Mar. 24, 1933: Causes of Illness in Nine Thousand Families, 1928-31.

In the study, illness was defined as any symptom, condition or disorder which lasted 1 or more days for which medical service was received and any condition for which drugs costing 50 cents or more were purchased. Dental service, eye refractions, immunizations, and health examinations were not included, however, in the tabulations. Illnesses which had their onset prior to the observation period but extended into it were included, as frequently the onsets of chronic conditions are so gradual and the durations so long that the accumulated cases causing illness during the period were considered as far more important than the few chronic cases which could be identified as having their original onset within the period. A second attack, within the year, of a more or less chronic condition was tabulated as a second illness, so that the data refer to illnesses rather than cases of disease. Any continuous period of sickness was counted as one illness even though more than one cause of illness was diagnosed. An exception to this rule was made, however, for persons few in number having some chronic condition which lasted throughout the year when some acute condition developed, such as colds, indigestion, etc.

The causes of illness were necessarily those reported by the member of the household giving the information, but the doctor's check on the diagnosis was obtained for 64 percent of the cases seen by a practitioner, or in 51 percent of the total number of cases.

Considering all illnesses in the sense of continuous periods of sickness, only 4.3 percent of those reported in this study were abulated as due to more than one cause. Although this number was small it is necessary to know the method of selecting the cause tabulated as primary, as the word "primary" as used in discussions of the causes of death has two more or less logical meanings; that is, primary, or first time, as in measles or pneumonia, and primary in importance, as in heart disease and rheumatism. As a result of this confusion of terms the general rules followed in selecting the primary cause were to designate as primary, acute conditions with common complications, and to give preference to acute conditions over an attack of a chronic condition, while the condition or disease most specifically associated with the period of sickness was preferred over a minor condition which preceded or accompanied it. In case of death, however, an exception was made to these rules and the cause of death was classified as primary or contributory strictly according to the rules adopted by the Division of Vital Statistics of the United States Bureau of the Census.

The number of illnesses (sole or primary only) totaled 850 per 1,000 persons under observation, while the rate for illnesses that caused absence from work or school or other usual occupation for 1 or more days was 516, and for illnesses that caused the patient to go to bed, 434 per 1,000 persons. In other words, 61 percent of the illnesses reported were disabling and 51 percent necessitated 1 or more days in bed. Of all the cases reported 79 percent were attended by a physician or other practitioner.

Diseases of the respiratory system caused the largest number of illnesses, the rate for colds and bronchitis being 156.1 per 1,000 persons and for influenza and grippe 86.1 per 1,000, while tonsillitis, laryngitis, and other throat diseases exclusive of tonsillectomy had a rate of 53.4 per 1,000. Accidental injuries occupied third place,

with a rate of 74.7 per 1,000; gastritis, indigestion, and other stomach conditions showed a rate of 41.7; measles, 24.4; conditions arising out of pregnancy and childbirth, 23.6 ear and mastoid diseases, 23.5; rheumatism, neuralgia, neuritis, etc., 22.7; tonsil and adenoid operations, 21.8; and diarrhea and enteritis, 21.5. A large number of disease conditions had rates of less than 20 per 1,000. As the rates are based solely on the frequency of cases, serious conditions like pneumonia, heart diseases, kidney diseases, etc., fall rather far down in the list.

A tabulation of the cases which caused the patient to go to bed for 1 or more days, but which is also based on the frequency of cases and in no way represents their severity, shows the principal causes of illness of sufficient severity to cause loss of time from work, school, or other occupation. It was found that the three most frequent causes of disabling cases were those in the so-called "minor" respiratory class. The fourth most disabling condition was caused by accidents, while indigestion, measles, and tonsil and adenoid operations are the other three diagnoses with rates for disabling cases above 20 per 1,000, with the next rate, 13 per 1,000, for ear and mastoid conditions. The figures show, therefore, that minor respiratory diseases are the most frequent causes of illness, whether the total rate, the rate for disabling cases, or the rate for bed cases is considered.

Mortality Experience of International Typographical Union, 1932²

THE report on the mortality experience of the International Typographical Union for the year 1932³ showed that the average dues-paying membership of the organization was 75,086—a decline of nearly 3,000 from the previous year. The number of deaths from all causes, however, was 1,181, equivalent to a rate of 15.7 per 1,000 as against 15.3 for 1931.

Table 1 gives the membership, the total number of deaths, and the mortality rate per 100,000 members, 1925 to 1932.

TABLE 1.—GENERAL MORTALITY AMONG MEMBERS OF INTERNATIONAL TYPOGRAPHICAL UNION, 1925-32

Year	Member-ship	Deaths	
		Number	Rate per 100,000 members
1925.....	71,372	880	1,233.0
1926.....	72,704	913	1,255.8
1927.....	74,829	1,002	1,339.1
1928.....	75,738	913	1,205.5
1929.....	76,015	1,090	1,433.9
1930.....	77,507	1,129	1,456.6
1931.....	77,757	1,193	1,534.3
1932.....	75,086	1,181	1,572.9

² By Frederick L. Hoffman, consulting actuary of the Metropolitan Life Insurance Co.

³ Data for previous years were presented in Bul. No. 427 and in the Monthly Labor Review, issues of July 1927, April 1928, March 1929, May 1930, July 1931, and June 1932.

The average age at death in 1932 was 60.3 years, compared with 59.6 years for 1931, 54.3 for 1921, and 49.1 for 1911. Obviously the proportion of printers of advanced age in the total is gradually increasing, which accounts in part for the change in the incidence of the chronic diseases of adult life.

The report shows that pulmonary tuberculosis declined to the lowest figure on record, except that for 1927, or 60 deaths, equivalent to a death rate of 79.9 against 121.9 in 1925. Cancer increased from a rate of 88.0 in 1926 to 154.5 in 1932, the highest figure on record in the experience of the organization. This marked increase in cancer conforms to the general increase in the American cancer death rate for American cities, which also in 1932 reached the highest figure on record, or 117. This rate, of course, is not strictly comparable with the mortality of the labor organization in which membership is limited to persons of adult age. There was a slight decline in the mortality from diabetes and a slight increase in deaths from nephritis. There was 1 death from lead poisoning in 1932, after 3 years during which no deaths occurred. Of special interest in this connection is table 2, giving the total deaths for printers from lead poisoning in the United States registration area, reported to the Census Office, 1914 to 1931, numbering in the aggregate 98, of which 44 occurred during the last 9 years as compared with 54 for the first 9 years.

TABLE 2.—DEATHS OF PRINTERS FROM LEAD POISONING, UNITED STATES REGISTRATION AREA, 1914-31

Year	Deaths	Year	Deaths	Year	Deaths	Year	Deaths
1914.....	5	1919.....	7	1924.....	3	1929.....	6
1915.....	4	1920.....	4	1925.....	5	1930.....	5
1916.....	11	1921.....	10	1926.....	2	1931.....	6
1917.....	4	1922.....	7	1927.....	3		
1918.....	2	1923.....	10	1928.....	4		

There were no deaths from alcoholism during the 3 years, 1930-32, and only 3 deaths during the preceding 4 years. Deaths from cirrhosis of the liver, however, increased from 3 to 13, but how far this is attributable to alcoholism cannot be stated. There was a gratifying decline in pneumonia from 108 in 1931 to 89 in 1932 and also in the same period a slight decline in deaths from ulcer of the stomach from 5 to 4, in appendicitis from 10 to 8, and in hernia from 5 to 1.

Deaths from cerebral hemorrhage (table 3), however, increased from 73 in 1931 to 93 in 1932, while deaths from general paralysis remained at the same figure, 32. There was a slight decline from 4 to 2 in deaths from paralysis of the insane, but an increase in angina pectoris from 13 to 32 and a marked decrease in deaths from other heart diseases from 265 to 150.

TABLE 3.—MORTALITY FROM SPECIFIED CAUSES PER 100,000 MEMBERS OF INTERNATIONAL TYPOGRAPHICAL UNION, 1926-32

Year	Cerebral hemorrhage		General paralysis		Paralysis of the insane		Angina pectoris		Other heart diseases	
	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000	Deaths	Rate per 100,000
1926.....	47	64.6	20	27.5	15	20.6	25	34.4	197	271.0
1927.....	59	78.6	53	70.8	7	9.4	16	21.4	164	219.2
1928.....	55	72.6	30	39.6	3	4.0	15	19.8	173	228.4
1929.....	85	111.8	30	39.5	1	1.3	17	22.4	211	277.6
1930.....	83	107.1	36	46.4	7	9.0	17	21.9	221	285.1
1931.....	73	93.9	32	41.2	4	5.1	13	16.7	265	340.8
1932.....	93	123.9	32	42.6	2	2.7	32	42.6	150	199.8

Occupational Diseases in Massachusetts in 1930

THERE were 389 cases of industrial diseases (including 4 fatalities) investigated during 1930, according to a report of the division of industrial safety of the Massachusetts Department of Labor.⁴ The majority of cases occurred among men, only 41 cases being reported for women. There was one fatality during the year due to anthrax. Other fatal cases in which the cause was not so clear-cut or which were disputed by the insurance company were a case of pneumoconiosis occurring in the granite-cutting industry; a case of pulmonary tuberculosis, this worker also having been employed in the granite industry; and a case diagnosed as actinomycosis but in which the attending physician stated there was only a casual relation between injury and death.

The following table shows the number of investigated cases of occupational disease by cause:

CASES OF OCCUPATIONAL DISEASE INVESTIGATED IN MASSACHUSETTS IN YEAR ENDING NOV. 30, 1930

Disease	Number of cases		
	Males	Females	Total
All occupational diseases.....	1 348	41	1 389
Dermatitis.....	192	31	223
Gas and fume poisoning.....	70	7	77
Lead poisoning.....	45	1	46
Anthrax.....	19	—	19
Pneumoconiosis.....	18	—	18
Other dust poisoning.....	6	2	8
Tuberculosis.....	16	—	16
Chrome poisoning.....	5	—	5
All other.....	17	—	17

¹ Including 4 fatalities.

² Including 1 fatality.

The increasing frequency of industrial dermatitis is shown by the fact that more than 57 percent of the cases investigated were due to this cause. The majority of cases resulted from contact with dye-stuffs, various oils and greases, acids, and dusts, such as soap powders. The next most important causes of occupational disease were poisoning from gases and fumes and lead poisoning. The largest number of

⁴Massachusetts. Department of Labor and Industries. Annual Report for the Year Ending Nov. 30, 1930. Boston, 1931.

cases of gas and fume poisoning occurred in garages as a result of inhalation of carbon monoxide, and the painting industry and the manufacture of storage batteries were responsible for half of the 46 cases of lead poisoning.

Occupational Poisons and Diseases in New York, 1934

AN increase of nearly 25 percent in the occupational-disease cases closed under the workmen's compensation law in 1934 over the figures for 1933 was reported by the New York Department of Labor in the annual report⁵ of the division of industrial hygiene. The total number of cases acted upon was 1,012, as compared with 830 in 1933. An enlarged schedule of diseases listed in the law as compensable, together with an improved method of recording such claims, accounted for the apparent increase in cases, as on the former basis of computation the total for 1934 would be about the same as for 1933. Less than half (439) of the total number of claims in 1934 was allowed, although of the 573 claims disallowed about half may have involved illness or disability due to occupational disease. Of these cases, 31.6 percent were ruled out because the disability was brief in duration and 17.8 percent because the poison causing the disease was not covered by the act; in some of the cases there was no medical evidence, in others the claimants did not appear, and in still others there were legal or other reasons why the claim could not be allowed.

It is pointed out in the report that the figures for occupational diseases offer only a slight indication of the wide-spread but undetermined injury done to industrial workers by the various forms of dust, fumes, and gases in industry. While occupational diseases appear from the statistics to be comparatively few when considered in relation to industrial accidents, it has been shown statistically that many classes of industrial workers die 7 or 8 years earlier than agricultural workers. This, it is considered, is due to the industrial disease hazards which, while not definite enough to show the necessary causal relation, lower resistance and thus render workers more liable to pulmonary and other diseases.

The reports for the State are divided for the first time into two districts, the New York City area and up-State. While the number of cases reported is about the same for the two areas, there were striking differences due to variation in exposure. Thus, for example, cases of lead poisoning showed a slight increase for the State but a substantial decrease in the New York City area.

The following table gives a summary of the occupational-disease cases disposed of in New York State during the year 1934:

CASES OF OCCUPATIONAL POISONS AND DISEASES IN NEW YORK STATE TERMINATED IN 1934

Area	Total		Allowed		Disallowed	
	Number	Percent	Number	Percent	Number	Percent
Total cases.....	1, 012	100. 0	439	43. 6	573	56. 4
Up-State.....	493	48. 4	200	40. 5	293	59. 5
New York City.....	519	51. 6	239	46. 0	280	54. 0

⁵ New York Industrial Bulletin, January 1935.

Occupational Diseases in Ohio, 1934

OCCUPATIONAL diseases in Ohio, as reported by Dr. Emery R. Hayhurst, acting chief of the Bureau of Occupational Diseases, reached the highest point in 1934—1,556 cases—since the reporting law became operative in 1920. The total of 1,556 cases, as compared with 1,258 in 1933 and 1,382 in 1929, represented an increase, respectively, of 23.7 percent and 12.6 percent, the causes of the increase being due, it was considered, to the employment of more persons in certain hazardous lines, to the return to work of unemployed persons, to greater interest in the possibility of compensation and payment of medical fees, and to the stimulation of interest among physicians by the bureau. No additions had been made to the list of compensable diseases during the year under review.

Of the 1,556 cases reported in 1934, 1,415 were compensable and 141 noncompensable, the compensable cases covering 13 of the 22 afflictions which under the law are required to be reported. Women were affected in 290 of the cases reported.

The most important disease in the compensable group, from the point of number affected, was dermatitis, which accounted for 913 cases in 1934; 194 of these occurred among women. The principal causative agents were oils and cutting compounds; alkalies and cleaners; gasoline and other petroleum products; paints, enamels, etc.; rubber products; bakelite, plants, woods, etc.; lime and portland cement; dyes and dyed goods; plating solutions; chromium compounds; hides, leather, and furs; and textiles. Lead cases reported numbered 162 and occurred in the following industries: Storage batteries, paints, dry colors, and painting; lead manufacture and recovery; caskets and vaults; sanitary ware; pottery; brass and bronze; automobiles; rubber; and printing and publishing; with a small group of two or less in miscellaneous industries.

Of the 1,556 occupational diseases reported in 1934, 327 occurred chiefly through inhaling the substance, 933 by way of the skin, 228 through strain, 27 through friction, and 41 through other and non-specified means.

Decline in Mortality from Pellagra Among Wage Earners

AREPORT of the death rates from pellagra in the United States in 1930 and 1931 was contained in the Statistical Bulletin, June 1932, published by the Metropolitan Life Insurance Co. From the available data it appears that there was a decline in mortality from this cause during these years, at any rate for the wage-earning populations of the cities in those States in which pellagra is an important cause of death. The mortality rate from this cause had dropped also among the general population in three Southern States where pellagra has been an important cause of death.

It is considered very remarkable that the mortality rate for the disease did not rise, in view of the unfavorable business conditions which prevailed during the 2 years and especially in 1931. Pellagra is a disease caused by a diet deficient in the vitamins normally found in fresh, lean meat, milk, and yeast, and the reduced incomes result-

ing from wide-spread unemployment which would make these foods less readily obtainable would be expected to have the effect of making sickness and death from pellagra more common.

No continuous trend is shown for the death rate from pellagra among the industrial policyholders of the Metropolitan Life Insurance Co. for the 21-year period 1911 to 1931, but the highest death rates, 4.7 and 5.9 per 100,000 for ages 1 to 74, occurred in the years 1914 and 1915, respectively, which were years of below-average business conditions. Since that time, however, the higher mortality rates have not coincided with periods of reduced employment. The death rate from pellagra began to decline during the World War when employment was general and wages were high, and this downward tendency continued to 1924 when the rate was 1.3 per 100,000. After that there was an upward trend to a rate of 2.5 in 1928 and 1929, but a decrease to 2.2 in 1930 and 1.9 in 1931—a decline which was in line with the decline in the general death rate.

There is a pronounced sex and color incidence shown in the mortality figures, the mortality among females exceeding that among males in both the white and colored, but with a very much greater excess among the colored. The mortality rate for colored persons of both sexes is very much greater also than of white persons, running from two to five times that of the white groups. The heaviest death toll from pellagra is exacted in the South, and particularly among that section of the Negro population which lives largely on an unbalanced diet. It is said that it is probable that the reason the death rate did not increase during 1930 and 1931 is partly, at least, the result of the consumption of brewers' yeast distributed by health departments.

Health of Insured Wage Earners During 1934

A NEW record for low mortality was established among the many millions of industrial policyholders of the Metropolitan Life Insurance Co. during 1934, according to the annual report published in the Statistical Bulletin, January 1935. The crude death rate (ages 1 and over) fell from 8.41 per thousand in 1933 to 8.33 in 1934, and when correction is made for the higher average age of the policyholders the drop is still greater, or from 8.03 to 7.87, a decrease of 2 percent. These figures show that health conditions were maintained at a high level among insured wage earners in the United States and Canada, there having been no interruption during the 5 years of economic disturbance in the downward trend of mortality over more than 2 decades.

Among these industrial policyholders an increase of 12.56 years in the expectation of life at birth was recorded for the year 1933, as compared with 1911-12, the expectation of life in the earlier period being 46.63 years, as compared with 59.19 years in 1933. In the same period the gain among the general population was only 8.22 years. Thus the industrial policyholders had reached a life expectancy very similar to that of the general population, in spite of the fact that this group and their families live largely in urban areas where death rates are higher than in rural areas and that in this group there is much greater exposure to the special hazards of industry than among the population at large. Particular improvement in mortality rates

occurred among children and young adults, although some improvement was registered also among insured persons at the older ages.

New minimum death rates were established in 1934 for five diseases (diphtheria, tuberculosis, diarrheal conditions, chronic nephritis, and diseases of the maternal state) and for two types of violent death (accidental drownings and railroad accidents). The previous minimum for machinery accidents was maintained, while the death rate for homicides, 6 per 100,000, was the lowest on record except in 1920.

The most important achievement of the year was the reduction in the tuberculosis death rate, to a new minimum of 59.6 per 100,000. This figure represented a reduction of 8.4 percent from the figure for 1933, being among the largest year-to-year drops ever recorded among the industrial policyholders. The new figure for the insured industrial population is only slightly higher than that for the general population. In comparison with the year 1911, when the company began to record mortality rates by individual causes of death, there has been a decline of 73.5 percent in the tuberculosis rate. The heaviest mortality from this cause has also shifted from the age group 35 to 39 years to the 55 to 59 years group. There was a slight rise in the death rate for the four principal diseases of childhood combined, due to increased mortality from measles and whooping cough, but the rate for each of these diseases was extremely low, showing a drop of 68 percent from the rate 10 years earlier. The greatest interest in these diseases lies in the reduced rate for diphtheria which only a decade ago caused as many deaths as measles, whooping cough, and scarlet fever combined, but in 1934 ranked third among the four. In spite of an epidemic of poliomyelitis in California and other Western States, the death rate was the lowest ever recorded for this disease. The influenza death rate was the lowest since 1921, but the pneumonia death rate increased somewhat in 1934. The mortality from conditions arising out of pregnancy and childbirth continued to decline, while the rates for diarrheal diseases and chronic nephritis reached new low points.

Although there was a rise in the crude death rate for cancer it was much smaller than in the 2 preceding years, and when allowance is made, through adjusted rates, for the shift toward a higher average of insured lives, there was no increase at all in 1934 as compared with 1933. A time series of the crude death rates, it is said, gives an exaggerated picture of the increase in cancer, since cancer deaths are concentrated in later life. In general, the death rates from cancers which are directly visible, and therefore easily diagnosed, have decreased, while the rates for cancers of some of the internal organs, where diagnosis is more difficult, have increased. A slight increase in the crude death rates for heart disease was shown in 1934, although adjustment based on the higher age levels of the policyholders indicated a slight decline in the disease. Diabetes also showed a new high in the crude death rate and a slight decline after adjustments were made for the higher ages at which this disease occurs. The first full year since the repeal of prohibition was not marked by any increase in deaths from alcoholism and in fact there was a drop of 9 percent among white policyholders.

There were fewer suicides, the lowest number since 1929, 9.6 per 100,000, being recorded. This reflected the upward turn of the economic tide, although the same economic improvement brought with it an increase in accidents and automobile fatalities, due to greater

exposure to the hazards of industry in the first case and in the second to the increase in 1934 in the volume of motor-vehicle traffic. The total number of automobile fatalities in the general population in 1934 was nearly 35,000.

Incidence of Illness Among Adult Wage Earners

A STUDY of the incidence of illness among wage-earning adults based on the morbidity experience among a number of industrial groups at various periods and some studies among the general population, was published in the November and December 1930 issues of the *Journal of Industrial Hygiene*.

As there is more or less vagueness in the term "case" of sickness, it was defined for the purposes of the study in terms of a "waiting period"; that is, cases were included if they lasted longer than a certain minimum period, such as 1, 2, or 3 days, a week, etc., it being considered that in most cases comparisons of sickness are valid if based on an identical waiting period. Of nearly as great importance as the unit of measurement in comparisons of industrial sickness rates is the provision, or lack of provision, for sick leave, since it has been shown to have a decided effect upon the sickness distribution. A comparison of the frequency of absence on account of sickness in two companies, one of which paid wages during disability while the other did not, showed a relatively high rate for cases of short duration in the company which pays during sickness, while in the second company the larger proportion of cases were found among those of longer duration. In the company in which full wages were paid a check on malingering was made, the company physician calling on all those who reported themselves as unable to work on account of illness. Over a 3-year period during which a large percentage of the cases lasting 1 or 2 days were diagnosed it was found that malingering was a negligible factor in the apparently high rate of short-period illnesses.

The most frequent causes of disability are the respiratory diseases (colds, influenza, bronchitis, and tonsillitis) and digestive diseases, while the most frequent causes of death are the break-down of the circulatory system, the kidneys, and the lungs; the nervous diseases; and malignant diseases such as cancer. The ratio of the ordinary respiratory diseases to death in a general population group has been shown to be 300 to 1 and of diseases and disorders of the digestive system the ratio was about 200 to 1, while the ratio of illnesses due to the degenerative diseases, cancer, etc., was only about 10 cases to 1 death. From these figures it will be seen that mortality statistics do not present a true picture of the general ill health of the people as a whole.

Statistics of the frequency of different diseases lasting 1 week or longer among a group of industrial sick-benefit associations, having a combined membership of 100,000 to 150,000, have been compiled by the United States Public Health Service since 1920. These figures have shown the great preponderance of the respiratory diseases and diseases of the digestive system among the causes of sickness.

Factors Affecting Rate of Disabling Sickness

INDUSTRIAL groups differ markedly from the general population in age grouping, the younger adult ages predominating. It has been estimated that in the manufacturing industries of the country as many as 80 percent of the men are below the age of 45, and that probably 90 to 95 percent of the women are below that age. Also, there is evidence that industrial workers are not representative of the general population from a health standpoint but represent, on the whole, a rather favorably selected group. Between the ages of 15 and 50 the sickness rates, it has been shown, tend to rise more rapidly in the general than among the industrial groups. After the age of 50, however, the frequency of disabilities among industrial workers lasting more than 1 week increases fairly rapidly, as does also the number of days lost per man per year. There is some evidence that, in addition to the fact that more serious diseases naturally tend to occur among older persons, some loss of recuperative ability begins to show even in the early thirties.

Absence on account of illness is more frequent among female employees than among males. The mutual benefit associations' records showed that the frequency of disability lasting longer than 1 week among women was 50 percent higher over a 7-year period than among the men, and that the rate for a majority of the disease groups was higher among the women.

There is little information relative to racial susceptibility, but such data as are available indicate that immigrants from warm regions such as Greece and Italy may be more liable to attack from respiratory diseases than immigrants from northern Europe or natives of this country.

Comparisons of such statistics as are available of sickness according to marital status indicate that for women both the frequency and the severity rates are higher among the married than among the single. Although it is not possible to determine definitely the reasons for these differences, the report states that it is quite probable "that the double duty of the married industrial worker, i. e., the factory job in addition to the homekeeping job, involving as it frequently does the strain of childbearing and the care of children as well as the housework itself, may result in overwork sufficient to predispose to illness of any nature, and may thereby exact a toll of incapacitation much greater than that experienced by the single woman in industry."

Alcoholism is of comparatively little importance in some industries, while in others it has a decided influence on the sickness rate. It is often prevalent among workers subjected to especially arduous working conditions. Therefore, reduction in drinking among industrial employees, the writer says, may be closely connected with an improvement in working and hygienic conditions.

Industrial Selection

SICKNESS rates may be expected to be somewhat lower for an industrial group than for the general population, since the industrial group is made up of individuals who are ordinarily able to engage in work, while the general population includes many invalids and persons with physical impairments serious enough to prevent industrial em-

ployment. The securing of comparable data is difficult, since there is no satisfactory way of ascertaining when a person not employed is actually disabled by sickness and would have remained at home on account of illness if he had been employed at the time. Also, in industrial establishments it is comparatively easy to obtain an exact record of absences from work on account of sickness, while in a general population this can be secured only by repeated house-to-house canvasses, and even then some of the shorter sicknesses may be forgotten in the intervals between visits. The study of the incidence of sickness in Hagerstown, Md., made by the United States Public Health Service in 1921, serves, however, in the present study for a comparison of sickness rates with a group of workers employed in a rubber factory. For both groups the sickness incidence for the age period 20 to 24 was taken as the basis of comparison of the trend in the age curves of illness. In the general population the trend was steadily upward, while among employees of the rubber company the frequency rates, based on disabilities lasting 2 working days or longer, rose more slowly from age 25 to 40, declined from then to age 60, after which the upward trend in frequency of disability was resumed.

From the evidence in these studies that illness frequency failed to increase with age as rapidly among industrially employed persons as among those in the general population, it is suggested that there may be a tendency for the sickly to give up their employment, thus providing a more favorably selected group from the standpoint of health in middle age and beyond than is found among those in the earlier years of industrial life. Proof of a process of the survival of the fittest was afforded by the recent experience of a public service company in Massachusetts, which was considering the advisability of compulsory retirement of all employees over 70 years of age. It was found from the sickness records of the company that the amount of sickness among its employees over the age of 70 compared very favorably with that of younger age groups.

The report states that if a process of selection of this sort is really going on in industry, lower sickness rates among persons with the longer service should be expected in those industries which are relatively free from health hazards. Records of a rubber manufacturing company in Ohio show that the frequency of disabling sickness decreased markedly among persons with the longer employment in the industry, the rate being more than four times as high among those with less than 3 months' service as among persons having more than 5 years' service. More complete records from a public-utility company in New England giving the sickness incidence by age groups show definitely lower rates of sickness for both males and females in each age group up to 55 and over for employees having more than 5 years' service as compared with those having less than 5 years' service.

In further proof of the theory that a process of selection is going on through the self-elimination from an industry of those less adapted physically to the particular work or working conditions involved, it would be expected that the frequency rate of disabling sickness would be higher among those who quit than among those who remained, provided there was no health hazard which increased the sickness rate immediately among those who remained. Data covering former employees of a portland cement plant and a group of anthracite coal

miners, both of which are dusty trades but in which the effects of the dust inhalation are delayed, showed greater frequency of disability of 2 days or longer from respiratory disease among those who quit than among those who remained at work up to a period of about 8 years' service. After that time the respiratory rates were more nearly equal in the two groups, as the effect of the dust hazard began to appear even in those relatively the most immune to its effects.

Occupational Health Hazards

RECORDS of disability from sickness are available for a few dusty trades. The highest sickness frequency was found among a group of gold miners, and the highest respiratory disease rate among the granite cutters of Vermont. High frequency rates for respiratory diseases were found in each of four dusty trades—gold mining, anthracite mining, granite cutting, and cement manufacturing. A very definite excess in the incidence of influenza and gripe was shown in the four dusty trades. There was a high incidence of rheumatism among both the gold and coal miners, and diseases of the skin were unusually prevalent in all the dusty trades studied, except granite cutting.

In spite of the unusually favorable selection of workers in the steel industry, due to the fact that the nature of the work demands only the stronger types of men, pneumonia is unusually high in this industry. In a study by the Public Health Service, it is shown that cases of influenza and pneumonia are abnormally frequent in the blast-furnace, coke-oven, and open-hearth departments, and in the open-hearth department, bronchitis as well. In each of these departments there is a heat hazard together with exposure to extremely wide variations in temperature.

Effect of the Economic Depression Upon Health

THE continued decline in mortality rates throughout the several years of severe economic distress led to the impression among many that the depression either had not adversely affected the health of the American people, or that any ill effects from it had been prevented by an efficient public-health system and program of social relief. In order to determine, therefore, the actual conditions among the depression poor, a study was made in 1933 by the United States Public Health Service and the Division of Research of the Milbank Memorial Fund, covering income, employment, and illness among about 12,000 families in 10 cities. In addition, a study of diet and housing conditions was made among a small group of families in each surveyed city, and school children in enumerated families were examined in two of the cities. The report under review includes only provisional sickness data in three of the canvassed cities—Birmingham, Detroit, and Pittsburgh.⁶

The districts selected for the survey were in the poorer sections of the cities, both well-to-do and slum areas being avoided as not containing a large enough representation of persons able and willing to

⁶ U. S. Public Health Service. Public Health Reports, Oct. 13, 1933: *Sickness and the Economic Depression; Preliminary Report on Illness in Families of Wage Earners in Birmingham, Detroit, and Pittsburgh*, by G. St. J. Ferrott, Selwyn D. Collins, and Edgar Sydenstricker.

work but having a high rate of unemployment at the time of the canvass. As even in these poorer districts there were families still in reasonably comfortable circumstances (i. e., with adequate food, clothing, and shelter), such families served as a control group whose illness record could be compared with that of families which had been in a state of comparative poverty for one or more years preceding the survey. In the selected districts every family was included unless information was refused, which was rarely the case.

The information was secured by house-to-house visits and included data regarding the occupation, income, and regularity of employment of each wage earner for each year from 1929 to 1932; the nationality, racial stock, and education of husband and wife; birth date, sex, and marital status; and illness of each member of the family during the 3 months prior to the enumeration visit, together with the extent of medical, hospital, nursing, and dental care received.

In the 3 cities studied schedules were secured from about 3,500 white families, and the data for 2,566 of these families, including 11,330 individuals, were found to be sufficiently complete to permit of their use. The persons included in the study were largely of the wage-earning class. In 1932 the chief wage earner in 18 percent of the families was without employment throughout the year. Taking into consideration all the wage earners in the family, however, in 1929 only 1 percent of the families had no employed workers, 16 percent had only part-time workers, and 83 percent had one or more full-time workers (including 2 percent in which the wage earner was living on income or pension). In 1932 the corresponding percentages were 12, 40, and 48, the per capita and family income, of course, following the same downward trend as the employment rates.

For the purpose of the inquiry, income included all receipts from any source; salary, royalties, interest, pension, earnings, borrowed funds, gifts, and public and private relief, in which was included the value of weekly food tickets from welfare institutions in cases where these were given. Among the group surveyed it was found that 25.2 percent had a total family income of less than \$1,200 in 1929, while in 1932, 69.3 percent of the families were in this class; only 9.1 percent had incomes in excess of \$2,000 in 1932 as compared with 40.3 percent in 1929.

Income Changes

IN THE study, classification of the households was made on the basis of family income per capita rather than total family income, since the latter figure takes no account of the size of the family. The surveyed group was divided into three parts—families having an income under \$150 per capita per year being designated as “poor”; those with from \$150 to \$424 as “moderate”; and those with \$425 and over as “comfortable.” In 1929 the “poor” group constituted only 10.3 percent of the total, but in 1932 it accounted for 45.1 percent, while the “comfortable” group dropped from 47.1 percent of the total in 1929 to 13.3 percent in 1932. There was no great change in the percentage in the “moderate” class in 1932, but this is accounted for by the fact that as some dropped to the low income group others from the higher income group took their places.

It was shown that only about one-fourth of the individuals in families economically “comfortable” in 1929 remained so in 1932,

and nearly an equal number had become "poor". More than half of those in moderate circumstances in 1929 had fallen into the "poor" class by 1932 and 9 out of 10 persons who were classified as "poor" in 1929 remained in that class throughout the 4 years. It is apparent, therefore, that very few persons had any increase in income during the depression and a very large proportion of the group suffered a drop in income.

Illness Rates and 1932 Income

THESE classifications of the families into groups having different types of economic history during the depression were used as the basis for comparing illness rates. While a large number of groups defined by an economic status might be used, the present report, because of the relatively small number of individuals included, limits the division to six categories depending upon whether or not the economic status had changed during the period.

The first group included individuals experiencing lowered family income per capita between 1929 and 1932, and was divided as follows: (1) Comfortable in 1929 and poor in 1932; (2) moderate in 1929 and poor in 1932; (3) comfortable in 1929 and moderate in 1932.

The second group included individuals who had not experienced lowered family income between 1929 and 1932 and were classified as comfortable, moderate, or poor in both 1929 and 1932.

Inquiry was made as to illness from all diseases and accidents, including mild as well as severe cases, covering the 3-month period prior to the enumerator's visit. As the sickness reports depended upon the memory of the informant, usually the housewife, it is considered that the records of disabling cases are probably better measures of real sickness than are the total cases, since the cases causing disability are more likely to be accurately and completely reported.

The illness cases were grouped according as their onset was prior to the survey period or within that period, and in each group the total number of cases is shown; the number of disabling cases, consisting of those which prevented the carrying on of usual activities; and the number of cases in which the patient was confined to bed for one or more days. All bed cases were included in the disabling class.

The illness rates are for the 3-month period of the survey, and were not reduced to an annual basis. The canvass in each of the three cities required from 3 to 4 weeks and the dates of the canvass were between March 20 and May 15, 1933, for all three cities.

The rate was lower among the higher-income groups for illnesses which had their onset within the survey period, but the group of illnesses that had their onset prior to the survey period shows no relation to income, being largely chronic cases. The disabling-case rate for illnesses within the survey period among the two lower-income groups (under \$250) was 35 percent higher and the bed-case rate 47 percent higher than among the group having an annual family income per capita of \$425 and over. Thus it appears evident that the persons in the poor group were more subject to illness than those in more comfortable circumstances.

A comparison of the illness rates of persons with diminishing incomes and those with unchanged income during the period 1929-32

showed an incidence of disabling illness 60 percent higher among persons who were comfortable in 1929 but poor in 1932 than among the group of persons who were comfortable throughout the period. The group which had dropped from comfortable to moderate showed a 15 percent higher disabling-illness rate than the comfortable group which had experienced no drop in income during the 4 years, while those families which had dropped from moderate to poor showed about the same illness rate as the group which had remained in moderate circumstances. When total illness rates are considered, these same trends are apparent and even the addition of the group of largely chronic cases bears out the fact that a relatively large drop in economic status appears to be connected with a high illness rate.

Unemployment and Illness

THE already established relationship between the incidence of illness and unemployment was confirmed by the study as the illness rate was found to be highest in the families having no employed workers (122 disabling cases per 1,000) and lowest in the households having full-time workers (88 per 1,000). The group with no employed workers had a higher illness rate than the group with annual per capita income under \$150; that is, 122 as against 103 disabling cases per 1,000 persons.

Conclusion

THE authors purposely refrained from drawing general conclusions from the findings of the study, it is pointed out, as it is obvious that from the experience recorded in the samples surveyed in three cities only, no estimate can be made as to how large a proportion of the entire wage-earning population in urban areas in the United States has suffered increased illness. However, for the localities surveyed it is shown that the highest rate of illness occurred in the group which was in reasonably comfortable circumstances in 1929 but which had dropped to comparative poverty in 1932, while the group of individuals who might be described as "chronically poor", that is, persons who were poor even in 1929, showed a relatively low sickness rate as compared with those who had become poor as a result of the economic depression. The rate of disabling illness reported from families of the unemployed was 39 percent higher than that of the group having full-time wage earners and 25 percent higher than that of the group containing part-time but no full-time workers.

Effect of Depression on Life Expectancy of Industrial Policyholders

THE expectation of life of the industrial policyholders of the Metropolitan Life Insurance Co. showed continued improvement throughout the depression years, 1929 to 1933, according to a report published in the company's statistical bulletin for February 1935. This improvement, however, did not continue evenly but proceeded at a slackening rate. In 1929 the life expectancy of the entire group at birth was 55.78 years. In 1930 it had increased by 1.58 years; in 1931 the gain was 0.54 year; and in 1932, 0.90 year. In 1933, however,

the gain over the preceding year was only 0.39 year, the expectation of life in that year standing at 59.19 years. The greatest gain, therefore, was made in the first year of the depression and the smallest in the fourth year. Data for the year 1934 were not complete, but provisional figures indicated that the life expectancy would be greater than in 1933. The great improvement in the life span is shown by the fact that in 1911-12 the life expectancy at birth among the industrial policyholders was only 46.63 years.

It has been a matter of surprise, the report states, that during these years of economic depression mortality rates and the corresponding expectation of life have continued to improve. It was to be expected that the economic strain of the past few years would have an adverse effect on health and that this would be shown by at least some increase in the death rate. It has been suggested that although there actually have been adverse influences on health these effects have not yet been apparent in the death rate. It is argued, however, against this point that while there can be no doubt that some of the ill effects of economic hardships may not produce results immediately fatal, the influence on mortality should be felt after a period of 5 years in so sensitive an instrument as a life table.

In the period from 1921 to 1929 the expectation of life varied somewhat irregularly but was, throughout, below the level of 1930 to 1933. The lowest life expectancy recorded in the period was 54.55 years in 1923 and the highest 56.42 in 1927.

LIFE EXPECTANCY AT SPECIFIED AGES AND PERIODS, BY COLOR AND SEX, AMONG INDUSTRIAL POLICYHOLDERS OF METROPOLITAN LIFE INSURANCE CO.

Age	Life expectancy (in years) in specified periods														
	Total persons			White						Colored					
				Males			Females			Males		Females			
	1933	1930-33	1925-28	1933	1930-33	1925-28	1933	1930-33	1925-28	1933	1930-33	1925-28			
10 years.....	54.42	53.84	52.36	53.00	52.75	51.67	57.01	56.53	55.10	46.44	45.61	44.84	48.31	47.36	45.89
15 years.....	49.74	49.21	47.73	48.35	48.13	47.14	52.27	51.83	50.46	41.98	41.23	40.61	43.81	43.03	41.75
20 years.....	45.24	44.78	43.55	43.83	43.65	42.74	47.68	47.30	46.09	37.94	37.35	36.91	39.90	39.33	38.28
25 years.....	40.92	40.54	39.49	39.43	39.28	38.49	43.26	42.96	41.93	34.14	33.75	33.48	36.28	35.91	35.06
30 years.....	36.70	36.38	35.46	35.10	34.98	34.27	38.93	38.67	37.79	30.50	30.19	29.98	32.63	32.42	31.71
35 years.....	32.54	32.27	31.46	30.86	30.79	30.00	34.63	34.39	33.65	26.99	26.71	26.56	28.99	28.89	28.34
40 years.....	28.47	28.25	27.57	26.78	26.76	26.18	30.37	30.16	29.55	23.59	23.37	23.28	25.45	25.45	25.00
45 years.....	24.54	24.38	23.84	22.90	22.93	22.48	26.21	26.04	25.55	20.35	20.25	20.18	22.09	22.19	21.79
50 years.....	20.84	20.71	20.27	19.35	19.37	18.99	22.22	22.09	21.71	17.47	17.36	17.21	18.90	19.11	18.74
55 years.....	17.36	17.27	16.89	16.10	16.12	15.76	18.45	18.36	18.04	14.77	14.64	14.45	15.86	16.21	15.86
60 years.....	14.15	14.10	13.79	13.14	13.18	12.85	14.98	14.94	14.69	12.27	12.15	11.93	13.13	13.59	13.27
65 years.....	11.35	11.30	11.05	10.57	10.57	10.26	11.98	11.94	11.75	10.12	9.97	9.85	10.82	11.33	10.99
70 years.....	8.94	8.88	8.71	8.29	8.32	8.08	9.42	9.38	9.27	8.37	8.14	8.09	8.85	9.44	9.10

The above table gives the expectation of life among industrial policyholders at every fifth year of age from 10 to 70, by color and sex, for the year 1933, and the averages for the period from 1930 to 1933 and for the period from 1925 to 1928. The year 1929 was omitted because it represented a transition from a period of prosperity to one of depression. The table shows that, without exception, the rates were better in the depression period, 1930 to 1933, than in the prosperity period, 1925 to 1928, for each color, sex, and age category.

The results of this study of life expectancy among industrial policyholders are confirmed by a series of life tables covering the mortality in the general population in the United States compiled by the same agency. These figures show that the expectation of life at birth in the general population was 59.57 years in 1930, 60.26 years in 1931, 61.07 years in 1932, and 61.26 years in 1933. Although the tables for the last 3 years are necessarily based on estimates of the population they are regarded as giving an essentially correct interpretation of the facts. It is seen, therefore, from these figures, as well as from the table covering the industrial policyholders, that the years of depression show highly favorable mortality conditions, with an improvement each year throughout the period.

Occupational Death Rates in 1930 ⁷

THE mortality rates among employed persons in 10 States in which occupation returns were sufficiently complete to justify their compilation have been computed by statisticians of the National Tuberculosis Association and the United States Bureau of the Census. The study covers gainfully occupied males between the ages of 15 and 64, and the data include a table showing all deaths occurring among the gainfully occupied in the 10 selected States—Alabama, Connecticut, Illinois, Kansas, Massachusetts, Minnesota, New Jersey, New York, Ohio, and Wisconsin—one covering the entire classification of occupations according to the United States Census Bureau index of occupations, numbering 532, and tables including all deaths among the gainfully occupied and deaths in those occupations in which the number was at least 500. The occupational data were, in general, narrowed down to the latter grouping, as it was decided that rates covering smaller groups would be subject to the variations inherent in small numbers.

Because of the fact that the occupation has generally not been satisfactorily reported on death certificates, preliminary studies were made to determine the adequacy of these reports, a comprehensive educational campaign was carried on among State and city registrars of vital statistics and undertakers who fill out the occupational inquiries on death certificates, and a pamphlet published by the Bureau of the Census, giving information on occupations and outlining the need and importance of death rates by occupation, was distributed largely through State registrars to a large number of persons. These steps, together with the use by a number of States of a new form of death certificate in which the occupational data are more specific, paved the way for better reporting for purposes of the study.

It was at first intended to use mortality data for a 3-year period, but for various reasons it was found necessary to limit the period to the year 1930. The 10 States included in the study have 38 percent of the total population of continental United States, and the gainfully occupied men in these States comprise 39 percent of all gainfully employed men. Various factors affect a study of this kind, such as the frequent changing of occupations particularly as a result of ill health or old age, with the result that at death there may be little or

⁷ National Tuberculosis Association. *Death Rates by Occupation, Based on Data of the United States Census Bureau, 1930.* Edited by Jessamine S. Whitney. New York, 50 West Fiftieth Street, 1934.

no connection between the occupation last engaged in and the one which was the cause of disablement. Also, in addition to the effect on survival of the hazards of different occupations, there is the effect of economic or social status, or of different standards of living. Difficulties arise when an attempt is made to classify an occupation by economic status, since there may be many different classes within one general classification. In making such classifications, however, the economic status of the majority of the group must, of necessity, be the standard.

In table 1 the occupied males have been grouped in seven main classes consisting of professional persons; proprietors, managers, and officials; clerks and kindred workers; skilled workers and foremen; semiskilled workers; unskilled workers; and agricultural workers. Although agricultural workers do not represent an economic class in the same sense as do the other six groups, inclusion of farmers with proprietors, managers, and officials, and of farm workers with unskilled workers, would distort the mortality rates of these groups.

At the time the Federal census was taken in April 1930, 14,013,367 men between the ages 15 to 64, inclusive, were employed in the 10 States, and during the calendar year 1930 the deaths of 121,951 occupied men were recorded, giving an average general death rate of 8.7 per 1,000. Standardized death rates based on the age distribution of all gainfully occupied males in the 10 States were computed, since some occupations, such as watchmen, for example, have a preponderance of old, while others have mainly young, men.

Table 1 shows specific and standardized death rates for the seven social-economic classes, by age groups, including all deaths reported in the 10 States between the ages of 15 and 64, inclusive.

TABLE 1.—NUMBER OF DEATHS, AND DEATH RATES PER 1,000, FROM ALL CAUSES AMONG GAINFULLY OCCUPIED MALES 15 TO 64 YEARS OF AGE IN 10 STATES, BY AGE GROUPS AND SOCIAL-ECONOMIC CLASSES, 1930

Social-economic class	Age groups					
	15 to 24 years			25 to 44 years		
	Gainfully occupied males	Deaths	Specific death rates (per 1,000)	Gainfully occupied males	Deaths	Specific death rates (per 1,000)
All classes.....	2,735,630	8,615	3.15	7,148,481	39,299	5.50
Professional men.....	82,656	187	2.26	372,415	1,291	3.47
Proprietors, managers, and officials.....	72,972	227	3.11	787,122	3,277	4.16
Wholesale and retail dealers.....	44,773	143	3.19	378,960	1,760	4.64
Others.....	28,199	84	2.98	408,162	1,517	3.72
Clerks and kindred workers.....	616,637	1,420	2.30	1,130,413	4,645	4.11
Agricultural workers.....	474,090	1,304	2.75	816,463	3,117	3.82
Skilled workers and foremen.....	333,936	1,018	3.05	1,524,979	7,431	4.87
Semiskilled workers.....	634,348	2,019	3.18	1,323,657	8,101	6.12
Manufacturing.....	382,099	1,122	2.94	709,263	4,443	6.26
Others.....	252,249	897	3.56	614,394	3,658	5.95
Unskilled workers.....	520,991	2,440	4.68	1,193,432	11,437	9.58
Factory and building construction laborers.....	275,205	1,560	5.67	568,684	7,200	12.66
Other laborers.....	167,524	528	3.15	398,913	2,332	5.92
Servant classes.....	78,262	352	4.50	230,535	1,905	8.25

SICKNESS AND DEATH STATISTICS

TABLE 1.—NUMBER OF DEATHS, AND DEATH RATES PER 1,000, FROM ALL CAUSES AMONG GAINFULLY OCCUPIED MALES 15 TO 64 YEARS OF AGE IN 10 STATES, BY AGE GROUPS AND SOCIAL-ECONOMIC CLASSES, 1930—Continued

Social-economic class	Age groups						
	45 to 64 years			Total			
	Gainfully occupied males	Deaths	Specific death rates (per 1,000)	Gainfully occupied males	Deaths	Standardized death rates ¹	Specific death rates (per 1,000)
All classes.....	4,129,256	74,037	17.93	14,013,367	121,951	8.70	8.70
Professional men.....	181,537	2,950	16.25	636,608	4,428	7.00	6.96
Proprietors, managers, and officials.....	566,331	8,936	15.78	1,426,425	12,440	7.33	8.72
Wholesale and retail dealers.....	288,782	4,722	17.57	692,515	6,625	8.17	9.57
Others.....	297,549	4,214	14.16	733,910	5,815	6.65	7.92
Clerks and kindred workers.....	469,427	7,728	16.46	2,216,477	13,793	7.40	6.22
Agricultural workers.....	717,777	9,058	12.62	2,008,330	13,479	6.21	6.71
Skilled workers and foremen.....	867,077	14,833	17.11	2,725,992	23,282	8.12	8.54
Semiskilled workers.....	585,757	12,161	20.76	2,543,762	22,281	9.86	8.76
Manufacturing.....	353,897	7,528	21.27	1,445,259	13,063	10.03	9.06
Others.....	231,860	4,633	19.98	1,098,503	9,188	9.62	8.36
Unskilled workers.....	741,360	18,371	24.78	2,455,773	32,245	13.10	13.13
Factory and building construction laborers.....	338,652	11,139	32.89	1,182,541	19,899	17.26	16.83
Other laborers.....	282,210	4,051	15.45	823,647	6,911	8.18	8.39
Servant classes.....	140,488	3,181	22.64	449,585	5,438	11.76	12.10

¹ Standardized according to age distribution of all gainfully occupied males in 10 selected States.

Table 2 compares the rates for gainfully occupied males in selected occupations with those for all males in the 10 selected States and all males in the United States registration area.

TABLE 2.—DEATH RATES FROM SPECIFIED CAUSES PER 100,000 MALES, 1930

Cause of death	Death rates per 100,000 males, 15 to 64 years of age		
	All males in United States registration area	10 selected States	
		All males	Gainfully occupied males in selected occupations
All causes.....	897.9	872.4	906.5
Diseases of the heart.....	159.7	170.5	174.4
Tuberculosis, all forms.....	99.1	92.4	95.1
Tuberculosis of the respiratory system.....	91.4	84.6	87.4
Other forms of tuberculosis.....	7.7	7.9	7.8
Cancer and other malignant tumors.....	65.9	77.9	81.3
Pneumonia.....	63.6	63.7	69.0
Nephritis.....	63.1	56.8	57.6
Cerebral hemorrhage and softening of the brain.....	49.2	43.9	41.7
Suicide.....	30.9	31.9	35.2
Appendicitis.....	20.1	19.7	20.7
Accidental traumatism by fall.....	16.0	18.7	19.3
Diabetes mellitus.....	11.5	12.5	12.0
Ulcer of the stomach and duodenum.....	11.5	12.2	13.5
Cirrhosis of the liver.....	9.2	10.2	10.6
Alcoholism (acute or chronic).....	8.8	10.5	11.9
Hernia, intestinal obstruction.....	8.0	7.8	8.4
Accidental burns (conflagration excepted).....	4.4	3.9	4.1
Accidental absorption of poisonous gas.....	3.9	5.3	5.9
Acute rheumatic fever, chronic rheumatism, osteoarthritis, and gout.....	2.6	2.9	2.6
All other causes.....	270.4	231.5	242.9

The mortality rate from all causes for the group in selected occupations is shown to be slightly higher than that for either of the other two groups, due largely to higher rates for heart disease, cancer, pneumonia, and suicide in the employed group. The highest rates for the chronic incapacitating diseases such as tuberculosis, nephritis, and cerebral hemorrhage not immediately fatal were found among "all males", due, it is considered, to the fact that many suffering from these diseases are unemployable for long periods. Alcoholism and cirrhosis of the liver, and ulcer of the stomach and duodenum were somewhat higher in the employed group, while the rates for accidents, except for accidental burns, were also higher than for the other two groups. The report states that "although, when the entire population is considered, tuberculosis is now seventh in rank in the country as a whole as a cause of death, this table shows that it is the second cause of death among men aged 15 to 64 years in the United States, and also the second cause of death among gainfully occupied men in the same age group."

Mortality Rates of Coal Miners

A HIGH rate of mortality among coal miners—both anthracite and bituminous—from diseases of the respiratory system was shown in a study⁸ published by the United States Public Health Service. The data for anthracite miners were obtained from the death records of the city of Wilkes-Barre for the period 1915-23 and for the smaller cities and towns in that region for varying periods between 1906 and 1925. The data on mortality for bituminous miners were supplied by the United States Bureau of Mines.

Since the number of men in the occupation among whom the deaths occurred is not known and adequate occupational histories of the decedents are lacking, mortality rates cannot be based on the number of miners known to be living at a given time, and it is necessary to base the rates on proportionate mortality; that is, the percentage of deaths from any given cause. "Since the mortality from all causes will not be the same", the report states, "in any two groups compared, the percentage of deaths from a specific disease is not an altogether reliable index of the mortality from that cause. Real differences in mortality may be deduced, however, from rather wide differences in the proportion of deaths from a given cause in one group of decedents as compared with another group at the same ages."

Mortality Rates of Anthracite Miners

A LARGE proportion—39 percent—of the deaths among coal miners at ages 15 to 65 in the Wilkes-Barre region were due to accidents, as compared with 10 percent of the deaths of nonminers from this cause in the same age group. In order to avoid obscuring any excessive death rate from any given disease, therefore, the deaths from accidents were not included in the mortality data. It was found, after excluding deaths from accidents, that a relatively high proportion of deaths from influenza and pneumonia occurred among anthracite miners, the pro-

⁸ U. S. Treasury Department. Public Health Service. Public Health Bulletin No. 210: Mortality of Coal Miners, by Dean K. Brundage. Washington, 1933.

portion being 39.8 percent among coal miners as against 25.3 percent among males in Wilkes-Barre and vicinity who had been employed in other occupations. The proportionately higher death rate from this cause prevailed also in 1918, the year of the great influenza epidemic when the percentages were 82.1 among coal miners as against 61.3 among other adult males. In 1920, when there was another but less severe epidemic, the rates were 40.4 and 26.9, respectively, and in other years, between 1906 and 1925, the rates were 23.9 and 13.4. The latter figures cover 2 years in which there were minor epidemics, but the total number of years covered is so large that the effect of these years on the rates is comparatively small. Although the rates were naturally much lower in the nonepidemic years, the rates from influenza-pneumonia were relatively more unfavorable to the anthracite miners in those years.

It is well known that there was heavy excess mortality in the 1918 epidemic at the younger adult ages, especially in the 25 to 35 year group. While the highest proportion of deaths in the anthracite groups as well as in the general population occurred at these ages, the mortality was relatively greater among the miners between the ages of 45 and 65 than at ages below 45. This indicates, it is stated, that the hard-coal miners possessed less resistance to the disease than did other males of the same ages in the same localities. Approximately the same condition obtained in the epidemic year of 1920. During the period 1906-25, exclusive of 1918 and 1920, the heaviest excess mortality from influenza-pneumonia among the miners occurred between the ages of 45 and 65, the ages at which the slow effect of an industrial dust hazard usually becomes apparent. As a matter of fact, the report states, "the conclusion appears inescapable that the older anthracite coal miners are exceptionally liable to death from influenza and pneumonia, not only during heavy outbreak of epidemic influenza, but also during interepidemic periods."

A study of mortality among Welsh coal miners in a district mining mainly anthracite, in which the death rates were standardized to eliminate differences due to the age composition of the groups, showed that the rate from influenza and pneumonia among hewers and getters of coal was 44 percent higher in the years 1921-23 than among men of similar social status in England and Wales as a whole. These figures appear to confirm the conclusion reached in the Wilkes-Barre study that hard-coal mining seems to involve an abnormal mortality from influenza and pneumonia.

A higher relative mortality among anthracite miners in this country than among the general population is shown also for respiratory tuberculosis. The percentage of deaths from this cause after deaths due to accidents, influenza, pneumonia, and anthracosis or miners' asthma were excluded, was 18.1 males in anthracite mining between the ages of 15 and 65 and 12.7 for males in other industries. The standardized death rate among hewers and getters in the South Wales coal field did not show with certainty that these workers suffer an excess of mortality from tuberculosis of the lungs, but in the absence of actual death rates for American miners the proportion of deaths from tuberculosis was computed for Welsh miners in the same way as for the Wilkes-Barre group, accidents, influenza, pneumonia, and pneumoconiosis being omitted. This showed that 30.1 percent of the deaths among Welsh anthracite miners resulted from tubercu-

losis of the respiratory system, as compared with 21.9 percent among other men of the same social class. In both Wales and Wilkes-Barre the proportion of cases was 1.4 times the rate of that for the population group with which they were compared. As the figures for Wilkes-Barre cover about 4.5 times the number of hard-coal miners included in the English data, it appears that greater reliance may be placed on the ratio of 1.4 shown for Wilkes-Barre, and that Pennsylvania anthracite miners may therefore have a significantly high death rate from respiratory tuberculosis, although this cannot be proved in the absence of knowledge of the number of miners among whom the deaths occurred. An excess of tuberculosis, it is said, may be expected in view of the rock drilling necessary in connection with the actual coal mining, which often results in exposure to quantities of dust containing free silica.

Bringing the disease data for all respiratory diseases together, it was found that the proportion of deaths from this cause among the anthracite miners was 57.6 percent as compared with 37.2 percent among other men in the community at the same ages. Among the Welsh miners it was found that the mortality for the ages 16 to 65 was 53 percent for all respiratory diseases and 38.2 among males in the same social class.

Rates for nonrespiratory diseases do not show any significant differences between miners and the other groups, although somewhat higher rates are shown among miners in this country for certain of the so-called "degenerative" diseases. The outstanding feature in the data for both Wilkes-Barre and Wales is said to be the extraordinary mortality from influenza and pneumonia both during influenza epidemics and at other times.

Mortality of Bituminous-Coal Miners

THE mortality records of bituminous-coal miners relate to the States of Indiana, Illinois, Missouri, and Wyoming, but Illinois was considered separately as data were not available according to 10-year age groups. As in the anthracite study, all deaths from accidents were excluded.

The study showed that influenza and pneumonia caused 31 percent of the mortality among coal miners aged 16 to 70 in Indiana, Missouri, and Wyoming, as compared with 19 percent among both farmers and all males at these ages in the same localities. The rates in 1918, the year of the great epidemic, were 55 percent among miners, 27 percent among farmers, and 34 percent among all other males. Among the bituminous workers the greatest excess mortality in 1918 in comparison with the general population was experienced at ages 40 to 60. This excess mortality was also experienced among the older miners in the epidemic year of 1920. In interepidemic years, however, the differential mortality from influenza and pneumonia among bituminous miners was greatest at ages 16 to 40.

A rather favorable condition in regard to respiratory tuberculosis in the mining group was shown, as the rate was lower than for all other males up to the age of 60, although between the ages of 60 and 70 it was slightly higher.

The mortality figures for bituminous-coal miners in Illinois, although not on a strictly comparable basis, showed little difference from the rates for miners in the other three States.

In England and Wales, while the rate for tuberculosis among hewers and getters of soft coal was generally favorable, there was an excess mortality rate for bronchitis among these workers. The favorable rate for tuberculosis, however, offset the unfavorable death rates for the other respiratory diseases, so that the mortality from respiratory disease as a whole was about the same as for others in the same social class.

In summing up the data for the anthracite and the bituminous groups, the report states that the percentage of deaths caused by all respiratory diseases was higher among the soft-coal miners than among other males at the same ages in the coal-producing counties in Indiana, Missouri, and Wyoming, in spite of their more favorable tuberculosis mortality, and an even larger proportion of deaths from these causes was found among the anthracite miners in Pennsylvania.

Cases of Industrial Anthrax, 1929 to 1933⁹

THE incidence of industrial anthrax showed no apparent diminution in manufacturing industries during the 5-year period, 1929-33, while there was a continuing increase in the occurrence of this disease in agriculture and stock-handling, according to a report presented by a special committee at the 1934 convention of the American Public Health Association. A decrease in tannery anthrax was reported, but this was considered to be due more to decreased industrial activity than to improved conditions. Increase in the number of cases of wool anthrax had continued, and two cases of shaving-brush anthrax were reported.

The committee sent questionnaires to the health departments, or vital statistics departments, of all the 48 States, 39 of which replied to the inquiry. Of the 39 States reporting on the question, 30 stated that one or more cases had occurred in the period from January 1, 1929, to December 31, 1933; in 19 States the cases were reported by cause. During the period 342 cases were reported, the source of the infection being determined in 225 cases.

The accompanying table shows the cause, by States, in those cases of anthrax in which the cause was determined.

The general fatality rate based on the total number of cases reported was 19 per 100 in 1929, 23 in 1930, 17 in 1931, 41 in 1932, and 20 in 1933. The number of deaths reported per year in States reporting more than 10 cases increased in the period 1929-33 as compared with the years 1927 and 1928, in Delaware, Massachusetts, and Texas, and the number of cases reported per year increased in these same States and in California. In California and Texas the cases were said to be probably all agricultural in origin, although Texas did not report by source of infection.

Wool anthrax, which was responsible for a total of 67 cases in 7 States, was said to be caused probably by cheap imported wools. Anthrax in tanneries was reported in 73 cases, and 2 cases in freight handlers of skins and hides were also reported. Agricultural anthrax, which was reported by 14 States, was responsible for 58 cases.

⁹ American Public Health Association Year Book, 1934-35. Report of Committee on Industrial Anthrax at the 1934 meeting of the American Public Health Association. New York, 50 West 50th Street, 1935.

SOURCE OF INFECTION OF ANTHRAX CASES, 1929-33

State	Total number of cases	Number of cases of anthrax reported as arising from infection from—							
		Skins and hides, tanneries	Wool	Animals, agriculture	Hair and fur	Transportation of animal products	Brushes	Laboratory infections	Leather
Total.....	225	73	67	58	15	5	4	2	1
Percent of total.....	100	32	30	26	7	2	2	1	(1)
Arizona.....	1			1					
California.....	20			20					
Colorado.....	1			1					
Connecticut.....	8		4		1	2	1		
Illinois.....	2		1				1		
Indiana.....	2		1						
Kansas.....	1			1					
Louisiana.....	15			15					
Maine.....	1			1					
Maryland.....	1			1					
Massachusetts.....	43	37	4		1				1
Minnesota.....	2			2					
New Jersey.....	25	16	4		4	2			
New York.....	50	9	36	1	2		1	1	
North Carolina.....	1			1					
Ohio.....	1			1					
Pennsylvania.....	48	11	17	10	8	1		1	
Vermont.....	1						1		
Virginia.....	2			2					

¹ Less than one-half of 1 percent.
² Shaving-brush cases.

³ Possibly due to fertilizer.
⁴ 2 of these cases probably due to wool.

The method of treatment was reported in 143 cases, and it was found that there is less and less use of any form of operative interference. Antianthrax-serum injections, intravenous, intramuscular, and local, with or without other specific agents such as antiseptics and mercurochrome, are the methods most frequently chosen. Of 143 cases in which the method of treatment was reported, 124 were treated with serum; in 81 of these cases serum alone was used, while in the remainder serum was combined with one or more other methods of treatment such as cautery, excision, incision, antiseptics, and mercurochrome. In 4 cases serum was combined with arsenicals; in 5 cases arsenicals were used without serum, while in 10 cases no serum or arsenicals were used but the treatment consisted of excision, alone or with cautery, and incision, alone or with antiseptics. Unfortunately, because of lack of data, it was impossible to correlate the treatment with the outcome of cases. Treatment with serum injections, if used early and freely, is said usually to give excellent results. The newer method of intravenous injection of some form of organic arsenic, with or without serum, which is becoming more and more popular in Europe is being used by comparatively few clinicians here.

Agricultural anthrax is still definitely on the increase, while wool anthrax is a definite menace in several manufacturing States. In general, except in a few States, there is no tendency toward a decrease in the number of fatalities; this is due, it is thought, to the increasing number of cases of anthrax in agriculture where serum is less readily available and where infection is with large numbers of vegetable forms rather than with spores.

There seems to be general agreement among writers on the subject that if a bacteriologic diagnosis cannot be made from stained smears, culture and animal inoculation should be resorted to. Double and multiple infections occur at times and it is possible that there may be recurrences, although they are not usual. The presence of bacteria in the blood is a late occurrence in pulmonary anthrax. Nervous tissue is especially receptive to anthrax infection and meningeal infections may cause death with no local lesions.

It appears from the literature on the subject that wool and wool clothing are not infrequent sources of origin of anthrax infection. Textile-mill machinery may become infected and the infection may thus be transmitted in the process of manufacture or through the manufactured materials.

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Handbook of Labor Statistics: 1936 edition

Committee on Economic Security

THE Committee on Economic Security was created by President Roosevelt late in June 1934 in an Executive order issued shortly after he pointed out in a message to Congress that the chief objective of the administration was "the security of the men, women, and children of the Nation." The committee was charged with the task of studying the problem of economic security for the individual as the basis for formulation of sound legislation.

The Secretary of Labor, Frances Perkins, was chairman of the committee. Other members were Secretary of the Treasury Henry Morgenthau, Attorney General Homer S. Cummings, Secretary of Agriculture Henry A. Wallace, and Federal Emergency Relief Administrator Harry L. Hopkins. Dr. Edwin E. Witte, executive director of the committee, was in charge of the research and assembling of the basic data for the committee. The committee had the assistance of a technical board composed of 20 authorities in the Government service having special knowledge of the various phases of economic security, an advisory council composed of representative citizens, and seven other advisory groups.

The Committee submitted its report and recommendations to the President on January 15, 1935, and these were made public on January 16. The basic principles laid down in the report were embodied in the social security bills introduced in the United States Congress.

Federal Social Security Act, August 1935

THE principal features of the Federal Social Security Act, as approved by the President on August 14, 1935, are given in the following summary:

(1) States having noncontributory *old-age assistance* plans which have been approved by the Social Security Board, shall receive Federal assistance in providing for aged needy individuals. The State plans may not require an age limit in excess of 65 years after the year 1939, but prior to 1940 the limit may be as high as 70 years. Federal aid is limited to \$15 per month per individual plus certain appropriations for administration.

(2) A Federal *old-age annuity* system is created by which qualified individuals are assured benefits upon reaching the age of 65, or on January 1, 1942, whichever is later. The maximum pension under this plan is \$85 per month. The pension is not payable to persons, even after they reach 65, while they have regular employment.

(3) States having approved systems of *unemployment compensation* will receive assistance in administering their unemployment compensation laws. An unemployment trust fund will be established

by the Secretary of the Treasury to receive the moneys deposited therein by the State unemployment funds. An excise tax is levied on the pay rolls of employers who have employed 8 or more persons for 20 weeks in the calendar year. The taxpayer may credit against this tax 90 percent of the amount paid into an unemployment fund under a State law. It is provided that a State system may follow either the individual reserve system or the plan for pooled funds.

(4) In order to furnish assistance to needy *dependent children*, States having approved plans may receive Federal assistance. Eligibility for aid depends upon the law of the particular State, but no plan will be approved if it has a more stringent residence requirement than residence in the State for 1 year immediately preceding the application for aid or residence by the mother for 1 year immediately preceding the birth of such a child. The age limit is 16 years.

(5) Grants are made to States for *maternal and child-health* services for the purpose of enabling each State to take proper steps for the promotion of the health of mothers and children. This service is to include proper medical and other care for crippled children.

(6) The *vocational rehabilitation of the physically disabled* is provided for in cooperation with the States and Hawaii.

(7) Adequate *public health* services shall be maintained, a fixed sum being appropriated for division among the States by the Surgeon General of the Public Health Service. The amount allotted to the States shall be determined on the basis of need and the special health problems. Provision is also made for investigation of diseases and problems of sanitation.

(8) State plans for the assistance of needy individuals who are *permanently blind* will receive Federal assistance. Persons who are receiving old-age assistance are not eligible for aid.

A more detailed analysis of the law follows.

Grants to States for Old-Age Assistance

STATE old-age assistance plans, in order to secure the approval of the Board, must be effective in all political divisions of the State; must provide for financial participation by the State; and must be administered or have the administration supervised by a single State agency. Methods of administration must be satisfactory to the Board. Until July 1937 the requirement of State financial participation is inapplicable to States whose constitutions prevent such participation.

The State plans, in order to receive the approval of the Board, may not require an age limit in excess of 65 years, although, effective until January 1, 1940, an age requirement of as much as 70 may be imposed. The residence requirement may not exclude persons who have resided in the State for 5 years during the 9 years, and continuously for 1 year, immediately preceding the application for old-age assistance, nor may any citizenship requirement be prescribed which excludes any citizen of the United States.

The act authorizes the appropriation in each fiscal year of a sum sufficient to carry out the purposes of the act.

Payment to States.—The Secretary of the Treasury is directed to pay to each State having an approved plan for old-age assistance, for each quarter an amount, to be used exclusively for this purpose, equal to

one-half the amount expended by the State, but not to exceed an expenditure per individual in excess of \$30 a month, plus 5 percent of this amount to be used for the costs of administration of the State plan or for old-age assistance or for both. Assistance to inmates of public institutions and persons under 65 will not be matched.

Federal Old-Age Benefits

AN "OLD-AGE reserve account" is created in the Treasury of the United States, for which an amount sufficient as an annual premium to provide for the payments required under this title shall be appropriated for each fiscal year beginning with the fiscal year ending June 30, 1937. This amount is to be determined on a reserve basis, and based upon such tables of mortality as the Secretary of the Treasury shall from time to time adopt, and upon an interest rate of 3 percent per annum compounded annually. Amounts credited to the account not required to meet current withdrawals shall be invested in interest-bearing obligations guaranteed as to both principal and interest by the United States. Any obligations acquired for the account must be acquired on such terms as to provide an investment yield of not less than 3 percent per annum.

Old-age benefit payments are payable to persons employed in any service performed within the United States, under the Federal old-age benefit system, with the exception of agricultural labor, domestic service in a private home, casual labor not in the course of the employer's trade or business, Federal employment, employment for a State or a political subdivision, employment as a member of the crew of a vessel, and employment in any organization operated exclusively for religious, charitable, scientific, literary, or educational purposes or for the prevention of cruelty to children or animals, no part of the net earnings of which accrues to the benefit of any private shareholder or individual.

Qualified individuals, as defined above, shall be entitled to receive with respect to the period beginning with the date on which they attain the age of 65, or on January 1, 1942, whichever is the later, and ending on the date of death, an old-age benefit payable as nearly as practicable in equal monthly installments. If the total wages after December 31, 1936, and before the age of 65 was attained did not exceed \$3,000, the old-age benefit shall be at a monthly rate of one-half of 1 percent of the total wages, but if the total wages were more than \$3,000 the benefit will be at a monthly rate equal to one-half of 1 percent of \$3,000, plus one-twelfth of 1 percent of total wages between \$3,000 and \$45,000, and one twenty-fourth of 1 percent of total wages in excess of \$45,000 but in no case shall the monthly rate so computed exceed \$85. Qualified individuals receiving wages in regular employment after reaching the age of 65 shall have the old-age benefit reduced by an amount equal to 1 month's benefit for each calendar month in which any such regular employment occurs.

Payments amounting to $3\frac{1}{2}$ percent of the total wages paid after December 31, 1936, will be made to the estate of individuals dying before reaching the age of 65.

Individuals not qualified for benefits will upon reaching the age of 65 receive a lump sum equal to $3\frac{1}{2}$ percent of the total wages received with respect to employment after December 31, 1936, and before

attaining the age of 65, and any part of such payment which is not paid before death will be paid to the estate of such individuals.

The term "qualified individual" means any person who is eligible for old-age benefit by reason of his type of employment, who is at least 65 years of age, has received a total of not less than \$2,000 in wages after December 31, 1936, and before reaching the age of 65, and has received wages with respect to employment on some 5 days after December 31, 1936, and before he attained the age of 65, each day being in a different calendar year.

Taxes with Respect to Employment

EVERY regular worker (excluding farm labor, domestic service, etc.) must pay a tax on the wages received by him after December 31, 1936, amounting to 1 percent for the calendar years 1937 to 1939, to 1½ percent from 1940 to 1942, 2 percent during the years 1943 to 1945, 2½ percent during the years 1946 to 1948, and 3 percent after December 31, 1948. This tax will be deducted from his wages by his employer. These taxes may not be deducted by the taxpayer in computing his net income for the Federal income tax.

An excise tax, which is equal to and is calculated on the same basis as that for the employees, is imposed upon employers on wages paid after December 31, 1936.

The term "wages" means all remuneration for employment up to a maximum of \$3,000 from a single employer in a single year. The term "employment" includes all qualified individuals performing services for an employer as defined above.

The taxes shall be paid in such ways as may be prescribed by the Commissioner of Internal Revenue, including the making and filing of returns, or by stamps, coupons, tickets, etc.

Grants to States for Unemployment Compensation Administration

THE law authorizes an appropriation of \$49,000,000 for each fiscal year after the year ending June 30, 1936, to be used in assisting the States in the administration of their unemployment compensation laws.

The Social Security Board shall from time to time certify to the Secretary of the Treasury for payment to each State which has an approved unemployment compensation law such amounts as the Board determines to be necessary for the proper administration of the law during the fiscal year in which the payment is made. The amount will be based on the population of the State, the estimated number of persons covered by the State law, and the cost of proper administration of the law, together with any other relevant factors.

Immediate payment shall be made of all money received in the unemployment fund of a State to the Secretary of the Treasury, to the credit of the unemployment trust fund; and all money requisitioned by the State agency from the fund must be expended in the payment of unemployment compensation, exclusive of costs of administration.

Unemployment Trust Fund

AN UNEMPLOYMENT trust fund is established by the law, which authorizes the Secretary of the Treasury to receive all moneys de-

posited therein by the State unemployment funds. These deposits may be made directly to the Secretary of the Treasury or to any Federal Reserve bank or member bank of the Federal Reserve System designated by him for such purpose. Such portion of the fund as is not required to meet current withdrawals shall be invested in interest-bearing obligations of the United States or in obligations guaranteed as to both principal and interest by the United States.

The fund must be invested as a single fund, but a separate book account must be maintained for each State agency. The Secretary of the Treasury shall pay out of the fund to any State agency such amount as it may requisition but not to exceed the amount standing to the account of the agency at the time of payment.

Tax on Employers of Eight or More

ON AND after January 1, 1936, any employer who has had a total of eight or more individuals in his employ during 20 days in the calendar year, each day being in a different calendar week, shall pay for that year an excise tax equal to the following percentage of total wages: With respect to employment during the calendar year 1936, 1 percent; 2 percent for the year 1937; and 3 percent with respect to employment after December 31, 1937. The taxpayer may credit against this tax the amount of contributions with respect to employment during the taxable year paid by him into an unemployment fund under a State law, but the total credit may not exceed 90 percent of the tax against which it is credited.

In addition to the credit allowed, a taxpayer may be allowed an additional credit when his contribution rate under a State law is lower for any taxable year than that of another employer subject to the law if the Board finds that—

(1) Such lower rate, with respect to contributions to a pooled fund, is permitted on the basis of not less than 3 years of compensation experience;

(2) Such lower rate, with respect to contributions to a guaranteed employment account, is permitted only when his guaranty of employment was fulfilled in the preceding calendar year, and such guaranteed employment account amounts to not less than 7½ percent of the total wages payable by him, in accordance with such guaranty, in the preceding calendar year;

(3) Such lower rate with respect to contributions to a separate reserve account is permitted only when compensation has been payable throughout the preceding calendar year, when such an account amounts to not less than 5 times the largest amount of compensation paid from such account within any 1 of the 3 preceding calendar years, and when the account amounts to not less than 7½ percent of the total wages paid by him and any other employers contributing to the account in the preceding calendar year. If these conditions are not fulfilled the additional credit will be reduced by an amount corresponding to the ratio to such additional credit that the amount of contributions made at the lower rate bears to his total contributions.

The term "reserve account" means a separate account in an unemployment fund maintained by an employer or group of employers for the payment of unemployment compensation to persons in the em-

ployment of such employer. A "pooled fund" is an unemployment fund, or any part thereof, in which all contributions are mingled and undivided and from which compensation is payable to all eligible individuals. A "guaranteed employment account" is a separate account in an unemployment fund maintained by an employer or group of employers under which there is guaranteed in advance to all employees 30 hours of wages for each 40 calendar weeks in 12 months, with 1 weekly hour deducted for each added week guaranteed. A probationary period of 12 weeks or less may be imposed before any individual is covered by the guaranty. Under such a plan the employer must give security or assurance to the State agency for the fulfillment of the guaranty.

The term "contributions" means payments required by a State law to be made by an employer into an unemployment fund, to the extent that such payments are made by him without any part thereof being deducted or deductible from the wages of individuals in his employ.

Employment under the unemployment compensation section of the act covers any service of whatever nature performed within the United States, with the exception of agricultural labor, domestic service in a private home, work performed for members of the family of an individual, service as an officer or member of the crew of a vessel, Federal services, employment by a State or a political subdivision thereof, and service in organizations operated exclusively for religious, charitable, scientific, literary, or educational purposes or for the prevention of cruelty to children or animals, no part of the net earnings of which inures to the benefit of any private shareholder or individual.

Certification of State laws.—The Social Security Board shall approve within 30 days any State law submitted to it if it finds the act provides that: Compensation is to be paid through State public employment offices or such agencies as the Board may approve; no compensation shall be payable for unemployment within 2 years from the date when contributions are first required; all money received in the unemployment fund shall immediately be paid to the credit of the unemployment trust fund in the United States Treasury; all money withdrawn from the unemployment trust fund by the State agency shall be used solely in the payment of compensation, exclusive of costs of administration; and compensation shall not be denied to any otherwise eligible individual for refusing to accept new work if the position is due directly to a labor dispute, if the wages, hours, or other working conditions are substantially less favorable than those prevailing for similar work in the locality, or if as a condition of employment the individual would be required to join a company union or to resign from or refrain from joining any bona fide labor organization. The legislature must retain the power to amend or repeal the law at any time.

Taxes are collected by the Bureau of Internal Revenue and returns must be made by each employer not later than January 31 next following the close of the taxable year.

No person required under a State law to make contributions to an unemployment fund may be relieved from such contributions on the ground that he is engaged in interstate commerce.

Grants to States for Aid to Dependent Children

IN ORDER to enable each State to furnish financial assistance as far as practicable to needy dependent children there is authorized to be appropriated for each fiscal year a sum sufficient to carry out this purpose. These sums will be used for making payments to States which have submitted, and had approved by the Social Security Board, State plans for aid to dependent children.

A State plan must cover all political subdivisions of the State, must provide for financial participation by the State, and must provide for its administration or supervision by a single State agency, which must report in such form as the Social Security Board may from time to time require.

No plan may be approved which imposes as a condition of eligibility a residence requirement which denies aid to any child who has resided in the State for 1 year immediately preceding the application for aid, or who was born within the State within 1 year immediately preceding the application if its mother has resided in the State for 1 year immediately preceding the birth.

The Secretary of the Treasury shall pay to each State which has an approved plan an amount for each quarter equal to one-third of the total sums expended during the quarter, but not to exceed \$18 per month for any dependent child, or \$12 per month for each additional dependent child in the same home.

The term "dependent" child means a child under the age of 16 who has been deprived of parental support or care by reason of the death, continued absence from the home, or physical or mental incapacity of a parent and who is living in the home of relatives.

Grants to States for Maternal and Child Welfare

Maternal and child-health services.—For the purpose of enabling each State to extend and improve, as far as practicable in each State, services for promoting the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress, an appropriation of \$3,800,000 is authorized for each fiscal year. The sums made available under this appropriation are to be used in making payments to States which have submitted plans for such services approved by the Chief of the United States Children's Bureau.

Out of the sums appropriated for each fiscal year the Children's Bureau shall allot \$20,000 to each State and such part of \$1,800,000 as the number of live births in each State bears to the total number of live births in the United States in the latest calendar year for which the Bureau of the Census has statistics. In addition the sum of \$980,000 is allotted to the States, apportioned according to the financial need of each State in carrying out its State plan as determined by the number of live births in the State.

The allotments to the States paid by the Secretary of the Treasury to each State having maternal and child-health services shall be equal to one-half of the total sum expended during each quarter subject to the amount of the allotments made available by the law.

Services for crippled children.—For the purpose of enabling each State to extend and improve services for locating crippled children, and for providing medical, surgical, corrective, and other services and

care, and facilities for diagnosis, hospitalization, and aftercare, for children who are crippled or suffering from conditions which lead to crippling, the sum of \$2,850,000 will be appropriated for each fiscal year to be used for making payments to States having plans approved by the Chief of the Children's Bureau. An allotment of \$20,000 shall be made to each State for each fiscal year according to the need of each State as determined by the Bureau, any allotment remaining unpaid at the end of a fiscal year being available to such State until the end of the second succeeding fiscal year.

Child-welfare services.—For the purpose of enabling the United States, through the Children's Bureau, to cooperate with State public-welfare agencies in establishing, extending, and strengthening, especially in predominantly rural areas, public-welfare services for the care of homeless or neglected children, there is authorized to be appropriated for each fiscal year the sum of \$1,500,000. Of this sum \$10,000 will be allotted to each State for use by cooperating State public-welfare agencies on the basis of plans developed jointly by the State agency and the Bureau, and the remainder to each State on the basis of such plans not to exceed such part of the remainder as the rural population bears to the total rural population of the United States.

Vocational rehabilitation.—In order to enable the United States to cooperate with the States and with Hawaii in extending and strengthening their programs of vocational rehabilitation of the physically disabled and to continue to carry out the purposes of the act of June 2, 1920, as subsequently amended, a limited appropriation is authorized for the fiscal years ending June 30, 1936 and 1937, in addition to the amount of the existing authorization and for each fiscal year thereafter the sum of \$1,938,000, \$5,000 of which shall be apportioned to the Territory of Hawaii and the remainder to the several States.

Public Health Work

FOR THE purpose of assisting States, counties, health districts, and other political subdivisions of the States in establishing and maintaining adequate public health services, including the training of personnel for such work, the sum of \$8,000,000 is authorized to be appropriated for each fiscal year.

The amount allotted to the States by the Surgeon General of the Public Health Service shall be determined on the basis of the population, the special health problems, and the financial need of the respective States. The allotments shall be made by the Surgeon General with the approval of the Secretary of the Treasury after consultation with a conference of State and Territorial health authorities. An additional \$2,000,000 is provided for expenditure by the Public Health Service for investigation of diseases and problems of sanitation, and for the pay of the personnel engaged in such work.

Grants to States for Aid to the Blind

IN ORDER to enable each State to furnish financial assistance to needy individuals who are blind, there is authorized to be appropriated for each fiscal year a sum sufficient to carry out this purpose. The sums made available shall be used for making payments to States which have submitted plans for aid to the blind, approved by the Social Security Board.

A State plan, in order to be approved, must be in effect in all political subdivisions of the State, must provide for financial participation by the State, and must be administered or supervised by a single State agency. No aid will be furnished any individual under the plan who is receiving old-age assistance. No plan shall be approved which excludes any resident of the State who has resided therein 5 years during the 9 years immediately preceding the application for aid and 1 year immediately preceding the application, or imposes any citizenship requirement which excludes any citizen of the United States.

From the sums appropriated, the Secretary of the Treasury shall pay to each State having an approved plan, each quarter, an amount equal to half the sums expended by the State for the blind, with a maximum of \$30 per individual, and 5 percent of that amount which shall be used in administering the plan.

Administration

THE LAW provides for the establishment of a Social Security Board, to be composed of three members appointed by the President, by and with the advice and consent of the Senate, not more than two of whom shall be of the same political party. The terms of the members of the Board are 6 years, but the terms of the members first taking office shall expire, one at the end of 2 years, one at the end of 4 years, and one at the end of 6 years.

The Secretary of the Treasury, the Secretary of Labor, and the Social Security Board, respectively, shall make and publish such rules and regulations as may be necessary to the efficient administration of the functions with which each is charged under the act.

The act provided for specific appropriations for the fiscal year ending June 30, 1936, but these were not passed by the Congress.

Membership of Social Security Board

THE appointment of the three members of the Social Security Board who will have charge of the administration of the Social Security Act of August 14, 1935, was announced by President Roosevelt, August 23. John G. Winant, former Governor of New Hampshire and at the time of his appointment assistant director of the International Labor Office, Geneva, was appointed for the term of 6 years. Arthur J. Altmeyer, Second Assistant Secretary of Labor, was appointed to fill the 4-year term, and Vincent Morgan Miles, attorney, of Arkansas, received the appointment for the 2-year term. The terms of all members after the expiration of the initial appointments will be 6 years.

Status of State Legislation in Regard to Federal Social Security Act as of January 1, 1936

A STATE, in order to participate in any of the benefits provided under the Federal Social Security Act, must comply with certain minimum requirements. Many States during 1935 anticipated

the enactment of a Federal security law and amended their laws accordingly.

Old-age pensions.—Title I of the Federal act extending grants to States for old-age assistance provides that the Social Security Board shall not approve any plan which sets the age of eligibility at more than 65 years. A transitional period—1935 to 1940—is, however, provided, during which the eligible age may be set at 70 years.

Twenty-five of the thirty-nine States which up to December 1, 1935, had enacted old-age pension laws set the age requirement at 65 years, 12 States at 70 years, 1 at 68 years, and 1 at 60 years for males and 55 for females. In two States (Arkansas and Michigan) the legislature has provided that after 1940 the age requirement shall be reduced to 65 years. The Territories of Alaska and Hawaii and the District of Columbia have a 65-year minimum age; the Alaska provision applies to males only, the age of females being fixed at 60 years. In many of the States, during the 1935 legislative session, residence and citizenship requirements were enacted or amended to bring the act within the purview of the Federal act. Heretofore, the State laws have generally required a definite period of citizenship and residence. Many acts now retain the requirement of citizenship, but specify no period. In California the amended law requires, contingent upon the adoption of the Federal act, a State residence of 5 years within 9 years¹ immediately preceding the date of application for aid. Alabama, Illinois, Iowa, Massachusetts, Minnesota, Mississippi, Missouri, Nebraska, New Hampshire, and Texas also require State residence of 5 out of 9 years immediately preceding application, and Iowa requires that a recipient shall have been domiciled within the State for 9 years immediately preceding application. In Maryland, Montana, Oklahoma, Oregon, Rhode Island, Vermont, Washington, and Wyoming pensioners must have resided in the State 5 years within 10 years immediately preceding the application.

States which comply with the Federal requirements will be entitled to assistance from the United States Government up to a maximum of \$15 per person per month.

Unemployment insurance.—Prior to 1935, only one State (Wisconsin) had enacted an unemployment-insurance law. During the legislative year of 1935 eight other States (Alabama, California, Massachusetts, New Hampshire, New York, Oregon, Utah, and Washington) and the District of Columbia enacted such legislation, all of which acts except those of Alabama, the District of Columbia, and New York were contingent upon the enactment of Federal legislation. North Carolina enacted legislation authorizing the creation of an agency to administer an unemployment-insurance system, provided an act setting up such a system was enacted by the Federal Government; no definite unemployment-insurance system is set up by this legislation, but the State agency is given the right to receive benefits from the Federal Government and to provide rules and regulations necessary for the proper administration of an unemployment insurance system.

Seven of the State plans are based on the State-wide pooling of funds, while two (Utah and Wisconsin) set up an individual company reserve system.

¹ Requirement of Federal act.

Blind pensions.—Provisions for payment of benefits to blind persons—matching State pensions up to a maximum of \$15 a month—are also included. Blind pension laws had, up to December 1935, been enacted in 30 States and the District of Columbia.

Benefits for dependent children (mothers' pensions).—For mothers' pensions, the Federal Government will give to the States a grant equal to one-third of the total amount spent. Laws for the payment of mothers' pensions are on the statute books of all of the States except Georgia and South Carolina. However, in some of the States the law is in effect only in certain counties.

Other benefits.—Under the Social Security Act the Federal Government will assist the States in public-health problems, maternal and child-health work, child-welfare service, and vocational rehabilitation of the physically handicapped.

State and Private Provision for Social Security

(See sections on "Insurance and Benefit Plans (Other than Unemployment Insurance)"; "Old-Age Pensions and Retirement"; and "Unemployment Insurance and Relief")

**TENNESSEE VALLEY AUTHORITY—
LABOR ASPECTS**

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Labor and the Tennessee Valley Experiment

A SOCIAL experiment which touches the lives of wage earners at many points and which may have far-reaching results for the Nation as a whole is being carried on in the Tennessee Valley. This experiment was authorized by Congress by an act passed May 18, 1933. Under the terms of this act a corporation, the Tennessee Valley Authority (T. V. A.), was set up, with extremely wide powers of government but "possessed of the flexibility and initiative of private enterprise." Among the functions which it is empowered to perform are "the generation and sale of power, the building of dams, power plants and transmission lines, the development of fertilizers, and, under the immediate direction of the President, a program of social and economic planning with the aim of promoting the social and economic welfare of the region and of the Nation. This more general program includes soil erosion, forestry, the balancing of agriculture and industry, the better and fuller use of mineral resources, and such problems as the vocational adjustment of unemployed men and women to new or more productive fields of work."

Characteristics of the Tennessee Valley

THE area of the Tennessee Valley Authority embraces the whole Tennessee Valley—a region some 600 miles in length, comprising over 40,000 square miles in the seven States of Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, and Virginia. More than 2,000,000 people live within this area. While it has great natural resources—waterpower and minerals—it is today distinctly an agricultural district, and the towns and cities depend almost entirely on the surrounding farming country. There are, however, a number of industries which have developed.

This area falls naturally into several subdivisions: (1) The mountains of the headwaters, especially of the eastern tributaries in Virginia and North Carolina; (2) the valley of East Tennessee, where, with cheap electricity, there is the possibility of great industrial expansion; (3) the narrow gorge through the Cumberland Plateau, with its coal and iron resources; and (4) at the extreme southern end, the great Alabama Valley surrounding Muscle Shoals.

The points at which work is being carried on by the Authority are Muscle Shoals, Joe Wheeler Dam, and Norris Dam. Whereas the other two dams are what are called run-of-the-river dams, Norris Dam is primarily for storage and can impound a year's rainfall, which can be released to the dams below as needed, more than doubling in this manner the prime power available at Muscle Shoals and the other dams.

These dams will be utilized both in the generation of electric power and in flood control.

Employment and Labor Policies

A STATEMENT issued March 14, 1934, placed the total number of persons employed on Tennessee Valley Authority projects on that date at over 5,500. This figure did not include approximately 1,900 Civil Works Administration employees working under the supervision of the Tennessee Valley Authority nor the 5,400 men in 25 Civilian Conservation Corps camps engaged in reforestation and soil-erosion projects planned and supervised by the Tennessee Valley Authority forestry division. An allotment of \$3,343,000 from the Civil Works Administration offered 16,500 additional jobs, but after some 9,000 new workers had been hired the Civil Works Administration program was curtailed.

At the end of August 1935, the Tennessee Valley Authority had about 17,000 employees.

The merit system has been used in the selection of the employees. Appointments to nonprofessional positions—skilled workmen, helpers, and unskilled workers—have been made from those taking a civil-service examination.

After long discussion with employees and their representatives a general policy to be followed in labor matters was formulated. This policy was announced on August 28, 1935. Under this policy no person under 16 years of age will be employed. All appointments, promotions, demotions, transfers, and dismissals are to be made on the basis of merit and efficiency as determined by intelligence, ability, skill, training, and experience, and without regard to "political belief or affiliation." No appointments involving nepotism are to be made.

The right of supervisors to terminate the employment of any worker under their supervision, for just cause, is recognized. The cause of dismissal must be stated in writing and a copy sent to the personnel division and to the employee (upon request). Dismissals must be approved by the personnel division. If requested by the employee within 10 days of the date of termination, a hearing must be held.

Wages and hours of labor.—It is provided that the prevailing wage shall be paid and that in determining this wage "due regard shall be given to those rates which have been secured through collective agreement by representatives of employers and employees."

On this basis the following hourly scale of wages was set for employees of the Tennessee Valley Authority engaged on construction work in connection with Norris and Wheeler Dams:

	<i>Heavy construction work</i>	<i>Reservoir clearance</i>
Skilled labor.....	\$1. 00	\$0. 85
Semiskilled labor.....	{ . 60	. 50
Unskilled labor.....	. 75	. 62½
	. 45	. 37½

The work of the Tennessee Valley Authority is partly in the central area and partly in the southern area. The above rates are somewhat lower than those set by the Public Works Administration for the central area (including Tennessee) and somewhat higher than those for the southern area (including Alabama). The advantages afforded for the workmen at Norris Dam, however, in the way of dormitories, homes, transportation, recreation, and training are considerably greater than those provided at Wheeler Dam. Since men will be

moved back and forth between the two dams, as needed, it seemed wiser to have the same wage rate for both places.

Under the new policy rates of pay are to be determined on the basis of occupational classification, in order to assure comparable rates for comparable work. Schedules so set up are to be published and made available to all employees.

In classifying jobs, due recognition is to be given to intelligence, skill, training, and experience, and allocations are to be made on the basis of the duties to be performed. Annually rated positions are to be classified with due regard to standards and rates of pay in the Federal classified service.

"No discrimination in occupational classification or in rates of pay shall be made on the basis of sex or race."

Laborers and mechanics are, as before, to be paid the rates prevailing in the vicinity for work of a similar nature. All contracts to which the Tennessee Valley Authority is a party and which require the services of laborers and mechanics in the construction, repair, etc., of buildings, dams, or other projects shall provide for the payment of prevailing rates. Any cases of dispute as to the prevailing rate which cannot be settled in conference by the management and the representatives of the employees are to be referred to the Secretary of Labor, whose decision shall be final.

Schedules of rates for all types and classes of work are to be published. They shall designate the minimum rates for both hourly and annual employees. Provision may also be made for special rates of pay for partially disabled persons or for intermittent service. Pay schedules are to be open for revision not oftener than once a year. Proposed changes are to be studied in joint conference of management and representatives of employees.

For all classes of employees the regular daily hours of work are not to exceed 8 in any 24-hour period. They are to be so arranged as to provide at least 1 day's rest in every 7, such day to be Sunday, if possible. Schedules of hours are to be posted so as to be available to employees.

Hourly rated employees may be required to work in 1, 2, 3, or 4 shifts, as the work requires.

During periods of marked unemployment, hours of work are to be kept as low as is consistent with efficiency in production and reasonable minimum income.

Overtime.—As a matter of good management and efficiency, the supervisory staff is expected to make every effort to keep overtime at a minimum. Warning is given that excessive amounts of overtime will be regarded as "indicative of inefficient supervision and workmanship."

Authorized overtime and work done on the day of rest and on certain specified holidays by hourly employees are to be paid for at the rate of time and a half. All such time worked by persons employed on an annual basis is to be added to the employees' annual leave.

Accidents.—Employees injured in the course of the work are entitled to the benefits of the Federal Employees' Compensation Act of 1916.

Medical and health program.—All employees on construction projects are required to pass a physical and medical examination, besides being vaccinated for smallpox and given typhoid inoculations.

All injuries receive immediate and adequate attention at well-equipped first-aid stations, and sanitary conditions surrounding the workmen on the job are watched carefully.

Employee-employer relationship.—The right of employees of the Authority to be represented by persons or organizations of their own choosing is expressly recognized. The Administration pledges that in the exercise of this right the employees shall "be free from any and all restraint, interference, or coercion on the part of the management and supervisory staff", and that there shall be no discrimination because of membership or nonmembership in any organization.

Employee representatives are to be chosen by "the majority of the employees as a whole, or of any professional group, or craft, or other appropriate unit." Any dispute as to who are the "duly authorized representatives" is to be considered by the labor relations staff of the T. V. A. personnel division. Upon written agreement by the parties, the division may conduct an election and designate the persons entitled to participate. In case of failure of the division to adjust the matter, it may turn the case over to the National Labor Relations Board for settlement.

No changes in rules defining labor standards or conditions of employment may be made without at least 30 days' written notice nor until the employees' representatives have had opportunity to confer with representatives of the management.

Cases of disagreement between an employee and the management, growing out of grievances or the interpretation or application of the regulations covering labor standards and other employment conditions, are to be handled "through established supervisory channels, up to and including the designated chief supervisory officer concerned." If the employee fails to obtain prompt and satisfactory adjustment he may appeal to the central office of the personnel division.

The development of employee-management cooperation through joint conferences is expected. The Authority's governing board announces that when the other features of the labor policy have been put into practice the board will then entertain plans for establishing such joint conferences. It is suggested that the following matters might be considered in conference: Elimination of waste in construction and production; conservation of materials, supplies, and energy; improvement in quality of workmanship and services; promotion of education and training; correction of conditions making for grievances and misunderstandings; encouragement of courtesy in the relations of employees with the public; safeguarding of health; prevention of hazards to life and property; betterment of employment conditions; and strengthening of the morale of the service.

Housing and Community Life

MUSCLE SHOALS, Wheeler Dam, and Norris Dam present three different aspects as regards housing. The workmen at Muscle Shoals are drawn from the labor supply of Florence, Tusculmbia, and Sheffield Ala. These men live in town and return to their homes there each night. No housing problem is therefore involved.

At Wheeler Dam, the same is true for the majority of the workmen, but a construction camp is provided for approximately 1,000 men.

At Norris Dam, housing had to be provided for the labor force. In addition to the construction camp there is in process of building a permanent community—the town of Norris, Tenn. This town was designed primarily to house the 2,000 or more men who will be employed for the next few years in the construction of the dam.

By the end of June 1934 construction had been finished or was nearing completion on housing accommodations for 357 families. All but 50 of these were single-family houses. Of the 50 other dwellings, 30 were low-cost apartments in five 2-story apartment houses, and 10 were duplex houses. Dormitory facilities for 700 unattached men had also been provided.

It was originally planned to build single-family houses of excellent design, brick and frame construction, rather completely equipped. Sharp advances in the cost of materials and wage rates, and pressure for rapid completion brought the average total cost per house to about \$5,200 per house, a sum considerably in excess of the original estimated cost. Rents were set at about \$31 per house per month, for the 151 houses in this group. Experimentation to provide lower-cost housing resulted in the building of 119 single-family and 10 duplex houses made of cinder blocks. These proved to be durable, attractive, and low in maintenance cost; and the direct cost of labor and materials averaged about \$2,300 per unit. One experimental steel house was erected. Ten small houses were built by a cooperative workers' productive association of stonemasons and carpenters "at costs competitive with Authority work." Twenty-six farm houses purchased with the land were reconditioned.

Each house has a lot averaging about a third of an acre, with a frontage of about 75 feet and a depth of some 200 feet. It is explained that this narrow frontage tends to reduce the cost of roadways, sewer and water mains, and street lighting per homestead. The depth of the lot, however, provides space for vegetable and flower garden and lawn.

The residences are grouped in a center area, about which is a belt of additional garden land available free in plots of about 4 acres each to those householders who wish to raise a larger proportion of their food. Beyond that there will be community forest or woodland.

As the town is being built by the United States Government and will, when finished, be the property of the Government, no houses will be sold. All will be occupied on a rental basis.

The whole will be a planned community, molded into the natural contours of the land on which it is built. Dead-end streets will be used wherever possible, to prevent through traffic. In the general landscaping, native shrubs and trees will be used. As to the houses, also, types common to the region, which have been developed to meet its particular conditions, are being employed.

Adjacent to a 14-acre public recreation ground will be a community center, as the planning of proper social, religious, and community life for the town is also part of the program. A recreation hall will serve the construction camp and town as a community center. This hall will include a library, games, and a combined gymnasium and meeting room. Talking pictures, for both educational and recreational purposes, will be given in this room, which will also be used for lectures and entertainments. A single (cooperative) store serves the needs of the town in groceries, drugs, dry goods, hardware, etc.

Away from the traffic, but so located that a section of the park can be used as a playground, will be the public school. A hospital will be built on a low ridge apart from the center of town but easily accessible. There is a modern cafeteria equipped to serve 1,000 meals an hour.

The town, being on Government property, will be governed and policed by the Federal Government.

Supplemental Employment and Training Therefor

OPPORTUNITIES for vocational training are provided at both Norris and Wheeler Dams, keeping in mind the interest and capacity of the individual and the vocational opportunities and needs which seem to have significance in the social order. Those who participate in the training do so voluntarily. On June 30, 1934, there were 600 workers who were taking training at Norris, and a smaller number at Wheeler Dam.

The program will be coordinated with the plans of the Tennessee Valley Authority to encourage a better utilization of the resources of the valley and to eliminate many of the wastes now apparent. Thus in the upland regions of the valley, poor farming practice and lack of adequate forestry are causing much of the soil to be washed away. Several projects are being developed which will be demonstrations of good practice along these lines. Thus, a small dairy farm is to be operated at Norris where grasses and hay crops will be substituted for the corn crops which have been a factor in the deterioration of the soil. This dairy, together with a small pasteurizing plant and creamery, will form a service industry for the whole community and serve as an illustration of provision by a small industry of higher standards of living and of effective utilization of products locally available.

Most of the vocational training will be associated with actual going enterprises of this sort. Men who desire training in dairying, for instance, may arrange a schedule of training to coincide with their free periods at the dam.

At the edge of town, near the dairy farm, is a poultry plant, which furnishes part of the supplies for the cafeteria and is a much-needed market for the surrounding area. The main purpose is not to run a business but to demonstrate a special kind of business operation and to provide practical study of poultry production and marketing practice. Ultimate aims are the raising of the standards of egg production and consumption and the furnishing of an example of a rural occupation which can be set up economically in a region where large-scale farming is limited.

A farm garden of about 50 acres will be another center of training, and 2 small tree nurseries to be used in studying methods of raising crop-bearing trees and shrubs are being started. These trees will be propagated as a source of food supply for both the population and the livestock.

Plans for other agricultural projects are in progress. On the Tennessee Valley Authority farm enterprises it is hoped to include studies and demonstrations in farm wood lots and forests, in land terracing, in special pasture and cover crops, in farm mechanics, in

agricultural accounting and management, in farm buildings, and in rural electrification.

As it is estimated that the Tennessee Valley contains twice as many people in rural areas as are necessary for agriculture there, the development of such local industries will be fostered as will make possible the manufacture of more of their own goods for consumption and to carry on the processing of a larger share of local products.

Shops will be established to provide instruction and practice in a wide variety of useful trades essential to life on the farm and in rural communities. These will include woodworking, automotive trades, general metal and electrical work, etc. These shops will be part of the general program of developing appropriate industries to coordinate with the agricultural resources of the valley and will furnish facilities for employees to prepare for work in such industries.

Other normal operations of the construction camp and town will provide training. Thus, the cafeteria, general store, tourist camp, and small utility shops will be used for training purposes.

For technical employees who wish to continue some study along with their work, but lack the necessary funds for additional college work, the Authority has made provision for a limited amount of technical training which engineering employees may take for a small fee.

For the benefit of the housewives, one dwelling is planned to be a home demonstration center and will be occupied by a person skilled in home management.

Tennessee Valley Associated Cooperatives

IN JANUARY 1934 the Federal Emergency Relief Administration allotted \$300,000 to be used for the organization of cooperative associations of various kinds in the Tennessee Valley. The Tennessee Valley Associated Cooperatives, Inc., has been incorporated as a subsidiary of the Tennessee Valley Authority to carry these plans into effect. Among the associations planned are associations for marketing eggs and milk, and perhaps later some small industries.

The employees already have a cooperative bank, a cooperative laundry, a cooperative shoe-repair and clothes-pressing service, and a cooperative store, and will soon have a cooperative dairy and a cooperative chicken-raising enterprise. Cooperative credit societies (credit unions) have been formed at several of the projects.

The formation of cooperative societies for the distribution of power purchased from the Tennessee Valley Authority by the farmers is also to be encouraged.

A small cooperative store has been established at Norris which sells the output of the various mountain handicraft groups in Kentucky, Tennessee, and North Carolina.

TURN-OVER OF LABOR

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Standard Procedure for Computing Labor Turn-Over

LABOR turn-over is costly to both employers and workers. To the employer there is an expense involved in interviewing and hiring the new man. There is always an uncertainty as to his ability and efficiency, which entails a greater amount of supervision than is given to an older employee. The new man cannot be trusted fully until his capacity is known and he frequently spoils material while learning. The worker is likely to lose wages between jobs; frequently he must learn new methods even though he continues in the same trade. If he changes occupations he seldom earns as much on the new job until he has become skilled.

The amount of labor turn-over in American industry is of interest to employers, workers, and the public. The Bureau of Labor Statistics collects and publishes monthly figures on labor turn-over which cover more than 5,000 manufacturing establishments employing approximately 2,000,000 workers. The figures are rates or indexes, computed from the average number of employees and the number of accessions and separations during the month.

A general rate is published each month for manufacturing industries as a whole, based on reports received at present from about 2,500 employers in 144 different lines of manufacture. A balanced proportion is given to the several industries included in this general rate.

In addition, the Bureau has expanded its monthly inquiry to such an extent in 12 industries that separate rates are now being published for them. These 12 industries collectively represent approximately 4,000 establishments. A due proportion of the establishments in these several lines is included in the general index.

The definitions used by the Bureau are as follows:

An accession means the hiring of a new employee or the rehiring of an old employee.

A separation is a termination of employment of any of the three following kinds: Quits, lay-offs, and discharges.

A quit is termination of employment, generally initiated by the worker because of his desire to leave, but sometimes due to his physical incapacity.

A discharge¹ is a termination of employment at the will of the employer, with prejudice to the worker because of some fault on the part of the worker.

A lay-off¹ is a termination of employment at the will of the employer, without prejudice to the worker. A permanent lay-off, a long lay-off, an indefinite lay-off, and a short definite lay-off with the name of the worker removed from the pay roll, are counted by the Bureau as lay-offs, but a short, definite lay-off with name of the worker remaining on the pay roll is not counted as a separation. (It is recognized that some companies retain persons on the pay roll and give them extended vacations when business is slow; other companies take them off the pay roll but promise to reemploy them when there is work. This variation in policy interferes with complete comparability in the monthly reports received from the companies, and causes some distortion in the general lay-off rate.)

¹ There are prevalent two conceptions of the use of the terms "lay-off" and "discharge." Some persons differentiate between them on the basis of the degree of permanence, a lay-off being thought of as a temporary separation and a discharge as a permanent separation. The Bureau has adopted the definitions described in the paragraphs above (i. e., a lay-off being a termination of employment without prejudice to the worker, while a discharge involves prejudice to the worker) because these usages are common among employers and personnel workers in industry.

- A quit on the part of a worker is generally due to—
- a. Dissatisfaction as to wages, hours, working conditions, or labor policies.
 - b. The opportunity to get a more desirable position.
 - c. A desire not to work anywhere.
 - d. Sickness, disability, old age, or death.
- A discharge of a worker is generally due to his—
- a. Incompetence.
 - b. Insubordination.
 - c. Violation of rules.
 - d. Dishonesty.
 - e. Misfit—physical or mental.
 - f. Laziness.
- A lay-off of the worker may, among other causes, be due to—
- a. Lack of orders.
 - b. Lack of material.
 - c. Change in product.
 - d. Break-down of plant.
 - e. Reorganization of force.
 - f. Release of temporary help.
 - g. Introduction of labor-saving machinery.

Method of Collection

EACH month the Bureau sends out a questionnaire and gets from its correspondent establishments the following information for the month just closed:

1. Number of separations during period—
 - a. Number of quits.
 - b. Number of discharges.
 - c. Number of lay-offs.
 - d. Total separations.
2. Number of accessions during period.
3. Number of factory workers on pay roll—
 - a. At beginning of period.
 - b. At end of period.

The purpose of the last two questions is to get an approximate number on the pay roll. This is determined by adding the number at the beginning of the period and at the end of the period and dividing by two. Some plants are able to furnish the average of daily counts of the number on the pay roll. Others can furnish an average of the number on the weekly pay roll.

The reporting establishments are requested to omit office employees, when practicable, but to include temporary help, part-time workers, and employees in training. This inclusion is desired in order to show the degree of stability of employment as it affects all workers.

Methods of Computing

THE items of separation and accession are divided by the average number on the pay roll to get the rate per 100 employees for the month. In compiling the rates the actual numbers for the several establishments are added and the general rates computed from the grand total. Thus each establishment has an influence or "weight" in the rate in proportion to its size.

If an equivalent annual rate is desired, the monthly rate can be multiplied by 11.77 if the month has 31 days; by 12.17 if it is a 30-day month; by 13.04 if it is a 28-day month; and by 12.62 if it is a 29-day month.

In comparing monthly rates the number of days in the month should be considered, as no adjustment is made in the monthly rate

because of the number of its days. With the adjustment in the equivalent yearly rate this latter figure affords a more exact comparison as between months.

Labor Turn-Over, January 1931 to December 1935

AVERAGE labor turn-over rates in representative American factories for the years 1931, 1932, 1933, 1934, and 1935 are shown in table 1. The monthly rates show the number of changes in the month per 100 employees on the pay roll. The form of average used in compiling these rates is the weighted arithmetic mean.

TABLE 1.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES (PER 100 EMPLOYEES) IN REPRESENTATIVE FACTORIES IN 144 INDUSTRIES, JANUARY 1931 TO DECEMBER 1935

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931.....	11.39	0.74	0.74	0.94	1.14	1.12	1.02	1.10	1.05	1.16	1.00	0.72	0.66
1932.....	8.34	.71	.71	.86	.91	.68	.66	.63	.67	.76	.65	.54	.56
1933.....	10.66	.65	.49	.53	.63	.84	1.03	1.25	1.22	1.65	.87	.78	.72
1934.....	10.67	.90	.85	.93	1.11	1.01	.94	.70	.75	1.55	.73	.62	.58
1935.....	10.37	.76	.73	.75	.93	1.21	.83	.90	.86	1.05	.89	.77	.69
Discharge rate:													
1931.....	2.72	.19	.20	.26	.31	.28	.23	.25	.22	.24	.21	.17	.16
1932.....	1.96	.19	.18	.21	.22	.16	.14	.14	.14	.14	.14	.15	.15
1933.....	2.49	.15	.13	.14	.15	.18	.26	.26	.31	.27	.24	.22	.18
1934.....	2.24	.18	.19	.21	.23	.22	.18	.19	.19	.16	.19	.15	.15
1935.....	2.29	.18	.18	.17	.20	.17	.20	.20	.21	.19	.21	.20	.18
Lay-off rate:													
1931.....	34.27	1.95	1.75	1.75	1.96	2.43	3.84	3.32	2.40	4.22	5.01	3.03	2.61
1932.....	41.68	2.45	2.43	3.30	4.60	4.27	4.83	4.47	3.04	3.57	2.67	2.70	3.35
1933.....	32.23	2.76	3.78	3.93	2.00	1.34	1.18	1.98	1.87	2.34	3.47	3.79	3.79
1934.....	36.26	2.35	1.85	2.08	2.04	3.65	3.48	2.96	3.56	3.41	4.38	3.78	2.72
1935.....	30.08	2.10	1.88	2.32	2.60	3.00	3.46	2.57	2.70	1.95	2.03	2.58	2.89
Total separation rate:													
1931.....	48.38	2.88	2.69	2.95	3.41	3.83	5.09	4.67	3.67	5.62	6.22	3.92	3.43
1932.....	51.98	3.35	3.32	4.37	5.73	5.11	5.63	5.24	3.85	4.47	3.46	3.39	4.06
1933.....	45.38	3.56	4.40	4.60	2.78	2.36	2.47	3.49	3.40	4.26	4.58	4.79	4.69
1934.....	49.17	3.43	2.89	3.22	3.38	4.88	4.60	3.85	4.50	5.12	5.30	4.55	3.45
1935.....	42.74	3.04	2.79	3.24	3.73	4.38	4.49	3.67	3.77	3.19	3.13	3.55	3.76
Accession rate:													
1931.....	36.59	2.97	2.82	3.67	3.06	2.79	2.41	3.02	2.60	3.58	2.75	3.63	3.29
1932.....	39.82	4.15	2.75	2.75	2.76	2.59	2.70	3.01	4.21	5.04	3.72	3.07	3.07
1933.....	65.20	3.48	2.56	2.22	4.87	7.21	10.21	9.48	8.59	6.53	3.97	3.71	3.37
1934.....	56.91	5.81	6.71	6.33	5.18	4.19	3.58	3.71	3.24	3.61	4.09	4.32	6.14
1935.....	50.05	6.33	4.23	3.79	3.63	3.01	3.18	4.17	4.60	4.95	5.23	3.63	3.30

For 1935, as compared with 1934, both the separation rate and the accession rate show a moderate decline of about the same magnitude.

While the accession rate exceeded the total separation rate for the year 1934, it was lower than for 1933. The quit and the discharge rates varied slightly and the lay-off rate for the year increased.

Table 2 shows for the years 1931, 1932, 1933, 1934, and 1935 the annual quit, discharge, lay-off, and accession rates for automobiles, boots and shoes, brick manufacturing, cotton manufacturing, foundries and machine shops, furniture, iron and steel, men's clothing, saw-mills, and slaughtering and meat packing.

In 1934 the automotive industry registered the highest annual quit rate during the 5-year period of any of the 10 industries. In 1931 the

sawmill industry showed the highest discharge rate for the same period. The highest lay-off rate shown in 1934 occurred in the slaughtering and meat-packing industry; the lowest in iron and steel. During 1934 the accessions exceeded the separations in 6 out of the 10 industries.

In each of the 10 industries more people were hired in 1933 than were separated from the pay rolls. In only 2 of these 10 industries were there more people hired than lost their jobs in 1932. In the other eight industries more people were separated from the pay rolls than were hired. In 1931 the separations exceeded the accessions in all the industries. All 10 industries except men's clothing and boots and shoes had a higher quit rate in 1933 than in 1932. Four of the 10 industries had a higher discharge rate during 1933 than during either of the two previous years. The 1933 lay-off rate, however, was lower in 7 of the 10 industries than during the two preceding years.

During 1933, among these 10 industries, cotton manufacturing showed the highest quit rate and foundries and machine shops the lowest. The automotive industry showed the highest discharge rates, while the lowest discharge rate occurred in the iron and steel industry. The highest lay-off rate was registered in brick manufacturing and the lowest in the iron and steel industry. Brick manufacturing showed the highest and men's clothing the lowest accession rate.

In all the years the Bureau has been compiling labor turn-over data, except in 1933, the iron and steel industry has shown the lowest separation and accession rates. In 5 out of the 10 industries the hiring and the separation rates exceeded 50 percent each year. This would indicate that each year in 5 of the major industries in the United States, for every 100 employees on the pay roll 50 or more were separated from the service and 50 others were added, either as rehires or as new employees.

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935,

Automobiles

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate													
1931.....	12.03	0.54	0.74	1.09	1.46	1.40	0.90	0.99	1.10	1.00	0.85	0.85	1.11
1932.....	10.04	.89	.83	1.70	1.24	.91	.78	.68	.68	.60	.40	.62	.71
1933.....	14.89	.98	.55	.57	.87	1.08	1.27	1.42	1.52	2.28	1.69	1.19	1.47
1934.....	21.76	2.82	3.23	3.49	3.31	2.45	1.58	.98	.82	.59	.53	.65	1.31
1935.....	15.04	1.96	1.62	1.61	1.61	1.36	.92	.72	.70	.79	1.18	1.42	1.16
Discharge rate:													
1931.....	3.55	.18	.21	.39	.44	.39	.21	.33	.30	.21	.29	.27	.33
1932.....	2.55	.28	.28	.35	.20	.21	.18	.11	.13	.13	.17	.23	.28
1933.....	5.46	.41	.29	.17	.32	.34	.51	.54	.45	.37	1.34	.35	.37
1934.....	4.97	.64	.68	.69	.74	.62	.41	.29	.24	.14	.16	.13	.33
1935.....	3.26	.37	.29	.28	.37	.29	.21	.21	.19	.13	.29	.33	.30
Lay-off rate:													
1931.....	72.81	2.63	1.71	1.71	1.86	3.07	10.57	6.89	3.48	12.54	19.47	6.36	2.52
1932.....	82.70	3.73	3.23	5.26	7.13	5.85	5.42	12.46	9.98	12.19	6.89	6.37	4.14
1933.....	76.62	3.78	12.90	15.42	2.42	1.52	1.53	3.10	3.30	10.03	14.28	4.75	3.59
1934.....	85.17	3.22	2.43	3.79	4.66	12.85	10.80	6.38	9.90	13.31	12.31	3.25	2.27
1935.....	60.33	1.72	2.33	2.57	2.28	5.53	9.47	5.02	11.81	2.19	2.21	2.85	2.35
Total separation rate:													
1931.....	88.39	3.35	2.66	3.19	3.76	4.86	11.68	8.21	4.88	13.75	20.61	7.48	3.96
1932.....	95.29	4.90	4.39	7.31	8.57	6.97	6.38	13.25	10.79	12.92	7.46	7.22	5.13
1933.....	96.97	5.17	13.74	16.16	3.61	2.94	3.31	5.06	5.27	12.68	17.31	6.29	5.43
1934.....	111.90	6.68	6.34	7.97	8.71	15.82	12.79	7.65	10.96	14.04	13.00	4.03	3.91
1935.....	68.63	4.05	4.24	4.46	4.26	7.18	10.60	5.95	12.70	3.11	3.68	4.60	3.80
Accession rate:													
1931.....	72.95	2.92	4.12	7.76	5.21	3.41	2.91	4.12	2.88	5.16	4.23	16.51	13.72
1932.....	83.43	9.39	4.17	5.83	6.11	8.36	6.37	2.36	2.67	5.44	9.15	10.79	12.79
1933.....	117.01	10.39	3.51	4.01	12.92	8.73	13.00	12.43	7.83	6.10	6.20	13.63	18.26
1934.....	139.95	25.51	20.17	16.62	11.77	4.24	3.48	2.93	2.61	2.53	5.31	17.30	27.48
1935.....	84.65	17.61	5.76	5.26	5.32	1.95	1.95	2.46	4.00	10.32	17.46	7.89	4.67

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935—Continued

Boots and shoes

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931.....	19.11	1.23	1.27	1.58	1.97	1.57	1.61	2.27	2.18	2.30	1.20	0.87	1.06
1932.....	11.55	1.10	1.21	1.46	1.07	.76	.86	.81	.89	1.16	.92	.67	.74
1933.....	11.55	.76	.72	.86	.80	.79	.89	1.22	1.43	2.07	.60	.65	.76
1934.....	10.46	.88	1.64	1.49	.78	.92	.79	.86	.76	.64	.55	.47	.68
1935.....	7.93	.62	.63	.66	.69	.68	.59	.89	.88	.72	.61	.44	.62
Discharge rate:													
1931.....	4.46	.37	.31	.50	.42	.49	.40	.53	.44	.43	.22	.15	.20
1932.....	2.74	.27	.31	.41	.26	.18	.19	.20	.23	.22	.16	.14	.17
1933.....	2.93	.17	.22	.19	.16	.16	.21	.33	.42	.47	.20	.16	.24
1934.....	2.64	.23	.27	.33	.25	.19	.21	.30	.25	.17	.11	.12	.21
1935.....	2.25	.25	.26	.22	.16	.17	.15	.23	.22	.17	.12	.15	.16
Lay-off rate:													
1931.....	28.74	1.88	1.23	1.16	1.53	2.37	1.85	1.40	1.80	2.94	6.02	4.13	2.43
1932.....	26.22	1.21	.87	2.43	2.99	3.35	3.07	1.24	1.24	1.40	2.13	3.29	3.00
1933.....	25.06	1.44	1.15	1.52	1.61	1.28	1.12	.96	1.83	2.07	2.89	4.64	4.55
1934.....	25.37	1.40	.99	1.46	1.56	2.08	3.19	.95	2.30	2.33	3.25	3.63	2.23
1935.....	23.97	1.20	.96	1.24	2.15	3.93	2.36	1.10	1.67	2.32	1.87	3.22	1.95
Total separation rate:													
1931.....	52.31	3.48	2.81	3.24	3.92	4.43	3.86	4.20	4.42	5.67	7.44	5.15	3.69
1932.....	40.51	2.68	2.39	4.30	4.32	4.29	4.12	2.25	2.36	2.78	3.21	4.00	3.91
1933.....	39.54	2.37	2.09	2.57	2.57	2.23	2.22	2.51	3.68	4.61	3.69	5.45	5.55
1934.....	38.47	2.51	2.90	3.28	2.59	3.19	4.19	2.11	3.31	3.14	3.91	4.22	3.12
1935.....	34.15	2.07	1.85	2.12	2.90	4.78	3.10	2.22	2.77	3.21	2.60	3.81	2.72
Accession rate:													
1931.....	50.29	4.48	5.88	4.92	4.34	4.95	5.18	7.16	4.15	2.00	1.01	2.63	3.60
1932.....	39.64	4.84	4.99	4.10	1.60	.92	2.49	3.89	3.84	5.68	2.28	1.93	3.08
1933.....	46.36	3.67	3.75	2.90	3.17	4.27	5.25	8.06	5.25	2.41	2.35	1.54	3.74
1934.....	41.55	5.96	6.09	4.40	2.46	2.22	3.53	4.37	1.90	1.09	1.21	2.61	5.71
1935.....	38.21	6.48	3.63	2.42	1.21	1.65	6.15	5.17	2.44	1.65	1.65	2.16	4.60

Bricks

Quit rate:													
1931.....	(1)	(1)	(1)	0.86	1.77	0.80	0.93	0.80	1.34	0.49	0.50	0.29	
1932.....	3.41	0.43	0.32	0.31	.26	.28	.34	.23	.22	.40	.28	.19	.17
1933.....	6.43	.25	.12	.15	.28	.35	.62	.75	.94	1.02	.59	.36	1.00
1934.....	11.61	.75	.77	.70	.74	.55	2.16	2.64	.55	.80	1.06	.38	.51
1935.....	19.45	.55	.43	.38	11.42	2.37	.55	.47	.69	.72	.67	.67	.55
Discharge rate:													
1931.....	(1)	(1)	(1)	.61	.66	.44	.50	.33	.33	.14	.55	.41	
1932.....	3.01	.66	.45	.38	.37	.17	.20	.13	.13	.12	.17	.18	.05
1933.....	1.95	.21	.11	.19	.08	.20	.18	.17	.13	.40	.07	.08	.13
1934.....	2.40	.30	.31	.35	.21	.21	.22	.08	.15	.08	.17	.16	.16
1935.....	1.83	.04	.09	.08	.05	.29	.15	.13	.18	.19	.20	.13	.30
Lay-off rate:													
1931.....	(1)	(1)	(1)	4.01	8.65	5.45	7.90	7.64	8.66	10.04	10.17	15.67	
1932.....	132.78	16.62	8.47	4.64	11.50	8.00	13.03	10.05	8.75	9.20	11.40	10.31	20.81
1933.....	96.42	6.83	7.49	8.47	5.28	3.59	3.63	5.27	5.20	11.25	10.98	14.05	14.38
1934.....	96.67	3.98	3.93	5.29	8.91	6.22	6.81	8.22	9.95	15.55	8.94	10.77	13.10
1935.....	74.58	8.32	4.49	5.05	5.87	5.92	5.98	7.30	6.00	5.98	6.49	6.13	8.05
Total separation rate:													
1931.....	(1)	(1)	(1)	5.48	11.08	6.60	9.33	8.77	10.33	10.67	11.22	16.37	
1932.....	139.20	17.71	9.24	5.33	12.13	8.45	13.57	10.41	9.10	9.72	11.83	10.68	21.03
1933.....	104.80	7.29	7.72	8.81	5.64	4.14	4.43	6.19	6.27	12.67	11.64	14.49	15.51
1934.....	110.68	5.03	5.01	6.34	4.86	6.98	9.19	10.94	10.65	16.43	10.17	11.31	13.77
1935.....	95.86	8.91	5.01	5.49	17.34	8.58	6.68	7.90	6.87	6.89	6.36	6.93	8.90
Accession rate:													
1931.....	(1)	(1)	(1)	8.68	7.89	6.67	6.02	7.72	4.39	5.06	6.70	3.33	
1932.....	92.72	4.57	6.60	10.36	7.82	10.45	8.95	7.91	8.98	8.90	6.66	7.67	3.85
1933.....	128.80	9.66	6.73	7.88	10.61	18.89	27.63	11.58	10.25	5.25	6.65	6.08	5.59
1934.....	108.98	15.71	9.82	8.41	10.33	9.50	7.14	6.26	6.69	4.39	11.95	10.76	8.02
1935.....	106.62	10.10	11.42	11.81	9.92	15.77	7.91	8.03	7.62	7.50	6.78	5.31	4.45

¹ Rates not available.

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935—Continued

Cotton

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931.....	16.32	1.00	1.00	1.36	1.64	1.53	1.25	1.48	1.57	1.65	1.42	1.19	1.23
1932.....	13.11	1.19	1.12	1.15	1.03	.90	.64	.95	1.36	1.42	1.33	1.13	.89
1933.....	20.08	1.51	1.18	1.04	1.92	2.22	2.70	2.26	2.02	1.75	1.32	1.14	1.02
1934.....	18.62	1.31	1.28	1.17	1.20	1.31	1.30	.88	.85	6.49	1.12	.93	.78
1935.....	13.98	.99	.96	1.07	1.26	.98	.97	1.87	1.36	1.34	1.24	1.11	.83
Discharge rate:													
1931.....	4.53	.40	.34	.36	.43	.37	.46	.40	.38	.36	.35	.34	.34
1932.....	3.24	.34	.24	.34	.30	.22	.26	.23	.24	.29	.20	.30	.28
1933.....	4.56	.30	.29	.23	.43	.37	.43	.51	.58	.46	.34	.35	.27
1934.....	3.73	.40	.39	.34	.26	.30	.28	.32	.27	.33	.31	.29	.24
1935.....	3.25	.28	.28	.33	.26	.26	.25	.27	.31	.28	.28	.25	.20
Lay-off rate:													
1931.....	32.60	2.60	1.87	2.00	2.52	2.30	2.24	3.07	2.29	2.38	3.70	3.67	3.96
1932.....	46.23	2.30	2.33	3.06	6.65	6.35	10.36	4.13	1.17	1.57	1.73	3.22	3.36
1933.....	31.85	2.04	3.77	4.16	1.51	.77	.61	2.48	3.12	2.88	2.74	4.58	3.19
1934.....	35.01	2.14	1.53	1.87	2.22	5.63	5.11	1.89	2.39	2.46	3.37	4.09	2.31
1935.....	38.88	2.07	2.38	4.31	3.93	4.03	6.44	3.88	2.08	1.62	4.14	2.48	3.52
Total separation rate:													
1931.....	53.45	4.00	3.21	3.72	4.59	4.20	3.95	4.95	4.24	4.39	5.47	5.20	5.53
1932.....	62.58	3.53	3.69	4.55	7.98	7.47	11.26	5.31	2.77	3.28	3.26	4.65	4.53
1933.....	56.49	3.55	5.24	5.43	3.86	3.36	3.74	5.25	5.72	5.09	4.40	6.07	4.48
1934.....	57.36	3.85	3.20	3.38	3.68	7.24	6.69	3.09	3.51	9.28	4.80	5.31	3.33
1935.....	56.11	3.34	3.62	5.71	5.45	5.27	7.66	6.02	3.75	3.24	3.66	3.84	4.55
Accession rate:													
1931.....	47.38	3.57	3.91	4.47	4.69	3.51	2.66	4.62	4.70	4.36	3.84	4.15	2.90
1932.....	67.48	5.25	4.73	3.50	2.27	1.96	2.51	7.68	12.41	12.92	5.80	4.49	3.96
1933.....	83.56	4.88	3.82	3.46	7.35	13.48	14.09	17.64	5.21	4.70	3.59	2.86	2.58
1934.....	53.69	6.57	5.90	4.86	3.35	3.18	3.54	3.67	3.03	3.60	6.05	3.93	4.01
1935.....	52.33	4.74	3.56	3.92	2.99	2.65	3.46	4.68	5.50	6.68	5.82	4.17	4.16

Foundries and machine shops

Quit rate:													
1931.....	7.58	0.52	0.55	0.90	0.96	0.77	0.69	0.68	0.55	0.70	0.56	0.39	0.31
1932.....	3.71	.42	.36	.46	.29	.39	.31	.29	.27	.27	.23	.22	.20
1933.....	6.19	.24	.22	.26	.33	.38	.63	.72	.89	.82	.54	.53	.63
1934.....	8.20	.66	.75	1.38	.90	.79	.66	.52	.56	.51	.56	.46	.45
1935.....	9.06	.61	.71	.70	.78	.74	.86	.77	.80	.98	.79	.75	.57
Discharge rate:													
1931.....	2.74	.22	.22	.25	.36	.25	.25	.20	.22	.30	.16	.19	.12
1932.....	1.23	.15	.12	.12	.12	.14	.12	.08	.09	.08	.06	.07	.08
1933.....	2.00	.04	.07	.09	.08	.16	.25	.19	.28	.27	.24	.17	.16
1934.....	2.37	.19	.17	.26	.28	.29	.25	.20	.15	.13	.16	.17	.12
1935.....	3.07	.21	.23	.24	.30	.25	.39	.19	.25	.23	.30	.25	.23
Lay-off rate:													
1931.....	43.35	2.32	2.10	2.72	3.29	4.91	4.44	4.71	3.78	3.13	4.45	3.82	3.68
1932.....	41.45	3.14	2.98	3.55	4.27	3.93	4.74	3.43	3.24	3.84	2.42	3.29	3.12
1933.....	31.36	2.62	3.72	2.83	2.24	1.50	1.84	1.56	1.91	2.42	3.26	4.34	3.12
1934.....	37.76	2.49	1.55	1.87	1.83	3.61	4.27	2.80	3.94	5.62	4.63	2.78	2.37
1935.....	28.51	2.08	2.00	1.96	2.74	3.23	3.55	3.11	2.06	1.76	2.40	1.65	1.97
Total separation rate:													
1931.....	53.67	3.06	2.87	3.87	4.61	5.93	5.38	5.59	4.55	4.13	5.17	4.40	4.11
1932.....	46.39	3.71	3.46	4.13	4.68	4.46	5.17	3.80	3.60	3.69	2.71	3.58	3.40
1933.....	39.55	2.90	4.01	3.18	2.65	2.04	2.72	2.47	3.08	3.51	4.04	5.04	3.91
1934.....	48.33	3.34	2.47	3.51	3.01	4.69	5.18	3.52	4.65	6.26	5.35	3.41	2.94
1935.....	40.64	2.90	2.94	2.90	3.82	4.22	4.80	4.07	3.11	2.97	3.49	2.65	2.77
Accession rate:													
1931.....	30.81	2.93	2.96	3.38	3.08	2.94	1.95	2.63	2.20	3.04	2.36	1.89	1.95
1932.....	30.23	3.23	2.52	2.94	2.00	2.54	1.88	2.14	2.35	3.27	2.64	2.44	2.28
1933.....	63.40	2.71	1.73	2.12	4.38	5.69	8.80	10.05	10.55	6.54	4.44	3.32	3.07
1934.....	58.88	6.25	6.34	7.48	6.46	4.95	4.19	3.58	2.72	2.60	4.19	4.10	6.02
1935.....	53.62	6.77	5.29	5.35	4.70	3.72	3.47	3.65	4.22	4.29	4.52	4.51	3.13

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935—Continued

<i>Furniture</i>													
Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931	9.71	0.55	0.57	0.80	0.95	1.05	1.06	0.81	1.13	0.94	0.96	0.49	0.40
1932	5.20	.38	.63	.64	.53	.47	.36	.52	.42	.54	.22	.28	.21
1933	9.31	.34	.23	.31	.75	1.36	1.22	1.02	1.07	1.21	.68	.61	.51
1934	7.42	.58	.59	.49	.62	.60	.86	.49	.41	1.45	.59	.43	.31
1935	8.57	.40	.46	.72	.60	.62	.53	.61	.60	2.23	.71	.64	.45
Discharge rate:													
1931	4.02	.25	.34	.37	.51	.25	.43	.30	.31	.26	.29	.38	.33
1932	1.79	.16	.34	.27	.15	.16	.12	.10	.07	.11	.12	.12	.07
1933	3.72	.14	.26	.12	.08	.11	.16	.28	.42	.53	.79	.51	.32
1934	2.77	.27	.23	.25	.22	.21	.27	.37	.18	.22	.18	.15	.22
1935	2.72	.28	.20	.25	.19	.18	.17	.24	.22	.23	.26	.29	.21
Lay-off rate:													
1931	50.96	4.84	3.86	4.52	3.31	5.72	4.83	3.83	3.03	2.95	3.88	5.17	5.02
1932	54.88	5.86	4.35	6.19	5.72	5.95	6.86	4.96	2.44	1.59	2.00	3.07	5.89
1933	53.28	5.61	3.29	5.78	2.68	1.56	2.67	1.60	1.36	2.02	3.83	10.36	12.52
1934	50.24	5.24	4.03	3.97	4.66	4.48	3.71	3.08	3.43	3.57	3.62	4.44	6.01
1935	33.91	3.45	2.36	2.37	3.82	2.66	2.64	1.69	1.81	1.56	2.24	3.31	6.00
Total separation rate:													
1931	64.69	5.64	4.77	5.69	4.77	7.02	6.32	4.94	4.47	4.15	5.13	6.04	5.75
1932	61.87	6.40	5.32	7.10	6.40	6.58	7.34	5.58	2.93	2.24	2.34	3.47	6.17
1933	66.31	6.09	3.78	6.21	3.51	3.03	4.05	2.90	2.85	3.76	5.30	11.48	13.35
1934	60.43	6.09	4.85	4.71	5.50	5.29	4.84	3.94	4.02	5.24	4.39	5.02	6.54
1935	45.20	4.13	3.02	3.34	4.61	3.46	3.34	2.54	2.63	4.02	3.21	4.24	6.66
Accession rate:													
1931	55.55	4.24	5.51	4.78	4.66	3.81	4.89	5.62	4.89	5.77	4.36	2.91	3.11
1932	50.36	4.00	4.69	3.63	3.70	3.44	3.21	3.74	6.59	7.50	5.05	1.76	3.05
1933	35.81	3.36	3.31	1.88	3.85	10.09	9.37	12.42	15.73	11.43	3.87	2.73	2.77
1934	58.69	5.52	5.14	5.40	4.25	5.54	6.38	6.37	4.79	4.44	3.52	3.33	4.01
1935	57.28	6.50	5.41	5.46	3.08	3.75	4.55	6.47	5.93	5.90	5.71	2.38	2.14

Iron and steel

Quit rate:													
1931	9.39	0.71	0.72	0.71	0.89	0.87	0.86	0.94	1.03	0.79	0.78	0.64	0.54
1932	7.10	.55	.55	.53	1.37	.53	.94	.43	.56	.36	.38	.36	.54
1933	7.67	.38	.25	.31	.34	.34	.90	.84	1.15	.97	.85	.73	.61
1934	8.92	.82	.67	.73	1.00	.86	1.12	.56	.94	.60	.63	.62	.37
1935	9.42	.57	.78	.75	.62	.77	.86	.73	.92	.85	1.12	.79	.71
Discharge rate:													
1931	1.24	.09	.15	.12	.15	.15	.11	.12	.10	.08	.06	.06	.05
1932	.66	.05	.07	.04	.11	.07	.05	.03	.05	.05	.05	.04	.05
1933	1.28	.03	.04	.03	.06	.07	.14	.23	.23	.17	.12	.09	.07
1934	1.07	.08	.07	.13	.11	.11	.09	.11	.16	.04	.04	.07	.06
1935	1.02	.07	.07	.06	.06	.05	.15	.08	.10	.09	.11	.08	.10
Lay-off rate:													
1931	21.18	1.36	1.03	1.38	1.90	2.16	2.65	1.74	2.67	1.66	1.41	1.80	1.42
1932	26.89	1.48	1.72	1.03	5.68	4.94	3.30	2.25	1.56	.65	1.45	1.23	1.60
1933	17.52	2.20	1.88	1.48	.91	.99	.73	.37	.94	1.19	2.22	2.87	1.74
1934	19.91	1.45	.82	.57	.62	.67	1.17	3.74	2.84	3.39	1.70	1.73	1.26
1935	12.44	.54	.62	.89	1.27	.70	1.59	7.88	1.45	.98	1.29	1.35	1.00
Total separation rate:													
1931	31.81	2.16	1.90	2.21	2.94	3.18	3.62	2.80	3.80	2.53	2.25	2.50	2.01
1932	34.05	2.08	2.34	1.60	7.16	5.54	4.29	2.71	2.17	1.06	1.88	1.63	2.19
1933	26.47	2.61	2.17	1.82	1.31	1.40	1.77	1.44	2.32	2.33	3.19	3.69	2.42
1934	29.90	2.35	1.56	1.43	1.63	1.64	2.38	4.41	3.94	4.03	2.37	2.47	1.79
1935	22.88	1.18	1.42	1.70	1.95	1.52	2.60	1.59	2.47	1.90	2.52	2.22	1.81
Accession rate:													
1931	20.12	2.52	2.24	2.03	1.69	1.57	2.20	2.32	.94	1.41	1.51	1.78	.91
1932	17.86	1.71	1.27	1.34	2.77	.68	1.06	1.77	1.32	1.17	2.08	.61	2.08
1933	54.91	1.47	3.03	.73	2.07	5.86	12.25	13.75	8.43	3.74	1.79	.84	1.33
1934	33.98	2.48	3.25	4.85	5.44	5.44	3.72	1.12	1.07	.98	1.92	1.65	2.06
1935	29.58	5.13	2.78	1.78	1.26	1.55	1.10	2.64	4.03	2.61	2.80	2.51	1.69

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935—Continued

Men's clothing

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931.....	(1)	(1)	(1)	1.40	1.39	1.32	1.12	1.30	1.27	0.95	0.66	0.84	
1932.....	11.25	1.06	0.98	0.94	1.06	1.13	.88	.75	.65	1.52	.58	.66	1.04
1933.....	9.92	.45	.66	.63	.75	.79	.99	1.32	1.22	.77	.85	.89	.60
1934.....	9.20	.75	.68	.59	.81	.92	1.13	1.07	1.05	.72	.64	.42	.42
1935.....	9.47	.76	.72	.83	.90	.67	.74	.95	.93	.85	.83	.77	.52
Discharge rate:													
1931.....	(1)	(1)	(1)	.12	.15	.23	.23	.12	.12	.13	.13	.07	.09
1932.....	1.07	.08	.11	.11	.05	.05	.03	.04	.04	.07	.03	.05	.41
1933.....	1.43	.07	.03	.04	.22	.10	.11	.12	.23	.18	.12	.15	.06
1934.....	1.16	.11	.10	.12	.09	.17	.15	.09	.07	.07	.07	.06	.06
1935.....	1.41	.10	.17	.21	.18	.18	.07	.10	.15	.09	.06	.05	.05
Lay-off rate:													
1931.....	(1)	(1)	(1)	2.20	1.46	.56	.97	1.51	1.26	1.50	5.38	5.44	
1932.....	31.69	1.22	1.84	2.40	6.63	4.91	3.38	1.44	.72	.56	.93	3.31	4.35
1933.....	26.80	1.72	1.20	2.82	.83	1.82	.56	.81	3.32	2.77	1.85	4.44	4.66
1934.....	31.48	2.54	.72	.85	1.47	4.09	1.68	2.15	1.67	5.43	2.23	3.73	5.02
1935.....	28.86	.96	1.08	1.35	3.44	4.97	3.73	1.51	1.23	1.56	2.54	2.66	3.83
Total separation rate:													
1931.....	(1)	(1)	(1)	3.72	3.00	2.11	2.32	2.93	2.65	2.58	6.11	6.37	
1932.....	44.01	2.36	2.93	3.45	7.74	6.09	4.29	2.23	1.41	2.15	1.54	4.02	5.80
1933.....	38.15	2.24	1.89	3.49	1.80	2.71	1.66	2.25	4.77	3.72	2.82	5.48	5.32
1934.....	41.84	3.40	1.50	1.56	2.37	5.18	2.96	3.31	2.69	6.22	2.94	4.21	5.50
1935.....	39.74	1.82	1.97	2.39	4.52	5.82	4.54	2.56	2.11	2.50	3.43	3.48	4.40
Accession rate:													
1931.....	(1)	(1)	(1)	3.22	3.10	4.05	4.16	3.05	1.74	2.10	1.62	3.66	
1932.....	45.73	6.20	2.05	1.89	1.77	2.33	2.22	6.04	7.90	7.45	2.72	3.05	2.11
1933.....	45.13	4.41	2.48	1.65	3.07	4.89	7.79	6.44	4.20	2.61	2.69	1.69	3.41
1934.....	38.81	5.42	5.69	3.25	2.37	1.86	4.01	2.57	2.21	2.36	3.02	3.03	3.02
1935.....	46.78	8.53	4.06	4.48	3.26	2.83	4.12	4.47	3.26	2.26	3.14	2.74	3.63

Sawmills

Quit rate:													
1931.....	16.17	0.97	1.22	1.74	1.79	1.73	1.13	1.35	2.03	1.45	1.23	0.93	0.60
1932.....	9.45	.94	.48	.89	.87	.76	.84	1.02	.93	.54	1.84	.69	.68
1933.....	17.11	.78	.63	.99	1.60	1.40	1.69	1.77	2.04	2.48	1.37	1.09	1.27
1934.....	14.41	1.04	1.06	1.30	1.29	1.49	1.58	1.52	1.14	.95	1.16	.94	.94
1935.....	35.87	.95	.99	1.08	2.33	17.18	3.43	1.68	1.67	2.75	1.44	1.33	1.04
Discharge rate:													
1931.....	5.53	.43	.50	.51	.46	.50	.33	.32	.95	.49	.51	.27	.26
1932.....	4.10	.39	.46	.39	.35	.30	.24	.15	.27	.24	.44	.44	.43
1933.....	5.09	.43	.32	.42	.25	.33	.51	.62	.63	.61	.41	.51	.25
1934.....	5.40	.61	.46	.51	.50	.51	.47	.33	.49	.50	.31	.43	.28
1935.....	4.36	.36	.28	.39	.35	.25	.30	.44	.48	.46	.42	.33	.30
Lay-off rate:													
1931.....	85.89	8.02	4.56	4.56	7.17	6.43	8.70	5.35	6.01	8.09	7.69	8.65	10.64
1932.....	77.38	5.90	5.87	6.27	4.77	6.29	8.59	4.86	5.85	4.52	6.24	3.58	14.64
1933.....	51.94	4.50	5.14	6.32	2.98	2.23	1.98	2.01	3.54	4.31	4.97	5.72	8.64
1934.....	67.99	4.23	2.54	3.21	3.01	9.39	5.86	5.61	8.51	5.56	6.08	6.38	7.20
1935.....	53.20	3.04	3.22	4.79	3.89	3.88	3.53	3.61	3.92	3.90	5.44	6.53	7.45
Total separation rate:													
1931.....	107.59	9.42	6.28	6.81	9.42	8.66	10.16	7.02	8.99	10.03	9.43	9.85	11.52
1932.....	90.96	7.23	6.81	7.55	5.99	7.35	9.67	6.03	7.05	5.30	7.52	4.71	15.75
1933.....	74.14	5.71	6.09	7.73	4.83	3.96	4.18	4.40	6.11	7.30	6.75	7.32	9.76
1934.....	87.80	5.85	4.06	5.02	4.80	11.39	7.91	7.46	10.14	7.01	7.55	7.75	8.86
1935.....	93.43	4.35	4.49	6.26	6.57	21.31	7.26	5.73	6.07	7.11	7.30	8.19	8.79
Accession rate:													
1931.....	81.16	9.99	7.44	7.07	7.21	7.97	6.41	4.53	5.81	5.95	7.43	6.39	4.96
1932.....	75.30	7.24	5.60	6.86	7.61	6.45	6.37	4.91	4.98	8.78	6.95	5.26	4.29
1933.....	108.79	8.23	4.60	5.95	9.26	15.54	18.21	15.09	10.34	8.84	4.49	4.34	3.90
1934.....	93.35	8.31	10.82	11.62	11.15	7.55	7.63	6.38	6.21	6.76	7.27	4.35	5.30
1935.....	103.89	9.81	7.70	7.97	10.05	8.84	8.19	17.55	12.79	8.88	5.12	4.67	5.32

¹ Rates not available.

TABLE 2.—MONTHLY AND ANNUAL LABOR TURN-OVER RATES PER 100 EMPLOYEES IN REPRESENTATIVE PLANTS IN 10 SPECIFIED INDUSTRIES, JANUARY 1931 TO DECEMBER 1935—Continued

Slaughtering and meat packing

Class of rates and year	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Quit rate:													
1931.....	15.61	1.29	1.56	1.41	1.42	1.35	1.36	1.38	1.18	1.27	1.06	1.24	1.09
1932.....	10.48	.91	1.34	.93	.95	.91	.95	.77	.74	.89	.75	.62	.72
1933.....	11.38	.64	.63	.59	.66	.95	1.13	1.16	1.40	1.63	1.97	.81	.81
1934.....	13.72	.85	.80	.90	.81	1.06	1.26	1.33	1.80	2.11	1.39	.66	.75
1935.....	9.01	.67	.89	.61	.58	.75	.58	.72	1.13	.82	.77	.82	.67
Discharge rate:													
1931.....	5.47	.61	.68	.37	.47	.43	.52	.49	.39	.36	.37	.36	.42
1932.....	3.91	.36	.49	.34	.35	.31	.34	.34	.36	.36	.25	.21	.22
1933.....	4.58	.23	.27	.21	.30	.42	.48	.40	.48	.62	.35	.45	.37
1934.....	4.61	.26	.26	.32	.20	.37	.40	.40	.68	.46	.56	.35	.26
1935.....	2.80	.24	.26	.24	.28	.22	.20	.28	.24	.20	.21	.26	.17
Lay-off rate:													
1931.....	60.18	4.40	6.48	6.88	5.02	4.13	3.90	5.59	4.56	3.78	4.43	4.72	6.29
1932.....	68.77	4.92	7.29	7.60	5.11	4.50	6.98	5.26	5.33	3.89	5.18	6.30	6.41
1933.....	70.33	4.37	6.53	5.00	3.84	3.96	3.24	5.29	4.83	7.00	8.73	7.70	9.84
1934.....	111.97	5.99	10.23	10.40	6.06	4.37	7.87	4.20	7.17	7.12	22.27	12.71	13.74
1935.....	94.18	14.49	12.15	9.87	8.19	7.00	4.90	5.55	6.65	6.10	5.09	6.47	7.72
Total separation rate:													
1931.....	81.26	6.30	8.72	8.66	6.91	5.91	5.78	7.46	6.13	5.41	5.86	6.32	7.80
1932.....	83.16	6.19	9.12	8.87	6.41	5.72	8.27	6.37	6.41	5.14	6.18	7.13	7.35
1933.....	86.29	5.24	7.43	5.80	4.80	5.33	4.85	6.85	6.71	9.25	10.05	8.96	11.02
1934.....	130.30	7.10	11.29	11.62	7.16	5.80	9.53	5.93	9.49	9.69	24.22	13.72	14.75
1935.....	105.99	15.40	13.30	10.72	9.05	7.97	5.68	6.55	8.02	7.12	6.07	7.55	8.56
Accession rate:													
1931.....	80.02	9.50	5.02	5.19	6.31	6.92	6.08	6.46	5.06	5.73	7.39	8.10	8.26
1932.....	75.92	6.09	6.14	4.45	5.92	7.60	7.11	6.83	6.15	7.21	6.29	6.18	5.95
1933.....	112.26	6.46	5.71	4.80	7.41	10.21	9.94	10.51	19.78	11.64	7.56	10.79	7.45
1934.....	133.42	10.69	9.14	7.02	6.76	10.97	11.95	15.41	15.30	16.35	9.16	11.57	9.10
1935.....	87.61	8.61	5.85	7.07	8.71	8.61	5.66	6.37	7.10	6.19	9.01	8.28	6.05

Studies of Labor Turn-Over in Selected Industries

IN ADDITION to the current reports on labor turn-over, the Bureau of Labor Statistics has from time to time prepared special studies of labor turn-over in particular industries. These studies have been published in the Monthly Labor Review as follows: Automobile industry, 1931 and 1932 (June 1933, p. 1316); boot and shoe industry, 1931 and 1932 (October 1933, p. 893); cotton manufacturing, 1931 and 1932 (November 1933, p. 1152); foundries and machine shops, 1931 and 1932 (February 1934, p. 347); iron and steel industry, 1932 and 1933 (June 1934, p. 1393); furniture manufacturing, 1932 and 1933 (August 1934, p. 400); slaughtering and meat packing, 1932 and 1933 (November 1934, p. 1164); men's clothing industry, 1932 and 1933 (March 1935, p. 709); and sawmills, 1933 and 1934 (May 1935, p. 1285).

**UNEMPLOYMENT INSURANCE
AND RELIEF**

**U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition**

Operation of Unemployment-Benefit Plans and Unemployment Insurance in the United States

UNEMPLOYMENT insurance in the United States prior to the enactment of the Federal Social Security Act was a matter largely of private initiative, only one State—Wisconsin—having passed legislation on the subject, although a number of States had considered such legislation. Private unemployment benefit plans established either by employers or by trade-unions or by joint agreement had been in effect for some years. With the enactment of Federal legislation, however, the question of benefit payments in the event of unemployment passed into a new phase.

Unemployment-Insurance System for the United States

THE Federal Social Security Act of August 14, 1935, which contemplates on a national basis the establishment of unemployment insurance, old-age annuities, and other security measures, is described in the section on "Social Security Program" (p. 777).

Private Unemployment-Benefit Plans

THREE studies of unemployment-benefit systems have been made by the Bureau of Labor Statistics, the first in 1931, the second in the latter part of 1932, and the third in 1934. A brief review of the history of unemployment-benefit plans in the United States follows.

According to the Bureau's information, 26 joint agreements had been concluded between employers and members of the trade unions which provided for the payment of unemployment benefits or guaranteed a certain minimum of employment. Of these plans only five were in existence in 1934.

Twenty-three company plans had been established, of which some plans covered more than one company or plant. Of these 23 company plans, 16 were in operation in 1934. Two new company plans were announced after 1932, one by the Wm. Wrigley Jr. Co. of Chicago, which was put in operation in March 1934, and one made effective in April 1934 by a company which asked to have its name withheld.

A total of 48 trade-union plans were listed in the 1931 study. Of these, 3 were maintained by international unions and 45 by local unions. Forty-one trade-union plans were known to be in operation in 1934, although many of them had been continued only with the greatest difficulty. Three plans were started after the first study was made and a total of 10 had been given up, while 3 former joint agreements were added to the local plans. Two local plans, formerly listed, had not been heard from, and one trade-union did not wish a statement of its operations included.

In the 1931 study it was estimated that 65,000 workers were covered by the joint agreements, approximately 50,000 by the company plans,

and about 45,000 by the trade-union plans, or a total of about 160,000 persons. The Bureau has no satisfactory information as to the coverage in 1934, but it is probable that it was considerably smaller than in 1931.

Table 1 lists all the company plans and joint agreements of which the Bureau had knowledge, showing the date of establishment and, in cases in which the plan had been given up, the date of discontinuance.

UNEMPLOYMENT-BENEFIT PLANS IN THE UNITED STATES

Name and address of firm and type of plan	Date of establishment of plan	Plan in force May 1934	Date of discontinuance
<i>Company plans</i>			
Dennison Manufacturing Co., Framingham, Mass.: Unemployment-benefit fund.....	1916	-----	1932
Employment guaranty.....	1931	-----	1932
Columbia Conserve Co., Indianapolis, Ind.: Employment guaranty.....	1917	Yes.....	-----
Dutebess Bleachery, Inc., Wappingers Falls, N. Y.: Unemployment-benefit fund.....	1919	Yes.....	-----
Rockland Finishing Co., Garnerville, N. Y.: Unemployment-benefit fund.....	1920	-----	1923
United Diamond Works, Inc., Newark, N. J.: Unemployment-benefit plans.....	1921	-----	1931
Crocker-McElwain Co. and Chemical Paper Mfg. Co., Holyoke, Mass.: Employment guaranty.....	1920	Yes.....	-----
John A. Manning Paper Co., Troy, N. Y.: Unemployment-benefit plan.....	1922	Yes.....	-----
Behr-Manning Corporation, Watervliet, N. Y.: Unemployment-benefit plan.....	1922	Yes.....	-----
S. C. Johnson & Son, Racine, Wis.: Unemployment-benefit plan.....	1922	Yes.....	-----
Leeds & Northrup, Philadelphia, Pa.: Unemployment-benefit fund.....	1923	-----	1932
Procter & Gamble Co., Cincinnati, Ohio: Employment guaranty.....	1923	Yes.....	-----
American Cast Iron Pipe Co., Birmingham, Ala.: Unemployment-benefit plan.....	1924	-----	1926
Brown & Bailey Co., Philadelphia, Pa.: Unemployment-benefit fund.....	1927	-----	1932
Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis.: Unemployment-benefit plan.....	1929	-----	1929
Samarkand Co., San Francisco, Calif.: Employment guaranty.....	1929	Yes.....	-----
General Electric Co.: Unemployment-benefit fund (electrical apparatus manufacturing, 12 plants).....	1930	Yes.....	-----
Employment guaranty (lamp works, 12 plants).....	1931	Yes.....	-----
Fond du Lac, Wis., 3 companies: Unemployment-benefit fund.....	1930	Yes.....	-----
Rochester, N. Y., 6 companies.....	1931	Yes.....	-----
Hill Bros. Co., Hudson, Mass.: Seasonal unemployment.....	1931	Yes.....	-----
Unemployment and retirement fund.....	1934	Yes.....	-----
J. I. Case Co., Racine, Wis.: Unemployment-benefit fund.....	1931	Yes.....	-----
Minnesota Mining & Manufacturing Co., St. Paul, Minn.: Unemployment-benefit fund.....	1932	Yes.....	-----
Wm. Wrigley Jr. Co., Chicago, Ill.: Employment assurance plan.....	1934	Yes.....	-----
Company A: Guaranteed employment.....	1934	Yes.....	-----
<i>Joint agreement plans</i>			
United Wall Paper Crafts of North America (guaranteed employment).....	1894	-----	(1)
Men's clothing industry: Chicago, Ill.....	1923	Yes.....	-----
New York, N. Y.....	1928	Yes.....	-----
Rochester, N. Y.....	1928	Yes.....	-----
Women's garment industry, Cleveland, Ohio.....	1921	-----	1932
Lace industry: Kingston, N. Y.....	1923	-----	1932
Scranton, Pa.....	1923	Yes.....	-----
Wilkes-Barre, Pa., Branch No. 2.....	1924	-----	1931
Philadelphia, Pa.: John Bromley & Sons, Inc., and Local No. 1.....	1924	-----	1929
John Bromley & Sons, Inc., and Local No. 18.....	1926	-----	1929
Cloth hat and cap industry: New York Joint Council.....	1924	-----	1932
Local No. 6, Philadelphia, Pa.....	1924	Yes.....	-----
Local No. 5, Chicago, Ill.....	1924	-----	(2)
Local No. 7, Boston, Mass.....	1925	-----	(2)
Local No. 8, Baltimore, Md.....	1925	-----	(2)

¹ Date unknown—probably 1930.

² Date unknown—between 1927 and 1930.

UNEMPLOYMENT-BENEFIT PLANS IN THE UNITED STATES—Continued

Name and address of firm and type of plan	Date of establishment of plan	Plan in force May 1934	Date of discontinuance
<i>Joint agreement plans—Continued</i>			
Cloth hat and cap industry—Continued.			
Local No. 10, St. Paul, Minn.-----	1923	-----	(?)
Local No. 16, Milwaukee, Wis.-----	1925	-----	(?)
Local No. 22, Scranton, Pa.-----	1925	-----	(?)
Straw-hat industry, New York, N. Y.: ³			
Local No. 45-----	1924	-----	1932
Local No. 3-----	1925	-----	1932
Cleaning and dyeing industry:			
Chicago, Ill., Local No. 17742-----	1925	-----	1929
St. Louis, Mo., Local No. 17920-----	1927	-----	1929
Seaboard Air Line R. R. and maintenance-of-equipment employees (guaranteed employment).-----	1928	-----	(4)
Full-fashion hosiery industry-----	1930	-----	1931
Leather Goods Manufacturers and International Pocketbook Workers' Union.-----	1931	-----	1933
Upholstery Weavers and Workers' Union No. 25, Philadelphia, Pa.-----	1931	-----	(4)

² Date unknown—between 1927 and 1930.

³ These 2 locals were merged in 1931.

⁴ Date unknown.

⁵ On account of great amount of unemployment never made effective.

During the years 1932 and 1933 benefits were quite generally reduced or plans modified in such a way as to conserve the funds, and in many instances the funds were maintained only with the greatest difficulty. One company plan, that of the Dennison Manufacturing Co., was suspended. No disbursements from the fund were made after June 1, 1932, although there was a balance in the fund of approximately \$15,000. The employees' committee considered resuming payments from the unemployment fund in October 1932, but decided at that time to suspend payments indefinitely. Although there had been a certain amount of unemployment in the company from that time the committee did not regard it as sufficient to warrant resuming operation of the fund. There were, therefore, 16 plans in operation in 1934, and of this number 8 had been started since 1929.

Six of the joint agreements for the payment of unemployment benefits had been discontinued. These included the agreement between the employers and the Ladies' Garment Workers' Union in Cleveland, Ohio, which was not in active operation in 1933 and was not expected to be included in the 1934 general agreement; the agreement between the International Pocketbook Workers' Union and the Industrial Council of Leather Goods Manufacturers under which benefits were paid until November 1933 when the fund was practically exhausted; the agreement covering members of the Upholstery Weavers and Workers' Union No. 25 of Philadelphia, Pa., which was never put into operation, owing to the depressed condition of the industry; the agreement between employers and the members of the Cloth Hat, Cap, and Millinery Workers' International Union, New York City, under which no payments were made for 2 years and which was not included in the 1934 agreement; the agreement in the straw-hat industry between employers and Local No. 3, New York City; and the agreement between the United States Lace Curtain Mills and the Amalgamated Lace Operators of America, Branch No. 8, which was suspended in October 1932 with the hope of renewing it at some future time. The joint agreements between the Bromley Co. and the lace-curtain weavers and the Levers machine operators were in reality being con-

tinued as local trade-union plans. The company had never definitely abrogated the agreements and made loans to the locals, but since no regular contributions had been made by the company after 1929 and there had been no new agreements, the plans could hardly be classified as joint agreements.

Three trade-union plans were discontinued after 1932, while in several cases benefits were suspended for either short or long periods because of the exhaustion of funds. In many cases work was shared and frequently extra assessments were necessary in order to pay benefits, even though in a great many cases the amount of the benefits had been much reduced. In general every effort had been made by these funds to maintain the benefit plans and give the greatest amount of assistance to members, and the fact that the funds had been of real help was shown by the general determination to continue them even in the face of such heavy odds.

State Laws Providing for Unemployment Insurance or Reserves

Up to December 1935 there were nine States ¹ having laws providing for either unemployment insurance or unemployment reserves. Eight of these laws were enacted in 1935.

The law of North Carolina was merely a brief enabling act giving the governor and council the power to designate a commission or department to administer a system of unemployment insurance in the event of the enactment of an unemployment insurance law by the United States Congress. With the exception of the North Carolina act, however, the laws bear a marked similarity, the principal difference being that some of them provide for State-wide pooled funds for the payment of unemployment insurance while others set up compulsory individual company reserves. Under the latter system an employer's account may be used only to pay benefits to his own employees, and he is liable only to the amount of his reserve fund.

Most of the State laws cover employers employing 4 or more employees for certain weeks in the preceding year, but in some instances the minimum number of employees is 10. Farm labor is generally excluded, and in a few States there are such employment exclusions as domestic employees, public officers, teachers, employees in interstate commerce, and employees of nonprofit, religious, etc., organizations. Total unemployment and partial unemployment are usually defined and covered by the laws, while some States also take care of seasonal unemployment and unemployment of part-time workers.

Some of the States exact an employer contribution of a percentage on the employer's pay roll only, while others also exact a small contribution from the employee's pay. In some instances the latter contribution may be voluntary. The rate of employer contributions ranges from 1 to 3 percent. Usually the deductions are made for a year before benefits are payable.

Residence or employment within the State for a specified time is generally necessary to make one eligible, and the following causes of

¹ For the laws of New York, Utah, Washington, and Wisconsin, see *Monthly Labor Review* for May 1935 (p. 1195); for that of New Hampshire, see *Monthly Labor Review* for July 1935 (p. 38); for that of California, see *Monthly Labor Review* for August 1935 (p. 335). Three States—Alabama, Massachusetts, and Oregon—and the District of Columbia subsequently enacted such legislation. (See *Monthly Labor Review*, October 1935 (p. 926) and November 1935 (p. 1184).)

unemployment usually make one ineligible for the benefits: (1) Unemployment due to a labor dispute still in active progress; (2) unemployment because of employee's misconduct; (3) unemployment because employee refused suitable employment. Benefits are usually 50 percent of wages, with maximum and minimum amounts specified.

All the States provide for public employment offices with which the employee must register when unemployed and through which the benefits are paid. Of the laws enacted in 1935, all provide for State-Federal cooperation when a Federal unemployment insurance law is passed.

Operation of Wisconsin Unemployment-Compensation Act ²

THE Wisconsin Unemployment Reserves and Compensation Act which became law on January 29, 1932, did not take State-wide and compulsory effect until July 1, 1934, when contributions by employers to their various unemployment-reserve funds were started. During the period from January 1932 to June 1934 only the provisions relating to approved voluntary plans were in actual effect, although throughout this period the industrial commission, pursuant to legislative mandate, sought "to assist employers in the establishment of voluntary plans for unemployment compensation in conformity with the standards prescribed by law." Also during the law's first 2 years of operation the commission employed consultants to draft plans meeting the standards specified by the law for the assistance of those employers who might desire to submit voluntary plans and took other steps to encourage suitable voluntary action by employers.

Although a substantial number of voluntary plans were submitted in late 1932 and early 1933 with a view to reaching the prescribed minimum number of employees which would preserve the voluntary nature of the law, many employers marked time during this period because of possible postponement of the act. During the period while the enforcement of the law was in abeyance, due to the depressed condition of industry, an amending law was enacted clarifying the original act and postponing contributions until July 1, 1934. It was expected that the advisory committee, consisting of employer and labor representatives and a representative of the industrial commission would, as a result of further study and administrative experience, prepare for consideration by the 1935 session of the legislature such further clarifying amendments as should be enacted before benefits actually become payable.

In order to assure employers a fully adequate opportunity to submit voluntary plans under the quota which was first fixed at a coverage of 175,000 employees and later reduced to 139,000, the commission established in November 1933 but delayed until April 28, 1934, the announcement of its official finding that a sufficient degree of recovery had taken place to justify the enforcement of the act. The publication of the findings on the latter date closed the employers' opportunity, which had been held open for them for 2 years, to bring about the purposes of the act without legal compulsion.

The delay by employers in establishing plans was occasioned by the fact that the majority did not wish by their voluntary action to

² Wisconsin Industrial Commission. Unemployment Compensation Department. History and Status of Wisconsin's Unemployment Compensation Act. Madison, 1934.

exclude other employers from the provisions of the law, since, if the prescribed quota had been reached, over half the employers subject to the act would have escaped the obligation now imposed upon them by the law to create unemployment-reserve funds for their employees. As soon as it became known that the law would take compulsory effect, hundreds of employers began to present their plans for "exemption" under the law itself. For the most part these plans followed closely the various standard drafts prepared by the commission. Exempted plans submitted by employers require specific approval by the commission, but as such plans are drawn as long-term contracts terminating April 28, 1939, many employers have chosen to adopt exempted plans in the hope of thereby securing immunity from legislative changes throughout the required term of these contracts. An unemployment-compensation department was created in the commission in the spring of 1934 to handle the correspondence and analysis of proposed plans, to prepare the necessary reporting forms, to assist employers in making their contributions, and to receive or supervise their contribution payments.

The required contributions under the law are figured as a percentage of the pay roll of each employer, and because of this fact shortening hours to employ more men does not affect contributions. About 3,400 firms employing approximately 300,000 workers are subject to the act. The 2-percent unemployment reserve contributions for all employers combined were expected to average about \$450,000 per month. The benefits which became payable after July 1, 1935, are based solely on employment and on unemployment occurring after that date. Up to the end of November 1934, about 70 employers in the State, employing about 3,000 workers, had secured exemption from the law's benefit provisions by establishing "guaranteed employment" plans which are now in full operation and assure the workers covered by the guaranty at least 42 weeks' work out of 52, for at least two-thirds of their full-time schedule of hours in each such week.

Nearly two-thirds of the employers subject to the act had established "exempted" benefit plans by November 1934 and about 400 of these employers were allowed, in view of their financial strength, to set up unemployment-reserve accounts on their books, subject to such security as the commission might from time to time consider necessary. In most cases the exempted employers create reserve funds separate from other company assets, and in many cases the employer deposits his unemployment-benefit fund with his local bank in a special account having complete Federal deposit-insurance protection. The contribution payments made to the various depositories are recorded and supervised by the industrial commission.

Since the entire administrative cost of the law is paid directly by employers, no appropriation from general State funds will be required. In addition to the payment of the costs of the direct administration of the law by the employers, the assessment will cover their proportionate share (about one-third) of the total cost of the State public employment offices, the remaining two-thirds continuing to be financed from local funds, general State funds, and Federal funds. The unemployment-compensation act, therefore, will finance its fair share of the expanded system of public employment exchanges which will be essential to better job clearing and to the operation of the law.

Report of Senate Committee on Unemployment Insurance

A RESOLUTION to investigate the subject of unemployment-insurance systems in the United States and foreign countries was adopted by the United States Senate, February 28, 1931. The resolution provided for a general study of insurance systems in private use in the United States and those in use by foreign governments, with a view to determining the manner in which such systems were instituted and were being operated; the cost involved and the results achieved; the relief, if any, afforded by each such system during the economic depression of 1930; the condition of each system on July 1, 1931, with particular reference to the effects upon it of the economic depression of 1930; and the relative State, Federal, or private responsibility in connection with any such system. The members of the committee were the Hon. Felix Hebert (chairman), Hon. Otis F. Glenn, and Hon. Robert F. Wagner. Numerous hearings were held by the committee, at which witnesses representing the various trends of thought on the subject appeared, and in addition the Bureau of Labor Statistics made for the committee a study of the results of the operations of the various systems in this country and in foreign countries.

After summing up the evidence presented at the hearings the committee reached the conclusion—

That the subject of unemployment insurance is not within the sphere of congressional action. * * * Any system of Federal unemployment insurance, even though it were found to be within the limitations of our fundamental law, would be inadvisable, and would give rise to problems of far greater significance in their implications than those we are endeavoring to solve.

While we have expressed the opinion that the several States may find compelling reasons for requiring the maintenance of some system of unemployment insurance by industry, here again, in our judgment, the States themselves, if they should lend their credit to it, would be confronted with very much the same problems as would be the Federal Government, though of a lesser degree, if they shall at any time hereafter, without more experience than is now available, launch out upon such an undertaking. We observe a fundamental difference between unemployment reserves compulsorily maintained by individual plants in industry and to which employees might contribute, and any system that might be established by the States themselves and to which they might be expected to lend their credit. In the one instance the plan depends for its success upon the solution of problems arising in each industrial plant or other individual activity. In the other it is the sum total of all these which aggravates the situation and renders a solution so difficult.

Individual systems will bring into play the forces of self-interest and self-help and, it is natural to assume, some degree of cooperation. There will at least be an incentive for lessening the need of contributions which in some measure would affect the cost of production, whereas, in State-maintained systems, experience demonstrates there is or has been no such incentive. * * *

We * * * therefore recommend that the Federal Government contribute to such systems of private unemployment reserves to the extent of permitting employers who maintain them to deduct some portion, if not all, of the contributions thereto out of their income for tax purposes.

The effect of the allowance of such credits will, in a measure, equalize the difference in the cost of maintaining such reserves among employers of labor in the States which require them as against employers in those States where they may not be obligatory.

Report of Senator Wagner

THE views of Mr. Wagner, minority member of the committee, were presented in a separate report and were summed up as follows:

1. The evil consequences of unemployment can, and should be, mitigated by the establishment of unemployment insurance or wage reserves.
2. Unemployment insurance or wage reserves, to be successful, should be inaugurated under compulsory State legislation and be supervised by State authority.
3. The Federal Government should encourage State action by (a) cooperating with the States in the establishment of a Nation-wide employment service, and (b) by allowing employers to deduct from income tax a portion of their payments into unemployment reserves or toward unemployment insurance.
4. Every system of unemployment insurance or reserves should be organized to provide incentives to the stabilization of employment.
5. The insurance or wage reserve system should be built on a plan financially and actuarially sound so that the premiums paid into the fund shall be sufficient to meet the obligations of the fund.
6. Compulsory unemployment insurance eliminates the competitive advantage of the employer who refuses to recognize his business responsibility for unemployment.
7. Compulsory unemployment insurance preserves the mobility of the worker and his freedom of action in attempting to improve his economic position.
8. Unemployment insurance will beneficially affect not only the workers but agriculture, industry, and trade; all alike profit from sustained purchasing power.
9. Sound business and good conscience both demand that in dealing with unemployment we abandon the methods of poor relief, with its ballyhoo, its inadequacy, inequality, and uncertainty, which are a drain on the sympathy of the giver and a strain on the character of the taker. Let us, like civilized men and women, organize intelligently to prepare today for the exigencies of the future.



Reports on Plans for State Unemployment Insurance or Reserves

Report of California State Unemployment Commission ³

THE final report of the Unemployment Commission of California, which was appointed in August 1931, was made public in November 1932. The commission was directed to study the extent of unemployment and methods of relief and also the nature and the causes of unemployment, with a view to the recommendation of measures designed to meet the problems connected with this and future depressions.

The final report, in addition to recommending an appropriation for emergency unemployment relief, advocated the enactment of an emergency measure, to be effective until July 1, 1935, to provide for spreading the available work by means of a 5-day week and 6-hour day on all public works, whether done directly by the State or by contract; also the adoption of the 5-day working week in the conduct of all State business so far as practicable, in order that employment might be given to as many persons as possible.

The principal measure advocated by the commission, however, was the enactment of a law providing for a system of compulsory unemployment reserves and compensation, to be administered by the State, and to be supported by contributions from employers and employees. This measure received the most wide-spread approval of the various

³ California State Unemployment Commission. Report and recommendations. San Francisco, 1932.

suggestions for dealing with the problem of unemployment which were offered at the public hearings.

The law recommended was similar to the Wisconsin unemployment insurance law, with the important exception that it provided for contributions by employees, while the Wisconsin law provides for contributions by the employers alone. The plan called for the establishment of an unemployment reserve by each employer for his own plant for the payment of benefits to his own employees, although provision was made for the voluntary pooling of the reserves of plants in the same industry. It was the opinion of the commission that the separate unemployment reserve plan furnishes a financial incentive to employers to regularize employment within their own establishments.

Report of Connecticut Unemployment Commission

THE unemployment commission appointed by the Connecticut General Assembly to investigate unemployment, with a view to discovering means for its alleviation, reported in 1932 in favor of the establishment of a system for the payment of dismissal wages rather than of one for the payment of unemployment benefits.⁴

The most important problem that confronted the commission was believed to be the determination regarding the recommendation that should be made concerning State action to require employing units to set up reserves to pay unemployment benefits. After considering the problem from all angles, the commission decided to recommend that no legislative action be taken at the 1933 session of the State legislature.

The commission decided, after considering the Wisconsin unemployment-insurance law, the bill proposed in the New York Legislature, and the principles incorporated in the Interstate Report on Unemployment Insurance, that an enforced dismissal-wage law provided a much simpler method and therefore a sounder and more practical approach to an undertaking entirely new to State control than did an unemployment-insurance law. The essential difference between the two plans was said to lie in the fact that the typical unemployment-insurance plan involves the complicated machinery necessary to determine when an employee finds other work, so that benefits shall cease, and to determine what constitutes "suitable" employment, whereas under a dismissal-wage plan the only employment which would stop the payment of benefits would be the rehiring of the employee by his former employer. It was said that it might seem at first that the dismissal-wage plan would be the more costly of the two, but the commission believed that actually this would not be the case. To the actual cost of the unemployment benefits in an unemployment-insurance plan would be added an elaborate administrative system, including a comprehensive employment system, registration of all employees, and the handling of disputed claims. The commission considered, therefore, that the payment of straight dismissal wages would involve far less financial drain on both the State and the employing units, even though in a certain proportion of the cases the wage earner would be drawing his dismissal wage and earnings on his subsequent job at the same time.

⁴ Connecticut Unemployment Commission. Measures to Alleviate Unemployment in Connecticut. Hartford, 1932.

Under the proposed plan each employee would be required to contribute to his own termination savings fund in amounts equivalent to the contributions by the employer. These savings, with interest, would be payable to the employee or his heirs upon the termination of his employment for any reason whatsoever.

The plan would be applicable only to employees earning less than \$2,000 per year.

Recommendation for System of Compulsory Unemployment Reserves in Massachusetts

THE final report to the Massachusetts General Court of the Massachusetts Special Commission on Stabilization of Employment made in December 1932 recommended the establishment of State-compelled unemployment reserves. The report dealt with methods for reducing seasonal unemployment and with other phases of stabilization which should be advanced through voluntary action, but stated that in addition to such measures a certain degree of State guidance and State compulsion was necessary. A bill was proposed, therefore, providing for the establishment and administration of a system of compulsory unemployment reserves.

In discussing unemployment conditions and the necessary remedies, it was said in the report that the causes of unemployment are so complex that no one measure can be expected to solve the problem but that the combination of a number of measures can result in a greater stability and that, primarily, a more stabilized employment depends upon a more stabilized industrial order.

In general, much could be done toward the reduction of seasonal unemployment by the action of individual employers in instituting measures for the regularization of their industries. But even with a return to normal business conditions, a very large proportion of the unemployed could not be reemployed, since, as a result of technological changes, capacity production can be reached with fewer people at work. In view of the large number displaced by machines, therefore, it was said that "the only way out seems to be a general shortening of the number of hours people will work. In the past we have talked about a 50-hour week or a 48-hour week as though they were ultimate standards. It is conceivable that we should stop thinking in terms of any set number of weekly hours." As a factor in long-range stabilization, this division of the man-hours necessary to turn out the product among a greater number of people was said to have an importance that could not be overestimated.

While recognizing the importance of voluntary action for the reduction of unemployment by individual employers and industrial groups, the commission was of the opinion that a certain degree of State guidance and State compulsion was also required. In view of the slow growth of the unemployment-insurance idea and the fact that only a small fraction of the employees are today under any form of unemployment insurance or reserves, the committee recommended that the action on this matter be compulsory. A bill was proposed, therefore, to be submitted to the next session of the legislature providing for the establishment and administration of an unemployment-insurance system.

Minnesota Plan for Unemployment Reserves

A PLAN for the establishment of unemployment reserves in Minnesota was submitted to the Governor of the State, at his request, by the Employment Stabilization Research Institute of the University of Minnesota early in 1933.

The plan submitted was aimed directly at meeting serious and prolonged periods of unemployment and therefore provided for a long waiting period. It has been shown to be the case in sickness-insurance policies that a short waiting period necessitates the payment of smaller benefits and a higher premium, since most illnesses are of short duration, but, if a long waiting period is required, benefits can be paid throughout major illnesses at relatively slight cost. This principle is applied to the unemployment-insurance plan, since in this type of insurance only a limited amount of contributions can be required in view of the interstate competition in manufactured products. The choice, then, it was considered, must be made between a short waiting period, in which case the benefits would be exhausted before unemployment would become really serious, and a long waiting period, with a longer duration of benefits. In the latter case the unemployment reserves are not dissipated in consequence of seasonal and short-term employment but are conserved for periods of prolonged unemployment.

The proposed plan provided for equal contributions by employers and employees, amounting to 4 percent of the pay roll of eligible employees, but no contributions would be made by the State. The plan would exclude the self-employed, farm laborers, persons in personal and domestic service, casual workers, employees of railroads and other common carriers engaged in interstate commerce, and public employees paid on a salary basis.

Report of Ohio Commission on Unemployment Insurance ⁵

ON THE basis of its findings through public hearings and individual studies of the problems arising out of unemployment, the Ohio Commission on Unemployment Insurance concluded in the first part of its report issued in 1932, that unemployment insurance was feasible and that the State should not face the job insecurity of the future without providing a compulsory unemployment-insurance system. In making this recommendation, the committee called attention to the fact that corporations, railroads, insurance companies, and banks have been forced to seek relief from the Reconstruction Finance Corporation and that in view of the failure of these organizations to provide against distress it was not to be expected that individual wage earners could have provided sufficient savings through their own efforts to meet their requirements in the present period of depression.

The committee commended the activities that had led to charitable relief, but stated that it considered charity inadequate to meet the distress of able and willing workers who had become unemployed owing to general economic causes. It further stated that charity could be more efficiently dispensed were the efforts in this direction concentrated in order to serve those who were unemployed because of physical, mental, and moral handicaps, this being the group for

⁵ Ohio Commission on Unemployment Insurance. Report, Pt. I: Conclusions and recommended bill. Columbus, 1932.

which charity was essential. For those able normally to support themselves through their own labor, unemployment insurance was considered the best means of meeting the workers' need, the insurance principle having been used successfully in meeting all kinds of industrial risks. Recommended features of such a system are that: (1) The system should be compulsory for all industries; (2) all funds should be pooled, and the premiums should be graduated according to the unemployment rate in the respective industries after the plan has been in operation for 3 years; (3) employers and employees should both contribute, the original rate of the contribution to be 2 percent of pay roll and 1 percent of earnings, respectively; and (4) the benefit should amount to 50 percent of normal weekly earnings of the insured, beginning after a waiting period of 3 weeks and payable for 16 weeks, the maximum benefit per week not to exceed \$15.

The committee was of the opinion that the expenditures, in times of depression, of unemployment-insurance funds accumulated during years of prosperity would make it possible to maintain greater stability in the business world during periods when purchasing power was at a low ebb. While it was recognized that compulsory unemployment insurance to cover all industries in all States would reduce the competitive disadvantage in interstate commerce that might arise should Ohio have such an insurance system and other States be free from the costs of unemployment insurance, it was the belief of the committee that the advantages of other social legislation had more than compensated for the costs and that the additional cost of unemployment insurance would not prove burdensome.

Report of Committee on Unemployment Reserves, Pennsylvania⁶

THE committee appointed by Governor Gifford Pinchot to investigate the question of the establishment of unemployment reserves in the State of Pennsylvania failed to agree upon the advisability of such reserves, so that no joint report was possible.

The committee was made up of representatives of the public, of employers, of employees, and of the legislature.

The employers' group, the chairman, and one other member of the group representing the public, in submitting their conclusions, stated that they were opposed to the adoption of any plan of compulsory unemployment insurance or reserves on the ground that such measures could not relieve or prevent depressional unemployment. This group recommended, therefore, that the distress arising from unemployment should continue to be dealt with as an emergency, and further that a careful study should be made of this form of relief in the light of experience gained during the present emergency both in this country and abroad.

The group representing the employees, together with two members of the State legislature, was agreed that the problem of unemployment relief could be met more satisfactorily by compulsory unemployment insurance than by the present system of poor-relief assistance which is backed by compulsory contribution through taxation. If industrial management is unable to assist in solving the problem of

⁶ Pennsylvania State Committee on Unemployment Reserves. Report. Philadelphia, 236 Chestnut Street, 1933.

unemployment, the report says, it will eventually be obliged to abdicate.

A separate statement was filed by one of the members of the group representing the public, who favored a system of joint contributions with State-wide pooled reserves and said that recognition of the need for establishment of adequate organization and machinery of administration, including the development of an effective public employment service, was of great practical importance.

Two other members, who were in disagreement with all these reports, were of the opinion that further study of the question was needed, and recommended, therefore, the appointment of a legislative commission which should make a complete study of the whole problem and report to the next regular session of the legislature.

Report of Virginia Advisory Commission on Unemployment Insurance

THE enactment of a State unemployment-insurance law in Virginia was recommended in the report of a special commission appointed by the Governor of that State to consider the problems arising from insecurity of employment.⁷

For reasons of principle, administrative difficulties, or expediency, the commission considered that certain workers could not be covered in a State plan such as the one advocated. Such persons include agricultural workers, domestic workers in establishments not operated for profit, those engaged in interstate commerce, employees of the State, persons without a certain employment record or who have not been resident in the State for a certain period, persons ordinarily self-employed, persons employed in an establishment having only a small number of workers, and persons receiving more than a stipulated amount in wages in a year.

The plan agreed upon by the commission, and offered in the form of a tentative bill, recommended the establishment of a reserve fund by employers to be administered by the Department of Labor and Industry, with a separate account kept by the department for each employer. In addition to the unemployment-reserve fund, the proposed bill provided for an unemployment-insurance fund, to be formed by the payment by each employer of one-half of 1 percent per annum of his pay roll. This fund would be administered by the Commonwealth to pay benefits to those eligible employees who, because of the exhaustion of reserve accounts, were unable to collect their benefits from such accounts.

Plan for Stabilization of Industry by President of General Electric Co.

A PLAN was proposed by Gerard Swope, president of the General Electric Co., at the annual dinner of the National Electrical Manufacturers' Association in New York on September 16, 1931,

⁷ Virginia. Governor's Advisory Commission on Unemployment Insurance. Stabilization of employment in Virginia and building up of unemployment reserves. Richmond, 1934.

which aimed at the stabilization of industry through the coordination of production and consumption.

Trade associations would be established by all industrial and commercial companies doing an interstate business, and having 50 or more employees. These associations, under the plan, would be empowered to establish trade practices and standard accounting and cost practice and to collect and distribute information on volume of business, simplification and standardization of products, price stabilization and similar measures, and to promote stabilization of employment. Supervision of companies and trade associations would be under a Federal supervisory body or bureau in order to protect the public interests. Periodical statements as to the business and earnings should be made by all companies with 25 or more stockholders and at least once a year a complete balance sheet and earnings statement should be sent to all stockholders. Immediate voluntary acceptance of the plan by companies of the described character was provided for with adoption of the provisions of the plan required within 3 years.

In order to protect employees the plan provided for the adoption by all of the companies of a workmen's compensation act embodying the best features of the different State laws; life and disability insurance to be carried jointly by employers and employees with provision for the continuation of the policies when employees change their employment in the same or another trade association; old-age pensions provided through contributions by the employers and employees which should be placed in a pension trust organized by the trade association to which the particular company belongs; and the establishment of unemployment-insurance funds likewise maintained jointly by employers and employees.

The plan provided that the administration of the insurance features in each trade association should be placed under a general board of administration consisting of nine members, three each representing the association, the employees, and the public.

Mr. Swope said that the plan outlined would tend to put all domestic corporations of the class described on a parity for domestic business, thereby removing the inequalities of the different laws in the several States, providing for standard forms of financial reports and their periodical issuance for the information of stockholders, and placing on organized industry the obligation of coordinating production and consumption and of a higher degree of stabilization. In addition it was suggested, in order to place these domestic corporations on a parity with foreign competition, that any company engaged in export business should be entitled, after approval by the Federal supervisory body, to deduct from its Federal income tax the equivalent of a certain percentage of its export sales. By this method American industry would be in a position to discharge its obligation to its employees and, by holding its position in the markets of the world, bring additional work to America.

The general principles underlying the plan advocated by Mr. Swope were stated as follows:

1. Every effort should be made to stabilize industry and thereby stabilize employment to give to the worker regularity and continuity of employment, and, when this is impracticable, unemployment insurance should be provided.

2. Organized industry should take the lead, recognizing its responsibility to its employees, to the public, and to its stockholders, rather than that democratic society should act through its government. If the various States act, industry will be confronted with different solutions, lacking uniformity and imposing varying burdens, making competition on a national scale difficult. If either the individual States or the Federal Government act, the power of taxation has no economic restraints.

3. There should be standardized forms of reports so that stockholders may be properly informed. As a result of the steady increase in number and size of corporations and number of shareholders, there has been much discussion of the uniformity, frequency, and regularity of reports of corporate activities, and considerable criticism of the form of these reports; some too conservative, some not sufficiently complete; while others are considered to be fair and complete, but even so there is a lack of uniformity among the different companies.

4. Production and consumption should be coordinated on a broader and more intelligent basis, thus tending to regularize employment and thereby removing fear from the minds of the workers as to continuity of employment; as to their surviving dependents in case of death; and as to old age. This should be done preferably by the joint participation and joint administration of management and employees. These things cannot be done by an individual unit—organized industry must do them.

5. If organized industry is to undertake this work, every effort should be made to preserve the benefits of individual originality, initiative, and enterprise, and to see that the public is assured that its interests will be protected, and this can be done most effectively by working through the agency of the Federal Government.

The plan, Mr. Swope said, was offered as a means to correlate into a comprehensive whole the undirected efforts of forward-looking business enterprises toward stabilization; for the further development of industry and commerce; for the protection of employees and stockholders; for the best service to the public and in general the best interests of society. Legislation would be required to make such a plan possible, including the probable modification of some existing laws.

Unemployment-Insurance Systems in Foreign Countries, 1931-34 ⁸

SYSTEMS of unemployment insurance had been established by legislation and were in force in 18 foreign countries in 1934. In addition an unemployment-insurance act was enacted in Luxemburg in 1921, but has never been put into effect although it has been used as a basis for handling unemployment relief. The systems are designated as compulsory or voluntary, the compulsory systems being those in which insurance is obligatory for certain designated classes of workers under definite conditions prescribed by the law, and the voluntary systems those in which private unemployment-insurance systems are encouraged and subsidized by the State but under which insurance is not required of any group. The countries are fairly evenly divided between the 2 types of systems, the legislation in 8 countries being compulsory in character and in 9 countries voluntary, while in Switzerland the cantonal legislation is in some instances compulsory and in others voluntary. The

⁸ U. S. Bureau of Labor Statistics Serial No. R. 166: Operation of Unemployment-Insurance Systems in the United States and Foreign Countries. Washington, 1934.

distribution of the 18 countries on this point and the date of first legislation on unemployment insurance in each country are as follows:

Compulsory system:		Voluntary system:	
Austria.....	1920	Belgium.....	1920
Bulgaria.....	1925	Czechoslovakia.....	1921
Germany.....	1927	Denmark.....	1927
Great Britain and Northern Ireland.....	1911	Finland.....	1917
Irish Free State.....	1920	France.....	1905
Italy.....	1919	Netherlands.....	1916
Poland.....	1924	Norway.....	1915
Queensland.....	1922	Spain.....	1931
		Sweden.....	1934
Mixed system:			
Switzerland.....			1924

Two new unemployment-insurance laws were enacted in 1934—one in Sweden which became effective January 1, 1935, and one in Finland replacing the law passed in 1917 which had become inoperative as a result of differences between the Government and the trade unions, while an act was passed by the British Parliament in June 1934, amending the unemployment-insurance acts, 1920 to 1933. The new British act provides for the lowering of the minimum age for entry into unemployment insurance, restores the benefit rates to the amounts in force before they were reduced in 1931, and establishes an unemployment-insurance statutory committee which is empowered to make recommendations and advise with the Minister of Labor in regard to the operations of the act or amendments thereto. An unemployment assistance board was also established which was empowered to take over the system of "transitional payments" which had been paid to claimants who had exhausted their right to standard benefit and to have general charge of the transition from the former benefit and transitional payments to the new provision of benefit and unemployment allowances.

With the exception of Great Britain no sweeping changes have been made in the systems of unemployment insurance. In Austria the measure providing for emergency relief for unemployed workers dropped from regular benefits was extended to the end of 1934, and the extension period for regular benefit reduced from 30 to 20 weeks. In France the State subsidies to unemployment funds were increased, and special provision was made for the establishment of funds for persons engaged in the plastic, graphic, dramatic, and musical arts. There was a general tendency in Germany toward simplification of the classification of workers and leveling the amounts of insurance paid. Unemployed workers were more generally kept on extended relief after exhausting their right to regular benefits instead of passing them on to the welfare relief system supported by the local and municipal governments, for which the burden had proved to be too great. The "means test" was, however, still very strictly enforced. The financial position of the system for both ordinary and extended insurance was said to be excellent. The Polish system of insurance for salaried workers has undergone many changes as a result

of the large number of persons receiving benefits and the reduced number contributing to the fund; as a result assessments were increased and benefits lowered. All Cantons in Switzerland have adopted some form of unemployment-insurance legislation, and special measures have been undertaken to assist particular industries in the Cantons most severely affected by the depression.

Dismissal Compensation in American Industry ⁹

TWO hundred and twelve companies in this country have been reported as paying dismissal compensation at some time before April 1934. These firms, together with their subsidiaries, normally employed before the depression between 2¼ and 2½ million men. Although most of the companies had not announced the number of dismissed employees or the amount of compensation, reports from 60 firms definitely stated that they had compensated more than 80,000 men. On the basis of actual reports and a conservative estimate of the amount of compensation in relation to the terms of the particular plans, over 8½ million dollars had been paid to these 80,000 employees permanently laid off. Individual payments were sometimes as large as 1 or 2 years' pay. A few factory workers received compensation up to \$3,000, while the amounts paid to salaried employees and executives were at times even larger.

Number of Dismissal-Compensation Plans

AT LEAST 212 companies had at some time before April 1934 paid dismissal compensation to employees for permanently terminating the employment relationship, primarily for reasons beyond the control of the employee, the attempt having been made to eliminate all subsidiary companies except where a real difference in plans existed. Thus 16 subsidiary, affiliated, or merged companies were not included in this list of 212 firms, although there has been some public discussion of their experience.

These 212 companies have used 221 plans. This number does not include changes in their procedure from time to time, but includes only those cases in which a company operated two separate schemes to meet different situations; for example, a general policy for salaried employees and a special plan for all employees when closing a plant.

A classification of 182 plans last used by 175 firms, about which complete information was available, shows that approximately 30 percent of these plans provided for small payments, in lieu of notice, ranging from only a few days' pay to 2 weeks' wages. Another 15 percent were informal plans without definite eligibility requirements or scales of compensation. Over half the plans, however, can be classified as formal plans, with rather definitely formulated rules, which were designed to meet all contingencies. Over a fifth of the

⁹ Summary of an article, by Everett D. Hawkins, Princeton University, in the November 1934 Monthly Labor Review. The information for the article was secured largely through interviews or correspondence with officers of the firms which have paid dismissal compensation. Visits to 111 companies were made during the summers of 1932 and 1933. Letters from 32 additional firms reported their plans. These sources were supplemented by published statements and information gathered by the industrial relations section of Princeton University. The Bureau of Labor Statistics aided in securing certain data incorporated in this article. Joint trade-union plans are not included in this article.

plans had been adopted as standard procedure for meeting all dismissal contingencies.

Type and Size of Companies Paying Dismissal Compensation

THE adoption of dismissal-compensation plans by companies in this country has been concentrated in certain industries and usually in the larger firms of these industries. Public utilities, department stores, oil refiners, paper manufactures, and financial institutions headed the list of industries having dismissal-compensation plans. The companies in these industries dealt rather directly with the public and so were especially desirous of maintaining good public relations through progressive industrial relations. Food and meat packers, textile, chemical and drug, and machinery manufacturers also stood high in the total number of plans, but many of their schemes were unconfirmed, informal, or offered only small payments, so that few remained among the formal plans.

Dismissal compensation, like other industrial-relations practices, was used comparatively infrequently in the great number of small plants. The median number of employees in the 212 plants which used some form of dismissal compensation was 2,563. The average was 11,912 workers, but this figure was influenced largely by 9 large corporations which employed over 50 percent of the total number of employees. Only 16 firms with fewer than 250 employees and only 50 firms with between 251 and 1,000 employees used dismissal compensation. The employees of these small firms formed only 1.5 percent of the 2,372,697 workers in companies paying compensation. The modal class included the companies with from 1 to 5,000 employees.

Coverage of Dismissal-Compensation Plans

NOT ALL the 2,300,000 employees normally employed by the 212 firms before the depression were eligible for compensation. Although a degree of flexibility was sometimes allowed, most plans definitely specified the factors—class of employment, the length of service, the reason for termination, and possibly the age of the employee—which were required in order to be eligible for compensation. Practically all plans state or follow the rule that no payment shall be made in case of voluntary quits, discharges for cause, or temporary lay-offs. Employees receiving workmen's compensation are usually excluded, as are also those eligible for other employee-benefit plans.

Although a few of the older plans were broadened to include all employees, and a fair proportion of the newer standard-procedure plans included both factory and salaried workers, many firms paid compensation only to office and salaried employees. The data for 182 plans, about which information was available, indicate that 60.4 percent of the plans included all employees in the company, 7.2 percent covered only wage earners, and 32.4 percent only salaried employees. Of the 98 formal plans, 70.4 percent included all employees, 11.2 percent only wage earners, and 18.4 percent only salaried employees.

Practically all the more definitely formulated plans required a certain length of service in the employ of the firm before a worker became eligible for dismissal compensation. A few companies, however, starting with small payments, had no service requirement.

In the case of informal plans, no rule was announced; but usually only employees of some service, especially in the case of hourly paid workers, were considered.

Service requirements tended to be considerably higher for wage earners than for salaried employees. Over one-half of the plans for salaried employees had service requirements of a year or less, while less than one-third of those for wage earners had such a short period. In the long-service group were found 38.4 percent of the plans for wage earners and only 14 percent covering salaried workers.

These service and position requirements greatly limited the coverage of dismissal-compensation plans. Records from 60 companies, however, showed that 81,434 employees had been paid dismissal compensation up to 1934. The number compensated by the remaining 152 firms would probably equal the number of announced payments.

Amount of Dismissal Compensation

Most companies hesitated to make any announcement about the amount of money paid in dismissal compensation. Twenty companies, however, which compensated 50,710 employees paid \$4,616,927.81. Although the average was \$91.05 per person, this figure is of little significance, since there was a tendency for payments to be quite small or to amount, at the other extreme, to several hundred dollars.

For 40 additional companies, information was available concerning 30,724 dismissal payments. Using a conservative estimate of the average payments given by each company in the light of the terms of its plan, about \$4,202,725 was paid in compensation by these companies. This gave a higher average, \$136.79, than the average of the 20 plans above mentioned.

For all 60 companies the average payment to the 81,434 workers who received \$8,819,652.81 in compensation was \$108.30. Since some individual payments were well over a thousand dollars, probably more than half the dismissal payments in these 60 companies were less than \$100.

Use of an over-all average does not reveal the fact that in certain companies as the depression deepened the average amount of compensation increased because employees of longer service were displaced. In other companies cuts were made in the scale of compensation or weekly earnings were lowered to such an extent that the average payments actually declined. The comparison of average payments made by any two companies is not a satisfactory guide of the relative effectiveness of their plans, since the averages may be raised or lowered because of the service requirements. Thus under a plan in which only long-service older workers are eligible to compensation, fewer employees may be assisted than under one having only a 1-year service requirement and a lower average compensation. The eligibility requirements and scales of compensation are more trustworthy measures for comparing plans.

In determining the amount of dismissal benefits, scales of compensation are used which consider, as a rule, earnings and length of service. Age, type of position, reason for separation, and number of dependents are sometimes used as factors in determining the amount of compensation. Several ways have been developed to combine these various factors.

Method of Financing Dismissal Compensation

DISMISSAL compensation payments have been financed rather largely on a pay-as-you-go basis. A few of the combined plans had savings or profit-sharing funds which also served for dismissal payments in case of permanent lay-off, but as yet such plans are the exception and not the rule. The most common method of accounting is to include the dismissal payments in the same account with the salary or wages of the department or unit. In some companies other funds of the department were charged with the dismissal payments. Over 70 percent of the companies whose plans were studied debited the unit dismissing the employee, while the remaining companies charged the cost to general operations or special company dismissal accounts or funds. The reason for charging dismissal compensation to the operating unit is to make the supervisors careful in keeping at a minimum the number of employees dismissed.

Method of Paying Dismissal Compensation

THE most debated feature of dismissal compensation is the relative advantage of granting benefits in a lump sum or in periodic payments. The major contention of those favoring the periodic method is that payments should be spread over a period of time so that they will really help carry the worker during the period between jobs. The advocates of lump-sum payments emphasize the desirability of definitely terminating the employment relationship; the employees should know that their jobs are over and not be encouraged to stay around the plant to collect weekly payments in the vain hope of securing work again.

A combination of the two methods, which recognizes certain advantages of each, seemed to be growing. A study of 94 companies which had plans with medium or large payments showed that 33.3 percent used both methods, 42.9 percent the lump-sum method, and 23.8 percent, periodic payments. The group using both methods was divided into three almost equal parts: Those definitely utilizing both methods, depending on the individual case and the size of compensation; those usually giving lump sums, but using periodic payments where the money might quickly be dissipated; and those normally following the periodic method but allowing a lump sum if an employee needs it. These plans which recognized differences in individuals and circumstances better met the needs of employees.

Recent Changes in Dismissal-Compensation Plans

THROUGH 1929 the aim of most dismissal-compensation plans was to assist those squeezed out by mergers, consolidations of offices and plants, or changes in working rules. As the depression deepened, various activities and units were decreased in size, or abandoned. Forces had to be pared, including in many instances officials and long-service workers. The depression greatly accelerated the growth of plans. The largest number of new plans was adopted in 1931. By 1933 the rate of growth had slackened, as employment and pay-roll indexes began to move upward.

In addition to the great increase in the number of plans adopted since the start of the depression, important changes were made in dismissal-compensation plans. A number of informal schemes had been converted into formal plans with definite requirements and scales of compensation. Ten existing plans increased their coverage to include hourly or wage workers, and a large share of the newly adopted plans compensate all classes of employees. As a rule, the newer plans have shorter service requirements. Although during 1931 and 1932 five plans raised short-service requirements from 6 months to 4 years, none of these plans went beyond 5 years in their new requirements. All the new plans and 10 others raised their scales of compensation during the depression because of greater need. Three plans, none of which was definitely formulated, were discontinued and two others changed from a formal to an informal status. Fifteen companies, because of financial conditions, reduced compensation for some or all classes of employees, while two reduced the maximum benefit from 1 year to 6 months. Over half of these reductions were made in informal plans.

The comparatively good record of dismissal compensation in relation to other industrial relations plans¹⁰ during the depression can be explained by their relative newness. Since many of the plans were not started until the depression was well under way, they were adopted after a careful examination of their cost in relation to the financial condition of the company. The need for some or higher payments became more apparent as the depression deepened and it took longer for the worker to find a new position. Probably the large size of the corporations paying dismissal compensation may also have accounted for the continuance of payments in spite of worsened business conditions.

Spread-the-Work Movement

Spreading-Work Program of President Hoover's Conference of August 1932

A NATIONAL conference of banking and industrial committees of the 12 Federal Reserve districts, called by President Hoover on August 14, met in Washington August 26, 1932, to draw up a coordinated Nation-wide program of action against the economic depression. The President announced that the conference would deal "with specific projects where definite accomplishments in business, agriculture, and employment can be attained, and will coordinate the mobilization of private and governmental instrumentalities to that end." The chairman of the 12 committees representing the Federal Reserve districts and certain officials of the Government meeting on August 25, for the purpose of preliminary preparation of the program and organization of the conference, adopted a resolution favoring the appointment of a central committee to act as a central point of contact in those matters

¹⁰ E. S. Cowdick, in a paper on the Status and Trends in Industrial Relations, presented in September 1933 at the Third Conference Course in Industrial Relations at the Graduate College, Princeton, N. J., reported no company that had given up a dismissal-compensation plan (pp. 3-4) or was likely to discontinue it (p. 12), but "lay-off allowance" headed the list of plans adopted since the beginning of the depression (pp. 5-6).

requiring cooperation between various public and semipublic agencies and the various banking and industrial committees. It was also recommended that subcommittees be formed to deal with the different subjects, among them one on increased employment through the sharing-work movement. The members of the conference included the Secretaries of the Treasury, Agriculture, Commerce, and Labor, and the various other officials of these departments, representatives of the banking interests in the different districts, industrial leaders, and others.

In his opening address President Hoover said, in regard to the question of unemployment, that—

As a matter of national policy, the shortening of hours is necessary not alone to meet the need of the moment but it may be necessary to take up the slack in the future from the vast and sudden advance in labor-saving devices. As the result of conferences similar to this nearly 3 years ago many industries realigned their operations by shorter hours to retain hundreds of thousands of workers who would otherwise have been dismissed.

Nevertheless, the still further spreading of available work in industrial, commercial, and service activities, especially with every recovery of employment, would be a vital contribution. * * *

While I heartily favor the purpose of plans [to shorten hours], I agree with both the employers and the leaders of labor whom I have consulted that its direction is not properly the function of government, except as applied to the operation of government service. Moreover, with all the various phases of employment and operation to be met in private business, no general rule can be applied. Results must be achieved through cooperation on the part of employers and employees suited to each locality and industry.

In accordance with the recommendation of President Hoover and the organizing committee, a subcommittee, with Walter C. Teagle, president of the Standard Oil Co. of New Jersey, as chairman, was appointed to promote increased employment through the sharing-work movement. It was proposed to urge all employers to take on additional workers and to adjust the hours so that at the end of a given period all workers would have been employed the same amount of time.

As an example of the possibilities of success, Mr. Teagle cited the case of his own company employing 23,000 persons, which by spreading out employment through reduction of hours, had been able to give employment to 3,000 more workers.

Plan of National Committee on Industrial Rehabilitation

THE National Committee on Industrial Rehabilitation, under the chairmanship of A. W. Robertson, of Pittsburgh, was an outgrowth of the conference. This committee developed plans for an intensive equipment modernization movement throughout the country, which was designed to put back on the pay roll 1,620,000 workers in factories manufacturing machinery and plant equipment. The committee was to concentrate on getting manufacturers in all the principal industrial centers to modernize their plants. Mr. Robertson stated:

The committee believes that if industry will proceed now for reasons of sound self-interest to put its house in order and to remedy through modernization the run-down condition of its productive equipment, employment will be created for hundreds of thousands of workers in the "capital goods" industries. In addition, it will bring back on pay rolls hundreds of thousands of workers in other industries which furnish the parts, raw materials, and services bought by the machinery and equipment manufacturers. This will release millions of dollars in wages spent for individuals and family purchases, affecting business in every community.

More than 50 percent of the equipment in American factories was said to be obsolete at the time. Conditions were rendered more urgent by the fact that in the 3 preceding years there had been more rapid improvement in equipment design than in any other period, while replacement had not kept up with this engineering advance. The objective of the committee was to set in motion a succession of orders which would extend, in their effect on employment and spending, from the factory back to the farms, the forests, and the mines.

Survey of Spread-the-Work Movement, 1932

ONE OF the important measures advocated as a recovery measure by President Hoover's Organization on Unemployment was that of spreading work, and from time to time the organization sought information as to the extent to which such a policy was being used. The most comprehensive survey on the subject was made in the early part of 1932, under the direction of William J. Barrett. This survey secured reports from 6,551 companies, employing 3,475,870 persons in 1929, at a weekly pay roll of \$104,461,727. During the pay-roll period ending nearest March 15, 1932, these companies employed 2,547,901 persons at a weekly pay roll amounting to \$60,626,129. This represented a decrease of 26.7 percent in employment and of 42.0 percent in pay roll.

On March 15, 1932, of those employed, 1,428,116 (or 56.1 percent) were on part time. These part-time workers were employed, on the average, 58.7 percent of full time.

Of the companies reporting, 1,673, or 25.5 percent, were working full time, while 1,842 companies, or 28.1 percent, were working 5 or more days per week.

The proportion part-time employees formed of all present employees varied from 84.9 percent in the machinery and rubber groups to 20.4 percent in commercial establishments.

The proportion of companies operating at or near full time (5 days or more per week) varied from 70.3 percent in the commercial group to 13.5 percent in the machinery group.

"Reduced days per week" was the method most commonly used for spreading or increasing employment, and 3,857, or 58.8 percent, of the 6,551 companies reported they were using this method.

An analysis of returns by industries revealed that some groups, although severely affected by the drop in operations, endeavored to spread available work over relatively large numbers of their employees.

The machinery group is a case in point; here the decrease in employment was 36.2 percent, but the companies reporting had spread work so that 84.9 percent of present employees were given part-time employment. In the case of some of the other groups there are apparent possibilities for further spreading of employment.

The methods of spreading or increasing employment used by the 4,926 companies reporting their methods were distributed over 10

major groupings. The statement below shows the number of companies reporting the use of each method.

	<i>Number of companies reporting use of method¹</i>
Method of spreading work:	
Reduced days per week.....	3, 857
Reduced hours per day.....	2, 336
Shorter shifts in continuous operation.....	380
Alternating shifts or individuals.....	1, 338
Rotation of days off.....	1, 170
Method of increasing employment:	
Maintenance and repair.....	1, 290
Construction.....	278
Production for stock.....	1, 177
Development of new markets.....	959
Development of new products.....	1, 020

¹ The total number exceeds the total number of companies because many of the companies reported the use of 2 or more methods for spreading or increasing employment.

New Hampshire Plan for Reemployment

A PLAN for the spreading of available work through combining a shortened working week with a flexible arrangement which would allow the absorption of the unemployed without placing an added burden upon industry was advocated at a conference held in Boston, July 20, 1932.¹² The plan, called the "New Hampshire plan for reemployment", was presented to a representative group of officials, including the governors of five New England States, industrialists and other business men, educators, economists and social workers, and labor executives. The joint conference was held under the sponsorship of the Massachusetts Commission on the Stabilization of Employment and the New Hampshire Unemployment Relief Committee, and under the direction of a committee on arrangements of which John G. Winant, then Governor of New Hampshire, was chairman.

The chief differences between the proposed plan and ordinary plans for spreading work lay in the temporary nature of the usual spread-work plans and the fact that they place the entire burden upon labor, while under the proposed plan a flexible method of putting men back to work permanently was provided, to be supported by ownership and management as well as labor. The flexibility of the plan was particularly stressed as a necessary part of such an attempt to put men back to work.

The statement of Governor Winant in opening the conference, which gives an outline of the proposed plan, was as follows:

The principle of the flexible work day and work week is effective because of its very flexibility. If applied in any wide-spread manner it would be possible immediately to increase the number of workers on pay rolls. This would be done as follows:

First, by contributions from those still employed in a specific business, including wage earners, salaried executives, and stockholders, the latter by a contribution from dividends if the business can pay dividends.

Second, without increasing the cost of running a business.

Third, without necessitating increased floor space or additional machinery or equipment.

Fourth, without increasing production.

Fifth, with compensation to wage earners of shorter hours more than equivalent to the contribution from their wages.

The principle is flexible as applied through plans for each type of business. Technicians have proved the principle applicable to all varieties of conditions in individual businesses.

¹² The New England Council. New England News Letter, Special supplement, Aug. 1, 1932. Statler Building, Boston.

The principle would not apply to businesses where hours already have been considerably shortened until these businesses are restored to greater productivity. As present employees have their hours lengthened the plan would apply after a certain maximum has been reached, beyond which new employees would be hired rather than present employees stepped up to still longer hours.

The plan would remain operative until unemployment is eliminated, and could again become operative by degrees if unemployment reoccurred.

A study was made of the offices in several different types of business—insurance, textile, paper, soap, rubber, and optical goods—and on the basis of the seven offices studied it was found that contributions of 4 to 5 percent of salaries of over \$5,000, 3 to 4 percent on salaries of \$1,500 to \$5,000, and 2 to 3 percent on salaries under \$1,500 would provide salaries of \$730 to \$1,000 per year for 10 percent more people, while if a 5 percent contribution from profits or dividends was available the contributions from salaries could be reduced and the salaries of the new employees increased. The hours of the extra people would be used to shorten the hours of the regular force and a 2-shift system of 5 hours each was advocated as it would secure the maximum use of the floor space and equipment. Under this plan no work need be done on Saturdays. Other variations of the flexible plan are: A single shift in normal hours and a 5-day week, and uniform shortening of hours for everyone on either a 5- or a 5½-day week. In general it was considered that the 2-shift plan is the economical practical plan for Nation-wide adoption at the present time.

Purposes and Policies of Public Works Administration

THE Federal Emergency Administration of Public Works, better known as the Public Works Administration, was created to prepare a comprehensive program of public works, as part of the National Recovery program. Its purpose was to increase the consumption of industrial and agricultural products by increasing purchasing power, to reduce and relieve unemployment, to improve standards of labor, and otherwise to rehabilitate industry and conserve natural resources.¹³

Labor Policy

THE policies enunciated with regard to labor include the equitable distribution of jobs among unemployed, on the geographical basis, preference being given to qualified workers; the prohibition of employment of convict labor; the 30-hour week as far as "practicable and feasible"; just and reasonable wages, sufficient to provide "a standard of living in decency and comfort"; weekly payment of wages; public posting by the contractor of the rates of wages to be paid. Labor required on public-works projects was recruited as far as possible through the United States Employment Service, except for such organized or highly skilled workers, as were obtained through recognized trade-union locals.

Wage Rates

FOR the purposes of setting up minimum wage rates the United States was divided into three zones, and it was required that in these

¹³ For employment on public works, see p. 145.

zones the wage rates per hour to be paid on construction projects should be not less than the following:

Southern zone: ¹	
Skilled labor.....	\$1. 00
Unskilled labor.....	. 40
Central zone: ²	
Skilled labor.....	1. 10
Unskilled labor.....	. 45
Northern zone: ³	
Skilled labor.....	1. 20
Unskilled labor.....	. 50

¹ South Carolina, Georgia, Florida, Arkansas, Alabama, Mississippi, Louisiana, Arizona, Oklahoma, Texas, and New Mexico.

² Delaware, Maryland, Virginia, Tennessee, Colorado, Utah, California, North Carolina, West Virginia, Kentucky, Missouri, Kansas, Nevada, and District of Columbia.

³ Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Indiana, Wisconsin, Minnesota, Nebraska, Wyoming, Oregon, South Dakota, Idaho, Pennsylvania, Ohio, Michigan, Illinois, Iowa, North Dakota, Montana, and Washington.

Accident Prevention

THE contract form issued by the Public Works Administration contains the following paragraph on accident prevention:

The contractor shall at all times exercise reasonable precautions for the safety of employees on the work and shall comply with all applicable provisions of Federal, State, and municipal safety laws and building and construction codes. All machinery and equipment and other physical hazards shall be guarded in accordance with safety codes approved by the American Standards Association, unless such codes are incompatible with Federal, State, or municipal laws or regulations. Nothing in this article shall be construed to permit the enforcement of any laws, codes, or regulations herein specified by any except the contracting officer.

Federal Emergency Relief Work

THE Relief Act of 1933 set up the Federal Emergency Relief Administration and provided it with funds of \$500,000,000, of which half was to be disbursed to the States on a basis of \$1 of Federal money for each \$3 of public money from all sources spent for unemployment relief in each State during the preceding 3 months. The other half was to be used for grants to States whose relief needs were so great and whose financial resources so depleted as to make necessary some funds in addition to the matched allotments.

The new administration of relief began to function May 22, 1933, and from May 23, 1933, to August 31, 1935, disbursed in grants to the States the sum of \$2,792,846,721. These grants were made for general relief purposes, for educational programs, for the purchase and distribution of surplus commodities, for the care of transients, and to assist self-help groups of unemployed persons. The first grant for self-help purposes was made in August 1933, the first grant for transients in September 1933, and the first grant for educational work in October 1933. The purchase of surplus commodities was undertaken in November of the same year. Drought-relief activities began in the summer of 1933, and continued until June 30, 1935.

Table 1 shows the average monthly grants for each purpose during 1933, and the amounts granted, by months, from January 1934 to August 1935.

TABLE 1.—GRANTS FOR UNEMPLOYMENT RELIEF FROM FEDERAL FUNDS, JANUARY 1934 TO AUGUST 1935, BY MONTHS

Month	Total number of persons given relief	Unemployment-relief grants from Federal funds for—					Total
		General purposes	Transients	Education	Commodities	Miscellaneous	
1933: Monthly average ¹	14, 009, 822	\$13, 576, 563	\$938, 889	\$573, 934	\$11, 916, 750	\$ 52, 669	\$40, 552, 311
1934							
January.....	11, 086, 598	\$ 44, 869, 830	2, 762, 227	2, 051, 251	685, 000	\$ 46, 320	50, 414, 628
February.....	11, 627, 415	\$ 16, 258, 117	744, 000	702, 800	8, 771, 000	\$ 340, 610	26, 816, 527
March.....	13, 494, 282	\$ 44, 426, 850	2, 098, 831	2, 616, 302	2, 270, 000	\$ 30, 000	51, 441, 983
April.....	16, 840, 389	\$ 95, 919, 501	2, 589, 573	9, 659, 185	9, 185, 000	\$ 96, 125	117, 449, 384
May.....	17, 277, 497	\$ 92, 026, 155	2, 256, 100	7, 207, 191	2, 735, 000	\$ 112, 764	104, 337, 210
June.....	16, 949, 606	\$ 108, 323, 096	3, 748, 882	2, 754, 807	2, 800, 000	\$ 147, 830	117, 774, 615
July.....	17, 268, 283	\$ 144, 340, 943	3, 891, 000	863, 725	2, 275, 000	\$ 63, 721	151, 434, 389
August.....	18, 169, 766	\$ 117, 811, 868	2, 890, 706	1, 692, 292	3, 926, 000	\$ 198, 079	126, 518, 945
September.....	18, 315, 559	\$ 85, 621, 935	2, 450, 279	2, 203, 083	16, 470, 000	\$ 96, 688	106, 841, 985
October.....	18, 336, 713	\$ 148, 676, 734	4, 581, 315	3, 656, 066	3, 050, 000	\$ 125, 957	160, 090, 072
November.....	18, 908, 681	\$ 204, 046, 980	6, 828, 870	4, 912, 527	16, 425, 000	\$ 26, 436	232, 239, 813
December.....	20, 023, 077	\$ 111, 793, 032	3, 890, 899	3, 079, 997	8, 965, 000	\$ 37, 316	127, 766, 244
1935							
January.....	20, 655, 512	\$ 69, 987, 069	2, 101, 322	1, 823, 461	7, 342, 500	\$ 59, 207	81, 313, 559
February.....	20, 518, 584	\$ 155, 769, 586	5, 736, 590	4, 879, 584	4, 322, 500	\$ 45, 122	170, 753, 382
March.....	20, 533, 672	\$ 130, 881, 474	4, 323, 658	2, 685, 937	4, 450, 000	\$ 1, 483, 964	157, 545, 633
April.....	20, 021, 106	\$ 140, 437, 111	4, 391, 411	3, 215, 344	12, 290, 000	\$ 921, 921	161, 255, 787
May.....	19, 256, 580	\$ 199, 410, 958	7, 303, 831	5, 192, 365	5, 710, 000	\$ 2, 636, 939	220, 254, 093
June.....	17, 939, 314	\$ 146, 991, 463	1, 513, 500	641, 786	633, 300	\$ 1, 369, 895	151, 169, 944
July.....	16, 128, 163	\$ 19, 674, 695	4, 622, 416	1, 882, 156	—	\$ 2, 351, 894	28, 531, 161
August.....	15, 205, 288	\$ 118, 795, 171	5, 830, 300	2, 729, 134	408, 480	\$ 1, 957, 270	129, 720, 355

¹ Computed on basis of those months during which grants were made for purposes specified: General purposes, June–December; transients, September–December; self-help groups, August–December; commodities, November and December; education, October–December; total, May–December.

² Includes also allotments matched by State funds.

³ Grants to self-help groups only.

⁴ Transfers affecting prior months have been made on the records reducing the cumulative total of transient relief \$75,000 and increasing the educational program \$44,400 and the general relief program \$30,600.

⁵ Owing to a reclassification of special grants and regrouping of other grants, direct comparisons of data for March and succeeding months cannot be made with earlier data.

The trend in relief rolls and disbursements in urban areas from January 1934 to August 1935 is shown in table 2.

TABLE 2.—TREND OF URBAN RELIEF, BY MONTHS, JANUARY 1934 TO AUGUST 1935

Month	Number of persons receiving relief	Amount disbursed	Month	Number of persons receiving relief	Amount disbursed
1934					
January.....	1, 222, 233	\$28, 876, 203	January.....	2, 233, 466	\$76, 756, 947
February.....	1, 249, 002	28, 338, 922	February.....	2, 212, 903	69, 712, 195
March.....	1, 439, 353	31, 422, 013	March.....	2, 207, 301	71, 454, 834
April.....	1, 922, 587	47, 053, 339	April.....	2, 180, 613	70, 454, 363
May.....	1, 897, 254	53, 218, 120	May.....	2, 145, 915	69, 794, 860
June.....	1, 852, 742	50, 381, 384	June.....	2, 072, 966	64, 989, 434
July.....	1, 874, 302	52, 541, 402	July.....	2, 041, 486	68, 144, 421
August.....	1, 928, 880	58, 229, 503	August.....	1, 953, 280	61, 360, 506
September.....	1, 955, 782	54, 499, 885			
October.....	2, 014, 986	60, 223, 395			
November.....	2, 055, 170	64, 789, 544			
December.....	2, 158, 422	68, 622, 309			

Civil-Works and Work-Relief Programs

Civil works.—The Federal Civil Works Administration was created November 9, 1933, to provide work for 4,000,000 persons. As the greatest proportion of relief expenditures was going to employable

persons, it was felt that if these people could be put to work at regular wages there would be a great improvement in their morale. The number of employable persons on relief November 15, 1933, was estimated at 2,000,000. These and 2,000,000 others—persons thus far self-sustaining but unemployed—were to be included in the civil-works program.

The program was carried out through State, county, and city civil-works administrations. On November 20 all persons on work-relief rolls were transferred to the civil-works roll and the first work-relief program was abolished, although some of the work-relief projects were taken over by this new administration. By January 18, 1934, there were 4,039,474 workers engaged on civil-works jobs and \$345,-357,616 had been disbursed in wages.

For this work a maximum 30-hour week and a maximum 8-hour day were established for manual labor. For clerical, office, statistical, survey, and professional work the current rate was paid, subject to a minimum ranging from \$12 a week for unskilled clerical workers in the South to \$24 to \$45 a week for professional workers in the North. Every effort was made to minimize risks and lessen accidents, but employees injured in the course of their work received compensation equal to that provided for under the United States Compensation Act of 1916.

Emergency work program.—The Federal civil-works program was discontinued early in 1934 and it was announced that a program of work relief would be instituted, to be carried out through the State administrations. This was planned to fall within six fields of activity, as follows: (1) Planning projects; (2) improvements to public property; (3) housing; (4) production and distribution of goods needed by the unemployed; (5) public welfare, health, and recreation; and (6) public education, the arts, and research.

It was announced that the new work program was to be carried on in towns and cities having a population of more than 5,000.

This new program was inaugurated April 1, 1934. At the outset of the program, the Federal Administrator of Emergency Relief set 30 cents an hour as the minimum rate to be paid on relief works using Federal grants; if the local prevailing rate was higher, the local rate was to be paid. The working hours were set at not to exceed 8 per day and 35 per week for physical labor, and not more than 8 per day and 40 per week for clerical work.

By order of June 29, 1934, the hours of labor were set at not less than 6 nor more than 8 per day, nor more than 30 per week or 128 per calendar month.

Another order, issued November 19, 1934, abolished the 30-cent hourly minimum and provided that thereafter the rate to be paid should be "the prevailing rate in the community for the kind of work performed." This order had the effect, it was pointed out, of placing the determination of the rate to be paid in the hands of "local committees representing labor, business, and the local relief administration."

Following the issuance of this order "wide-spread rate reductions occurred in most of the Southern States", and hourly rates of as low as 10 cents were reported. In South Carolina approximately one-

fourth of the common laborers were receiving this rate, and about one-half were receiving 12½ cents or less per hour. The Federal Emergency Relief Administration reported that "in all, approximately one-third of the laborers on work-relief projects in these Southern States were affected by these wage-rate reductions, while about two-thirds continued at a rate of 30 cents or more per hour."

"In general, most of the reductions were made in the rural areas and small towns while the rates of 30 cents an hour and over were maintained in the larger cities. The bulk of the relief group is centered in these urban areas where the rates were unaffected."

Federal Surplus Relief Corporation

THE Federal Surplus Relief Corporation was chartered under the laws of Delaware, October 4, 1933. It is a nonprofit organization with no capital stock, and its members are restricted to the Secretary of Agriculture, the Federal Emergency Administrator of Public Works, and the Federal Emergency Relief Administrator. Its purposes are (1) to relieve the emergency through the purchase, processing, and distribution for consumption of agricultural and other products as a means of improving surpluses and improving prices, and (2) to utilize surpluses of foodstuffs, clothing, fuel, etc., in the relief of the unemployed.

The State relief administrations are required to render monthly reports showing the number of families given commodity tickets for each specified commodity and the total quantity represented by these during the month.

Many millions of pounds of foodstuffs have been purchased by the Federal Surplus Relief Corporation for distribution to the needy unemployed. Other commodities have included grass seed (for use in emergency work), blankets, coal, and feed grains. Large purchases have also been made of toweling, cotton piece goods for sheets and pillowcases, printed cotton goods and cheese cloth for comforters, and ticking and cotton goods for bedding material. This material was purchased to be used at work centers for unemployed women, thus providing both employment and supplies for relief families.

Federal Work-Relief Act of 1935

FUNDS "to provide relief, work relief, and to increase employment by providing for useful projects" were made available by the Federal Emergency Relief Act approved on April 8, 1935. The act appropriated \$4,000,000,000, together with \$880,000,000 from unexpended balances of the Reconstruction Finance Corporation and Public Works Administration. The money was to be used in the discretion of the President and under his direction, and was made available until June 30, 1937, for the following classes of projects: (a) Highways, grade-crossing elimination, etc., \$8,000,000; (b) rural rehabilitation and relief, water conservation, reclamation, etc., \$500,000,000; (c) rural electrification, \$100,000,000; (d) housing, \$450,000,000;

(e) assistance for educational, professional, and clerical persons, \$300,000,000; (f) Civilian Conservation Corps, \$600,000,000; (g) loans or grants, or both, for projects of States and other political subdivisions and for self-liquidating projects of public bodies, \$900,000,000; (h) sanitation, land and flood control, reforestation, etc., \$350,000,000. Any of the above amounts could be increased 20 percent. It was specified that in grants to a State or subdivision for non-Federal projects, not less than 25 percent must be expended for labor. No part of the appropriation could be expended for munitions, but this proviso was not to prevent the expenditure of money for the construction or improvement of military or naval reservations. The apportionment of funds for the construction of highways must be through the Secretary of Agriculture under the Federal Highway Act, although no part of the funds need be matched by the State or Territory benefited. Allocations to the States for grade-crossing elimination were to be made on the following basis: One-half on the population as shown by the latest decennial census, one-fourth on the mileage of the Federal aid highway system, and one-fourth on the railroad mileage.

Funds could also be allotted for public-highway work in Alaska, Puerto Rico, and the Virgin Islands. Funds granted to relief agencies could be used in the construction and repair of roads and streets.

In carrying out the provisions of the act, advantage must be taken of the facilities of private enterprise wherever practicable, but where a permanent Government department has jurisdiction over a similar project, as rivers and harbors, such projects must be prosecuted by the respective department.

There were special provisions affecting labor. The President was authorized to fix wages for the various types of work. On permanent construction of Federal buildings the provisions of the Davis-Bacon Act relative to the paying of the prevailing wage rate must apply, and the rates must be determined in advance of any bidding. The President must also require the payment of such wages on the projects financed by the Government as will "not affect adversely or otherwise tend to decrease the going rates of wages paid for work of a similar nature."

On all public highways and related projects, preference was to be given to persons receiving relief, and the hours of work and the rates of wages paid to skilled and unskilled labor on such projects must be predetermined for each State.

Workmen's compensation must be paid for injuries received by an employee while engaged on any of the projects.

Provision was made for the acceptance of voluntary services as well as for the use of Federal employees and necessary State employees. Officers and employees could be appointed without regard to the civil service or the classification law, but Congress reserved to itself the right of confirming appointments of all State or regional administrators receiving an annual salary of \$5,000 or more.

In addition to the projects already enumerated, the act provided that money could be advanced (as loans) to farmers, farm tenants, laborers, and croppers, for the purchase of farm lands and equipment. For a period of 12 months from the effective date of the act, the funds provided could also be used for the administration of the Agricultural Adjustment Act. The Federal Emergency Relief Act was continued until June 30, 1936, and the Federal Emergency Administration of

Public Works established under the National Industrial Recovery Act was extended until June 30, 1937, by virtue of sections 10 and 12, respectively, of the resolution, while the authority of the President under the provisions of the act of March 31, 1933, providing for the relief of unemployment through the performance of useful public work, was continued until March 31, 1937.

In order that Congress may learn of the expenditures made and the obligations incurred, a report was required to be submitted before January 10 in each of the next three regular sessions of that body.

Works Program Under Relief Act of 1935

EXERCISING the authority conferred upon him by the Work-Relief Act, the President, on May 6, 1935, issued an Executive order setting up the machinery for carrying out the provisions of that act.

This order directed that The Works Program be carried on by three new Government agencies:

(1) The Division of Applications and Information (under the general supervision of the Executive Director of the National Emergency Council), whose duty it would be to receive all applications for work projects, examine them, and transmit them to—

(2) The Advisory Committee on Allotments (composed of 18 Government officials¹⁷ and one representative each of the Business Advisory Council, organized labor, farm organizations, the American Bankers' Association, and the United States Conference of Mayors) charged with the duty of making recommendations to the President for such projects as will constitute "a coordinated and balanced program of work."

(3) The Works Progress Administration (headed by the Federal Emergency Relief Administrator), responsible for the execution of the program so as to employ as many persons on relief as possible in the shortest time possible.

The Works Progress Administrator announced that, like the works programs which preceded it, the program would be carried out through State administrators, and that among the objectives would be to see that as many of the persons employed as was feasible should be persons receiving relief.

An Executive order of June 8, 1935, established two classes of persons eligible for employment under the new program: (1) Those registered for employment at offices of the United States Employment Service, and (2) those receiving public relief in May 1935. As various occupational classes in these groups became exhausted, however, other persons placed on the relief rolls after May 1935 and so certified to the Employment Service by the State relief administration could be added to the eligible list.

¹⁷ As follows: Secretary of the Interior (chairman), Secretary of Agriculture, Secretary of Labor, Executive Director of National Emergency Council, Administrator of Works Progress Administration, Director of Procurement, Director of the Bureau of the Budget, Chief of Engineers U. S. Army, Commissioner of Reclamation, Director of Soil Erosion, Chief of the Forest Service, Director of Emergency Conservation Work, Chief of the Bureau of Public Roads, Administrator of the Resettlement Administration, Administrator of the Rural Electrification Administration, Federal Emergency Relief Administrator, Director of the Housing Division, and Vice-Chairman of the National Resources Board.

The order also provided that eligibles should not lose their eligibility through taking temporary employment in private industry or in other public service, thus eliminating the complaint, in many places, that persons were restrained from taking temporary jobs through fear of loss of relief status.

Labor Policies

AN EXECUTIVE order was issued on May 20, 1935, establishing standard rates of pay, hours of labor, and working conditions.

Wages.—The following schedule of wages was set and it was pointed out that they were monthly earnings "in the nature of a salary" and that no deductions were to be made for time lost due to temporary interruptions beyond the control of the workers.

RATES TO BE PAID ON WORK PROJECTS

Regions	Monthly earnings in counties in which 1930 population of largest municipality was—									
	Over 100,000	50,000-100,000	25,000-50,000	5,000-25,000	Under 5,000	Over 100,000	50,000-100,000	25,000-50,000	5,000-25,000	Under 5,000
	Unskilled work					Intermediate work				
Region I ¹	\$55	\$52	\$48	\$44	\$40	\$65	\$60	\$55	\$50	\$45
Region II ²	45	42	40	35	32	58	54	50	44	38
Region III ³	35	33	29	24	21	52	48	43	36	30
Region IV ⁴	30	27	25	22	19	49	43	38	32	27
	Skilled work					Professional and technical work				
Region I ¹	85	75	70	63	55	94	83	77	69	61
Region II ²	72	66	60	52	44	79	73	66	57	48
Region III ³	68	62	56	48	38	75	68	62	53	42
Region IV ⁴	68	58	50	42	35	75	64	55	46	39

¹ Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

² Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota, Delaware, District of Columbia, Maryland, West Virginia.

³ Arkansas, Kentucky, Louisiana, Oklahoma, Texas, Virginia.

⁴ Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee.

The above schedule applied to all projects financed in whole or in part from the Emergency Relief Appropriation Act of 1935, except (1) Emergency Conservation work, (2) Public Works Administration work, rates for which were to be determined in accordance with local wage conditions, (3) highway work and grade-crossing elimination under the supervision of the Bureau of Public Roads, (4) permanent buildings for the Federal Government or the District of Columbia, (5) projects exempted by the Works Progress Administrator, (6) work of supervisory and administrative employees, and (7) uncompleted work-relief projects under State and local administrations.

Hours of work.—The following schedule of hours was established which were to apply except (1) in case of an emergency involving the public welfare or the protection of work already done on a project,

- (2) in special cases where the standard hours are not feasible, and
 (3) for supervisory and administrative employees.

	<i>Per day</i>	<i>Per week</i>
Persons employed on a salary basis under the "wages schedule".....	8	40
Projects under supervision of Public Works Administrator and of Bureau of Public Roads, and exempted projects:		
Manual labor.....	8	¹ 130
Nonmanual workers.....	8	40
Projects at remote or inaccessible places.....	8	40

¹ Per month.

For persons employed on permanent buildings for the use of the Federal or District of Columbia Governments, the rates applicable under the Davis-Bacon Act were to apply, and for Emergency Conservation work and work relief under State and local administrations existing rules were continued.

Conditions of employment.—The order prohibited the employment of persons under 16 and of those whose age or physical condition made their employment dangerous or unhealthful to themselves or others. It was expressly stated that this provision should not be construed to operate against the employment of physically handicapped persons otherwise employable, on work which they could safely be assigned to perform.

Preference in employment was to be given to persons receiving public relief. Except with the specific authorization of the Works Progress Administration, at least 90 percent of all persons on any project must be taken from the relief rolls. Only one person per family group might be so employed.

Prison labor was prohibited on works projects.

The order specified that, except as otherwise provided in the order, workers qualified by training and experience "shall not be discriminated against on any grounds whatsoever."

As regards safety and accidents, it was directed that all projects should be conducted in accordance with safe working conditions, and every effort made for the prevention of accidents.

No wages paid on works projects could be pledged or assigned.

Beginnings of Work Under the Act

ON MAY 25 it was announced by the Works Progress Administrator that 307 works districts had been set up as the administrative and operating units in the 48 States. These districts were mapped out, it was explained, on the basis of the number of families on relief in the area and with a view to quick and adequate transportation and communication and to economy and efficiency of central headquarters.

Subsistence Homesteads for Industrial and Rural Workers at the End of 1934

A FEDERAL program of subsistence homesteads was undertaken in 1933 by which it was hoped to demonstrate the value and feasibility, for wage earners, of the combination of part-time industrial

employment with home gardening on a scale large enough to furnish a considerable proportion of the family food supply. Two agencies of the Federal Government were interested in this program—the Subsistence Homesteads Division of the Department of the Interior and the Federal Emergency Relief Administration.¹⁹ The Subsistence Homesteads Division was allotted \$25,000,000 for the purpose, from funds available under the National Industrial Recovery Act. The Federal Emergency Relief Administration promoted subsistence-homesteads projects as part of its program of rural rehabilitation. Thus the homesteads projects of the former were mainly for industrial workers and those of the latter for rural and agricultural workers.

Up to the end of December 1934 the Subsistence Homesteads Division had approved 62 projects (43 of which had been publicly announced) and study was being made of about two dozen more. The house-construction stage had been reached in some 20 projects, and land-improvement work was under way in nearly all of the remainder. In 8 projects the first group of houses had been completed, and in 5 projects houses were occupied by their future owners.

As the program of the Federal Emergency Relief Administration was begun later than that of the Interior Department, only three communities had reached the actual construction stage. In each of these, however, some families had taken possession of their new homes.

It soon became evident that one of the most difficult problems would be the provision of part-time employment at equitable rates in some industrial or other occupation which would yield a cash income, and that the ability to solve this problem satisfactorily would in a large measure determine the degree of success of the program. It was planned that such employment would be furnished through (1) self-help work on the project, paid for partly in cash and partly in credit; (2) home crafts adapted to the skills and aptitudes of the settlers; and (3) industrial enterprises which it was hoped to attract to the community.

It was emphasized that these homesteads were intended to be not merely a means of obtaining the family living but a new way of life. They were regarded as an "anchor of social security" in that they were intended to furnish both food and shelter, the two items most important in the budget. The homestead life would also provide an outlet, in many cases, for the creative instinct and skills of the settlers through the development of handicrafts. Special emphasis was laid upon the social and cultural aspects of community life.

Subsistence Homesteads for Industrial Workers

AS ORIGINALLY undertaken, the program of the Subsistence Homesteads Division was designed to include five major types of homesteads, i. e., workers' garden homesteads located near (1) small industrial centers or (2) large industrial centers, (3) projects for the rehabilitation of stranded industrial groups, and rural projects for (4) reorganization of rural communities, and for (5) farmers moved from submarginal land. The last two types of projects were dropped from its program, but were the main types covered in the program of the Federal Emergency Relief Administration.

¹⁹ Early in 1935, the Division of Subsistence Homesteads and the Rural Rehabilitation Division of the F. E. R. A. were transferred to the Resettlement Administration.

The projects took several different forms. In some cases the plan involved the building of an entirely new community and the work therefore included all the pioneering work inherent therein—clearing the land, cutting roads, building water, sewerage, and lighting systems and laying the mains therefor, and providing community recreational, social, educational, and religious facilities, as well as facilities for the supplying of the material needs which could not be met by cooperative effort. In other cases the homestead project was near enough to a city or small town to utilize the facilities of the town. In still other instances the homesteads, in small groups, were part of the city itself.

Of the projects approved by the Subsistence Homesteads Division up to the end of 1934, 29 were for industrial workers, 3 were strictly rural in character, and 4 were started in order to provide for stranded groups. One project, having three units, was classified as a "Negro problem area" project. The Reedsville, W. Va., project, which was the first to be undertaken, was classified as an "experimental" community.

The projects were located in 23 States, covered 54,226 acres, and provided for some 5,000 families. There were 19 other projects which at the end of 1934 were still in the planning stage, and these were expected to provide about 1,700 homesteads. Allotments to the first group totaled \$12,479,900 and to the second group \$3,797,570.

Characteristics of the individual homesteads.—Each homestead consisted of a dwelling situated on a plot of ground large enough to permit the family to raise a considerable proportion of its food (vegetables, berries, and small fruits) and to provide space for a few chickens, perhaps a cow, pig, etc. The settlers had their choice of location and style of house design.

The majority of houses consisted of 4 and 5 rooms, though there were a few each of 3 and 6 rooms. The 3-room houses, however, were not constructed unless they could be expanded with a minimum of alteration. In planning the house, special consideration was given to the needs of the family which would occupy it, and to the accommodation of the furniture.

The architecture was kept "native" as far as possible. In the southern regions the house plans generally followed the local traditions and styles of building. Native building materials were also used wherever available. This procedure, besides making the dwellings attractive and adapted to their surroundings, was also a considerable factor in keeping down the cost of construction.

The average cost varied from project to project, depending upon the cost of the land, the size and type of dwelling, and the conveniences provided; it was the purpose to keep the cost as low as possible consistent with good housing practice. The estimated cost in the projects announced during 1934 ranged from \$1,500 to \$5,571. This included cost of house, land, improvements, seeds, and fertilizer for the first year, essential farm and garden tools, a small flock of chickens, pig, and in some cases a cow or horse. In some instances the "self-help" method of construction was used, the homesteaders doing the major portion of the actual construction work and being paid partly in cash and partly in credits against the purchase price of their homestead.

Payments run over a period of 30 years, with interest rate at 3 percent. Title will pass to the purchaser when he has paid 75 percent of the purchase price. In most cases no down payment was required.

In the industrial, cooperative-industrial, and experimental types of projects, the acreage was small, the largest homestead being 10 acres and the majority averaging only from 1 to 3 acres each. The Negro homesteads were considerably larger, because it was expected that a larger proportion of the family living would come from the soil, while the rural homesteads were, as would be expected, largest of all.

Selection of homestead families.—The homesteaders were selected by a local committee of citizens chosen by the project manager. All had to be American citizens, preferably with some farming experience. No single persons were accepted and only married couples having at least one child or of an age when children might be expected.

In the case of the communities for stranded groups, the homesteaders were for the most part without any employment and generally receiving public relief. Usually, however, the attempt was made to obtain persons with some employment and an income of from \$600 to \$1,200 per year.

Generally only persons between 21 and 45 years were accepted. Because of the long period (30 years) during which payments must be made on the homestead, it was decided that persons more than 45 years old must have in their families children capable of assisting with the obligation, should the wage-earning parent die or become disabled.

Employment provided.—While the primary purpose of the program was to demonstrate the value of subsistence homesteads as a way of increasing family security, considerable temporary employment was furnished in the course of establishing the projects. The Division of Subsistence Homesteads reported that during the 2 weeks ending August 25, 1934, work on the projects furnished 167,200 man-hours' employment. On some of the different projects the average daily number of workers employed during the period was as follows:

	<i>Average number of men employed per day</i>
Birmingham, Ala.....	341
Jasper, Ala.....	58
Hattiesburg, Miss.....	15
McComb, Miss.....	20
Tupelo, Miss.....	41
Pender County, N. C.....	927
Westmoreland County, Pa.....	113
Crossville, Tenn.....	113
Beaumont, Tex.....	12
Houston, Tex.....	120
Three Rivers, Tex.....	29
Wichita Falls, Tex.....	35
Reedsville, W. Va.....	158
Tygart Valley, W. Va.....	88

During the 4 weeks ending September 22, 1934, on the 19 projects farthest advanced, 289,832 man-hours' employment was furnished, the average number of men employed per project per day being about 130. The Chancellorsville (Jasper County), Ga., project alone accounted for 67,512 man-hours.

Employment was also provided indirectly by the stimulation of private industry through the purchase of materials. From June 2 to October 14, 1934, the Division of Subsistence Homesteads spent \$667,863 for materials bought from the lumber, brick, cement, steel, plumbing-supplies, hardware, and electrical-fixture industries.

Rural Subsistence Homesteads

THE subsistence communities of the F. E. R. A. were built as part of the rural-rehabilitation program, inaugurated early in 1934, the purpose of which was to make it possible for destitute persons living in "open country and towns having less than 5,000 population" and eligible for relief to become self-supporting.

Three subsistence-homestead projects or "rural industrial communities" were built in Arkansas, Texas, and West Virginia and preliminary surveys for 12 other communities had been made at the end of 1934. The Texas community is situated in the pine-woods section 100 miles north of Houston, the Arkansas community on a rich tract of land near Osceola, and the West Virginia village on a 2,200-acre tract 27 miles west of Charleston.

The purpose of these communities, it was explained, is to demonstrate that "needy unemployed workers and their families can become self-supporting in organized rural communities with a moderate amount of supervision, and with a reasonable investment of relief funds."

The work in the Texas community was all done by the heads of the families now living there, the men being allowed rations and 50 cents per week. Their families, meanwhile, were being maintained on direct relief in Houston. The Arkansas project provided work for about 1,500 men and the West Virginia project for some 450; among these were some whose families were selected for settlement in the community. On these two projects the men worked 48 hours per week at the local prevailing rate, but their week's wages constituted a month's work relief. At the end of the week they were through for the month, having earned their relief budget. Thus a new shift came to the job each week. There was little loss in efficiency, however, for there was a full-time group of gang leaders skilled in the various types of work to be done, and they gave the new men instruction in the standardized construction methods.

Homestead characteristics.—The size of the individual homesteads ranged in the different communities from three-fourths of an acre to 40 acres.

In all of the communities the houses were of 3, 4, and 5 rooms and were all equipped for electricity and running water.

The houses at Woodlake were built at an average cost of \$1,490, of which \$670 represented the cost of the relief labor used. The cost at Osceola ranged according to size of dwelling, from \$900 to approximately \$1,300. In both cases the costs were kept down by the fact that timber was available on the site and was cut at a sawmill set up for the purpose. At Red House the cost per homestead was greater than in either of the others, ranging from \$1,800 to \$2,500 and averaging \$2,150. The cost of community utilities (roads, water, sewers, community farm, and nonfarm tract), it was stated, "will be either prorated or placed on a self-liquidating basis."

The houses were to be rented to the settlers. At Woodlake the rent was fixed at \$180 per year, with a 3-year lease.

Population make-up, and employment possibilities.—The Texas community was planned to provide for about 100 families, that in Arkansas some 700, and that in West Virginia 150. The settlers were chosen with a view to including in the community population various types of skills and capabilities. The families selected all had a record of successful earning capacity.

It was expected that the livelihood of the settlers would be obtained through either farming or industrial employment. The industrial workers, while raising part of their food in their gardens, were not otherwise expected to do much farming. That, it was planned, would be carried on by the farmer homesteaders operating the cooperative farm enterprises.

Civilian Conservation Corps ²⁰

THE Emergency Conservation Work organization was authorized by the Reforestation and Relief Act approved March 31, 1933,²¹ and created April 5, 1933. The main purposes of the Reforestation and Relief Act were the relief of acute distress through the employment of jobless men, the improvement of forests and parks, the rehabilitation of young men whose health and morale had been undermined by the depression, and the lessening of State relief through cash allowances to men whose dependents were in great need.

Out of the Emergency Conservation Work organization has grown the Civilian Conservation Corps, conservation camps on Indian reservations, and smaller contingents of forest-work camps in Hawaii, Puerto Rico, and Alaska.

The Department of Labor was made responsible for the selection of the men (except war veterans) to be enrolled in the Civilian Conservation Corps. It established general policies and standards and designated in each State an agency to select the men in that State. The Veterans' Administration acted in the same capacity in the selection of veterans.

The War Department was made accountable for the enrollment of the men of the Corps. It established and administered the forest camps, transported the men, fed and clothed them, and looked out for their welfare from the time of enrollment until discharge, except when they were actually at work in the forests. The work of 28 companies of war veterans, engaged in flood-control work as part of the Civilian Conservation Corps, was under the supervision of the Chief of Engineers of the Department and the camps were administered by the Army.

The selection of all camps on National, State, and private forest lands and in Puerto Rico and Alaska was delegated to the Department of Agriculture. The preparation of work programs and the supervision of the forestry work, including the purchase of the tools and machinery needed, were also entrusted to that Department.

²⁰ Data in this article are from United States Emergency Conservation Work, interim report by Robert Fechner, Director, Apr. 5, 1933, to Dec. 31, 1933, Washington, 1934 (mimeographed), and Two Years of Emergency Conservation Work (Civilian Conservation Corps), Apr. 15, 1933–Mar. 31, 1935, Washington [1935].

²¹ For text of act, see Monthly Labor Review, May 1933, p. 1039.

The Department of the Interior was charged with the selection of all camps operated in the National and State parks and in Hawaii and by the General Land Office, and with the supervision of all work done in National and State parks. The Office of Indian Affairs handled all phases of the Indian conservation program, and the Office of Education prepared and recommended educational programs for the Civilian Conservation Corps and cooperated with the Army in putting into effect the Civilian Conservation Corps educational program.

Members of the Civilian Conservation Corps were selected on a population basis, each State being given a fixed quota, an exception being made in the case of a few Western States with large forested areas, where a small number of experienced woodsmen were added to the quotas. When practicable, Civilian Conservation Corps men were put to work on projects in their own States. The camps were organized as units with a maximum strength of 200 men each, designated as companies, and assigned to each company were 3 commissioned line officers, 5 enlisted men, and from 8 to 10 supervisors or foremen. The educational program called for an educational adviser for each camp. In a few instances more than one company was located at the same place.

During the summer the men lived in tents, but when winter came the camps were shifted from the colder regions and wooden barracks were built at 80 percent of the camps, outside labor being employed in their construction. In the remainder of the camps tents were used.

A base cash allowance of \$30 a month was paid to all men. Eight percent of the men received \$36, and 5 percent, called leaders, received \$45 a month. Nearly all of the young men and most of the veterans allotted an average of \$25 a month to their dependents.

For purposes of administration the forest-work program was authorized for only 6 months at a time. The authorized strength of the forest army for the first period—April 5 to September 30, 1933—was 317,900: 301,975 for the Civilian Conservation Corps, 14,400 for the Indians, and 1,525 for Alaska and Puerto Rico.

From July 1, 1933, to March 31, 1935, the average strength of the Civilian Conservation Corps was about 300,000. The total authorized strength on April 1, 1935, was approximately 370,000. Of this number about 352,000 were grouped in 1,640 Civilian Conservation Corps forest camps, the others being Indians, and in Alaska, Hawaii, Puerto Rico, and the Virgin Islands.

Work of the Civilian Conservation Corps, 1933-35²⁰

DURING the first 2 years of its operation (April 15, 1933, to March 31, 1935) approximately 1,070,000 men were given employment in Emergency Conservation Work, including about 940,000 men in the Civilian Conservation Corps camps. Other thousands of men were employed for varying periods in supervisory, educational, and clerical work, as mechanics, etc., and thus helped to support their families. Altogether some 25,000 foresters, technical experts, and supervising foremen directed the work of the enrolled men; 10,000 Army officers

²⁰ Data in this article are from United States Emergency Conservation Work, interim report by Robert Fechner, Director, Apr. 5, 1933, to Dec. 31, 1933, Washington, 1934 (mimeographed), and Two Years of Emergency Conservation Work (Civilian Conservation Corps), Apr. 15, 1933–Mar. 31, 1935, Washington [1935].

(mostly reserve officers) supervised and were responsible for the care of the men when they were not working; 1,500 school teachers were engaged in the camp educational program; and more than 50,000 skilled and unskilled mechanics and thousands of clerical and administrative workers were employed in the camp construction program.

Health of Civilian Conservation Corps Enrollees

ALMOST without exception, the camp life and wholesome food benefited the men physically. An average gain in weight of over 7 pounds per man during a 6-month period of enrollment was shown among 14,000 enrollees selected at random from all parts of the United States, and in later tests an average gain of 8 to 12 pounds was shown.

The greatest number of cases of sickness among the men from communicable diseases was in the respiratory group. The following table shows the number of cases of communicable diseases and the rate per 1,000 per annum during the 6 months, April 1 to September 30, 1934.

<i>Diseases</i>	<i>Number of cases</i>	<i>Rate per 1,000 per annum</i>
Common respiratory.....	26,602	171.00
Measles.....	3,705	24.69
Common diarrhea.....	3,327	22.17
Venereal diseases.....	2,777	18.51
Malaria.....	2,699	17.99
German measles.....	2,544	16.95
Influenza.....	2,217	14.77
Mumps.....	1,981	13.20
Vincent's angina.....	647	4.32
Primary pneumonia.....	398	2.65
Scabies.....	397	2.65
Dysentery.....	176	1.17
Tuberculosis.....	170	1.13
Scarlet fever.....	146	.97
Secondary pneumonia.....	59	.39
Typhoid fever.....	39	.26
Meningitis (cerebrospinal).....	34	.23
Diphtheria.....	29	.19
Poliomyelitis.....	13	.09
Smallpox.....	4	.03
Undulant fever.....	2	.02
Tularemia.....	1	.01
Paratyphoid fever.....	1	.01

During this 6-month period there were 436 deaths among the young men, 205 of which were due to disease and 231 to accidents. Pneumonia caused 63 deaths, the largest number from any disease, and automobiles and motor vehicles caused more than half of the accidents resulting in death.

The annual death rate per 1,000 enrollees during the first 2 years of operation of the Civilian Conservation Corps was 2.7, or about one-third of that among unselected men of a similar age group, according to the American Experience Table of Mortality.

Beneficial Results

AMONG the benefits resulting from the Emergency Conservation Work program during the first 2 years of its operation, besides those to the men themselves, were the following: Financial aid was given

to the families of the men through their allotment of approximately \$160,000,000. Business and industry benefited by the expenditure of approximately \$567,000,000 for manufactured goods, foodstuffs, automotive equipment, construction material, etc. A vast amount of valuable constructive work was done in the forests and parks by Civilian Conservation Corps units, among the outstanding projects completed through January 31, 1935, being the following:

New telephone lines, 29,787 miles.
 Telephone lines maintained, 43,234 miles.
 Fighting forest fires, 1,697,555 man-days.
 New fire breaks, 34,714 miles.
 Roadside and trailside clean-up, fire prevention, 28,248 miles.
 Fire hazards reduced, 1,038,373 acres.
 Forest stand improvement, 1,643,575 acres.
 New truck trails, 48,178 miles.
 Truck trails maintained, 76,157 miles.
 Trees planted, 266,467,000.
 Rodent control, 10,769,204 acres.
 Tree and plant disease control, 3,719,383 acres.
 Insect pest control, 4,305,949 acres.
 Erosion-control check dams, 1,025,741.
 Public camp-ground facilities, 36,138.
 Public camp-ground water systems, 777.
 Public camp-ground waste disposal systems, 2,115.
 Public camp-ground buildings, 2,333.
 Reservoirs for livestock and wild life, 2,438.
 Ponds for fish and birds, 3,148.
 Recreational dams, 1,148.

Educational Program of the Civilian Conservation Corps ²²

THE educational plan in operation in the Civilian Conservation Corps was approved in December 1933. An educational director of the Corps has general supervision, under the Commissioner of Education in Washington, of the entire educational program. In each of the nine Corps areas there is an educational supervisor or adviser, appointed by the Office of Education, who has charge of the educational work within the area.

In each of the camps there is a camp educational adviser, appointed by the Office of Education, and answerable to the camp commander. An assistant camp leader is chosen from the men for his ability to help in the camp program. These two men devote all their time to the educational work, and generally three military officers and several members of the forestry and parks staff cooperate in the work in each camp. The camp advisers were chosen from a list of suitable candidates furnished by three public education officials in each State, on the basis of their educational training and experience.

The camp advisers were given intensive training for their work in conference sessions at various centers. As enrollment for study is voluntary, anything the men want to study is taken up, and a great variety of subjects is being taught.

The instruction is suited to the intelligence, aptitude, and receptibility of the men enrolled, varying in the different camps. Necessarily, the study effort must in many cases be informal. Discussion groups, classes, text books, magazines, newspapers, pamphlets, moving

²² From a paper by C. S. Marsh, educational director of the Civilian Conservation Corps, read before the Research Section, Department of Secondary School Principals, National Education Association, Cleveland, Ohio, Feb. 28, 1934; United States Emergency Conservation Work, third report of the Director, for the period Apr. 1, 1934, to Sept. 30, 1934, and Two Years of Emergency Conservation Work (Civilian Conservation Corps), Apr. 5, 1933-Mar. 31, 1935, Washington.

pictures, music, dramatics, debates, etc., are utilized. Cooperation with nearby educational and social agencies and interested citizens is sought and obtained.

As a result of the educational program carried on in the camps, 2,479 illiterates learned to read and write during the 6-month period from April 1 to September 30, 1934. During this period 18,214 study courses were offered in the 1,468 camps, the average concurrent courses per camp being 10, and the average attendance at each meeting (twice a week) 14. In all there were 133,156 young men engaged in voluntary systematic study. The subjects taught were as follows:

	<i>Percent</i>
Vocational subjects.....	31
Fundamental subjects (for illiterates and elementary grades).....	20
Academic subjects:	
High-school level.....	30
College level.....	7
Self-expression subjects (dramatics, hobbies, etc.)...	12

There were 672,675 "counseling" or personal interviews between educational advisers and enrollees, an average of 79 per camp per month, and 1,427,977 books were circulated among the men. In January 1935, there were 22,642 classes and discussion groups being carried on and 167,003 men were participating therein.

Inquiry as to the previous schooling of 183,000 enrollees disclosed that one-half of 1 percent had had no schooling; about 50 percent had not gone beyond the grammar school; 46 percent had been in high school (only 15 percent had graduated); and 3.2 percent had been to college.

Employment Status of Former Members of Civilian Conservation Corps, 1933 and 1934

THERE were 106,218 young men and boys enrolled in the Civilian Conservation Corps who left the Corps during or at the end of the summer term of 1933, and nearly 150,000 who left during or at the close of the winter term of 1933-34. Surveys as to the employment status of these former members of the Corps, covering the periods November 1933 to February 1934, and July to September 1934,²³ were made by the Federal Emergency Relief Administration.

Summer-Term 1933 Enrollees

OF THE summer-term enrollees who had left the Corps 92,311 were traced and interviewed as to their employment status and it was found that 17,926 were working, 71,495 were idle, and 2,890 were otherwise engaged.

The number and percent of the former members of the C. C. C. who were working, idle, or otherwise engaged at the time of the survey, by geographic divisions, are given in table 1.

Altogether, 17,926, or 19.4 percent, of these former C. C. C. members were found to be employed. The percentages varied greatly,

²³ Federal Emergency Relief Administration. Division of Research and Statistics. Report of the findings in a survey of former members of the Civilian Conservation Corps, summer term 1933, and Report of the findings in a survey of former members of the Civilian Conservation Corps, winter 1933-34 term. Washington, 1934. (Mimeographed.)

however, in the different geographic divisions, the South Atlantic States having a percentage two-fifths higher than that for the United States, and the Middle Atlantic States a percentage one-fifth lower.

TABLE 1.—EMPLOYMENT STATUS OF TRACED FORMER CIVILIAN CONSERVATION CORPS MEMBERS OF 1933 SUMMER TERM, BY GEOGRAPHIC DIVISIONS

Number

Geographic division	Left during term			Left at end of term			Total ¹		
	Working	Idle	Other-wise engaged	Working	Idle	Other-wise engaged	Working	Idle	Other-wise engaged
United States.....	8,863	25,325	1,664	7,183	40,350	971	17,926	71,495	2,890
New England.....	1,233	2,350	146	668	2,615	208	1,901	4,965	354
Middle Atlantic.....	1,883	6,817	309	1,841	13,551	338	3,724	20,368	647
East North Central.....	1,888	6,381	243	1,540	11,852	130	3,428	18,233	373
West North Central.....	336	1,345	43	389	1,800	45	1,766	5,834	210
South Atlantic.....	1,719	3,580	256	1,159	3,798	97	2,878	7,378	353
East South Central.....	679	2,099	234	488	2,705	42	1,167	4,804	276
West South Central.....	355	2,272	331	813	3,312	80	1,910	6,342	453
Mountain.....	270	481	102	285	708	31	704	1,837	157
Pacific.....							448	1,734	67

Percent

United States.....	24.7	70.6	4.7	14.8	83.2	2.0	19.4	77.5	3.1
New England.....	33.1	63.0	3.9	19.1	74.9	6.0	26.3	68.8	4.9
Middle Atlantic.....	20.9	75.7	3.4	11.7	86.1	2.2	15.1	82.3	2.6
East North Central.....	22.2	75.0	2.8	11.4	87.6	1.0	15.6	82.7	1.7
West North Central.....	19.5	78.0	2.5	17.3	80.7	2.0	22.6	74.7	2.7
South Atlantic.....	31.0	64.4	4.6	22.9	75.2	1.9	27.1	69.6	3.3
East South Central.....	22.5	69.7	7.8	15.1	83.6	1.3	18.7	76.9	4.4
West South Central.....	24.7	65.7	9.6	19.3	78.8	1.9	21.9	72.9	5.2
Mountain.....	31.7	56.3	12.0	27.8	69.2	3.0	26.1	68.1	5.8
Pacific.....							19.9	77.1	3.0

¹ Includes for some divisions members unclassified because of inability to ascertain whether they left prior to or at end of term.

In the following States 30 percent or more of the traced former members had found employment: New Hampshire, South Carolina, Arizona, Maine, Nebraska, North Carolina, and Connecticut. Less than 15 percent of those in New York, Ohio, Illinois, New Jersey, and Delaware were working at the time of the investigation.

In the country as a whole 71,495 boys, or 77.5 percent of the group traced, were unemployed. This very high average was exceeded by the East North Central (82.7) and Middle Atlantic (82.3) divisions. Illinois, New York, Ohio, and Delaware had over 84 percent unemployed. Vermont was the only State where less than one-half were unemployed.

The 2,890 boys and men in the group classified as "otherwise engaged", constituting 3.1 percent of the total number investigated, were neither working nor looking for work. Some of them had died and others were not a factor in the labor market, as they had reenrolled in the C. C. C., enlisted in military service, returned to school, were ill in hospitals, or were in jail as the result of misdemeanors committed by them.

Winter Term 1933-34 Enrollees

FORMER members of the second period (winter 1933-34) of the Civilian Conservation Corps found employment opportunities during the spring and summer of 1934 much greater than did those of the first period (summer 1933) during the preceding winter. The proportion of employed men was twice as great among the second-period group as among the first-period group. In every State there was a substantial increase of former C. C. C. members who were employed, and indications were that this increase was not entirely seasonal.

Of the men enrolled for the winter term of the C. C. C., who left the Corps during the term or failed to reenroll at the end of the term, more than 110,000 were traced and interviewed as to their employment status, and it was found that 36.4 percent of them had secured jobs. Virtually all of these were in private employment, only a comparatively few being employed in governmental (State, county, or local) activities.

A percentage comparison of the employment status of traced former members of the first and second periods of the Civilian Conservation Corps is presented in table 2.

TABLE 2.—PERCENT OF TRACED FORMER MEMBERS OF FIRST AND SECOND PERIODS OF CIVILIAN CONSERVATION CORPS WHO WERE EMPLOYED, UNEMPLOYED, OR OTHERWISE ENGAGED, BY TIME OF DEPARTURE FROM CORPS

Employment status	Left camp early		Completed period		Total	
	First period ¹	Second period	First period ¹	Second period	First period ¹	Second period
Employed.....	24.3	39.1	15.3	34.0	18.8	36.4
Unemployed.....	64.2	57.2	77.0	63.2	71.9	60.4
Otherwise engaged.....	9.0	3.7	5.7	2.8	7.0	3.2
Unspecified.....	2.5	.....	2.0	.....	2.3	.....

¹ Percentages based on final tabulations.

Of the 3,576 young men who were classified as "otherwise engaged", 1,051 reenrolled in the C. C. C. Many others were unable to reenroll because of the limit placed upon the time a man could serve therein. There were 512 in the Army, Navy, and Marines, 284 were in school, 1,298 were sick or dead, and 431 were in jail.

The proportions of these former members who had found employment in the different geographic divisions differed greatly. For the men of the second period, both the Mountain and Pacific divisions had percentages about one-third higher than the country as a whole and the Middle Atlantic division one-fifth lower.

In nine States more than one-half of the former members of the winter term (in one of them nearly two-thirds) were employed at the time of the survey. As six of these States are generally classified as agricultural rather than industrial, the seasonal factor may have entered into their high proportion of employment. In seven States, including such industrial States as Illinois, New Jersey, Pennsylvania, and Rhode Island, as well as the less industrial States of Missouri, New Mexico, and the District of Columbia, less than one-third of the former C. C. C. members were employed.

Company Loan Plans for Unemployed Workers

AREPORT²⁴ published by the industrial relations section of Princeton University in 1932 covered the relief measures which have been developed among various companies to meet the need for assistance among workers created by the depression.

In general the funds for company-loan plans are furnished by the companies, but in some cases a joint fund is formed by contributions from officers and employees still on the pay roll and an equal contribution by the company. The relief-loan fund of the Southern Pacific Co., for example, was raised by pay-roll deductions of 1 percent of actual earnings of officers and employees for a period of from 4 to 5 months, supplemented by an equal amount paid by the company, while a fund consisting of half of an extra dividend was set aside in 1931 by the General Tire & Rubber Co. for use in stabilizing employment and furnishing loans to unemployed workers.

The loan funds are generally administered by the personnel manager or other officers, but in some instances the employees are represented in the management. Examples of joint management are found in the International Harvester Co., where representatives of the works council are members of the committee in charge of the relief and loan fund at each plant of the company, and in the General Electric Co. The unemployment-benefit plan of the latter company contains a provision for loans to employees, the loan plan being administered at each works by a board composed of representatives of the employees and of the company. In still other cases the plans are handled in cooperation with the mutual benefit association. Regardless of whether the plans are administered by the employer alone or jointly by employer and employees, it is essential in this as in other types of money lending, that careful investigation of requests for loans should be made. As the loans are granted on the basis of need, as well as of the ability to repay, there has been a tendency to adopt something of the technique of the social worker in determining the family needs. Orders for groceries and other necessaries may take the place of money loans, in which case their cost is considered the amount of the loan.

Usually there is a limit to the amounts which may be lent to an individual, the maximum ranging, in general, from \$50 to \$200. It is not thought well that too large loans should be made, since they leave employees too seriously involved when normal conditions return. Companies having unemployment-benefit plans make loans only to workers who for some reason, such as lack of service, are not eligible for unemployment benefits or who have exhausted their right to such benefit. After the maximum loan has been allowed, the only recourse left is to secure assistance from company or public relief funds.

Usually no interest is charged on company loans, but in the few cases in which it is charged, provision is made that the interest shall be paid through a salary reduction after the loan itself has been entirely repaid.

In summing up the study, the report stated that although emergency loans have their limitations they are of very great value in helping the class of employees it is hardest to reach; that is, the usually

²⁴ Princeton University. Industrial Relations Section. Company Loans to Unemployed Workers. Princeton, N. J., 1932.

independent workers who are unaccustomed to charity. Such employees are the mainstay of an organization and the ones whom it is most desirable to protect from the demoralizing effects of a long period of unemployment, so that everything which can be done to uphold their morale and help them keep their independence is well worth while.

Although many plans provide for repayment, it is a question whether a large proportion of the loans can be repaid. In many cases it is evident that repayment will be practically impossible and that the loans will have to be written off. However, in these cases it is probable that the same amounts would have been advanced as relief. In some instances employees may have relocated elsewhere and it may be useless for the company to attempt to collect, while in other cases a long period of unemployment will have piled up a heavy burden of obligations which will have to be met when earnings start again, so that even with the best intentions employees may be unable to repay the loan for some time. On the other hand, the almost inevitable loss of morale through unemployment may lead to more or less indifference toward the obligation. A number of companies having such plans, however, have found a general disposition among those who could do so to meet their loan obligations, while some companies state that the loan privilege has been abused in a few cases, and suggest that the remedy lies in more careful investigation and, if necessary, in withdrawal of further help.

VACATIONS WITH PAY

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Vacations With Pay

THE policy of giving vacations with pay to all employees, subject to a reasonable service requirement, had been growing among employers in the decade preceding the depression. Business conditions subsequent to 1929 modified the practice, but that it was by no means abandoned is shown by the following accounts of studies of vacation policies made since the publication of the 1931 Handbook of Labor Statistics (Bul. No. 541).

Vacation Policies in 1933

A RELEASE by the American Management Association dated May 22, 1933, gave the result of a questionnaire study of company vacation policies under the depression.

Twenty-four companies replied to the inquiry. Of these companies it was reported that during 1933, 11 would grant vacations with pay to all employees meeting the specified service requirements; 4 companies would grant vacations to salaried employees only; 7 would give vacations to salesmen on commission, in addition to salaried employees; and 1 company would give paid vacations to salaried employees, salesmen on commission, and women classified as wage earners on piece or hourly rates, provided certain requirements regarding attendance were fulfilled. One company alone reported that no vacations with pay would be given during the year. Various service requirements were in force which determined the length of the vacation period for each group of employees.

Fifteen of these companies reported that they would not require any employees to take vacations without pay that year, while four others, which were operating on short time, reported that this fact would not affect their normal vacation policy. Two companies operating on half time reported that they would require employees to take their normal vacation periods but would pay for only half the period; 2 companies had definite yearly shut-downs during which employees were not paid; and 1 company would require all of its salaried employees to take at least 2 days off each month throughout the calendar year with corresponding reductions in pay, although 14 of these days might be accumulated and used as vacation without pay.

In 12 instances it was reported that the vacation policy had not been changed during the depression, and two companies stated that their vacation policy was the same as in 1929, changes made in the intervening years no longer being in effect. Five companies reported that the length of the vacation had been reduced in certain instances, while six had abolished vacations entirely for certain classes of employees, usually the employees on a wage basis.

Vacation Practices and Policies in New York City in 1932

A SURVEY covering the vacation policies and the effect of recent business conditions on past established policies of New York City business concerns was made by the industrial bureau of the Merchants' Association of New York in 1932. The study covered 273 employing members of the association, and the data relate to approximately 200,000 employees and workers, and cover 11 classified business groups and a small group of miscellaneous industries. The principal business groups are manufacturing; wholesale trade; retail trade; printing and publishing; construction trades; transportation, warehousing, and forwarding companies; importers and exporters; banking and investment houses; insurance companies and agencies; professional offices; and chambers of commerce, trade associations, and education and research agencies.

The policies with regard to vacations had been revised since 1929 by 74 of these companies, and in all but two cases the revisions were said to be the direct result of the efforts of the employers to effect economies or otherwise relieve the pressure of current business conditions. Although the character of the revision varied according to the conditions in the individual establishments, in 32 cases these revisions were in the nature of direct reductions in pay-roll expense. The most frequent methods by which this result was accomplished were requiring employees to accept vacations at a fraction of their scheduled salary rates, imposing additional vacations without pay, or requiring that regular vacations be taken without pay. In order to conserve time, because of the heavy burdens on present personnel as the result of reductions in force, 20 companies had found it necessary to take such measures as the shortening or the entire elimination of vacations or the substitution of Saturday holidays for regular vacations.

Of the 273 companies responding to the inquiry, 265 reported that salaried employees would receive a vacation, and of 115 reporting in regard to hourly employees, 65 reported that some part of the hourly workers would be given vacations in 1932. The usual vacation allowance is 2 weeks for salaried employees and 1 week for hourly employees. Of 271 employers reporting on the question of the length of the vacation to be given to salaried employees, 8 reported they were giving no vacation; 11, less than 2 weeks; 176, 2 weeks; 6 each, 3 and 4 weeks; and 64 were giving somewhat indefinite vacations varying from 1 to 2 weeks to 4 to 6 weeks. Among the companies reporting regarding hourly employees, 53 were giving no vacation, while 20 gave 1 week; 31, 2 weeks; and the remainder different periods varying from 10 days to 4 weeks.

Reports regarding the amount of salary payments during the vacation period were made by 262 companies. Of this number, 218 were paying full salaries during vacations; 4, two-thirds; 22, one-half; and 1, one-third salary. In 1 case the pay was graduated, half pay being given for service of from 6 months to 2 years, and full pay for 2 years or more; and another company paid half the salary to employees entitled to 2 weeks' vacation, while 15 of these companies gave

vacations without pay. Among the hourly rated employees of 59 reporting companies, 36 stated that full wages would be paid; 1, two-thirds; 11, one-half; and 1, half pay to employees entitled to 2 weeks' vacation. Ten companies gave vacations without pay. In 16 of the companies paying a fraction of wages, either to salaried or hourly rated employees, this fractional basis was reached by requiring employees to extend vacations at their own expense. One hundred and fifteen companies reported that extra leave without pay would be allowed, 19 said this would be allowed in special cases only, and 111 stated that it would not be granted. The amount of extra leave allowed by those reporting ranged from 1 to 5 weeks, while in a number of cases it was indefinite or optional with the employee. One hundred and fifty-six companies reported that vacations must be taken for continuous periods, but the majority of those reporting on this point did not allow extra time for Sundays or holidays falling within an employee's vacation period.

Vacations with Pay for Wage Earners

IN a study¹ made early in 1935 by the National Industrial Conference Board, information was received concerning 274 companies, which operated, or in the past had operated, plans for vacations with pay for wage earners. Thirteen of these companies had established their plans since 1932. A study made in 1931, covering 281 companies having vacation plans, which was not published because declining business activity and the need for financial retrenchment had resulted in little demand for information on the subject, formed the basis for the 1935 study.

Although vacations with pay have been general among office employees, the plan has been less generally applied to factory workers. Various factors, such as the cost and loss of efficiency in plant operation, operated to retard its extension to the general factory force. During the depression some companies were obliged to suspend their vacation policies, but, with improvement in operating conditions, interest in providing vacations with pay for wage earners revived. In a number of instances one of the first requests presented to the management by employee representatives was for the adoption of such a policy.

Vacation Policy in 1931

THE full effects of the depression had not been felt early in 1931 when the Conference Board's first study of these plans was made. Of the 281 companies scheduled at that time it was found about 70 percent kept their plants in operation throughout the vacation season, more than a third of those which closed during the vacation period being in the foundry and machine-shop products industry and the chemicals-manufacturing industry. Plans providing a vacation of fixed length for all eligible employees were in force in 115 companies, 13 percent of which required service of less than 1 year, 42 percent

¹ National Industrial Conference Board. Vacations with pay for wage earners. New York, 247 Park Avenue, 1935.

1 year, 25 percent more than 1 year but not more than 5 years, 10 percent 10 years, while 2 companies required 15 years, 5 companies 20 years, and 4 companies 25 years. In about two-thirds of the graduated plans the vacation varied from a minimum of 1 week to a maximum of 2 weeks, while in the remainder the minimum was fixed at 3 days or less. Only long-service employees received more than 2 weeks, the shortest service record required to earn such a vacation being 10 years and the longest, 50 years. Other considerations such as attendance and punctuality were taken into account in 10 percent of the plans, deductions being made from the maximum vacation for unexcused absences and tardiness.

Full average wages for the vacation period were paid by all but 3 of the companies, 1 company paying 90 percent of the average wages and 2 companies 50 percent. Advance payment of wages was made by 57 percent of the companies, in 10 percent it was optional with the employee whether he should receive his wages before or after vacation, while 22.8 percent of the companies paid after the vacation. In other companies variations of the two main methods were used. The question of allowing pay for holidays is related to the vacation policy, in 181 cases no holidays being paid for while the others paid for one or more holidays.

Effect of Depression on Vacation Plans

INFORMATION was received from 274 companies in the 1935 survey. Of these companies 136 had operated vacation plans throughout the depression, although one company expected to discontinue the plan in 1935; 28 companies had discontinued the plan but had reinstated it; 87 companies had suspended the plan, 5 of which expected to reinstate it in 1935; 10 companies had definitely discontinued the plan, while there were 13 new plans which had been established since 1932. Altogether, therefore, 177 plans were in operation, these companies employing in the aggregate nearly a million workers.

The following table shows the distribution of the plans in force and those discontinued in different industries, 1931 and 1935.

COMPARISON OF VACATION PLANS IN FORCE IN DIFFERENT INDUSTRIES IN 1931 AND 1935

Industry	1931		1935		Plans discontinued during depression	
	Number	Percent of total	Number	Percent of total	Number	Percent of total
All industries.....	281	100.0	177	100.0	97	100.0
Manufacturing.....	231	82.2	128	72.3	94	96.9
Chemicals.....	37	13.2	27	15.3	5	5.2
Food products.....	24	8.5	18	10.2	3	3.1
Metal trades.....	83	29.5	42	23.7	47	48.5
Lumber and lumber products.....	7	2.5			6	6.2
Paper and paper products.....	17	6.0	8	4.5	8	8.2
Printing.....	22	7.8	14	7.9	6	6.2
Rubber.....	5	1.8	5	2.8	1	1.0
Textiles.....	11	3.9	5	2.8	7	7.2
Miscellaneous.....	25	8.9	9	5.1	11	11.3
Petroleum refining.....	11	3.9	15	8.5		
Public utilities.....	29	10.3	25	14.1	2	2.1
Jobbers and mail-order houses.....	10	3.6	9	5.1	1	1.0

The date at which the plan was adopted was reported for 143 companies. Four of the plans were put in effect prior to 1900, 45 between 1900 and 1919, 75 from 1920 to 1929, and 19 from 1930 to 1935.

No significant changes in the provisions of the plans which affect the eligibility of employees had been made in 104 of the 151 plans for which full information was furnished. In 12 instances the provisions of the plans had been liberalized, the amendments taking the form of lowering the service requirements, increasing the length of vacations, extension of the vacation privilege to additional classes of employees, elimination of tardiness as a factor in reducing the length of vacation, etc. In 35 companies the provisions of vacation plans had been made less liberal.

The chief problem in connection with the adoption of a policy of paid vacations for wage earners, apart from expense, the report stated, is the maintenance of plant efficiency and service to customers during the vacation period. There are certain drawbacks and certain advantages to both the shut-down plan and the plan for staggering vacations. In many industries, such as railroads and public utilities and industries where regular deliveries of products are necessary, it is manifestly impossible to suspend operations. In other industries where there is a slackening in demand at a certain period there is a quite obvious advantage in a shut-down when all vacations can be taken at the same time. It was found that 93 of 130 manufacturing companies gave staggered vacations, 35 gave shut-down vacations, and 2 others gave both types of vacation, while 49 companies, including petroleum refining, public utilities, and jobbers and mail-order houses, gave staggered vacations. Companies that follow the practice of maintaining operation throughout the vacation period reported that efficiency in plant operation may be maintained by careful advance planning so that no department is seriously undermanned at any time. It is customary to give preference in assignments on the basis of seniority.

The uniform type of vacation was given by 79 companies to all eligible employees, while 98 companies gave a vacation graduated according to length of service, the minimum vacation ranging from less than 1 day up to 3 days in 30 companies while in 68 companies the minimum was 1 week.

In conclusion, it is stated in the report, that—

The number of vacation plans for wage earners is increasing at a time when working hours in most industries have been considerably reduced from pre-depression levels. Shortened work periods and increased wage rates may well result in higher manufacturing costs and so disincline plant executives to burden the company further by undertaking to pay for periods in which no work is performed. Also, if the vacation is looked on only as a needed period of recuperation after a year's work, there seems to be less need for such a policy now than a few years ago.

But, if the vacation policy is actuated by a desire to erase a distinction between factory and office personnel, to provide an incentive for continued service, and to make possible a period of complete freedom in which the employee may get away from customary tasks and surroundings and secure a new point of view, as well as relaxation and rest, there is fully as much reason for granting vacations with pay today as in the past. Particularly at a time when more thought is being given to maintaining cordial relations with employees, a vacation policy merits consideration, since it is certain to arouse the spontaneous approval of employees.

Recent Trends in Vacation Policies

THE status of vacations with pay early in 1935 among a group of representative industries is shown by a study² by the industrial relations section of Princeton University. The report, covering 100 manufacturing concerns for which information was secured in 1934 and 1935, stated that the policy of giving vacations with pay to wage earners had increased markedly in favor and application during the preceding year. Several large and important concerns were said to have started new plans, while older plans had been made more liberal or had been reestablished after having been discontinued during the depression, and still other companies were planning to reestablish their plans in the near future. Thus, by the spring of 1935 it seemed evident that the tide had turned once more toward an increase in the number and coverage of such plans.

While all of the companies covered in the report gave vacations to their executive and white-collar workers, the report relates only to provisions governing the granting of vacations with pay to wage earners. Thirty-eight of the 100 companies scheduled gave vacations to workers on hourly and piecework rates. The most liberal type of plan, that which gives a vacation with pay after 1 year's continuous service or less, was in effect in 17 instances. Under such a plan a large percentage of the employees are included and the plan, instead of operating as a reward for long and continued service, becomes rather a matter of health and rest and preparation for the following year. In the majority of the plans 1 week's vacation is given after 1 year's service, although in one instance a week was given to employees with 6 months' service and 2 weeks to those with a year, while in another 2 weeks were given to all employees after 1 year's service and 8 companies added a second week at the end of 2, 3, or 5 years' service. A large oil company which has had a vacation plan since 1925, providing for 1 week after 1 year and 2 weeks after 5 years' service, reported that about 75 percent of the entire force receive vacations, the salaried employees and about 40 percent of the timecard people receiving 2 weeks and the remainder of the employees 1 week.

Of the 21 companies requiring more than 1 year's employment with the company for eligibility for a vacation the required minimum for 1 week's vacation was 2, 3, or 5 years, or in one case 15 years, while for a 2 weeks' vacation the range was from 5 to 40 years. In two cases a longer vacation was given for a longer service period. In a few of these plans the unit of vacation was expressed in hours so that employees might receive a short vacation before their service record entitled them to a full week.

In addition to the 38 companies maintaining vacation plans, the study showed that 21 companies had had plans which had been either suspended or discontinued. Some of these companies expected to reinstate their plans as soon as they felt sure of continued business improvement but others felt that with recent decreases in the working week vacations were no longer necessary, especially since operation on the 8-hour day and 40-hour week gave employees a 2-day week-end.

As most plans specify that the required service period shall be continuous, the report stated that when the period is long it is

² Princeton University. Industrial Relations Section. Recent Trends in Vacation Policies for Wage Earners, by Eleanor Davis. Princeton, N. J., 1935.

important to know on what continuity depends and what types of absence break the record. The most usual causes which break the continuity record are dismissal for cause and voluntary separation from the service. Persons separated from the service for such causes lose their record for service and if rehired come back as new employees. This is not so serious a matter if the required period is only a year or two, but if 10 or 15 years are required the chances of such an employee receiving a vacation are practically destroyed. Although various types of absence, such as for jury duty, military service, sickness, lay-off due to lack of work, etc., frequently do not break continuity of service, in some instances if they extend beyond a certain number of weeks or months or if the service for the year has not reached a stated number of weeks the continuity of service is destroyed. On the other hand, some companies omit from a part or all of their plans the requirement that service be continuous; thus, there may be a provision, as in one instance, that all of the employees entering or reentering the service prior to a certain date are entitled to a vacation if it is expected at the time of their taking their vacation that they will remain with the company for 6 months, or as in the graduated plans, the requirement for continuous service may not be required or the long-service employees.

WAGES AND HOURS OF LABOR

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Wages and Hours of Labor

THIS section contains summaries of all the wage studies made by the Bureau of Labor Statistics since the publication of the 1931 Handbook, and also digests of wage studies made by other official agencies for certain industries not covered by the Bureau investigations.

Wage Studies of the Bureau of Labor Statistics

THE Bureau of Labor Statistics devotes a large part of its resources to compiling information on the subject of wages and hours of labor. In the field of union wage scales a study has been made for each year since 1907. In the more important manufacturing industries and in coal mining a wage study has been made about every 2 years.

The questionnaire method is satisfactory in some lines of inquiry, but has not proven very successful in the collection of wage data. Therefore, except in rare instances, the Bureau has followed the method of sending special agents to compile the statistics from the employers' pay rolls. In many industries a large proportion of the employees are paid at piece rates and no record is kept of the time worked by them. In such industries it is necessary to arrange with the employers, and sometimes with the employees as well, to keep a special record of the hours worked during the pay period studied.

A complete census of wages in all establishments in an industry is so expensive that the Bureau in its wage studies has had to rely on the sampling method. Selection is first made of representative plants from which to request wage data. These must be selected with care, so as to insure a geographical representation as well as a wage representation for the locality. All employees are included in the report obtained from a plant, except a very few large plants, where to cover all employees would distort the representative character of the total data collected in the locality. A sufficient number of plants is taken to insure a fair cross-section of the country as a whole. In some instances 20 percent of all wage earners in the industry in the country were covered; in other instances as high as 60 percent, and in one instance the coverage was 95 percent.

A summary of the industrial wage surveys of the Bureau of Labor Statistics published since the 1931 edition of the Handbook is given in the accompanying table. Data are presented regarding average earnings and average hours of labor for each industry as a whole, for the most recent year in which a survey was made, and comparative data are shown, where available, for other years since or just prior to the present depression. In this table separation of data is made by sex, but not by occupation. For detailed occupational information see subsequent articles dealing with wages in particular industries.¹

¹ Detailed data for a few industries listed in the table had not been published at the time of preparation of this Handbook, and therefore are not included herein.

AVERAGE DAYS, HOURS, AND EARNINGS, IN SPECIFIED INDUSTRIES AND YEARS, BY SEX

Industry and sex	Year	Number of wage earners	Average days worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Percent of full time			
Air transportation:									
Pilots, male.....	1931	460	(1)	² 110.0	² 80.4	73.1	³ \$7.084	² \$779.19	² \$569.49
	1933	452	(1)	² 109.0	² 85.3	73.3	³ 7.361	² 739.81	² 628.23
Copilots, male.....	1931	138	² 21.2	² 170.0	(1)	(1)	³ 41.341	(1)	² 227.89
	1933	210	² 20.0	² 124.9	(1)	(1)	³ 41.851	(1)	² 231.13
Ground personnel:									
Male.....	1931	2,911	6.0	48.5	49.5	102.1	.645	31.26	31.89
	1933	2,947	6.0	49.7	49.8	100.1	.613	30.47	30.55
Female.....	1931	88	6.0	48.0	48.0	100.0	.497	23.85	23.85
	1933	99	6.0	47.0	46.8	99.7	.457	21.48	21.39
Males and females...	1931	2,999	6.0	48.5	49.4	101.9	.640	31.05	31.66
	1933	3,046	6.0	49.7	49.7	100.0	.608	30.25	30.25
Bakery:									
Bread:									
Males.....	1931	27,856	5.9	55.0	54.0	98.2	.553	30.42	29.82
Females.....	1931	591	5.6	50.1	46.7	93.2	.298	14.93	13.93
Males and females...	1931	28,447	5.9	54.9	53.8	98.0	.548	30.09	29.49
Cake:									
Males.....	1931	1,552	5.8	51.8	49.9	96.3	.486	25.17	24.25
Females.....	1931	1,240	5.5	50.1	44.1	88.0	.275	13.78	12.11
Males and females...	1931	2,792	5.7	51.0	47.3	92.7	.399	20.35	18.86
Bread and cake:									
Males.....	⁶ 1933	14,585	(1)	(1)	51.1	(1)	.471	(1)	24.10
	⁷ 1933	16,609	(1)	(1)	46.7	(1)	.524	(1)	24.45
	⁸ 1934	18,348	(1)	(1)	44.3	(1)	.570	(1)	25.24
Females.....	⁶ 1933	1,895	(1)	(1)	42.8	(1)	.307	(1)	13.15
	⁷ 1933	2,173	(1)	(1)	39.7	(1)	.354	(1)	14.04
	⁸ 1934	2,614	(1)	(1)	37.5	(1)	.379	(1)	14.23
Males and females...	⁶ 1933	16,480	(1)	(1)	50.2	(1)	.455	(1)	22.84
	⁷ 1933	18,782	(1)	(1)	45.9	(1)	.507	(1)	23.24
	⁸ 1934	20,962	(1)	(1)	43.5	(1)	.549	(1)	23.86
Boot and shoe:									
Males.....	1928	28,312	5.6	49.0	45.1	92.0	.625	30.63	28.14
	1930	31,549	5.4	48.8	42.7	87.5	.604	29.48	25.79
	1932	28,046	5.2	48.9	40.0	81.8	.493	24.11	19.73
Females.....	1928	20,346	5.5	49.2	44.4	90.0	.397	19.53	17.64
	1930	23,609	5.3	48.9	42.0	85.9	.332	18.68	16.04
	1932	21,620	5.3	48.9	40.8	83.4	.308	15.06	12.58
Males and females...	1928	48,658	5.5	49.1	44.8	91.0	.530	26.02	23.75
	1930	55,158	5.4	48.9	42.4	86.7	.510	24.94	21.62
	1932	49,666	5.3	48.9	40.4	82.6	.412	20.15	16.62
Coal mining, anthracite:									
Miners and miners' laborers, males.....	1924	23,715	¹⁰ 10.5	(1)	¹⁰ 76.9	(1)	¹¹ 1.063	(1)	⁹ \$1.82
	1931	24,529	¹⁰ 10.4	(1)	¹⁰ 79.7	(1)	¹¹ 1.024	(1)	⁹ 73.57
All others, males.....	1924	20,785	¹⁰ 12.0	(1)	¹⁰ 105.5	(1)	.637	(1)	⁹ 67.23
	1931	18,160	¹⁰ 11.6	(1)	¹⁰ 100.1	(1)	.660	(1)	⁹ 66.02
Coal mining, bituminous:									
Miners and loaders, males.....	1929	99,405	⁹ 9.1	(1)	¹⁰ 72.6	(1)	11.687	(1)	⁹ 49.85
	1931	90,063	⁹ 7.0	(1)	¹⁰ 56.5	(1)	11.599	(1)	⁹ 33.82
	1933	78,896	⁹ 7.1	(1)	¹⁰ 57.2	(1)	11.395	(1)	⁹ 22.59
All others, males.....	1929	52,806	⁹ 10.2	(1)	⁹ 87.0	(1)	.605	(1)	⁹ 52.57
	1931	47,725	⁹ 8.3	(1)	⁹ 69.8	(1)	.595	(1)	⁹ 41.58
	1933	41,438	⁹ 8.0	(1)	⁹ 67.1	(1)	.439	(1)	⁹ 29.46
Cotton goods:									
Males.....	1928	49,861	4.6	53.9	42.8	79.4	.345	18.60	14.76
	1930	53,243	4.7	53.7	43.9	81.8	.346	18.53	15.19
	1932	48,168	4.8	53.7	45.5	84.7	.284	15.25	12.91
	¹² 1933	22,797	(1)	(1)	47.6	(1)	.254	(1)	12.06
	¹³ 1933	66,322	(1)	(1)	36.3	(1)	.386	(1)	13.98
	¹³ 1934	61,725	(1)	(1)	31.3	(1)	.396	(1)	12.39

¹ Not available.

² In month.

³ Flight-hour.

⁴ Flight-hour. Including earnings as copilot and acting pilot.

⁵ In month. Including earnings as copilot and acting pilot.

⁶ March.

⁷ September.

⁸ December.

⁹ In half month.

¹⁰ In half month at face or seam of coal, including time for lunch.

¹¹ Based on time at face or seam of coal, including time for lunch.

¹² July.

¹³ August.

AVERAGE DAYS, HOURS, AND EARNINGS, IN SPECIFIED INDUSTRIES AND YEARS,
BY SEX—Continued

Industry and sex	Year	Number of wage earners	Average days worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Percent of full time			
Cotton goods—Continued.									
Females.....									
	1928	38,145	4.5	52.9	40.5	76.6	\$.296	\$15.66	\$11.99
	1930	36,810	4.6	52.9	40.9	77.3	.293	15.50	11.98
	1932	28,462	4.8	53.0	42.2	79.6	.234	12.40	9.87
	1933	15,114	(1)	(1)	43.8	(1)	.199	(1)	8.72
	1933	40,072	(1)	(1)	34.1	(1)	.346	(1)	11.77
	1934	37,677	(1)	(1)	28.8	(1)	.354	(1)	10.20
Males and females.....									
	1928	88,006	4.6	53.4	41.8	78.3	.324	17.30	13.56
	1930	90,053	4.6	53.4	42.7	80.0	.325	17.36	13.88
	1932	76,630	4.8	53.4	44.3	83.0	.266	14.20	11.78
	1933	37,911	(1)	(1)	46.0	(1)	.233	(1)	10.73
	1933	106,394	(1)	(1)	35.5	(1)	.371	(1)	13.17
	1934	99,402	(1)	(1)	30.3	(1)	.381	(1)	11.56
Dyeing and finishing of textiles:									
Males.....									
	1930	17,739	5.2	51.0	50.7	99.4	.473	24.12	23.99
	1932	16,205	5.2	51.4	51.1	99.4	.418	21.49	21.37
	1933	5,321	5.4	52.4	51.9	99.0	.368	19.28	19.11
	1933	20,170	4.6	40.5	36.6	90.4	.481	19.48	17.59
	1934	19,720	4.4	40.3	33.9	84.1	.518	20.88	17.57
Females.....									
	1930	3,743	5.0	50.5	42.4	84.0	.335	16.92	14.20
	1932	3,041	5.2	51.2	43.5	85.0	.291	14.90	12.65
	1933	1,472	5.4	49.9	43.2	86.6	.277	13.82	11.97
	1933	4,696	4.5	40.0	33.7	84.3	.380	15.20	12.80
	1934	3,801	4.3	39.6	31.8	80.3	.405	16.04	12.89
Males and females.....									
	1930	21,482	5.2	50.9	49.3	96.9	.452	23.01	22.29
	1932	19,246	5.2	51.3	49.9	97.3	.400	20.52	19.99
	1933	6,793	5.4	51.9	50.0	96.3	.351	18.22	17.56
	1933	24,866	4.6	40.4	36.0	89.1	.463	18.71	16.68
	1934	23,521	4.4	40.2	33.6	83.6	.500	20.10	16.81
Foundry:									
Males.....									
	1929	40,032	5.4	51.0	48.8	95.7	.625	31.88	30.50
	1931	28,469	4.0	50.3	33.5	66.6	.601	30.23	20.13
	1933	19,619	3.6	49.4	29.4	59.9	.483	23.86	14.28
Females.....									
	1929	359	5.1	49.7	42.3	85.1	.451	22.41	19.08
	1931	230	3.9	48.7	29.4	60.4	.422	20.55	12.40
	1933	144	3.9	48.3	30.2	62.5	.314	15.17	9.51
Males and females.....									
	1929	40,391	5.4	51.0	48.7	95.5	.624	31.82	30.39
	1931	28,689	4.0	50.3	33.5	66.6	.600	30.18	20.06
	1933	19,763	3.6	49.4	29.6	59.9	.482	23.81	14.25
Furniture:									
Males.....									
	1929	41,912	5.6	52.1	50.3	96.5	.499	26.00	25.12
	1931	28,876	5.0	51.9	41.4	79.8	.416	21.59	17.22
Females.....									
	1929	2,958	5.5	50.5	46.4	91.9	.345	17.42	16.03
	1931	1,783	4.8	49.8	36.3	72.9	.314	15.64	11.40
Males and females.....									
	1929	44,870	5.6	51.9	50.1	96.5	.490	25.43	24.52
	1931	30,659	5.0	51.8	41.1	79.3	.411	21.29	16.88
Gasoline filling stations:									
Males.....									
	1931	2,960	6.5	60.0	59.5	99.2	.393	23.58	23.39
Glass:									
Males.....									
	1932	23,023	4.9	50.3	37.3	74.2	.490	24.65	18.30
Females.....									
	1932	3,948	5.0	49.9	37.9	76.0	.249	12.43	9.45
Males and females.....									
	1932	26,971	4.9	50.2	37.4	74.5	.454	22.79	17.01
Hosiery:									
Males.....									
	1928	9,401	5.5	52.4	50.1	95.6	.724	37.94	36.28
	1930	12,137	5.1	52.4	45.0	85.9	.707	37.05	31.85
	1932	12,908	5.0	52.2	44.1	84.5	.494	25.79	21.80
Females.....									
	1928	19,044	5.4	51.9	45.7	88.1	.360	18.68	16.46
	1930	20,688	4.9	52.1	40.1	77.0	.366	19.07	14.66
	1932	21,319	4.9	51.7	39.6	76.6	.292	15.10	11.54
Males and females.....									
	1928	28,445	5.4	52.1	47.1	90.4	.488	25.42	23.01
	1930	33,825	5.0	52.2	41.9	80.3	.497	25.94	20.83
	1932	33,227	5.0	51.9	41.3	79.6	.376	19.51	15.53
Iron and steel:									
Males.....									
	1929	71,009	(1)	54.6	(1)	(1)	.674	36.48	(1)
	1931	66,865	(1)	52.4	(1)	(1)	.663	34.58	(1)
	1933	53,365	(1)	51.5	24.2	47.0	.485	24.98	11.71
Leather:									
Males.....									
	1932	18,755	5.2	50.4	42.1	83.5	.493	24.85	20.78
Females.....									
	1932	2,644	5.1	50.0	40.9	81.8	.303	15.15	12.41
Males and females.....									
	1932	21,399	5.2	50.4	42.0	83.3	.471	23.74	19.74

1 Not available.

12 July.

13 August.

AVERAGE DAYS, HOURS, AND EARNINGS, IN SPECIFIED INDUSTRIES AND YEARS.
BY SEX—Continued

Industry and sex	Year	Number of wage earners	Average days worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Percent of full time			
Machine shop:									
Males.....	1929	89,935	5.7	50.3	50.4	100.2	\$0.641	\$32.24	\$32.30
	1931	64,921	4.6	49.8	38.2	76.7	.637	31.72	24.36
	1933	41,003	4.4	48.5	34.6	71.3	.545	26.43	18.87
Females.....	1929	1,556	5.6	49.3	46.1	93.5	.399	19.67	18.41
	1931	1,017	4.7	49.2	38.8	78.9	.408	20.07	15.85
	1933	957	4.5	47.4	34.2	72.2	.351	16.64	11.98
Males and females.....	1929	91,491	5.7	50.3	50.3	100.0	.638	32.09	32.06
	1931	65,938	4.6	49.8	38.2	76.7	.634	31.57	24.22
	1933	41,960	4.4	48.5	34.6	71.3	.540	26.19	18.71
Men's clothing:									
Males.....	1928	17,626	5.3	44.1	41.7	95.0	.924	40.75	38.51
	1930	16,571	5.0	44.3	39.4	88.9	.885	39.21	34.84
	1932	16,511	5.0	44.3	38.6	87.1	.641	28.40	24.75
Females.....	1928	18,247	5.2	43.9	39.5	90.0	.534	23.44	21.07
	1930	16,833	4.9	44.2	36.2	81.9	.504	22.28	18.24
	1932	16,540	4.9	44.5	36.0	80.9	.361	16.06	13.01
Males and females.....	1928	35,873	5.2	44.0	40.6	92.0	.731	32.16	29.64
	1930	33,404	5.0	44.3	37.8	85.3	.701	31.05	26.48
	1932	33,051	5.0	44.4	37.3	84.0	.506	22.47	18.87
Metalliferous mining:									
Males.....	1924	38,196	(1)	53.0	(1)	(1)	.559	29.63	(1)
	1931	32,195	5.0	51.6	41.6	80.6	.559	28.84	23.25
Motor-bus transportation (intercity):									
Males.....	1933	8,349	6.0	¹⁴ 54.3	50.4	(1)	.541	(1)	27.25
Females.....	1933	562	6.1	45.4	45.4	100.0	.379	17.20	17.20
Males and females.....	1933	8,911	6.0	¹⁴ 53.3	50.1	(1)	.533	(1)	26.72
Motor-truck transportation (intercity):									
Males.....	1933	6,729	5.6	¹⁵ 52.1	50.7	(1)	.457	(1)	23.16
Females.....	1933	400	5.9	45.0	44.8	99.6	.367	16.52	16.43
Males and females.....	1933	7,129	5.6	¹⁵ 51.2	50.4	(1)	.452	(1)	22.78
Motor vehicle:									
Males.....	1928	149,828	5.3	49.4	47.0	95.0	.756	37.35	35.56
	1930	130,433	4.2	48.7	34.6	71.0	.733	35.70	25.40
	1932	109,799	4.1	48.3	31.9	66.0	.638	30.82	20.36
	¹⁶ 1934	108,704	(1)	(1)	39.1	(1)	.726	(1)	23.36
Females.....	⁷ 1934	72,042	(1)	(1)	34.1	(1)	.744	(1)	25.38
	1928	4,134	4.9	50.3	41.1	82.0	.487	24.50	20.04
	1930	4,479	4.1	50.6	31.8	62.8	.436	22.06	13.86
	1932	4,443	4.2	50.5	30.7	60.8	.361	18.23	11.09
	¹⁶ 1934	6,551	(1)	(1)	37.8	(1)	.626	(1)	23.67
	⁷ 1934	4,349	(1)	(1)	34.6	(1)	.505	(1)	17.46
Males and females.....	1928	153,962	5.3	49.4	46.9	95.0	.750	37.05	35.14
	1930	134,912	4.2	48.8	34.5	70.7	.724	35.33	25.01
	1932	114,242	4.1	48.4	31.9	65.9	.628	30.40	20.00
	¹⁶ 1934	115,313	(1)	(1)	39.0	(1)	.721	(1)	28.09
	⁷ 1934	76,381	(1)	(1)	34.1	(1)	.731	(1)	24.93
Motor-vehicle repair garages:									
Males.....	1931	6,059	5.8	53.4	51.0	95.5	.579	30.92	29.56
Petroleum:									
Drilling and production:									
Males and females.....	1934	38,372	(1)	(1)	36.2	(1)	.779	(1)	28.22
Pipe lines:									
Males and females.....	1934	12,295	(1)	(1)	35.3	(1)	.774	(1)	27.44
Refineries:									
Males and females.....	1934	45,167	(1)	(1)	35.6	(1)	.750	(1)	26.66
Portland cement:									
Males.....	1929	20,544	5.9	60.8	56.7	93.3	.518	31.49	29.33
	1932	13,609	5.5	59.1	45.8	77.5	.401	23.70	18.39
Females.....	1929	157	5.5	52.0	46.6	89.6	.389	20.23	18.12
	1932	68	3.6	48.6	27.2	56.0	.386	18.76	10.52
Males and females.....	1929	20,701	5.9	60.8	56.6	93.1	.517	31.43	29.25
	1932	13,677	5.5	59.0	45.7	77.5	.401	23.66	18.35

¹ Not available.⁷ September.¹⁴ Average for 4,014 station, office, and maintenance employees. Data for 4,335 drivers not available.¹⁵ Average for 2,677 terminal, office, and maintenance employees. Data for 4,052 drivers and helpers not available.¹⁶ April.

AVERAGE DAYS, HOURS, AND EARNINGS, IN SPECIFIED INDUSTRIES AND YEARS, BY SEX—Continued

Industry and sex	Year	Number of wage earners	Average days worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Percent of full time			
Pottery:									
Semivitreous:									
Males.....	1925	6,666	17 9.2	(1)	17 74.4	(1)	\$0.705	(1)	17 \$52.44
	1932	4,086	17 7.7	(1)	17 59.3	(1)	.535	(1)	17 31.74
Females.....	1925	3,657	17 8.9	(1)	17 69.0	(1)	.385	(1)	17 26.54
	1932	2,381	17 7.1	(1)	17 54.6	(1)	.292	(1)	17 15.95
Males and females.....	1925	10,323	17 9.1	(1)	17 72.5	(1)	.596	(1)	17 43.27
	1932	6,467	17 7.5	(1)	17 57.6	(1)	.450	(1)	17 25.93
Vitreous:									
Males.....	1925	1,619	17 10.2	(1)	17 83.5	(1)	.638	(1)	17 53.25
	1932	1,425	17 6.4	(1)	17 45.8	(1)	.546	(1)	17 25.03
Females.....	1925	1,065	17 10.0	(1)	17 77.4	(1)	.329	(1)	17 25.47
	1932	994	17 5.6	(1)	17 40.6	(1)	.264	(1)	17 10.72
Males and females.....	1925	2,684	17 10.1	(1)	17 81.1	(1)	.521	(1)	17 42.23
	1932	2,419	17 6.1	(1)	17 43.7	(1)	.438	(1)	17 19.15
Rayon and other synthetic yarns:									
Males.....	1930	18,743	5.6	51.1	46.7	91.4	.504	\$25.75	23.53
	1932	14,869	5.8	48.6	47.9	98.6	.408	19.83	19.51
Females.....	1930	13,549	5.2	49.0	42.3	86.3	.344	16.86	14.55
	1932	10,457	5.6	47.6	44.3	93.1	.283	13.47	12.55
Males and females.....	1930	32,292	5.4	50.2	44.8	89.2	.441	22.14	19.76
	1932	25,326	5.7	48.2	46.4	96.3	.359	17.30	16.64
Sawmills:									
Males.....	1928	58,007	5.4	56.6	51.3	91.0	.371	21.00	19.03
	1930	50,951	5.2	56.5	48.6	86.0	.359	20.28	17.46
	1932	32,130	4.8	55.8	40.1	71.9	.256	14.28	10.25
Silk and rayon goods:									
Males.....	1931	21,885	5.3	51.5	48.4	94.0	.485	24.98	23.45
	¹⁶ 1933	19,500	5.0	51.6	46.5	90.1	.319	16.46	14.82
	¹² 1933	10,685	4.7	40.2	37.2	92.5	.464	18.65	17.29
	¹³ 1934	13,437	4.5	40.0	35.3	88.3	.507	20.28	17.89
Females.....	1931	27,151	5.2	50.0	43.2	86.4	.335	16.75	16.48
	¹⁶ 1933	22,213	5.0	50.2	41.8	83.3	.221	11.09	9.24
	¹² 1933	13,038	4.6	39.5	35.4	89.6	.372	14.69	13.15
	¹³ 1934	15,522	4.4	39.5	32.5	82.3	.393	15.52	12.78
Males and females.....	1931	49,036	5.2	50.7	45.5	89.7	.406	20.58	16.47
	¹⁶ 1933	41,713	5.0	50.9	44.0	86.4	.269	13.69	11.85
	¹² 1933	23,723	4.6	39.8	36.2	91.0	.415	16.51	15.01
	¹³ 1934	28,959	4.5	39.7	33.8	85.1	.448	17.79	15.15
Slaughtering and meat packing:									
Males.....	1929	52,796	5.7	49.3	48.5	98.4	.525	25.88	25.45
	1931	45,523	5.5	49.2	45.9	93.3	.470	23.12	21.57
Females.....	1929	8,803	5.6	48.9	44.9	91.8	.369	18.04	16.54
	1931	8,032	5.4	48.9	42.4	86.7	.321	15.70	13.61
Males and females.....	1929	61,599	5.7	49.2	48.0	97.6	.504	24.80	24.18
	1931	53,555	5.5	49.2	45.4	92.3	.449	22.09	20.38
Tobacco:									
Cigarettes:									
Males.....	1930	6,187	5.3	49.9	46.5	93.2	.378	18.86	17.60
	⁶ 1935	3,355	(1)	(1)	34.9	(1)	.369	(1)	12.90
	⁶ 1935	7,418	(1)	(1)	34.6	(1)	.487	(1)	16.84
Females.....	1930	8,079	5.1	49.9	43.2	86.6	.298	13.37	11.58
	⁶ 1935	4,100	(1)	(1)	27.8	(1)	.242	(1)	6.74
	⁶ 1935	7,850	(1)	(1)	32.4	(1)	.378	(1)	12.27
Males and females.....	1930	14,266	5.2	49.9	44.7	89.6	.318	15.87	14.19
	⁶ 1935	7,455	(1)	(1)	31.0	(1)	.307	(1)	9.51
	⁶ 1935	15,268	(1)	(1)	33.5	(1)	.433	(1)	14.49
Snuff:									
Males.....	⁶ 1933	245	(1)	(1)	45.8	(1)	.457	(1)	20.94
	⁶ 1935	708	(1)	(1)	39.4	(1)	.557	(1)	21.94
Females.....	⁶ 1933	281	(1)	(1)	40.4	(1)	.333	(1)	13.43
	⁶ 1935	517	(1)	(1)	35.2	(1)	.424	(1)	14.94
Males and females.....	⁶ 1933	526	(1)	(1)	42.9	(1)	.395	(1)	16.93
	⁶ 1935	1,315	(1)	(1)	37.7	(1)	.509	(1)	19.19
Smoking and chewing:									
Males.....	⁶ 1933	2,104	(1)	(1)	35.8	(1)	.382	(1)	13.69
	⁶ 1935	3,348	(1)	(1)	35.8	(1)	.462	(1)	16.57
Females.....	⁶ 1933	2,745	(1)	(1)	36.4	(1)	.261	(1)	9.50
	⁶ 1935	3,874	(1)	(1)	33.3	(1)	.354	(1)	11.81
Males and females.....	⁶ 1933	4,849	(1)	(1)	36.2	(1)	.313	(1)	11.32
	⁶ 1935	7,222	(1)	(1)	34.5	(1)	.406	(1)	14.02

¹ Not available.⁶ March.¹² August.¹⁶ April.¹⁷ In 2 weeks.

AVERAGE DAYS, HOURS, AND EARNINGS, IN SPECIFIED INDUSTRIES AND YEARS, BY SEX—Continued

Industry and sex	Year	Number of wage earners	Average days worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Percent of full time			
Underwear, knitted:									
Males -----									
	1928	2,805	5.5	50.6	48.0	94.9	\$0.453	\$22.92	\$21.76
	1930	2,910	5.2	50.9	45.1	88.6	.458	23.31	20.65
	1932	2,174	5.0	51.1	43.4	84.9	.408	20.85	17.72
Females -----									
	1928	12,251	5.2	49.8	42.3	84.9	.329	16.38	13.89
	1930	12,245	4.9	50.2	39.5	78.7	.330	16.57	13.04
	1932	9,564	4.6	50.6	36.8	72.7	.260	13.16	9.56
Males and females -----									
	1928	15,056	5.2	50.0	43.4	86.8	.354	17.70	15.36
	1930	15,155	5.0	50.3	40.6	80.7	.357	17.96	14.50
	1932	11,738	4.7	50.7	38.0	75.0	.292	14.80	11.08
Woolen and worsted goods:									
Males -----									
	¹⁸ 1928	21,049	4.9	49.4	42.4	85.8	.568	28.06	23.33
	¹⁹ 1930	21,591	4.8	49.7	42.6	85.7	.516	25.65	21.97
	¹⁹ 1932	20,407	4.8	50.6	43.1	85.2	.447	22.62	19.26
	²⁰ 1933	20,530	4.8	40.4	37.9	93.8	.526	21.25	19.93
	²⁰ 1934	18,091	4.2	40.5	32.8	81.0	.535	21.67	17.58
Females -----									
	¹⁸ 1928	17,801	4.6	49.2	38.1	77.4	.438	21.55	15.80
	¹⁹ 1930	19,809	4.7	49.5	38.8	78.4	.392	19.40	15.19
	¹⁹ 1932	18,102	4.7	50.0	38.5	77.0	.327	16.35	12.59
	²⁰ 1933	20,897	4.6	39.9	35.7	89.5	.410	16.36	14.65
	²⁰ 1934	13,893	3.8	39.7	27.9	70.3	.428	16.99	11.94
Males and females -----									
	¹⁸ 1928	38,850	4.8	49.3	40.4	81.9	.514	25.34	19.88
	¹⁹ 1930	41,400	4.8	49.6	40.7	82.1	.460	22.82	18.73
	¹⁹ 1932	38,509	4.8	50.3	40.9	81.3	.394	19.82	16.13
	²⁰ 1933	41,427	4.7	40.1	36.8	91.8	.469	18.81	17.27
	²⁰ 1934	31,984	4.0	40.1	30.7	76.6	.493	19.77	15.13

¹⁸ Not including any mills in Southern district.¹⁹ Including mills in Southern district.²⁰ August and including mills in Southern district.

Hours Per Week and Hourly Earnings, by Industries, 1932 to 1935

IN CONNECTION with the Bureau of Labor Statistics monthly surveys of trend of employment (see p. 129), data are secured (beginning in January 1932) which make possible the compilation of average hours of work per week and average hourly earnings in a large number of manufacturing and nonmanufacturing industries. These data are presented in the accompanying tables for the months of January 1932, January and June 1933, January and June 1934, and January and November 1935.

The averages presented are not based on data supplied by identical establishments over the entire period and therefore are not strictly comparable, but they may be considered as generally indicative of the hours worked and average earnings in those industries in the months shown. Information for several of the 90 manufacturing industries for which monthly employment reports are secured are omitted from these tables because of lack of adequate information regarding man-hours worked. Man-hour data are available for only 15 of the 19 nonmanufacturing industries covered by the monthly employment survey. Data are not compiled for banks, brokerage, and insurance, as practically all employees in these industries are paid on a salary

basis, and the collection of man-hour data from building construction firms was not begun until January 1934.

The establishments supplying man-hour data in the latter part of 1935 in the manufacturing industries employ approximately 90 per cent of the total wage earners covered in the Bureau's monthly employment survey of manufacturing industries.

The tabulations are based on reports supplying actual man-hours worked and do not include nominal man-hour totals, obtained by multiplying the total number of employees in the establishment by the plant operating time.

Table 1 shows the average hours worked per employee per week and average hourly earnings in the manufacturing and nonmanufacturing groups for which these data are available and for all groups combined. The average hours per week and average hourly earnings for the combined total of these groups are weighted averages, the average man-hours and average hourly earnings in each industrial group having been multiplied by the total number of employees in the group in the current month, and the sum of these products divided by the total number of employees in the combined 16 industrial groups. The average man-hours and hourly earnings for all manufacturing industries combined have been weighted in the same manner as the averages for all industrial groups combined.

TABLE 1.—AVERAGE HOURS WORKED PER WEEK PER EMPLOYEE AND AVERAGE HOURLY EARNINGS IN 16 INDUSTRIAL GROUPS, JANUARY 1932, JANUARY AND JUNE 1933, JANUARY AND JUNE 1934, AND JANUARY AND NOVEMBER 1935

Industrial group	Average hours per week							Average hourly earnings						
	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935
Manufacturing ¹	38.4	37.5	42.6	33.7	34.9	35.2	37.8	<i>Ct.</i> 50.6	<i>Ct.</i> 42.6	<i>Ct.</i> 41.8	<i>Ct.</i> 53.3	<i>Ct.</i> 55.0	<i>Ct.</i> 56.4	<i>Ct.</i> 56.7
Coal mining:														
Anthracite.....	29.1	28.1	31.2	39.5	31.7	33.0	22.3	82.7	83.6	81.7	85.0	82.3	82.1	80.5
Bituminous.....	27.0	29.0	28.5	30.3	26.2	27.6	27.3	56.8	48.1	45.6	58.9	71.3	70.7	82.2
Metalliferous mining.....	35.4	39.4	40.0	38.7	37.4	36.0	39.7	53.2	45.5	47.0	53.5	55.5	60.6	58.2
Quarrying and nonmetallic mining.....	34.9	34.6	40.9	30.8	35.8	30.5	35.6	48.4	40.4	37.6	45.6	48.0	46.9	48.1
Crude-petroleum producing.....	52.0	44.6	42.6	36.5	34.0	34.6	36.5	53.7	58.0	62.9	76.9	79.2	79.8	78.7
Public utilities:														
Telephone and telegraph.....	42.1	37.6	37.5	37.6	38.3	38.1	39.1	70.6	69.3	71.1	71.6	71.2	74.7	76.4
Electric light and power and manufactured gas.....	44.8	43.4	43.2	38.9	38.8	38.3	39.3	69.8	66.9	65.7	72.5	75.7	77.7	77.3
Electric-railroad and motor-bus operation and maintenance.....	48.5	46.2	46.4	45.0	45.8	45.5	45.1	59.9	59.3	56.7	59.1	59.8	61.5	62.2
Trade:														
Wholesale.....	47.8	47.0	47.1	41.5	41.2	40.4	41.7	58.8	56.7	53.2	61.9	63.8	64.3	63.3
Retail ¹	46.8	47.4	47.2	42.7	40.8	41.6	42.3	53.9	44.9	42.9	54.2	51.7	53.4	51.1
General merchandising.....	45.2	43.1	43.3	38.8	37.0	38.6	39.4	46.7	41.7	39.9	47.5	48.3	47.6	45.6
Other than general merchandising.....	47.3	48.6	48.3	43.8	41.9	42.5	43.2	55.9	45.8	43.8	56.1	52.7	55.1	52.9
Hotels (year round).....	53.9	51.4	50.5	48.8	47.2	47.2	48.1	27.4	24.3	23.1	24.7	27.4	27.9	28.2
Laundries.....	44.4	42.0	42.4	38.6	39.9	39.9	40.7	37.7	35.4	33.2	37.9	37.8	37.0	36.7
Dyeing and cleaning.....	45.3	44.1	47.4	39.2	41.0	40.1	41.1	44.9	37.4	36.6	45.1	44.5	43.5	42.9
Average ¹	42.1	41.5	43.9	37.5	37.4	37.6	39.3	53.5	46.7	44.9	55.3	56.0	57.5	57.2

¹Weighted.

In presenting information for the separate manufacturing industries shown in table 2, data are published for only those industries in which the available man-hour information covers 20 percent or more of the total number of employees in the industry for the period shown.

TABLE 2.—AVERAGE HOURS WORKED PER WEEK PER EMPLOYEE AND AVERAGE HOURLY EARNINGS IN MANUFACTURING INDUSTRIES, JANUARY 1932, JANUARY AND JUNE 1933, JANUARY AND JUNE 1934, AND JANUARY AND NOVEMBER 1935

Industry	Average hours per week							Average hourly earnings						
	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935
Iron and steel and their products, not including machinery:														
Blast furnaces, steel works, and rolling mills.....	29.0	25.3	37.9	29.4	37.2	32.7	36.4	<i>Ct.</i> 56.6	<i>Ct.</i> 48.4	<i>Ct.</i> 48.2	<i>Ct.</i> 58.5	<i>Ct.</i> 64.4	<i>Ct.</i> 65.1	<i>Ct.</i> 66.3
Bolts, nuts, washers, and rivets.....	34.8	29.2	40.7	32.6	35.4	34.8	37.9	49.2	45.6	42.6	51.4	55.3	56.1	57.0
Cast-iron pipe.....	36.5	25.3	31.9	30.7	28.8	29.5	32.4	45.2	48.2	38.5	47.2	50.2	49.7	49.1
Cutlery (not including silver and plated cutlery) and edge tools.....	37.9	33.8	42.9	36.2	35.9	37.5	40.9	54.7	49.2	46.0	52.7	53.3	54.3	52.8
Forgings, iron and steel.....	29.6	30.4	40.0	34.7	35.7	37.4	40.2	55.4	48.7	46.0	56.8	60.4	59.8	61.5
Hardware.....	34.8	28.2	38.0	33.1	31.5	35.7	41.0	51.5	44.9	41.1	52.9	53.7	49.7	55.8
Plumbers' supplies.....	28.4	27.3	43.1	26.8	33.5	35.8	37.4	55.5	45.1	43.2	50.5	51.7	52.9	56.0
Steam and hot-water heating apparatus and steam fittings.....	29.8	29.2	38.0	34.0	35.1	34.9	38.9	58.9	49.8	47.6	56.4	59.7	60.2	58.1
Stoves.....	34.1	28.5	39.3	30.5	35.7	34.4	38.3	52.8	47.8	44.9	52.2	53.7	54.2	57.0
Structural and ornamental metalwork.....	33.8	28.4	35.2	31.1	34.7	33.9	36.1	60.6	45.3	41.6	55.5	58.4	58.2	58.6
Tin cans and other tinware.....	40.1	39.5	(1)	34.3	38.0	37.2	37.2	47.8	39.8	(1)	55.4	51.8	53.3	53.7
Tools (not including edge tools, machine tools, files, and saws).....	30.5	30.6	38.6	35.3	39.4	36.9	42.1	53.8	47.1	45.0	50.9	49.7	55.1	53.7
Machinery, not including transportation equipment:														
Agricultural implements.....	34.2	30.5	36.6	36.4	36.1	38.9	39.0	45.4	48.8	45.8	63.1	55.5	60.1	61.8
Cash registers, adding machines, and calculating machines.....	33.1	33.9	40.7	39.2	38.7	37.8	38.5	72.8	67.5	62.0	65.0	68.6	68.9	69.5
Electrical machinery, apparatus, and supplies.....	37.2	29.4	37.8	31.5	35.0	34.8	38.6	56.2	59.6	53.0	57.0	60.5	62.2	60.6
Engines, turbines, tractors, and water wheels.....	32.6	32.2	37.8	36.2	38.2	37.5	38.9	64.7	57.3	53.9	60.1	62.7	66.1	69.5
Foundry and machine-shop products.....	31.2	27.8	35.9	33.4	35.6	35.1	40.0	58.8	51.6	49.6	56.8	58.9	59.7	59.9
Machine tools.....	33.3	32.5	36.3	37.0	38.8	38.7	42.6	65.3	56.6	53.7	57.9	61.0	61.4	63.0
Radios and phonographs.....	40.9	32.5	42.1	30.3	32.6	32.3	39.0	53.9	42.3	37.7	54.1	55.4	57.5	52.7
Textile machinery and parts.....	36.8	29.6	42.8	38.9	35.6	36.1	36.7	61.6	57.4	52.4	61.7	59.8	61.7	61.5
Typewriters and parts.....	22.8	32.1	35.1	38.3	37.4	37.8	40.9	70.4	47.1	45.0	60.5	55.3	57.6	57.6
Transportation equipment:														
Aircraft.....	44.9	42.5	42.0	39.5	41.6	37.9	41.6	71.3	64.9	63.4	65.4	59.5	64.3	65.3
Automobiles.....	52.9	35.8	40.4	32.4	32.3	35.6	40.7	69.9	55.6	57.1	63.1	69.9	70.9	75.0
Locomotives.....	52.2	24.9	39.9	32.1	35.5	34.3	37.0	69.5	52.9	49.6	60.0	62.2	62.0	62.7
Shipbuilding.....	37.3	29.8	31.5	30.1	31.3	31.8	32.9	67.2	59.4	55.0	69.6	72.2	75.0	76.7
Railroad repair shops:														
Electric railroad.....	45.7	43.9	43.9	43.6	44.7	44.3	43.4	62.5	57.4	56.3	58.2	59.3	59.9	61.4
Steam railroad.....	37.4	34.5	36.7	36.3	40.3	36.7	40.4	68.2	62.7	62.7	61.4	61.9	64.7	68.2
Nonferrous metals and their products:														
Aluminum manufactures.....	39.2	(1)	43.1	31.5	37.1	35.3	40.7	44.9	(1)	40.2	48.2	54.2	54.7	54.7
Brass, bronze, and copper products.....	35.7	30.8	41.4	35.4	36.7	37.9	41.2	53.9	46.5	46.0	53.5	56.4	56.7	57.7
Clocks and watches, and time-recording devices.....	26.3	32.6	41.5	35.8	35.9	34.7	45.0	50.0	43.9	35.6	45.8	48.0	47.9	48.3
Jewelry.....	38.0	33.6	36.5	31.5	33.8	35.0	38.1	50.5	47.5	44.1	52.0	53.4	54.1	52.4
Silverware and plated ware.....	37.3	38.2	36.2	36.6	36.4	34.4	40.9	53.8	46.5	44.6	50.3	54.1	56.3	56.9

¹ Less than 20 percent of the total.

HOURLY EARNINGS BY INDUSTRIES

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TABLE 2.—AVERAGE HOURS WORKED PER WEEK PER EMPLOYEE AND AVERAGE HOURLY EARNINGS IN MANUFACTURING INDUSTRIES, JANUARY 1932, JANUARY AND JUNE 1933, JANUARY AND JUNE 1934, AND JANUARY AND NOVEMBER 1935—Con.

Industry	Average hours per week							Average hourly earnings						
	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935	Jan. 1932	Jan. 1933	June 1933	Jan. 1934	June 1934	Jan. 1935	Nov. 1935
Nonferrous metals—Con.								Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.
Smelting and refining—copper, lead, and zinc	37.3	31.2	41.2	36.7	38.0	37.7	40.3	48.6	48.2	47.9	50.6	54.3	55.6	56.2
Stamped and enameled ware	36.4	36.1	41.6	33.7	36.0	35.2	40.7	46.9	38.2	38.5	48.1	50.1	51.5	51.1
Lumber and allied products:														
Furniture	34.9	30.4	39.7	30.3	34.6	35.1	40.5	42.3	34.5	32.2	44.6	44.8	44.5	44.8
Lumber:														
Millwork	36.8	35.5	43.3	32.7	34.2	34.1	40.9	43.2	34.2	32.6	44.0	44.3	44.2	45.9
Sawmills	33.6	33.1	43.0	31.8	34.1	33.4	38.9	36.8	29.0	27.6	42.3	43.6	42.3	46.5
Stone, clay, and glass products:														
Brick, tile, and terra cotta	31.0	28.9	36.8	30.7	33.1	30.3	39.0	44.2	35.4	31.9	42.4	44.2	45.8	45.1
Cement	44.1	30.8	38.7	31.4	35.6	29.2	34.8	43.9	44.6	40.6	55.7	56.4	59.3	57.2
Glass	37.7	34.7	42.1	33.8	33.5	38.2	36.9	50.7	43.6	44.0	52.3	55.0	57.4	59.0
Marble, granite, slate, and other products	33.3	32.2	35.7	29.8	32.1	28.5	32.9	71.3	55.2	50.2	60.3	66.1	63.4	64.7
Pottery	35.1	34.5	35.0	33.7	31.4	32.9	38.7	47.9	39.4	40.0	47.8	49.7	51.0	51.4
Textiles and their products—Fabrics:														
Carpets and rugs	34.5	34.5	44.4	32.3	34.5	34.0	34.5	53.3	40.1	38.2	49.7	55.9	55.0	55.4
Cotton goods	44.7	45.0	49.1	34.1	28.8	35.2	36.0	26.8	22.4	22.6	37.4	38.1	37.7	36.9
Cotton small wares	41.5	39.6	46.3	34.8	33.6	37.2	37.7	42.1	34.7	33.4	45.0	46.3	45.1	45.3
Dyeing and finishing textiles	46.6	45.2	50.8	33.3	29.6	36.8	35.1	45.1	38.5	37.0	52.5	52.2	55.2	52.7
Knit goods	42.2	41.3	47.0	27.9	33.6	34.4	37.2	33.6	30.4	29.4	46.3	45.8	48.6	47.8
Silk and rayon goods	38.7	39.8	42.0	31.0	32.9	34.4	35.2	39.1	29.4	30.3	44.2	44.2	45.1	43.7
Woolen and worsted goods	42.5	45.2	48.3	33.8	32.1	36.9	36.3	43.0	34.2	34.3	49.1	50.0	49.3	46.8
Leather and its manufactures: Leather	42.8	41.8	46.6	37.1	37.6	37.7	38.9	45.3	39.3	41.0	52.3	52.6	56.5	56.0
Food and kindred products:														
Baking	47.1	46.4	46.7	40.8	41.7	40.3	41.0	40.2	43.2	42.2	50.8	52.0	53.0	53.9
Beverages	41.2	39.4	47.7	37.2	40.0	37.4	38.4	62.1	61.0	60.1	74.5	73.8	74.6	78.0
Canning and preserving	41.7	40.6	42.6	32.9	30.8	33.5	33.8	41.4	34.0	31.2	40.2	38.7	38.4	38.6
Confectionery	42.2	40.6	38.0	37.2	36.3	34.8	37.6	38.1	33.1	34.3	40.7	41.0	44.0	42.2
Flour	46.7	48.1	46.9	38.7	38.8	37.4	41.0	48.0	42.0	42.0	50.5	53.6	55.9	55.0
Ice cream	50.1	48.8	53.1	40.9	46.0	42.5	45.6	60.5	51.0	46.3	62.9	55.3	55.1	56.8
Slaughtering and meat packing	47.4	46.4	48.2	40.9	40.3	39.2	41.1	48.7	44.2	41.6	52.5	53.1	55.1	56.4
Sugar, beet	36.5	43.8	47.3	35.3	38.9	37.1	48.5	62.0	48.9	47.9	49.7	50.6	64.2	45.4
Sugar refining, cane	50.6	44.2	54.1	34.1	39.2	40.0	36.5	50.6	42.6	44.0	58.5	56.1	56.3	55.5
Tobacco manufactures:														
Chewing and smoking tobacco and snuff	46.2	43.0	41.4	36.3	34.1	35.4	34.1	31.4	31.8	32.1	37.5	38.7	40.2	42.6
Cigars and cigarettes	40.2	34.8	42.3	35.6	35.3	32.8	36.1	31.4	29.1	29.7	36.4	37.5	38.8	39.9
Paper and printing:														
Boxes, paper	40.7	37.8	44.9	34.4	36.2	35.7	40.7	48.1	43.0	40.0	49.6	49.6	51.6	48.3
Paper and pulp	41.6	38.6	46.8	35.3	35.9	37.7	40.3	47.7	42.8	39.9	49.8	51.1	52.6	53.1
Printing and publishing:														
Book and job	38.6	37.3	37.2	36.3	35.6	37.3	37.5	77.6	66.5	66.4	71.0	72.5	73.3	73.6
Newspapers and periodicals	41.9	40.6	41.0	37.1	37.0	36.8	36.9	86.5	75.8	73.1	82.6	85.8	88.1	89.9
Chemicals and allied products:														
Chemicals	44.4	40.2	44.6	39.2	38.6	39.3	40.2	59.0	52.0	54.3	60.0	62.3	62.2	63.6
Cottonseed—oil, cake, and meal	64.6	(1)	58.9	41.8	40.9	40.3	47.9	21.4	(1)	19.7	25.1	26.3	26.2	21.3
Druggists' preparations	33.8	43.8	40.3	37.3	38.2	38.4	37.3	49.3	42.5	46.3	48.7	52.2	52.3	55.0
Explosives	31.4	35.3	36.5	34.1	33.6	34.3	37.3	63.0	54.3	54.3	61.0	59.0	64.3	66.9
Fertilizers	44.8	43.1	45.1	33.3	31.8	34.4	34.9	33.1	28.4	26.8	36.1	40.8	33.8	36.1
Paints and varnishes	40.7	38.3	47.6	37.8	39.4	38.6	40.4	59.7	52.6	46.9	53.8	54.7	58.7	59.3
Petroleum refining	45.0	39.9	39.6	35.5	34.7	34.2	34.5	61.6	62.4	63.2	69.3	74.0	73.5	80.5
Rayon and allied products	44.6	45.5	45.3	36.0	37.4	38.3	38.0	41.9	37.7	38.3	48.3	51.5	50.4	51.5
Soap	41.8	40.8	43.8	38.4	37.9	38.4	38.1	48.1	41.4	45.2	52.9	55.0	57.4	60.5
Rubber products:														
Rubber goods, other than boots, shoes, tires, and inner tubes	37.8	36.3	43.3	33.9	36.4	37.8	38.7	52.7	44.3	42.8	51.6	50.6	52.5	52.3
Rubber tires and inner tubes	35.3	28.7	42.0	30.3	30.3	33.3	33.5	64.4	58.3	57.9	71.9	77.4	81.1	81.8

¹ Less than 20 percent of the total.

Per Capita Weekly Earnings, by Industries

IN CONNECTION with the Bureau of Labor Statistics monthly reports on trend of employment (see p. 129), per capita weekly earnings are computed by a simple division of the total pay rolls in the reporting establishments by the number of persons on the pay rolls. As the number of persons on the pay rolls includes both full- and part-time employees, the resulting figure indicates average weekly earnings of all employees in the reporting sample. The scope of the survey is not confined to identical establishments over an extended period and therefore the per capita earnings shown in the following table are not strictly comparable. They may, however, be assumed generally to indicate average weekly earnings during the period shown. Per capita weekly earnings are presented each month, with percentage comparisons with the preceding month and the same month of the preceding year. Data for January 1932, 1933, 1934, and 1935, and November 1935 for all manufacturing industries combined and for 16 nonmanufacturing industries are shown in the following table.

These earnings figures as shown are, of course, not the same as full-time weekly rates of wages. Also, it is to be noted that these per capita weekly earnings are not identical with the weekly earnings which would be derived by multiplying the average hours of work per week by the average hourly earnings, as given in the tables on page 879, for the reason that the basic information from which the latter tables are computed cover a smaller number of establishments.

PER CAPITA WEEKLY EARNINGS IN SPECIFIED INDUSTRIAL GROUPS, JANUARY 1932, 1933, 1934, AND 1935 AND NOVEMBER 1935

Industry	January 1932	January 1933	January 1934	January 1935	November 1935
Manufacturing.....	\$19.85	\$16.62	\$18.01	\$19.99	\$21.77
Trade:					
Wholesale.....	28.95	27.15	26.07	26.11	26.64
Retail.....	22.43	19.96	20.03	20.30	20.09
General merchandising.....	21.07	18.37	18.49	17.21	17.37
Other than general merchandising.....	25.53	23.00	22.44	22.66	22.45
Public utilities:					
Telephone and telegraph.....	28.99	25.73	26.63	27.77	28.87
Electric light and power and manufactured gas.....	31.17	29.47	28.27	29.92	30.26
Electric-railroad and motor-bus operation and maintenance.....	30.52	27.59	26.83	28.17	28.60
Mining:					
Anthracite.....	23.44	23.94	33.27	26.68	17.69
Bituminous coal.....	15.05	13.59	17.41	19.30	22.29
Metalliferous.....	18.66	18.21	20.75	22.03	23.45
Quarrying and nonmetalliferous.....	16.64	14.01	14.05	14.38	17.28
Crude petroleum producing.....	32.59	26.97	27.70	26.16	28.66
Services:					
Hotels ¹	15.34	13.35	12.35	13.48	13.71
Laundries.....	17.42	15.24	14.83	15.12	15.63
Dyeing and cleaning.....	20.42	16.39	17.32	17.55	17.90
Banks.....	(2)	36.01	31.47	31.47	31.56
Brokerage.....	(2)	33.18	35.57	34.77	35.15
Insurance.....	(2)	34.18	35.62	35.49	36.03
Building construction.....	26.60	23.03	21.98	22.77	24.63

¹ Cash payments only, value of board, room, and tips cannot be computed.

² Not available.

Wages and Hours in Various Industries and Trades

Air Transportation—Hours and Earnings, 1933

A STUDY of the hours and earnings of commercial air transportation in the United States in July 1933 was made by the Bureau of Labor Statistics in cooperation with the Federal Coordinator of Transportation. Wage data were collected from 15 transportation companies serving 156 cities in 43 States and the District of Columbia. These companies employed 3,609 males and 207 females, or approximately 96 percent of the total number of workers employed in the industry during the month studied. A similar study was made in October 1931. More detailed data for 1933 are given in the monthly Labor Review for March 1934 (p. 647).

The studies were limited to pilots and copilots operating heavier-than-air machines on scheduled mail and passenger routes and to the ground personnel employed at the various airports along the routes. The ground personnel assisted pilots and copilots in the operation of the machines and also repaired the machines. Employees engaged in the operation of sightseeing, crop-dusting, mapping and surveying, and flying-instruction machines, and those employed as supervisors and office workers were not included.

Average hours and earnings for pilots are presented in table 1 by geographic districts. The districts and the States included in each are as follows:

North Atlantic District.—Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

East North Central District.—Ohio, Indiana, Illinois, Michigan, and Wisconsin.

West North Central District.—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South Atlantic District.—Maryland, District of Columbia, Virginia, North Carolina, South Carolina, Georgia, and Florida.

South Central District.—Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

Western District.—Montana, Idaho, Wyoming, Colorado, Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

It was found necessary to obtain wage figures for the flight personnel (pilots and copilots) for a period of an entire month because of the many interruptions to the maintenance of flight schedules.

Maximum full-time flight-hours of pilots are regulated by the United States Department of Commerce. A pilot employed in interstate passenger air-transport service may not be on flight duty more than 110 hours in any one month, nor more than 30 hours in any 7-day period, nor more than 8 hours in any 24-hour period. He must also be granted a rest period of at least 24 consecutive hours within each 7-day period. Certain exceptions, however, are allowed when necessary to the maintenance of reasonable schedules.

WAGES AND HOURS OF LABOR

TABLE 1.—FULL-TIME AND ACTUAL FLIGHT-HOURS OF PILOTS, MILEAGE FLOWN, AND EARNINGS PER FLIGHT-HOUR, PER MILE, AND PER MONTH, BY DISTRICT

Fifteen commercial air transport companies, United States, October 1931 and July 1933

[All averages are weighted by number of local units]

District	Year	Average hours		Average dis- tance, mil- eage in 1 month	Percent of ac- tual to full time	Average earnings		
		Full- time flight- hours	Actu- ally flown in 1 month			Per flight- hour	Per mile	Actual in 1 month
All districts.....	1931	110.0	80.4	(1)	73.1	\$7.084	(1)	\$569.49
	1933	109.0	85.3	9,815	78.3	7.361	\$0.064	628.23
North Atlantic.....	1931	110.0	84.1	(1)	76.5	7.284	(1)	612.87
	1933	110.0	91.9	10,394	83.5	7.563	.067	695.24
East North Central.....	1931	110.0	79.4	(1)	72.2	6.929	(1)	560.22
	1933	110.0	84.5	9,777	76.8	7.641	.066	645.70
West North Central.....	1931	110.0	78.4	(1)	71.3	6.906	(1)	541.47
	1933	110.0	86.0	9,854	78.2	6.820	.060	586.66
South Atlantic.....	1931	110.0	85.8	(1)	78.0	7.199	(1)	617.84
	1933	110.0	92.6	9,098	84.2	6.201	.063	574.27
South Central.....	1931	110.0	86.7	(1)	78.8	5.565	(1)	482.45
	1933	107.5	89.3	9,746	83.1	6.388	.059	570.55
Western.....	1931	110.0	76.2	(1)	69.3	8.066	(1)	614.86
	1933	107.3	78.4	9,849	73.0	8.385	.067	657.00

¹ Not available.

Copilots hold a United States Department of Commerce license and are qualified to operate the controls of the plane when called on to relieve the pilot. On planes equipped with radio they must also have a radio operator's license permitting them to maintain communication by radio with ground stations. On long flights they often act as stewards, when a stewardess or hostess is not part of the crew, serving meals en route and providing for the comfort of the passengers.

Table 2 shows, for the copilots covered in each geographic district and in all districts combined, average days and hours worked per month and average earnings per month and per hour for the years 1931 and 1933. Average earnings shown are for their work both as copilots and as acting pilots. Figures are not shown for the South Atlantic District in 1931, as flying in that district was from base ports in adjacent districts where data for them are shown.

TABLE 2.—AVERAGE DAYS AND HOURS WORKED BY COPILOTS AND EARNINGS FOR REGULAR AND ADDITIONAL WORK, 1931 AND 1933, BY DISTRICT

District	Average full time in 1 month				Total earnings			
	Days		Hours		Average in 1 month		Average per hour	
	1931	1933	1931	1933	1931	1933	1931	1933
All districts.....	21.2	20.0	170.0	124.9	\$227.89	\$231.13	\$1.341	\$1.851
North Atlantic.....	19.8	22.5	158.4	159.3	256.01	263.31	1.616	1.653
East North Central.....	20.3	20.6	162.0	128.3	210.29	229.78	1.298	1.790
West North Central.....	21.3	19.8	170.5	129.8	198.16	197.72	1.162	1.523
South Atlantic.....	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
South Central.....	22.4	(2)	179.1	(2)	215.77	(2)	1.205	(2)
Western.....	22.8	19.3	182.7	114.1	254.32	238.19	1.392	2.088

¹ Data included in that for adjacent districts.² Data included in totals but not given separately to avoid identification.

Table 3 shows average full-time and credited hours and earnings in 1 week, the percent of full time worked in the week, and average earnings per hour, for each of the important occupations of the ground personnel, and also for the groups designated as "Other employees." The data in this table are for 1 week in October 1931 and for 1 week in July 1933 and do not include figures for pilots and copilots. Figures by occupation are for men only, because of the small number of woman wage earners in any one occupation. Women were employed as traffic agents, clerks, stenographers, dispatchers, and in the groups of other employees, skilled and unskilled. For definitions of all occupations see Bulletin No. 575 (p. 34).

TABLE 3.—AVERAGE HOURS AND EARNINGS IN SPECIFIED OCCUPATIONS OF THE GROUND PERSONNEL, 1931 AND 1933

Occupation	Average full-time hours per week		Hours credited in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1931	1933	Average number		Percent of full time		1931	1933	1931	1933	1931	1933
			1931	1933	1931	1933						
All ground-personnel employees:												
Males.....	48.5	49.8	49.5	49.8	102.1	100.0	\$0.645	\$0.611	\$31.28	\$30.44	\$31.89	\$30.44
Females.....	48.0	47.0	48.0	46.8	100.0	99.7	.497	.457	23.85	21.48	23.85	21.39
Males and females.....	48.5	49.7	49.4	49.7	101.9	100.0	.640	.606	31.05	30.15	31.66	30.15
Agents, traffic, male.....	48.0	48.8	47.8	48.7	99.6	99.9	.629	.571	30.17	27.86	30.07	27.78
Chauffeurs, male.....	48.3	49.2	48.7	49.1	100.8	99.7	.558	.466	26.93	22.93	27.14	22.89
Clerks and stenographers, male.....	48.2	48.4	48.2	48.7	100.0	100.6	.551	.576	26.54	27.88	26.54	28.05
Crew chiefs, male.....	48.7	49.2	50.1	50.2	103.0	102.7	.902	.780	43.91	38.38	45.17	39.42
Dispatchers, male.....	47.9	51.8	47.9	51.8	100.0	100.0	.592	.488	28.37	25.31	28.37	25.31
Inspectors, male.....	48.0	50.8	49.6	50.8	103.0	100.0	.945	.719	45.37	36.51	46.87	36.51
Janitors, male.....	53.0	49.3	53.2	49.2	100.4	99.9	.362	.358	19.21	17.65	19.27	17.64
Machinists and tool-makers, male.....	47.2	49.1	53.5	49.8	113.3	101.4	.754	.693	35.58	34.03	40.36	34.49
Mechanics, airplane, licensed, male.....	47.8	49.4	51.7	50.7	108.2	102.7	.734	.684	35.08	33.79	37.92	34.72
Mechanics, engine, licensed, male.....	48.0	49.4	49.6	50.4	103.3	102.0	.742	.676	35.61	33.39	36.83	34.04
Mechanics, airplane and engine, licensed, male.....	48.4	49.9	49.5	50.4	102.3	100.9	.747	.699	36.16	34.88	37.01	35.19
Mechanics, airplane and engine, not licensed, male.....	47.9	50.0	50.0	49.1	104.4	98.1	.641	.557	30.68	27.85	31.74	27.33
Mechanics, chief, male.....	48.0	49.4	48.5	49.7	101.0	100.6	1.069	.991	51.30	48.96	51.86	49.20
Mechanics' helpers, licensed, male.....	47.7	48.9	49.6	49.0	104.0	100.2	.549	.523	26.20	25.57	27.24	25.63
Mechanics' helpers, not licensed, male.....	48.5	50.2	50.0	49.4	103.1	98.4	.441	.422	21.39	21.18	22.08	20.82
Porters, male.....	48.2	52.0	48.2	52.0	100.0	100.0	.240	.230	11.54	11.98	11.54	11.98
Radio mechanics, male.....	48.0	50.0	47.9	50.0	99.8	101.3	.688	.644	33.01	32.20	32.97	32.60
Stock clerks, male.....	48.4	50.4	48.4	50.4	100.0	100.0	.712	.645	34.49	32.51	34.49	32.51
Other ground-personnel employees, skilled, male.....	47.9	50.3	48.6	50.9	101.5	101.3	.557	.494	26.70	24.85	27.10	25.14
Other ground-personnel employees, unskilled, male.....	48.0	49.3	48.0	49.0	100.0	99.5	.817	.776	39.19	38.26	39.19	38.05
Other ground-personnel employees, unskilled, male.....	51.3	49.4	52.0	49.7	101.4	100.7	.384	.374	19.72	18.48	19.98	18.60

Anthracite Mining—Hours and Earnings, 1931

THIS article presents summary figures of average hours and earnings in anthracite mining in Pennsylvania, as shown in the survey made by the Bureau of Labor Statistics in 1931, with comparative data from the preceding surveys made in 1922 and 1924. More detailed data were published in the Monthly Labor Review for April 1932 (p. 896).

Table 1 shows the average working time and average earnings for all employees, and also for the inside and outside employees separately, for each of the years 1922, 1924, and 1931. Inside work includes the work of wage earners in all underground occupations and outside work includes that of wage earners in all surface occupations.

TABLE 1.—AVERAGE NUMBER OF STARTS (DAYS), AND AVERAGE HOURS AND EARNINGS OF ALL WAGE EARNERS COVERED AT ANTHRACITE MINES, 1922, 1924, AND 1931, BY CLASS OF WORK

Class of work	Year	Average number of starts (days) worked in half month	Average hours worked		Average earnings		
			In half month	Per start or day	In half month	Per start or day	Per hour, excluding time for lunch
All occupations, inside and outside (including miners and miners' laborers, inside)-----	1922	11.8	91.3	7.8	\$68.71	\$5.84	\$0.753
	1924	11.2	87.5	7.8	75.01	6.70	.857
	1931	10.9	85.4	7.8	70.36	6.45	.824
Inside work—all occupations (including miners and miners' laborers)-----	1922	11.4	84.4	7.4	70.74	6.20	.835
	1924	10.9	80.7	7.4	77.95	7.18	.966
	1931	10.7	80.7	7.6	71.47	6.71	.888
Outside work—all occupations-----	1922	13.0	115.0	8.9	61.69	4.75	.636
	1924	12.3	109.4	8.9	65.45	5.32	.598
	1931	12.1	106.7	8.8	65.28	5.41	.612

In the 1931 survey the basic data were secured from 47 collieries for a half-monthly pay-roll period in the month of October. The figures cover 42,689 employees, or 28.3 percent of the 150,804 mine workers reported by the United States Bureau of Mines as engaged in the mining of anthracite in Pennsylvania in 1930. Of these 42,689, 35,000, or 82 percent, were underground or "inside" wage earners. The remaining 7,689 were surface or "outside" employees, though a few of them may at times have worked underground.

The group of employees classified as miners and miners' laborers includes contract miners, consideration miners, company miners, and their respective laborers. They mine the coal and load it into mine cars or perform duties incident to mining and loading. Most of the contract miners and their laborers are paid by the ton, while consideration miners and company miners and their laborers are paid by the hour, day, or week.

In number of employees, earnings, and actual performance, contract mining forms the basic occupation in anthracite mining. The 12,294 employees in this occupation constituted a little less than 29 percent of the 42,689 employees covered in 1931. Contract miners were found in each of the 47 collieries.

The average time consumed per day in going from the shaft or other opening of the mine to the place of work and return (obtained for each colliery included in the study) ranged from 10 minutes to 1½ hours. The weighted average travel time for the 19,980 contract miners and contract miners' laborers covered was 42 minutes per day, or 21 minutes each way. In the collieries studied, the contract miners and their laborers had no regular time for dinner or lunch but ate while waiting for empty mine cars or while idle for any other reason.

The weighted average time taken for dinner or lunch, based upon estimates by mine officials, was a fraction less than 30 minutes per day.

From the foregoing explanation it may be seen that the hours of contract miners and contract miners' laborers, as reported by the various collieries covered in the study, were not on a uniform basis.

In order to show average earnings per hour for all employees in these occupations on a common basis, it was necessary to compute for each employee of each colliery: (1) Time at the face, excluding time for lunch, (2) time at face, including time for lunch, and (3) total time in colliery.

Table 2 shows for the anthracite region in Pennsylvania as a whole, for 1924 and 1931, average hours worked and average earnings made by employees in each of the six classes which make up the group of miners and miners' laborers. For the employees in the four time-work occupations shown—company and consideration miners and their laborers—the rates per day and per week were reduced to an hourly basis and the weighted average rates per hour, which are rates for time actually worked, are also presented.

TABLE 2.—AVERAGE HOURS AND EARNINGS OF MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION

Occupation	Average hours						Average rate of wages per hour at face excluding lunch	Average earnings					
	In half month, based on—			Per start, based on—				Per hour, based on—			In half month	Per start (day)	
	Time at face		Time in mine	Time at face		Time in mine		Time at face		Time in mine			
	Excluding lunch	Including lunch		Excluding lunch	Including lunch			Excluding lunch	Including lunch				
All miners and miners' laborers:													
1924.....	71.7	76.9	84.1	6.8	7.3	8.0	-----	\$1.142	\$1.063	\$0.973	\$81.82	\$7.77	
1931.....	74.5	79.7	87.0	7.2	7.6	8.4	-----	.987	.924	.845	73.57	7.06	
Miners' laborers:													
Company:													
1924.....	84.1	89.4	96.5	8.2	8.7	9.4	\$0.686	.606	.655	.607	58.57	5.72	
1931.....	80.9	85.9	93.3	8.1	8.6	9.3	.680	.685	.646	.594	55.46	5.55	
Consideration:													
1924.....	86.1	91.4	97.7	8.1	8.6	9.2	.765	.767	.722	.676	65.98	6.21	
1931.....	88.2	93.7	101.4	8.0	8.5	9.2	.745	.745	.702	.649	65.77	5.95	
Contract:													
1924.....	67.3	72.4	79.1	6.7	7.2	7.8	-----	.971	.903	.826	65.39	6.47	
1931.....	71.4	76.3	82.8	7.3	7.8	8.4	-----	.833	.779	.718	59.48	6.05	
Total:													
1924.....	71.9	77.1	83.8	7.1	7.6	8.2	-----	.892	.833	.765	64.17	6.31	
1931.....	74.0	79.0	85.7	7.4	7.9	8.6	-----	.803	.752	.693	59.43	5.97	
Miners:													
Company:													
1924.....	84.5	89.8	96.7	8.2	8.7	9.3	.757	.795	.747	.694	67.15	6.49	
1931.....	84.1	89.3	97.0	8.0	8.5	9.3	.747	.769	.724	.666	64.62	6.16	
Consideration:													
1924.....	84.7	90.1	96.3	7.8	8.3	8.9	.861	.933	.876	.820	78.99	7.26	
1931.....	90.5	96.1	104.5	7.9	8.4	9.1	.843	.871	.820	.755	78.87	6.88	
Contract:													
1924.....	68.5	73.9	81.4	6.3	6.8	7.5	-----	1.432	1.327	1.204	98.07	9.07	
1931.....	72.6	77.8	85.6	6.8	7.3	8.0	-----	1.180	1.101	1.000	85.62	8.00	
Total:													
1924.....	71.5	76.9	84.2	6.6	7.1	7.8	-----	1.302	1.211	1.105	93.10	8.65	
1931.....	74.8	80.1	87.9	7.0	7.5	8.2	-----	1.109	1.036	.944	82.97	7.73	

Table 3 shows for the anthracite region as a whole, for 1924 and 1931, the average number of starts (days) and hours worked, and average earnings of employees in each occupation inside and outside the colliery, other than miners and miners' laborers.

The inside workers include 13 occupations and a miscellaneous group designated as "other employees", with a total of 10,471 employees in the 47 collieries covered in the 1931 study. The outside workers include 18 occupations and the miscellaneous group of "other employees", with a total of 7,689 employees at the 47 collieries covered in 1931, as compared with 10,464 at 56 collieries in 1924. The decrease in number of outside workers from 1924 to 1931 was due chiefly to the installation of improved preparation machinery and the centralization of breakers. All occupations, inside and outside combined, other than miners and miners' laborers, comprise a total of 18,160 employees in the 47 collieries covered in 1931, as compared with 20,785 in the 56 collieries in 1924.

TABLE 3.—AVERAGE NUMBER OF STARTS (DAYS OR PARTS OF DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL EMPLOYEES OTHER THAN MINERS AND MINERS' LABORERS, 1924 AND 1931, BY OCCUPATION

Occupation	Average number of starts (days) worked in half month		Average actual hours worked—						Average earnings—					
			In half month		Per start (day)		In half month		Per start (day)		Per hour at face excluding lunch			
	1924	1931	1924	1931	1924	1931	1924	1931	1924	1931	1924	1931		
All occupations, inside and outside work.....	12.0	11.6	105.5	100.1	8.8	8.6	\$67.23	\$66.02	\$5.62	\$5.70	\$0.637	\$0.660		
Inside work.....	11.6	11.2	101.6	95.2	8.8	8.5	69.03	66.57	5.95	5.94	.679	.700		
Bratticemen.....	11.5	11.8	97.2	98.8	8.4	8.3	68.87	71.01	5.99	6.00	.709	.719		
Car runners.....	11.5	10.6	100.6	91.0	8.7	8.6	65.25	67.87	5.66	5.47	.649	.636		
Door tenders (boys).....	11.4	10.6	93.5	86.6	8.2	8.1	35.64	33.06	3.13	3.11	.381	.382		
Drivers.....	11.3	11.0	97.8	91.3	8.6	8.3	61.83	63.84	5.46	5.37	.632	.645		
Engineers.....	12.7	11.6	112.5	98.3	8.8	8.5	77.93	67.41	6.13	5.81	.692	.686		
Headmen and footmen (shaft, slope, and drift).....	11.5	11.3	107.2	102.0	9.3	9.0	71.41	67.96	6.20	5.99	.666	.667		
Laborers.....	11.1	11.1	95.0	91.6	8.6	8.2	65.05	60.47	5.68	5.44	.664	.660		
Masons.....	12.1	11.7	98.9	95.4	8.2	8.1	72.04	67.31	5.96	5.73	.728	.706		
Motormen.....	11.4	11.3	107.2	102.2	9.4	9.0	75.32	71.63	6.60	6.33	.703	.701		
Motor brakemen.....	11.2	10.9	99.9	94.8	9.0	8.7	63.87	60.71	5.72	5.55	.639	.641		
Pumpmen.....	14.8	14.7	126.9	123.7	8.6	8.4	87.52	85.89	5.90	5.84	.690	.694		
Timbermen.....	10.9	11.0	90.1	90.6	8.2	8.2	69.75	67.13	6.38	6.09	.774	.741		
Trackmen.....	12.0	11.4	104.5	95.1	8.7	8.4	77.39	70.38	6.47	6.19	.741	.740		
Other employees.....	12.0	11.1	106.8	93.8	8.9	8.5	80.43	72.52	6.70	6.54	.753	.773		
Outside work.....	12.3	12.1	109.4	106.7	8.9	8.8	65.45	65.28	5.32	5.41	.598	.612		
Ashmen.....	14.4	14.7	124.3	125.0	8.6	8.5	73.73	73.22	5.11	4.87	.593	.586		
Blacksmiths ¹	12.3	11.7	109.3	104.0	9.1	8.9	82.11	77.80	6.80	6.65	.751	.748		
Carpenters.....	12.3	12.5	109.0	110.1	8.9	8.8	78.53	78.60	6.40	6.31	.720	.714		
Car runners.....	10.9	10.9	97.2	94.8	8.9	8.7	56.75	55.13	5.19	5.05	.584	.582		
Dumpers.....	12.0	11.7	103.0	104.1	9.0	9.1	63.24	62.35	5.28	5.35	.586	.588		
Engineers.....	14.2	14.1	122.7	119.5	8.6	8.5	87.71	87.92	6.17	6.24	.715	.735		
Firemen.....	14.7	14.9	123.6	123.0	8.4	8.3	80.66	81.56	5.50	5.48	.653	.663		
Headmen (shaft, slope, and drift).....	12.1	11.9	112.4	111.2	9.3	9.4	67.29	65.68	5.87	5.82	.599	.598		
Jig runners.....	11.9	11.3	114.5	114.0	9.6	10.1	65.50	66.12	5.51	5.87	.572	.581		
Laborers.....	12.0	11.5	109.3	101.7	9.1	8.8	63.10	58.91	5.24	5.11	.577	.570		
Loaders.....	11.7	11.1	104.4	98.3	8.9	8.8	61.01	57.13	5.20	5.14	.584	.589		
Machinists ¹	13.2	12.3	122.7	113.2	9.3	9.2	87.49	80.44	6.61	6.11	.713	.710		
Oilers.....	11.8	11.7	112.8	114.3	9.5	9.8	65.64	67.41	5.55	5.77	.582	.592		
Platemen.....	11.1	10.9	96.1	96.9	8.6	8.9	54.37	56.28	4.89	5.18	.566	.585		
Repairmen.....	11.9	12.8	105.9	123.3	8.9	9.6	66.86	80.48	5.61	6.27	.631	.653		
Slaters (boys).....	11.6	10.7	96.2	88.7	8.3	8.3	35.68	32.83	3.08	3.06	.371	.371		
Timber cutters.....	11.4	11.6	97.2	97.7	8.5	8.4	58.47	58.14	5.15	5.02	.605	.604		
Trackmen.....	11.2	12.4	100.7	105.2	9.0	8.5	61.77	63.49	5.49	5.12	.613	.600		
Other employees.....	12.7	12.5	113.6	112.2	8.9	9.0	71.47	71.60	5.63	5.74	.629	.631		

¹ These employees frequently work underground, usually at same rate.

Baking Industry—Earnings and Hours, 1933 and 1934

THE Bureau of Labor Statistics made a survey of the baking industry at the request of the National Recovery Administration, to determine the character of the distribution of earnings in the industry and the effects of the N. R. A. code provisions, especially with reference to weekly hours. The survey covered a pay-roll period in March 1933, in September 1933, and in December 1934. Reports were received from 250 establishments with 16,480 employees in the latter part of March 1933, taken as representative of conditions at the lowest level in the depression; from 256 establishments with 18,782 employees in the latter half of September 1933, reflecting conditions after a month of operation under the President's Reemployment Agreement; and from 259 establishments with 20,962 employees in December 1934, representative of conditions during the operation of the bakery code, which became effective on July 19, 1934. Detailed data were published in the December 1935 issue of the Monthly Labor Review.

Average Hourly Earnings

THE average hourly earnings for March and September 1933 and December 1934, as well as the percentages of change between these months, by region, sex, and size of city, are shown in table 1.

TABLE 1.—AVERAGE HOURLY EARNINGS IN THE BAKING INDUSTRY, BY SIZE OF CITY, REGION, AND SEX, IN SELECTED PERIODS

Region, sex, and population of city	Average hourly earnings			Percentage change		
	March 1933	September 1933	December 1934	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
<i>North</i>						
Males:						
250,000 population and over.....	\$0.507	\$0.557	\$0.608	+9.9	+9.2	+19.9
50,000 and under 250,000 population..	.425	.466	.515	+9.6	+10.5	+21.2
Under 50,000 population.....	.403	.473	.500	+17.4	+5.7	+24.1
Total.....	.491	.540	.590	+10.0	+9.3	+20.2
Females:						
250,000 population and over.....	.333	.374	.399	+12.3	+6.7	+19.8
50,000 and under 250,000 population..	.278	.317	.364	+14.0	+14.8	+30.9
Under 50,000 population.....	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Total.....	.321	.364	.392	+13.4	+7.7	+22.1
<i>South</i>						
Males:						
250,000 population and over.....	.358	.433	.460	+20.9	+6.2	+28.5
50,000 and under 250,000 population..	.365	.445	.472	+21.9	+6.1	+29.3
Under 50,000 population.....	.325	.395	.417	+21.5	+5.6	+28.3
Total.....	.360	.436	.462	+21.1	+6.0	+28.3
Females:						
250,000 population and over.....	.259	.317	.338	+22.4	+6.6	+30.5
50,000 and under 250,000 population..	.223	.304	.314	+36.3	+3.3	+40.8
Under 50,000 population.....	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Total.....	.240	.311	.325	+29.6	+4.5	+35.4

¹ Not enough workers to justify the computation of an average.

Average Weekly Hours

ALONG with an increase in average hourly earnings there was a pronounced reduction in average weekly hours in the industry between March 1933 and December 1934. This decline was 8.4 hours for males in the North, 10.6 hours for males in the South, 5.4 hours for females in the North, and 4.8 hours for females in the South. The average weekly hours for March and September 1933 and December 1934, together with the percentage changes between these months, appear in table 2.

TABLE 2.—AVERAGE WEEKLY HOURS IN THE BAKING INDUSTRY, BY REGION AND SEX, IN SELECTED PERIODS

Region and sex	Average weekly hours			Percentage of change		
	March 1933	September 1933	December 1934	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
North:						
Males ¹	48.0	42.6	39.6	-11.2	-7.0	-17.5
Females.....	42.8	39.6	37.4	-7.5	-5.6	-12.6
South:						
Males ¹	50.5	43.2	39.9	-14.5	-7.6	-21.0
Females.....	43.0	40.0	38.2	-7.0	-4.5	-11.2

¹ Excluding driver-salesmen.

Average Weekly Earnings

IN VIEW of the fact that reductions in average weekly hours accompanied increases in average hourly earnings, the average weekly earnings per employee changed only slightly. Table 3 presents the average weekly earnings for March and September 1933 and December 1934, as well as the percentages of change between these months.

TABLE 3.—AVERAGE WEEKLY EARNINGS IN THE BAKING INDUSTRY, BY REGION AND SEX, IN SELECTED PERIODS

Region and sex	Average weekly earnings			Percentage of change		
	March 1933	September 1933	December 1934	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
North:						
Males.....	\$24.88	\$25.12	\$26.03	+1.0	+3.6	+4.6
Females.....	13.75	14.40	14.66	+4.7	+1.8	+6.6
South:						
Males.....	19.29	20.74	20.92	+7.5	+9.9	+8.4
Females.....	10.32	12.44	12.38	+20.5	-0.5	+20.0

Occupational Differentials

NEITHER the President's Reemployment Agreement nor the code contained any provision establishing or maintaining specific differentials among the various occupations in the industry. However, provision was made for the readjustment of the hourly rates above the minimum, in order to compensate in the weekly earnings for the reduction of hours, thus increasing the average hourly earnings of the higher paid workers. The changes in the differentials in average

hourly earnings brought about, however, were so slight that changes in the differentials in weekly earnings are to be accounted for chiefly by changes in the differentials in hours.

The differentials in average weekly earnings which existed between occupations, classified by skill, in March and September 1933 and December 1934, can be determined from an analysis of the average weekly earnings shown in table 4.

TABLE 4.—AVERAGE WEEKLY EARNINGS IN BROAD OCCUPATIONAL GROUPINGS IN THE BAKING INDUSTRY, BY REGION AND SEX, IN SELECTED PERIODS

Region, sex, and occupational group	Average weekly earnings			Percentage of change		
	March 1933	September 1933	December 1934	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
<i>North</i>						
Males:						
Direct labor:						
Skilled.....	\$26.19	\$25.35	\$25.84	-3.2	+1.9	-1.3
Semiskilled.....	17.87	17.87	18.18	.0	+1.7	+1.7
Unskilled.....	17.94	17.88	18.09	-.3	+1.2	+.8
Indirect labor:						
Driver-salesmen.....	27.47	30.09	32.96	+9.5	+9.5	+20.0
Other.....	25.60	25.02	25.30	-2.3	+1.1	-1.2
Females:						
Direct labor, unskilled.....	10.96	11.95	12.53	+9.0	+4.9	+14.3
Indirect labor.....	15.13	15.81	16.16	+4.5	+2.2	+6.8
<i>South</i>						
Males:						
Direct labor:						
Skilled.....	20.64	21.26	20.65	+3.0	-2.9	+.4
Semiskilled.....	11.92	13.60	14.25	+14.1	+4.8	+19.5
Unskilled.....	12.12	13.81	14.15	+13.9	+2.5	+16.7
Indirect labor:						
Driver-salesmen.....	22.80	27.93	28.13	+22.5	+.7	+23.4
Other.....	19.27	19.63	19.72	+1.9	+.5	+2.3
Females:						
Direct labor, unskilled.....	8.10	11.28	11.04	+39.3	-2.1	+36.3
Indirect labor.....	11.18	13.00	13.25	+16.3	+1.9	+18.5

Handcraft, Semihandcraft, and Mechanical Shops

THE substitute provision of the President's Reemployment Agreement relating to maximum hours provided for a 44-hour week in mechanical shops and a 50-hour week in handcraft shops. The code set up a maximum of 48 hours for "handcraft" shops and 40 hours for "other than handcraft" shops. In view of the industry's contention that a new class, referred to as "semihandcraft" shops, should be established with a maximum week of 44 hours, it is important to see what changes occurred in the average weekly hours for the three types of shops during the period under consideration. These data, classified by region, appear in table 5.

TABLE 5.—AVERAGE WEEKLY HOURS OF MALES IN THE BAKING INDUSTRY BY DEGREE OF MECHANIZATION AND REGION, FOR SELECTED PERIODS¹

Region and degree of mechanization	Average weekly hours			Percentage of change		
	March 1933	September 1933	December 1934 ²	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
North:						
Handcraft.....	50.7	48.4	44.9	-4.5	-7.2	-11.4
Semihandcraft.....	47.2	43.3	40.8	-8.3	-5.8	-13.6
Mechanical.....	46.5	41.0	37.4	-11.8	-8.8	-19.6
South:						
Handcraft.....	44.6	44.4	44.1	-.4	-.7	-1.1
Semihandcraft.....	52.3	45.3	38.7	-13.4	-14.6	-26.0
Mechanical.....	49.8	42.4	38.7	-14.9	-8.7	-22.3

¹ Includes only males engaged in direct labor. There were not enough females in northern handcraft shops or in southern handcraft and semihandcraft shops to justify the computation of an average. For this reason only the figures for males are given.

² Of the 259 establishments in the December 1934 sample, 39 were handcraft shops, 43 conformed to the proposed definition of semihandcraft shops, and 177 (with 19,132 of the 20,962 workers) were mechanical shops. The large proportion of mechanical bakeries is due to the fact that most of the handcraft and semihandcraft shops are small units which are difficult to schedule because of lack of adequate records. The baking industry is one in which the small unit still predominates, evidenced by the fact that in 1933 the average number of employees per establishment was approximately 12 (Bureau of Census estimates, 1933).

Unionism in the Baking Industry

UNIONISM is an important factor in the baking industry, and the sample selected was chosen with a view to its being properly representative of both union and nonunion establishments. An establishment was classified as "union" or "nonunion" on the basis of whether or not it had a contract with the Bakery and Confectionery Workers' International Union of America. There were few union establishments among those studied in the South, but in the North 59 of the 196 bakeries included in the sample had union contracts.

For all but unskilled workers, who are largely unorganized in both types of shop, hours were shorter, and hourly and weekly earnings were higher, in union than in nonunion shops. Table 6 gives the average weekly earnings of male employees in the North by union and nonunion shops and by degree of skill for the three pay-roll periods.

TABLE 6.—AVERAGE WEEKLY EARNINGS OF MALES ENGAGED IN DIRECT LABOR IN THE BAKING INDUSTRY, IN UNION AND NONUNION SHOPS, BY DEGREE OF SKILL, IN SELECTED PERIODS

Degree of skill	Average weekly earnings			Percentage of change		
	March 1933	September 1933	December 1934	March to September 1933	September 1933 to December 1934	March 1933 to December 1934
Union shops:						
Skilled.....	\$31.59	\$29.77	\$29.98	-5.8	+0.7	-5.1
Semiskilled.....	18.97	18.89	19.65	-.4	+4.0	+3.6
Unskilled.....	17.79	17.44	17.75	-2.0	+1.8	-.2
Total.....	25.89	24.69	24.96	-4.6	+1.1	-3.6
Nonunion shops:						
Skilled.....	23.81	23.51	24.02	-1.3	+2.2	+9
Semiskilled.....	17.51	17.60	17.78	+5	+1.0	+1.5
Unskilled.....	18.04	18.01	18.19	-.2	+1.0	+8
Total.....	20.73	20.42	20.64	-1.5	+1.1	-.4

Bituminous-Coal Mining—Hours and Earnings, 1931 and 1933

STUDIES by the Bureau of Labor Statistics of wages and hours of labor in the bituminous-coal mining industry in the United States were made in 1931 and 1933, and summary figures for average days, hours, and earnings shown therein are presented in this article. The basic material was collected from representative coal mines in 11 States for a 2-week or half-monthly pay period in January or February, and covers 137,788 wage earners in 469 mines in 1931 and 120,334 wage earners in 444 mines in 1933. Detailed data of the 1933 study are published in Bulletin No. 601 of the Bureau.

The 1933 wage figures are for 26.7 percent of the 450,213 mine workers reported by the United States Bureau of Mines as engaged in the mining of bituminous coal in 1931; in the 11 States covered by this study they represent 29.7 percent of those in the industry in 1931. Of the 120,334 mine workers included in the report, 107,463 or 89.3 percent were underground or "inside" employees. The remaining 12,871 are known as surface or "outside" employees, though a few of them may at times work underground.

The three basic occupations in bituminous-coal mining are those of hand or pick miners, machine miners (and their helpers), and hand loaders. They represent 63.7 percent of all wage earners covered in the study of the industry in 1933. The wage earners in these occupations are usually paid a rate per ton of 2,000 pounds, run of mine (that is, of coal as mined, including "slack").

Miners and loaders cut or dig and blast the coal from the seam and load it into mine cars or onto moving conveyors. The conveyors carry the coal from the face to mine cars for transfer from the mine.

The time taken for lunch was usually about 30 minutes, except in some mechanized mines where it was estimated that the men consumed 15 to 20 minutes for lunch while waiting for mine cars. The round-trip travel time in the different mines ranged from 10 minutes to 2 hours. The weighted average time of travel in the mine, from the opening to the place of work and return, for the 78,896 miners and loaders in the 444 mines covered in the 1933 study was 54 minutes per day, or 27 minutes each way.

Table 1 shows for each State and for all States combined, for 1931 and 1933, the average number of days and hours worked and average earnings made in a half month by employees in each of the seven occupations of miners and loaders and by all miners and loaders. For Kentucky, Pennsylvania, and West Virginia averages for 1933 are also shown by State subdivisions. In 1931 no separate tabulation by State subdivisions was made. All averages are weighted averages.

WAGES AND HOURS OF LABOR

TABLE 1.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND LOADERS, 1931 AND 1933, BY OCCUPATION

[Data are for wage earners who are usually paid tonnage rates]

Occupation and State	Year	Average starts (days) in half month	Average hours—				Average earnings—			
			In half month based on—		Per start based on—		Per hour based on—		In half month	Per start (day)
			Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine		
Loaders, contract (hand)	1931	7.3	62.2	68.5	8.6	9.4	\$0.744	\$0.676	\$46.27	\$6.37
	1933	8.7	70.7	78.3	8.1	9.0	.519	.468	36.66	4.20
Alabama	1931	6.9	60.1	66.8	8.7	9.6	.582	.524	35.02	5.05
	1933	6.6	52.1	58.0	7.9	8.8	.435	.391	22.67	3.45
Kentucky	1931	7.4	58.5	64.2	7.9	8.7	1.001	.911	58.50	7.93
	1933	9.5	74.3	83.6	7.8	8.8	.448	.398	33.27	3.51
Pennsylvania	1931	10.0	84.5	104.5	9.5	10.5	2.045	1.849	193.21	19.32
	1933	10.0	102.0	112.0	10.2	11.2	.765	.697	78.00	7.80
Tennessee	1931	7.0	51.9	58.9	7.4	8.4	.463	.408	24.04	3.43
	1933	7.3	62.3	67.0	8.6	9.2	.589	.548	36.70	5.05
Virginia	1931	11.0	85.3	93.8	8.0	8.5	.678	.638	59.87	5.44
	1933	10.8	91.7	97.4	8.5	9.0	.559	.527	61.29	4.74
West Virginia	1931	7.5	72.0	77.0	9.5	10.2	1.121	1.049	80.74	10.70
	1933	10.2	83.1	91.7	8.1	9.0	.624	.565	51.82	5.07
Loaders, hand	1931	7.0	56.0	61.5	8.0	8.8	.561	.511	31.40	4.49
	1933	7.0	55.8	61.8	8.0	8.8	.369	.333	20.58	2.94
Alabama	1931	6.1	51.2	56.7	8.4	9.3	.376	.340	19.28	3.17
	1933	5.6	48.7	53.8	8.7	9.7	.245	.222	11.93	2.14
Colorado	1931	7.5	60.3	65.2	8.0	8.7	.731	.676	44.04	5.86
	1933	6.3	47.9	51.7	7.5	8.1	.567	.525	27.12	4.27
Illinois	1931	5.6	46.2	50.3	8.2	8.9	.871	.800	40.22	7.12
	1933	5.2	43.4	47.5	8.3	9.1	.611	.558	26.50	5.06
Indiana	1931	5.2	39.7	42.9	7.6	8.2	.939	.869	37.30	7.15
	1933	7.2	59.0	64.6	8.2	9.0	.631	.577	37.28	5.17
Kansas	1931	3.9	32.5	33.8	8.4	8.8	.636	.612	20.70	5.37
	1933	8.6	60.0	65.7	7.0	7.6	.327	.299	19.63	2.28
Kentucky	1931	5.7	45.1	49.6	8.0	8.8	.538	.489	24.26	4.28
	1933	7.3	59.2	64.9	8.1	8.8	.348	.317	20.57	2.80
Eastern	1933	7.0	55.8	61.5	8.0	8.8	.366	.332	20.40	2.93
Western	1933	8.6	70.0	75.6	8.2	8.8	.302	.279	21.11	2.47
Ohio	1931	7.2	55.9	61.3	7.2	7.8	.482	.440	26.95	3.75
	1933	8.4	63.2	71.5	7.5	8.5	.331	.293	20.93	2.50
Pennsylvania	1931	7.8	62.0	68.4	7.9	8.7	.534	.485	33.15	4.23
	1933	7.0	56.7	62.9	8.1	8.9	.329	.296	18.63	2.65
Central	1933	6.7	54.5	60.6	8.2	9.1	.364	.328	19.86	2.98
Western	1933	7.3	58.1	64.4	8.0	8.8	.306	.277	17.81	2.45
Tennessee	1931	6.0	50.0	53.9	8.3	8.9	.362	.335	18.06	2.99
	1933	6.8	54.4	59.2	8.1	8.8	.300	.275	16.29	2.41
Virginia	1931	8.9	67.2	73.2	7.6	8.3	.494	.454	33.23	3.75
	1933	8.8	72.4	80.1	8.2	9.1	.292	.264	21.12	2.39
West Virginia	1931	7.4	60.3	66.1	8.2	9.0	.533	.486	32.16	4.36
	1933	7.0	55.1	61.1	7.9	8.7	.362	.326	19.93	2.84
Northern	1933	6.2	45.0	51.3	7.2	8.2	.355	.312	16.00	2.57
Southern	1933	7.3	58.5	64.3	8.0	8.8	.363	.330	21.25	2.92
Loaders, machine	1931	7.4	63.2	67.7	8.5	9.1	.855	.798	54.03	7.27
	1933	6.7	56.7	61.2	8.5	9.1	.656	.608	37.20	5.55
Alabama	1931	5.1	46.2	51.3	9.0	10.0	.469	.422	21.65	4.21
	1933	3.9	38.8	41.4	10.0	10.6	.241	.226	9.35	2.40
Illinois	1931	8.2	68.5	73.5	8.4	9.0	1.177	1.096	80.59	9.85
	1933	7.8	66.6	72.3	8.5	9.3	.820	.756	54.66	7.01
Indiana	1931	9.5	76.5	79.8	8.0	8.4	1.053	1.010	80.53	8.43
	1933	9.3	76.7	82.0	8.3	8.8	.817	.764	62.67	6.75
Kentucky	1931	7.2	64.6	68.6	9.0	9.5	.854	.804	55.18	7.66
	1933	7.7	65.2	70.2	8.5	9.2	.315	.292	20.53	2.68
Eastern	1933	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Western	1933	8.8	74.4	78.8	8.5	9.0	.275	.260	20.46	2.34
Ohio	1931	4.7	43.4	48.7	9.2	10.3	.690	.615	29.95	6.34
	1933	13.0	114.1	127.1	8.8	9.8	.548	.492	62.56	4.81
Pennsylvania	1931	6.6	52.1	55.9	8.0	8.5	.679	.632	35.38	5.40
	1933	4.8	38.3	41.7	8.0	8.7	.497	.457	19.04	3.99
Central	1933	4.6	37.3	40.5	8.0	8.7	.466	.459	18.61	4.00
Western	1933	11.8	96.5	108.3	8.2	9.2	.456	.408	43.99	3.74
Virginia	1931	8.0	90.3	99.6	11.3	12.4	.621	.563	56.06	7.01
	1933	11.5	110.8	121.1	9.6	10.5	.433	.398	47.92	4.17
West Virginia	1931	10.1	112.5	119.7	11.2	11.9	.599	.563	67.38	6.68
	1933	8.4	81.0	85.4	9.6	10.1	.397	.376	32.14	3.81

See footnotes at end of table.

TABLE 1.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND LOADERS, 1931 AND 1933, BY OCCUPATION—Con.

[Data are for wage earners who are usually paid tonnage rates]

Occupation and State	Year	Average starts (days) in half month	Average hours—				Average earnings—			
			In half month based on—		Per start based on—		Per hour based on—		In half month	Per start (day)
			Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine		
Miners, gang.....	1931	9.9	84.0	91.8	8.5	9.2	\$0.774	\$0.709	\$65.05	\$6.55
	1933	7.9	65.7	72.3	8.3	9.1	.483	.439	31.76	4.01
Colorado.....	1933	6.6	50.8	54.6	7.7	8.3	.597	.556	30.33	4.61
Illinois.....	1931	9.6	78.6	84.6	8.2	8.8	.916	.852	72.04	7.47
	1933	6.6	55.2	59.7	8.4	9.1	.668	.618	36.92	5.62
Indiana.....	1933	8.2	63.4	67.5	7.7	8.2	.706	.663	44.78	5.47
Kentucky.....	1931	7.3	66.3	70.9	9.0	9.7	.584	.546	38.66	5.27
	1933	8.2	72.5	79.3	8.9	9.7	.477	.436	34.59	4.24
Eastern.....	1933	8.9	80.4	88.2	9.0	9.9	.502	.458	40.35	4.51
Western.....	1933	6.3	53.4	57.6	8.5	9.2	.386	.358	20.60	3.28
Ohio.....	1931	14.0	119.0	123.7	8.5	8.8	.980	.923	114.20	11.6
	1933	9.1	76.6	89.6	8.5	9.9	.364	.311	27.89	3.08
Pennsylvania.....	1931	10.5	91.6	101.7	8.7	9.7	.643	.578	58.84	5.60
	1933	8.6	71.8	79.8	8.4	9.3	.354	.318	25.40	2.96
West Virginia.....	1931	4.0	34.0	38.0	8.5	9.5	1.299	1.162	44.15	11.04
Miners, hand or pick.....	1931	6.8	54.0	59.2	7.9	8.7	.589	.537	31.83	4.67
	1933	7.3	59.2	65.6	8.1	8.9	.376	.339	22.25	3.03
Alabama.....	1931	5.6	49.1	54.2	8.8	9.7	.463	.419	22.71	4.06
	1933	4.5	40.5	44.3	8.9	9.7	.239	.219	9.68	2.13
Colorado.....	1931	4.2	35.0	38.4	8.3	9.1	.684	.607	23.27	5.52
	1933	4.9	38.4	41.6	7.9	8.5	.537	.496	20.64	4.24
Illinois.....	1931	8.9	54.2	58.2	7.9	8.4	.705	.656	38.17	5.53
	1933	10.1	82.4	91.1	8.1	9.0	.509	.460	41.90	4.13
Indiana.....	1931	5.6	32.5	34.9	5.8	6.2	.856	.798	27.84	4.95
	1933	10.4	66.6	72.6	6.4	7.0	.688	.613	44.49	4.26
Kansas.....	1931	5.1	39.9	41.9	7.9	8.3	.615	.586	24.54	4.84
	1933	4.1	30.6	32.4	7.4	7.8	.397	.375	12.15	2.93
Kentucky.....	1931	6.4	53.6	59.5	8.4	9.3	.541	.488	29.00	4.54
	1933	6.0	48.1	51.7	8.1	8.7	.319	.297	15.36	2.58
Pennsylvania.....	1931	7.7	61.3	68.2	7.9	8.8	.560	.508	34.30	4.44
	1933	8.0	66.1	74.5	8.3	9.3	.340	.302	22.50	2.81
Central.....	1933	8.3	68.6	78.0	8.2	9.4	.346	.304	23.72	2.85
Western.....	1933	7.1	59.6	65.2	8.4	9.1	.323	.295	19.23	2.70
Tennessee.....	1931	7.7	64.8	68.6	8.4	8.9	.368	.348	23.87	3.11
	1933	7.2	55.3	59.1	7.7	8.2	.278	.260	15.38	2.15
Virginia.....	1933	7.0	65.4	68.9	9.3	9.8	.210	.200	13.77	1.96
West Virginia.....	1931	7.1	56.3	61.6	8.0	8.7	.606	.554	34.12	4.83
	1933	7.6	59.8	64.9	7.8	8.5	.384	.335	21.74	2.85
Northern.....	1933	11.0	73.5	84.0	7.1	7.6	.354	.330	27.76	2.51
Southern.....	1933	7.3	58.1	63.2	7.9	8.6	.365	.335	21.20	2.90
Miners, machine (cutters).....	1931	7.7	65.2	71.0	8.5	9.3	.940	.864	61.32	8.01
	1933	7.7	65.0	71.3	8.5	9.3	.626	.571	40.68	5.29
Alabama.....	1931	6.7	63.9	70.0	9.5	10.4	.880	.803	56.24	8.37
	1933	5.7	53.3	58.5	9.4	10.3	.500	.456	26.65	4.08
Colorado.....	1931	8.4	68.5	73.5	8.1	8.7	1.111	1.034	76.02	9.66
	1933	7.2	56.8	61.2	7.9	8.5	.898	.834	50.99	7.13
Illinois.....	1931	6.0	49.8	53.9	8.3	9.0	1.167	1.079	58.16	9.66
	1933	6.0	50.3	54.9	8.4	9.1	.808	.741	40.68	6.77
Indiana.....	1931	7.0	55.3	58.8	7.9	8.4	1.200	1.129	66.37	9.49
	1933	8.9	73.4	79.0	8.3	8.9	.852	.791	62.48	7.03
Kansas.....	1931	4.0	34.0	35.3	8.5	8.8	.808	.777	27.46	6.87
	1933	8.2	66.6	72.1	8.1	8.6	.609	.563	40.58	4.95
Kentucky.....	1931	6.3	54.3	68.9	8.6	9.4	.873	.805	47.38	7.53
	1933	8.2	70.2	75.9	8.5	9.2	.548	.506	38.41	4.66
Eastern.....	1933	7.5	64.3	69.9	8.6	9.3	.599	.551	38.50	5.13
Western.....	1933	9.8	82.6	88.7	8.4	9.1	.463	.431	36.21	3.90
Ohio.....	1931	8.3	66.0	72.3	8.0	8.7	.704	.642	46.45	5.82
	1933	9.6	79.0	88.5	8.2	9.2	.547	.489	43.26	4.51
Pennsylvania.....	1931	8.7	73.0	80.0	8.4	9.2	.918	.837	67.01	7.67
	1933	7.6	62.4	68.9	8.2	9.1	.570	.516	35.55	4.68
Central.....	1933	7.4	61.3	67.9	8.3	9.2	.546	.493	33.49	4.53
Western.....	1933	7.7	63.0	69.5	8.2	9.0	.582	.528	36.68	4.76
Tennessee.....	1931	7.4	68.6	75.9	9.3	10.3	.539	.487	36.96	5.00
	1933	5.9	55.5	59.9	9.3	10.1	.460	.426	25.52	4.29
Virginia.....	1931	9.2	85.9	92.0	9.4	10.0	.733	.684	62.92	6.85
	1933	9.4	87.4	95.7	9.3	10.2	.472	.431	41.25	4.40

See footnotes at end of table.

WAGES AND HOURS OF LABOR

TABLE 1.—AVERAGE NUMBER OF STARTS (DAYS) AND AVERAGE HOURS AND EARNINGS OF MINERS AND LOADERS, 1931 AND 1933, BY OCCUPATION—Con.

[Data are for wage earners who are usually paid tonnage rates]

Occupation and State	Year	Average starts (days) in half month	Average hours—				Average earnings—				
			In half month based on—		Per start based on—		Per hour based on—		In half month	Per start (day)	
			Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine	Time at face, including lunch	Time in mine			
Miners, machine (cutters)—Continued.											
West Virginia.....	1931	8.4	76.3	82.8	9.1	9.9	\$0.964	\$0.887	\$73.49	\$8.78	
	1933	7.9	69.9	76.6	8.8	9.6	.631	.577	44.15	5.55	
Northern.....	1933	6.9	56.2	62.8	8.1	9.1	.652	.583	36.64	5.32	
Southern.....	1933	8.4	75.6	82.2	9.0	9.8	.625	.575	47.23	5.63	
Miners, machine (cutters) helpers.....	1931	6.7	62.8	68.3	9.3	10.1	.608	.559	38.17	5.66	
	1933	7.5	66.8	72.8	8.9	9.7	.433	.397	28.89	3.84	
Alabama.....	1931	6.7	61.9	68.5	9.3	10.3	.555	.501	34.34	5.16	
	1933	6.4	61.1	66.8	9.6	10.5	.364	.333	22.22	3.48	
Colorado.....	1931	6.1	50.0	56.1	8.2	9.2	.866	.773	43.35	7.09	
	1933	6.9	56.2	60.5	8.1	8.7	.619	.575	34.76	5.00	
Kansas.....	1931	3.7	31.5	32.7	8.5	8.8	.743	.715	23.35	6.31	
	1933	3.4	67.5	73.1	8.0	8.7	.509	.470	34.39	4.08	
Kentucky.....	1931	6.7	59.0	64.2	8.8	9.6	.614	.563	36.20	5.40	
	1933	8.6	76.8	83.8	8.9	9.7	.431	.395	33.12	3.83	
Eastern.....	1933	8.2	77.0	84.3	9.4	10.3	.419	.383	32.27	3.95	
Western.....	1933	9.1	76.7	83.3	8.4	9.2	.442	.407	33.90	3.74	
Ohio.....	1931	5.4	45.9	48.6	8.5	9.0	.529	.500	24.30	4.50	
Pennsylvania.....	1931	6.1	55.7	61.6	9.1	10.1	.818	.740	45.57	7.48	
	1933	6.7	53.3	59.5	7.9	8.8	.485	.434	25.84	3.83	
Central.....	1933	5.6	43.7	50.0	7.8	8.9	.497	.434	21.72	3.89	
Western.....	1933	8.4	67.0	73.0	8.0	8.7	.473	.434	31.69	3.78	
Tennessee.....	1931	6.5	61.3	65.7	9.4	10.1	.332	.357	23.43	3.60	
	1933	6.5	59.9	65.1	9.3	10.1	.319	.294	19.11	2.95	
Virginia.....	1931	8.5	89.8	94.9	10.6	11.2	.555	.525	49.84	5.87	
	1933	8.9	92.8	99.1	10.4	11.1	.404	.379	37.56	4.21	
West Virginia.....	1931	7.4	76.4	82.5	10.3	11.1	.583	.539	44.53	6.00	
	1933	6.6	57.6	62.8	8.8	9.5	.446	.412	25.68	3.91	
Northern.....	1933	7.8	49.0	64.7	6.3	8.8	1.107	.838	64.22	6.92	
Southern.....	1933	6.5	58.1	62.2	9.0	9.6	.412	.385	23.92	3.69	
Total, miners and loaders.....	1931	7.0	56.5	61.9	8.0	8.8	.599	.546	33.82	4.82	
	1933	7.1	57.2	63.2	8.0	8.9	.395	.357	22.59	3.18	
Alabama.....	1931	6.0	51.8	57.3	8.6	9.5	.431	.389	22.32	3.69	
	1933	5.4	47.5	52.3	8.8	9.7	.262	.238	12.45	2.31	
Colorado.....	1931	6.2	50.3	54.5	8.1	8.8	.740	.682	37.19	6.00	
	1933	5.8	44.4	47.9	7.7	8.3	.574	.531	25.46	4.41	
Illinois.....	1931	6.1	49.4	53.6	8.1	8.8	.869	.802	42.94	7.05	
	1933	6.0	49.3	54.0	8.3	9.1	.622	.568	30.68	5.15	
Indiana.....	1931	5.6	39.9	42.8	7.1	7.6	.956	.890	38.12	6.77	
	1933	8.1	63.6	69.1	7.8	8.5	.691	.636	43.95	5.41	
Kansas.....	1931	5.0	39.4	41.3	7.9	8.3	.617	.589	24.33	4.38	
	1933	5.1	37.1	39.7	7.3	7.8	.387	.362	14.37	2.83	
Kentucky.....	1931	5.8	47.0	51.6	8.1	8.9	.569	.518	26.74	4.60	
	1933	7.3	59.6	65.2	8.1	8.9	.366	.334	21.80	2.97	
Eastern.....	1933	6.9	56.1	61.6	8.1	8.9	.381	.346	21.34	3.08	
Western.....	1933	8.7	71.5	77.2	8.2	8.9	.327	.303	23.37	2.69	
Ohio.....	1931	7.3	56.0	62.3	7.8	8.6	.506	.462	28.79	3.96	
	1933	8.5	64.9	73.3	7.6	8.6	.353	.313	22.93	2.69	
Pennsylvania.....	1931	7.9	62.5	69.0	8.0	8.8	.567	.513	35.45	4.51	
	1933	7.3	59.1	65.8	8.1	9.0	.348	.313	20.58	2.83	
Central.....	1933	7.3	59.6	66.8	8.2	9.2	.367	.327	21.89	3.02	
Western.....	1933	7.3	58.7	64.9	8.0	8.9	.330	.298	19.36	2.65	
Tennessee.....	1931	6.7	56.0	60.0	8.4	9.0	.372	.347	20.82	3.12	
	1933	6.9	55.0	59.5	8.0	8.6	.301	.279	16.56	2.40	
Virginia.....	1931	8.9	69.1	75.1	7.8	8.5	.515	.474	35.59	4.01	
	1933	8.8	73.4	81.0	8.3	9.2	.305	.277	22.42	2.54	
West Virginia.....	1931	7.4	61.2	67.0	8.2	9.0	.572	.522	34.96	4.72	
	1933	7.1	56.5	62.4	7.9	8.8	.383	.347	21.66	3.04	
Northern.....	1933	6.4	46.7	53.0	7.3	8.3	.382	.337	17.87	2.79	
Southern.....	1933	7.3	59.5	65.4	8.1	8.9	.384	.349	22.84	3.11	

¹ All wage earners in this occupation in this year were in eastern Kentucky; in 1931 no separate tabulation was made by State subdivision.

² All wage earners in this occupation in this year were in central Pennsylvania; in 1931 no separate tabulation was made by State subdivision.

³ All wage earners in this occupation in this year were in southern West Virginia; in 1931 no separate tabulation was made by State subdivision.

⁴ No wage earners reported for this occupation in 1933.

⁵ Data included in total.

⁶ No wage earners reported for this occupation in 1931.

Table 2 presents for 1931 and 1933 average days, hours, and earnings for 9 of the important inside and 4 of the important outside occupations in the industry, and also for 2 groups of other employees in which the wage earners are usually paid time rates. Average days and hours per half month were greater for engineers and pumpmen than for any other occupation in the table because many of the wage earners in these two occupations frequently work on Sunday and may also work overtime during the week.

TABLE 2.—AVERAGE NUMBER OF STARTS (DAYS OR PARTS OF DAYS) AND AVERAGE HOURS AND EARNINGS OF ALL WAGE EARNERS OTHER THAN MINERS AND LOADERS, 1931-33, BY OCCUPATION

[Data are for wage earners who are usually paid time rates]

Occupation	Average number of starts (days) in half month		Average hours (excluding time for lunch)—				Average earnings—					
			In half month		Per start (day)		In half month		Per start (day)		Per hour	
	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933
All occupations, inside and outside work.....	8.3	8.0	69.8	67.1	8.4	8.4	\$41.58	\$29.46	\$5.02	\$3.68	\$0.595	\$0.439
Inside work.....	8.1	7.8	67.4	64.5	8.3	8.3	41.58	29.67	5.18	3.81	.621	.460
Brakemen.....	7.4	7.3	62.6	61.1	8.5	8.4	36.06	25.74	4.89	3.55	.576	.421
Bratticemen and timbermen.....	8.1	7.5	65.6	60.2	8.1	8.0	41.10	28.27	5.08	3.77	.626	.470
Cagers.....	8.6	8.1	74.7	70.7	8.7	8.7	49.89	35.39	5.79	4.35	.668	.500
Drivers.....	7.4	7.8	59.8	62.1	8.1	8.0	36.02	28.07	4.96	3.60	.602	.452
Laborers.....	7.3	7.0	59.9	56.8	8.2	8.1	32.50	22.42	4.43	3.20	.542	.395
Motormen.....	7.9	7.6	63.3	64.9	8.6	8.5	42.59	29.70	5.37	3.89	.624	.457
Pumpmen.....	11.1	10.7	96.7	95.7	8.7	9.0	51.17	35.28	4.62	3.31	.529	.369
Trackmen.....	8.2	8.0	66.9	64.2	8.2	8.0	40.65	28.62	4.97	3.59	.608	.446
Trappers (boys).....	6.6	7.7	53.3	61.0	8.1	7.9	17.88	15.64	2.71	2.04	.335	.257
Other employees.....	9.2	8.4	77.0	70.5	8.4	8.4	55.92	38.33	6.11	4.87	.726	.544
Outside work.....	8.8	8.5	76.1	72.8	8.7	8.5	40.89	29.00	4.65	3.40	.538	.399
Blacksmiths.....	9.3	8.9	80.8	75.5	8.6	8.5	52.47	36.06	5.61	4.06	.650	.478
Carpenters and carpenters.....	9.2	8.4	77.6	69.9	8.5	8.3	45.04	29.88	4.91	3.55	.581	.427
Engineers.....	12.8	11.5	109.5	100.4	8.5	8.7	76.13	51.80	5.94	4.45	.695	.511
Laborers.....	7.7	7.5	66.7	63.9	8.7	8.5	31.53	21.97	4.00	2.93	.473	.344
Other employees.....	9.9	9.5	86.5	81.9	8.7	8.6	40.13	34.80	4.96	3.65	.568	.425

Table 3 shows for 1931 and 1933 average days, hours, and earnings for the wage earners covered in each State and in all States combined in all occupations found in the industry except miners and loaders; that is, for the same occupations for which averages are shown in table 2. It also shows 1933 averages for certain subdivisions of Kentucky, Pennsylvania, and West Virginia. No separate tabulation by State subdivisions was made in 1931.

TABLE 3.—AVERAGE NUMBER OF STARTS (DAYS OR PARTS OF DAYS), HOURS AND EARNINGS OF WAGE EARNERS OTHER THAN MINERS AND LOADERS, 1931 AND 1933, BY STATE OR SUBDIVISION

State or subdivision	Average number of starts (days) in half month		Average hours (excluding time for lunch)—					Average earnings—					
			In half month		Per start (day)			In half month		Per start (day)		Per hour	
	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933	
All States.....	8.3	8.0	69.8	67.1	8.4	8.4	\$41.58	\$29.46	\$5.02	\$3.68	\$0.595	\$0.439	
Alabama.....	7.5	5.7	64.0	51.4	8.6	9.0	25.74	14.43	3.45	2.52	.402	.281	
Colorado.....	7.5	7.6	62.6	63.6	8.3	8.3	48.63	35.46	6.45	4.64	.777	.657	
Illinois.....	8.0	7.3	65.4	60.0	8.2	8.2	51.59	36.65	6.45	5.03	.789	.611	
Indiana.....	8.8	10.4	69.4	53.3	7.9	8.0	54.31	51.44	6.18	4.96	.783	.617	
Kansas.....	6.8	7.7	55.7	63.1	8.2	8.2	35.94	31.19	5.31	4.03	.646	.494	
Kentucky.....	6.9	8.6	58.5	72.5	8.4	8.5	31.26	26.47	4.50	3.09	.534	.365	
Eastern.....	(1)	8.0	(1)	68.0	(1)	8.5	(1)	25.52	(1)	3.20	(1)	.375	
Western.....	(1)	10.2	(1)	85.2	(1)	8.3	(1)	29.14	(1)	2.85	(1)	.342	
Ohio.....	8.8	10.0	71.4	51.2	8.2	8.1	38.88	32.49	4.44	3.24	.544	.400	
Pennsylvania.....	9.1	8.0	77.3	66.0	8.5	8.3	47.18	28.48	5.20	3.57	.610	.432	
Central.....	(1)	8.4	(1)	73.4	(1)	8.7	(1)	33.47	(1)	3.99	(1)	.455	
Western.....	(1)	7.6	(1)	60.7	(1)	8.0	(1)	24.95	(1)	3.27	(1)	.412	
Tennessee.....	8.2	8.6	66.6	71.2	8.1	8.3	26.13	22.75	3.19	2.66	.393	.320	
Virginia.....	8.7	9.3	76.5	52.6	8.8	8.9	34.56	20.90	3.96	2.89	.452	.326	
West Virginia.....	8.5	7.9	72.9	66.7	8.6	8.5	38.83	25.51	4.57	3.25	.532	.383	
Northern.....	(1)	7.1	(1)	55.7	(1)	7.9	(1)	20.97	(1)	2.97	(1)	.377	
Southern.....	(1)	8.0	(1)	69.1	(1)	8.6	(1)	23.51	(1)	3.30	(1)	.384	

¹ Averages for subdivisions not shown separately for 1931.

Boot and Shoe Industry—Hours and Earnings, 1932

WAGE surveys of the boot and shoe industry in the United States have been made by the Bureau of Labor Statistics at intervals of not more than 2 years since 1910. The survey for 1932 covered 28,046 males and 21,620 females in 164 representative factories in the 16 States. According to the 1929 Census of Manufactures, approximately 97 percent of the wage earners in the industry are employed in these 16 States, and the 1932 survey covered approximately 25 percent of the wage earners in those States.

The factories included in the 1932 survey were engaged mainly in the manufacture of shoes for men, women, misses and girls, boys and youths, and children, by the Goodyear welt, McKay, turn, or cement method. No data were taken from any establishment of which the principal product was nailed, pegged, or stitch-down shoes, or specialties such as slippers, leggings, felt or rubber footwear, tennis or other athletic shoes, nor were data included for company officials, the office

force, superintendents, nonworking foremen, power-house employees, watchmen, guards, teamsters, or chauffeurs. Detailed data of the results of the survey are presented in Bulletin No. 579 of the Bureau.

Summaries of average hours and earnings for each of the surveys from 1910 to 1932, and index numbers of average full-time hours and earnings and earnings per hour, with the 1913 average as the base or 100, are presented in table 1.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE BOOT AND SHOE INDUSTRY AND INDEX NUMBERS THEREOF, 1910-32, BY YEAR

Year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1913=100.0)		
		Average number	Percent of full time				Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations only:									
1910.....	56.5	(¹)	(¹)	\$0.286	\$16.07	(²)	102.7	92.0	94.1
1911.....	56.3	(¹)	(¹)	.292	16.37	(²)	102.4	95.9	95.8
1912.....	55.5	(¹)	(¹)	.288	15.91	(²)	100.9	92.6	95.2
1913.....	55.0	(¹)	(¹)	.311	17.08	(²)	100.0	100.0	100.0
1914.....	54.6	(¹)	(¹)	.314	17.11	(²)	99.3	101.0	100.2
All occupations:									
1910.....	54.7	(¹)	(¹)	.243	13.26	(²)	-----	-----	-----
1911.....	54.6	(¹)	(¹)	.259	14.11	(²)	99.1	107.5	106.6
1916.....	52.3	(¹)	(¹)	.336	17.54	(²)	94.9	139.7	132.5
1920.....	48.6	(¹)	(¹)	.559	26.97	(²)	88.2	232.0	203.7
1922.....	48.7	(¹)	(¹)	.501	24.45	(²)	88.4	207.9	184.7
1924.....	49.0	(¹)	(¹)	.516	25.28	(²)	88.9	214.1	190.9
1926.....	49.0	45.5	92.9	.528	25.87	\$24.04	88.9	219.1	195.4
1928.....	49.1	44.8	91.2	.530	26.02	23.75	89.2	220.3	196.6
1930.....	48.9	42.4	86.7	.510	24.94	21.62	88.8	212.0	188.5
1932.....	48.9	40.4	82.6	.412	20.15	16.62	88.8	171.2	152.3

¹ 2 sets of averages are shown for this year, one for selected occupations and the other for all occupations, in the industry. The 1910 to 1914 averages for selected occupations are comparable 1 year with another as are those for all occupations 1 year with another from 1914 to 1932.

² Data not available.

Table 2 shows 1930 and 1932 average hours and earnings and the percent of full time actually worked in the week, by departments, for the wage earners of each sex in each of the important occupations of the industry, for a group of "Other employees", and for all occupations in the industry.

The figures in the table cover 82 occupations and the group of other employees, including 37 in which data are shown for males only, 7 for females only, and 38 for each sex. Figures are also shown for each sex separately in the group of other employees.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE BOOT AND SHOE INDUSTRY 1930 AND 1932, BY OCCUPATION AND SEX

Department, occupation, and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Cutting department</i>												
Cutters, vamp and whole shoe, hand, male	48.7	48.9	42.0	40.3	86.2	82.4	\$0.796	\$0.634	\$38.77	\$31.00	\$33.46	\$25.59
Cutters, vamp and whole shoe, machine, male	49.4	49.2	42.5	37.8	86.0	76.8	.663	.563	32.75	27.70	28.19	21.29
Cutters, vamp and whole shoe, machine, female	49.9	49.9	35.4	42.5	10.9	85.2	.506	.448	25.25	22.36	17.92	19.01
Cutters, trimmings, hand, male	48.9	49.4	41.2	39.8	84.3	80.6	.509	.420	24.89	20.75	20.99	16.74
Cutters, trimmings, hand, female	49.0	49.9	40.7	37.9	83.1	76.0	.405	.291	19.85	14.52	16.49	11.04
Cutters, trimmings, machine, male	50.3	48.6	44.2	38.6	87.9	79.4	.467	.407	23.49	19.78	20.62	15.70
Cutters, trimmings, machine, female	49.0	49.7	37.5	40.8	76.5	82.1	.411	.316	20.14	15.71	15.43	12.88
Skivers, upper, male	48.3	48.4	44.1	41.5	91.3	85.7	.651	.537	31.44	25.99	28.73	22.31
Skivers, upper, female	48.8	48.9	40.8	39.7	83.6	81.2	.447	.354	21.81	17.31	18.22	14.06
Cutters, linings, hand, male	48.6	48.5	40.7	40.1	83.7	82.7	.630	.514	30.62	24.93	25.62	20.63
Cutters, linings, hand, female	(1)	49.5	(1)	31.3	(1)	63.2	(1)	.297	(1)	14.70	(1)	9.27
Cutters, linings, machine, male	49.2	49.3	44.7	41.3	90.9	83.8	.491	.423	23.67	20.85	21.50	17.45
Cutters, linings, machine, female	49.7	49.9	39.1	44.3	78.7	88.8	.394	.327	19.58	16.32	15.39	14.48
<i>Sole-leather department</i>												
Cutters, outsole, male	48.6	48.8	44.6	36.2	91.8	74.2	.744	.668	36.16	32.60	33.16	24.17
Cutters, insole, male	49.0	49.0	45.4	36.1	92.7	73.7	.608	.511	29.79	27.98	27.57	20.60
Rounders, outsole and insole, male	49.3	49.5	42.9	41.3	87.0	83.4	.622	.509	30.66	25.20	26.65	21.01
Channelers, outsole and insole, male	49.3	49.3	42.6	39.8	86.4	80.7	.686	.550	33.82	27.12	29.22	21.89
Cutters, top and heel lifts, machine, male	48.8	48.5	40.6	32.3	83.2	66.6	.554	.494	27.04	23.96	22.52	15.97
Heel builders, hand, male	48.3	50.6	47.2	42.4	97.7	83.8	.541	.321	26.13	16.24	25.53	13.61
Heel builders, hand, female	48.8	49.3	40.7	39.5	83.4	80.1	.424	.348	20.69	17.16	17.26	13.73
Heel builders, machine, male	50.0	49.2	43.8	33.0	87.6	67.1	.483	.469	24.15	23.07	21.16	15.51
Heel builders, machine, female	48.8	48.6	40.4	33.0	82.8	67.9	.418	.393	20.40	19.10	16.87	12.96
<i>Fitting and stitching department</i>												
Stampers, linings or uppers, male	50.4	50.2	44.4	46.2	88.1	92.0	.352	.287	17.74	14.41	15.63	13.23
Stampers, linings or uppers, female	48.8	48.7	41.5	41.0	85.0	84.2	.382	.314	18.64	15.29	15.83	12.88
Cementers and doublers, hand and machine, male	47.7	46.0	46.5	45.9	97.5	99.8	.537	.440	25.61	20.24	24.93	20.20
Cementers and doublers, hand and machine, female	48.9	48.9	41.7	41.6	85.3	85.1	.335	.247	16.38	12.08	13.96	10.26
Folders, hand and machine, male	44.7	44.3	47.2	49.0	105.6	110.6	1.036	.683	46.31	30.26	48.83	33.42
Folders, hand and machine, female	48.6	48.8	41.8	41.3	86.0	84.6	.388	.313	18.86	15.27	16.20	12.91
Perforators, male	47.8	48.5	46.2	42.9	96.7	88.5	.616	.499	29.44	22.75	28.45	20.11
Perforators, female	49.1	48.9	40.3	41.1	82.1	84.0	.430	.343	21.11	16.77	17.36	14.10
Tip stitchers, male	(1)	49.2	(1)	43.9	(1)	89.2	(1)	.442	(1)	21.75	(1)	19.39
Tip stitchers, female	48.7	48.6	43.0	37.1	88.3	76.3	.432	.356	21.04	17.30	18.60	13.20
Closers or seamers, male	(1)	46.7	(1)	37.2	(1)	79.7	(1)	.527	(1)	24.61	(1)	19.62
Closers or seamers, female	49.0	48.8	41.7	41.1	85.1	84.2	.404	.331	19.80	16.15	16.84	13.58
Seam rubbers, hand and machine, male	47.4	47.9	44.1	41.7	93.0	87.1	.409	.370	19.39	17.72	18.05	15.45

¹No data shown for this occupation and sex in 1930

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE BOOT AND SHOE INDUSTRY, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Department, occupation, and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Fitting and stitching department—Contd.</i>												
Seam rubbers, hand and machine, female.....	49.4	48.8	43.1	42.1	87.2	86.3	\$0.333	\$0.284	\$16.45	\$13.86	\$14.37	\$11.97
Lining makers, male.....	47.5	47.3	44.9	43.1	94.5	91.1	.716	.436	34.01	20.62	32.16	18.76
Lining makers, female.....	48.8	48.9	40.4	39.1	82.8	80.0	.395	.310	19.28	15.16	15.96	12.11
Closers on, female.....	49.9	49.8	41.6	41.0	83.4	82.3	.366	.340	18.26	16.93	15.23	13.94
Top stitchers, male.....	47.2	47.2	44.2	41.3	93.6	87.5	.787	.603	37.15	28.46	34.80	24.87
Top stitchers, female.....	49.1	49.0	41.5	40.5	84.5	82.7	.419	.338	20.57	16.56	17.41	13.68
Binders, male.....	46.9	46.4	44.6	43.7	95.1	94.2	.895	.670	41.98	31.09	39.97	29.29
Binders, female.....	48.9	49.0	42.5	43.3	86.9	88.4	.439	.358	21.47	17.54	18.67	15.50
Buttonhole makers, female.....	49.4	50.2	43.7	45.5	88.5	90.6	.390	.331	19.27	16.62	17.03	15.06
Button fasteners, female.....	48.7	48.5	43.2	42.7	88.7	88.0	.334	.325	16.27	15.76	14.43	13.89
Eyeteleters, male.....	48.7	48.8	44.3	39.2	91.0	80.3	.503	.451	24.50	22.01	22.28	17.69
Eyeteleters, female.....	49.4	49.1	41.9	39.9	84.8	81.3	.408	.333	20.16	16.35	17.10	13.30
Vampers, male.....	48.2	48.2	42.1	41.6	87.3	86.3	.672	.569	32.39	27.43	28.28	23.68
Vampers, female.....	49.1	49.0	41.7	39.2	84.9	80.0	.465	.355	22.83	17.40	19.42	13.91
Barrers, female.....	49.5	49.4	43.6	40.1	88.1	81.2	.395	.326	19.55	16.10	17.22	13.06
Tongue stitchers, female.....	49.0	49.0	41.2	38.4	84.1	78.4	.371	.297	18.18	14.55	15.26	11.38
Fancy stitchers, male.....	46.7	46.9	45.3	42.7	97.0	91.0	.834	.692	38.95	27.76	37.84	25.30
Fancy stitchers, female.....	49.1	48.9	41.5	41.8	84.5	85.5	.400	.301	19.64	14.72	16.62	12.59
Back-stay stitchers, female.....	49.1	49.0	41.6	38.8	84.7	79.2	.393	.326	19.30	15.97	16.34	12.64
Table workers, male.....	(1)	47.3	(1)	39.2	(1)	82.9	(1)	.324	(1)	15.33	(1)	12.70
Table workers, female.....	48.4	48.4	41.2	41.5	86.1	85.7	.314	.248	15.20	12.00	12.94	10.25
Laers, before lasting, male.....	(1)	48.0	(1)	43.1	(1)	89.8	(1)	.351	(1)	16.85	(1)	15.10
Laers, before lasting, female.....	49.1	49.1	42.1	39.5	85.7	80.4	.355	.291	17.43	14.29	14.96	11.52
<i>Lasting department</i>												
Last pickers or sorters, male.....	49.0	49.0	43.5	42.6	88.8	86.9	.465	.403	22.79	19.75	20.19	17.16
Assemblers, for pulling-over machine, male.....	49.0	49.1	39.8	38.4	81.2	78.2	.568	.471	27.83	23.13	22.61	18.09
Assemblers, for pulling-over machine, female.....	49.4	48.9	45.1	41.4	91.3	84.7	.452	.339	22.33	16.58	20.37	14.05
Pullers over, hand, male.....	49.3	49.7	39.3	41.6	79.7	83.7	.683	.570	33.67	28.33	26.83	23.71
Pullers over, machine, male.....	49.1	49.1	41.0	39.5	83.5	80.4	.715	.576	35.11	28.28	29.30	22.77
Side lasters, hand, male.....	49.0	46.1	39.6	36.9	80.3	80.0	.637	.569	31.40	25.77	26.23	20.66
Side lasters, machine, male.....	49.0	48.6	41.9	40.4	85.5	83.1	.663	.529	32.49	25.71	27.78	21.35
Bed-machine operators, male.....	49.1	49.1	42.1	40.4	85.7	82.3	.657	.515	32.26	25.29	27.71	20.78
Hand-method lasting-machine operators, male.....	49.4	50.1	40.0	41.9	81.0	83.6	.673	.546	33.25	27.35	26.93	22.89
Turn lasters, hand, male.....	46.5	46.4	46.0	43.5	98.9	93.8	.780	.546	36.27	26.33	35.90	23.79
Turn lasters, machine, male.....	(1)	47.5	(1)	34.3	(1)	72.2	(1)	.684	(1)	32.49	(1)	23.46
Turn sewers, male.....	48.0	46.8	44.8	34.6	93.3	73.9	1.058	.750	50.78	35.10	47.39	25.94
Tack pullers, male.....	49.0	49.2	41.0	38.6	83.7	78.5	.415	.362	20.34	17.32	17.05	13.57
Tack pullers, female.....	(1)	49.2	(1)	36.7	(1)	74.6	(1)	.286	(1)	14.07	(1)	10.52
<i>Bottoming department</i>												
Goodyear welters, male.....	49.0	48.9	40.1	35.7	81.8	73.0	.820	.668	40.18	32.67	32.88	23.87
Welt beaters and slashers, male.....	49.1	49.1	40.6	36.6	82.7	74.5	.524	.404	25.73	19.84	21.27	14.76
Bottom fillers, hand and machine, male.....	49.3	49.4	41.7	40.5	84.6	82.0	.445	.356	21.94	17.59	18.56	14.45
Bottom fillers, hand and machine, female.....	(1)	49.5	(1)	36.2	(1)	73.1	(1)	.280	(1)	13.86	(1)	10.14
Roughers for cement, male.....	(2)	49.7	(2)	44.2	(2)	88.9	(2)	.400	(2)	19.88	(2)	17.66
Roughers for cement, female.....	(2)	48.8	(2)	48.9	(2)	100.2	(2)	.235	(2)	11.47	(2)	11.49
Sole cementers, hand and machine, male.....	49.2	49.3	42.1	39.7	85.6	80.5	.425	.321	20.91	15.83	17.90	12.75

¹ No data shown for this occupation and sex in 1930.
² Included with "Other employees" in 1930.

WAGES AND HOURS OF LABOR

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE BOOT AND SHOE INDUSTRY
1930 AND 1932, BY OCCUPATION AND SEX—Continued

Department, occupation, and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Bottoming department— Continued</i>												
Sole cementers, hand and machine, female.....	49.1	49.0	42.2	42.1	85.9	85.9	\$0.368	\$0.276	\$18.07	\$13.52	\$15.55	\$11.60
Sole layers, hand and machine, male.....	49.2	49.1	41.0	37.3	83.3	76.0	.594	.492	29.22	24.16	24.38	18.35
Rough rounders, male.....	49.1	49.2	40.2	35.7	81.9	72.6	.751	.602	36.87	29.62	30.16	21.51
Channel openers and closers, male.....	48.9	49.2	41.8	38.2	85.5	77.6	.506	.369	24.74	18.15	21.14	14.11
Channel openers and closers, female.....	48.9	48.8	41.5	36.2	84.9	74.2	.417	.374	20.39	18.25	17.29	13.53
Goodyear stitchers, male.....	49.1	49.0	41.2	36.6	83.9	74.7	.727	.585	35.70	28.67	29.99	21.43
McKay sewers, male.....	49.6	49.4	42.8	43.6	86.3	88.3	.684	.550	33.93	27.17	29.28	23.94
Sole attachers, cement, male.....	(?)	49.6	(?)	46.8	(?)	94.4	(?)	.495	(?)	24.55	(?)	23.16
Stitch separators, male.....	49.1	48.9	42.2	36.7	85.9	75.1	.491	.413	24.11	20.20	20.73	15.18
Levelers, male.....	49.1	49.2	42.3	40.3	86.2	81.9	.586	.466	28.77	22.93	24.77	18.78
Heelers, leather, male.....	49.2	49.2	41.5	38.1	84.3	77.4	.689	.570	33.90	28.04	28.62	21.69
Heelers, wood, male.....	48.4	48.5	41.7	41.5	86.2	85.6	.746	.524	36.11	25.41	31.11	21.77
Heel trimmers or shav- ers, male.....	49.2	49.3	42.8	38.0	87.0	77.1	.670	.556	32.96	27.42	28.70	21.11
Heel breasters, male.....	48.2	49.6	41.7	39.0	86.5	78.6	.586	.449	28.25	22.27	24.44	17.54
Edge trimmers, male.....	49.1	49.1	41.7	39.3	84.9	80.0	.722	.572	35.45	28.09	30.11	22.47
Sluggers, male.....	48.8	49.0	41.9	38.9	85.9	79.4	.550	.408	26.84	19.99	23.07	15.89
<i>Finishing department</i>												
Buffers, male.....	49.1	49.3	42.4	39.6	86.4	80.3	.620	.474	30.44	23.37	26.29	18.77
Naumkeag operators, male.....	48.8	48.7	41.1	40.7	84.2	83.6	.695	.549	33.92	26.74	28.55	22.37
Edge setters, male.....	49.0	49.0	41.6	39.3	84.9	80.2	.706	.551	34.59	27.00	29.35	21.66
Heel scourers, male.....	49.2	50.0	42.3	38.2	86.0	76.4	.567	.463	27.90	23.15	23.95	17.68
Heel burnishers, male.....	49.3	49.2	41.1	38.6	83.4	78.5	.527	.416	25.98	20.47	21.66	16.04
Bottom stainers, male.....	(?)	48.7	(?)	38.6	(?)	79.3	(?)	.392	(?)	19.09	(?)	15.16
Bottom stainers, female.....	(?)	48.9	(?)	41.6	(?)	85.1	(?)	.291	(?)	14.23	(?)	12.08
Bottom finishers, male.....	48.8	49.0	41.0	40.4	84.0	82.4	.576	.437	28.11	21.41	23.59	17.64
Bottom finishers, female.....	49.5	49.1	43.2	43.5	87.3	88.6	.375	.326	18.56	16.01	16.20	14.21
Brushers, male.....	48.9	49.2	42.6	39.8	87.1	80.9	.436	.382	21.32	18.79	18.58	15.21
Brushers, female.....	49.1	48.6	44.7	37.6	91.0	77.4	.342	.269	16.79	13.07	15.28	10.12
Shoe cleaners, male.....	48.7	48.0	39.1	40.2	80.3	83.8	.441	.356	21.48	17.09	17.25	14.32
Shoe cleaners, female.....	49.0	48.4	39.5	42.5	80.6	87.8	.300	.247	14.70	11.95	11.85	10.52
Last pullers, male.....	49.2	49.2	42.3	40.5	86.0	82.3	.501	.396	24.65	19.48	21.18	16.04
Treers, male.....	49.1	49.3	43.0	42.5	87.6	86.2	.563	.433	27.64	21.35	24.23	18.43
Treers, female.....	48.6	48.7	43.2	39.3	88.9	80.7	.380	.305	18.47	14.85	16.42	12.00
Repairers, male.....	48.2	48.2	44.5	39.5	92.3	82.0	.606	.524	29.21	25.28	27.01	20.70
Repairers, female.....	49.2	48.8	43.1	43.3	87.6	88.7	.383	.333	18.84	16.25	16.50	14.44
Dressers, male.....	(1)	49.2	(1)	46.7	(1)	94.9	(1)	.390	(1)	19.19	(1)	18.25
Dressers, female.....	48.9	49.1	43.5	40.7	89.0	82.9	.355	.308	17.36	15.12	15.45	12.55
Sock liners, male.....	48.4	49.8	43.6	45.1	90.1	90.6	.463	.333	22.41	16.58	20.21	15.02
Sock liners, female.....	48.8	48.7	41.7	41.2	85.5	84.6	.374	.314	18.25	15.29	15.60	12.93
Lacers before packing, female.....	49.3	48.9	42.6	40.9	86.4	83.6	.331	.266	16.32	13.01	14.09	10.87
Packers, male.....	48.8	49.1	46.4	41.3	95.1	84.1	.441	.459	21.52	22.54	20.46	18.96
Packers, female.....	48.8	48.8	43.0	42.3	88.1	86.7	.379	.315	18.50	15.37	16.31	13.31
<i>All departments</i>												
Other employees, male.....	48.8	48.9	44.0	40.5	90.2	82.8	.500	.437	24.40	21.37	21.97	17.73
Other employees, female.....	48.9	48.9	42.9	40.3	87.7	82.4	.351	.306	17.16	14.96	15.04	12.34
<i>All occupations:</i>												
Males.....	48.8	48.9	42.7	40.0	87.5	81.8	.604	.493	29.48	24.11	25.79	19.73
Females.....	48.9	48.9	42.0	40.8	85.9	85.4	.382	.308	18.68	15.06	16.04	12.58
Males and females.....	48.9	48.9	42.4	40.4	86.7	82.6	.510	.412	24.94	20.15	21.62	16.62

1 No data shown for this occupation and sex in 1930.

2 Included with "Other employees" in 1930.

Table 3 shows for males and females separately and for both sexes combined, by States, average hours and earnings and the percent of full time actually worked in 1930 and 1932.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE BOOT AND SHOE INDUSTRY, 1930 AND 1932, BY SEX AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Males</i>												
Illinois	48.8	49.0	42.8	47.1	87.7	96.1	\$0.624	\$0.427	\$30.45	\$20.92	\$26.73	\$20.11
Kentucky	52.4	53.0	49.5	47.4	94.5	89.4	.431	.345	22.74	18.29	21.46	16.32
Maine	52.9	52.9	43.2	46.3	81.1	87.5	.511	.447	27.03	23.65	24.65	20.69
Maryland and Virginia ¹	48.8	48.9	36.4	43.4	74.6	88.8	.490	.358	23.91	17.51	17.84	15.52
Massachusetts	48.2	48.3	41.0	41.2	85.1	85.3	.671	.557	32.34	26.90	27.48	22.96
Michigan	49.6	49.5	45.6	37.3	91.9	75.4	.501	.501	27.48	24.80	25.26	18.68
Minnesota	50.0	49.9	45.0	44.1	90.0	88.4	.554	.417	24.90	20.81	22.40	18.37
Missouri	49.0	49.0	45.7	38.7	89.1	79.0	.548	.473	26.85	23.18	25.03	18.29
New Hampshire	49.0	48.4	40.5	37.4	82.7	77.3	.505	.439	24.75	21.25	20.47	16.43
New Jersey	45.9	46.0	42.5	32.2	92.6	70.0	.711	.631	32.63	29.03	30.26	20.35
New York	47.6	47.6	43.9	37.6	92.2	79.0	.666	.536	31.70	25.51	29.26	20.13
Ohio	48.2	48.1	35.3	40.2	70.2	83.6	.590	.485	28.44	23.33	20.85	10.48
Pennsylvania	51.1	51.3	43.9	37.8	85.9	73.7	.512	.408	26.16	20.93	22.47	15.44
Tennessee	51.8	49.4	47.0	37.9	90.7	76.7	.440	.385	22.79	19.02	20.68	14.61
Wisconsin	49.7	49.9	44.4	36.8	89.3	73.7	.602	.481	29.92	24.00	26.72	17.72
Total, males	48.8	48.9	42.7	40.0	87.5	81.8	.604	.493	29.48	24.11	25.79	18.73
<i>Females</i>												
Illinois	49.1	49.3	44.4	47.9	90.4	97.2	.376	.272	18.46	13.41	16.70	13.01
Kentucky	52.2	52.7	50.6	47.1	96.9	89.4	.273	.216	14.25	11.38	13.80	10.16
Maine	53.1	53.1	46.0	46.2	86.6	87.0	.360	.299	19.12	15.88	16.56	13.80
Maryland and Virginia ¹	48.8	48.9	38.3	46.9	78.5	95.9	.311	.218	15.18	10.66	11.93	10.20
Massachusetts	47.9	47.9	39.6	41.0	82.7	85.6	.446	.354	21.36	16.96	17.66	14.51
Michigan	49.6	49.5	43.9	36.3	88.5	73.3	.318	.299	15.17	14.80	13.95	10.86
Minnesota	49.9	49.8	41.6	45.2	83.4	90.8	.321	.279	16.02	13.89	13.35	12.59
Missouri	49.2	49.2	45.0	40.2	91.5	81.7	.321	.273	15.79	13.43	14.44	10.99
New Hampshire	49.1	48.4	38.0	36.7	77.4	75.8	.349	.291	17.14	14.08	13.27	10.70
New Jersey	46.5	46.5	41.8	31.1	89.9	66.9	.483	.421	22.46	19.58	20.22	13.71
New York	48.4	48.4	43.1	38.1	89.0	78.7	.411	.340	19.89	16.46	17.71	12.95
Ohio	48.0	47.9	36.3	41.3	75.6	86.2	.361	.292	17.33	13.99	13.12	12.06
Pennsylvania	50.0	50.6	43.8	41.8	87.6	82.6	.331	.245	16.55	12.55	14.50	10.35
Tennessee	51.4	48.9	46.7	35.6	88.9	72.8	.268	.249	18.78	12.18	12.24	8.85
Wisconsin	49.1	49.2	43.2	35.6	88.0	72.4	.400	.336	20.08	16.53	17.66	11.96
Total, females	48.9	48.9	42.0	40.8	85.9	83.4	.382	.308	18.68	15.06	16.04	12.58
<i>Males and females</i>												
Illinois	49.0	49.2	43.6	47.5	89.0	96.5	.499	.342	24.45	16.83	21.75	16.26
Kentucky	52.3	52.8	50.0	47.2	95.6	89.4	.353	.282	18.46	14.39	17.66	13.33
Maine	53.0	53.0	47.2	46.3	89.1	87.4	.442	.380	23.43	20.14	20.85	17.69
Maryland and Virginia ¹	48.8	48.9	37.1	44.8	76.0	91.6	.418	.298	20.40	14.57	15.54	13.36
Massachusetts	48.1	48.1	40.4	41.1	84.0	85.4	.679	.470	27.85	22.61	23.40	19.35
Michigan	49.6	49.5	44.9	36.9	90.5	74.5	.456	.426	22.62	21.09	20.44	16.70
Minnesota	49.9	49.9	43.4	44.6	87.0	89.4	.422	.354	21.06	17.66	18.32	16.79
Missouri	49.1	49.1	45.4	39.3	92.5	80.0	.451	.384	22.14	18.85	20.47	16.12
New Hampshire	49.0	48.4	39.4	37.1	80.4	76.7	.437	.372	21.41	18.00	17.19	13.81
New Jersey	46.1	46.2	42.3	31.8	91.8	68.8	.628	.559	28.95	25.53	26.58	17.79
New York	47.9	47.9	43.6	37.8	91.0	78.9	.569	.457	27.26	21.89	24.83	17.23
Ohio	48.1	48.0	36.8	40.7	74.4	84.8	.477	.399	22.94	18.07	17.06	15.85
Pennsylvania	50.7	51.0	43.8	39.2	88.6	76.9	.445	.346	22.46	17.65	19.44	13.67
Tennessee	51.6	49.2	46.4	36.8	89.9	74.8	.359	.322	18.52	15.84	16.07	11.87
Wisconsin	49.4	49.5	43.8	36.2	88.7	73.1	.513	.412	25.34	20.39	22.51	14.91
Total, males and females	48.9	48.9	42.4	40.4	86.7	82.6	.510	.412	24.94	20.15	21.62	16.62

¹ Shown together to avoid presenting data for 1 establishment in 1 State.

**Building Construction—Wage Rates on P. W. A. Projects,
November 1934**

DURING the month ending November 15, 1934, approximately 77,250 workers were employed on Federal and non-Federal building-construction projects financed from the Public Works Administration fund. The total pay roll for these workers was over \$5,200,000, 62.5 percent of which was paid to skilled workers, 14.1 percent to semiskilled workers, and 23.4 percent to unskilled workers.

Federal construction projects are financed entirely by allotments made by the Public Works Administration to the various departments and agencies of the Federal Government. This work is performed either by commercial firms to which contracts have been awarded or by day labor hired directly by the Federal agencies. Non-Federal projects are financed from allotments made by the Public Works Administration to a State or political subdivision thereof, or in some cases to commercial firms. In the case of allotments to States and their political subdivisions, the Public Works Administration makes a direct grant of not more than 30 percent of the total construction cost. The public agency to which the loan is made finances the other 70 percent. No grants are made to commercial firms. On loans of the Public Works Administration, interest is charged and the term of the loan is specified.

Reports were received from contractors erecting such types of buildings as schools, post offices, Federal courthouses, immigration stations, city halls, municipal auditoriums, quarters for officers and enlisted men in Army camps, subsistence homestead projects, etc. Some of these buildings were located in large cities, some in small towns, and some in rural areas.

Wage Rates

THE average rate paid to skilled workers employed on these P. W. A. projects in November 1934 was \$1.22 per hour. In a number of cases, however, wage rates as high as \$1.50 per hour or even more were paid. For example, in the New England States, ornamental-iron workers received \$1.50 per hour; in the Middle Atlantic States, hoist engineers were paid \$1.58 and pile drivers \$1.68 per hour; in the East North Central States, glaziers averaged \$1.54 per hour; and in the South Atlantic States, elevator constructors received \$1.58 per hour. In the West North Central, East South Central, West South Central, Mountain, and Pacific States, no occupation averaged so much as \$1.50 per hour.

Except in the West South Central States, very few skilled occupations averaged less than \$1.05 per hour. In the East South Central States, practically all skilled occupations averaged between \$1.05 and \$1.10. In the other geographic divisions, the following occupations averaged \$1.05 or less: In the South Atlantic States, pile drivers, \$1.00; in the East South Central States, painters and steam-shovel operators, \$1.05; and in the Mountain States, terrazzo workers, \$1.00, and welders, \$1.05.

Over 6,300 carpenters worked on these projects in November 1934, and they were paid hourly rates ranging from \$1.00 in the West South Central States to \$1.27 in the Middle Atlantic States. The wages of the 3,600 bricklayers employed ranged from \$1.07 in the West South Central to \$1.49 in the Middle Atlantic States.

The great majority of the workers employed in the construction of P. W. A. buildings were paid by the hour, but in November 1934 there were approximately 600 who were paid on a weekly basis. For the most part, these were foremen of such crafts as carpenters, masons, concrete workers, electrical workers, etc. Labor foremen were the most numerous in all districts. Workers paid by the week averaged \$46.68. Structural-steel foremen had the highest weekly wage in all districts. Labor foremen were paid less than \$40 per week in each of the 9 districts. There were more than 18,000 employees classed as common laborers working on these jobs during November 1934.

In general, wages paid on Federal projects in November 1934 were slightly lower than those on non-Federal projects. Workers on a weekly basis on Federal projects drew \$5 per week less than workers on non-Federal projects; among the hourly employees, skilled workers had a rate of nearly 2 cents per hour less, and unskilled workers nearly 3 cents per hour less. Semiskilled workers had the same rate on both types of projects. Skilled workers on Federal projects averaged \$1.21 per hour, and on non-Federal projects \$1.23.

The following table shows the average rates paid to skilled, semi-skilled, and unskilled workers on building-construction projects financed by the Public Works Administration during November 1934, by geographic divisions:

TABLE 1.—AVERAGE RATES PAID ON PUBLIC WORKS BUILDING-CONSTRUCTION PROJECTS, NOVEMBER 1934

Geographic division	Wage rates of employees paid on—			
	Weekly basis, skilled	Hourly basis		
		Skilled	Semi-skilled	Unskilled
<i>All projects</i>				
Continental United States.....	\$46.68	\$1.220	\$0.722	\$0.507
New England.....	46.80	1.224	.707	.543
Middle Atlantic.....	51.89	1.347	.835	.594
East North Central.....	50.75	1.296	.773	.574
West North Central.....	44.80	1.203	.704	.478
South Atlantic.....	41.06	1.170	.633	.446
East South Central.....	37.88	1.091	.607	.437
West South Central.....	41.81	.996	.562	.408
Mountain.....	52.25	1.134	.706	.495
Pacific.....	47.88	1.159	.820	.562
<i>Federal projects</i>				
Continental United States.....	\$42.12	\$1.206	\$0.722	\$0.486
New England.....	39.33	1.171	.709	.508
Middle Atlantic.....	49.79	1.342	.837	.658
East North Central.....	34.08	1.202	.753	.527
West North Central.....	39.17	1.128	.677	.461
South Atlantic.....	38.64	1.239	.684	.452
East South Central.....	.....	1.084	.615	.437
West South Central.....	52.50	.984	.556	.399
Mountain.....	45.00	1.035	.560	.389
Pacific.....	55.87	1.170	.835	.569
<i>Non-Federal projects</i>				
Continental United States.....	\$47.30	\$1.225	\$0.722	\$0.515
New England.....	47.38	1.230	.707	.546
Middle Atlantic.....	52.07	1.348	.834	.579
East North Central.....	52.50	1.308	.775	.582
West North Central.....	45.14	1.221	.706	.482
South Atlantic.....	41.96	1.117	.620	.441
East South Central.....	37.88	1.095	.602	.438
West South Central.....	40.77	1.000	.563	.404
Mountain.....	53.71	1.189	.770	.589
Pacific.....	46.74	1.155	.816	.559

Distribution of Hours and Wages

TABLE 2 shows the percent of hours worked by and the percent of the monthly wage bill paid to skilled, semiskilled, and unskilled labor in November 1934 on building-construction projects financed by the Public Works Administration fund.

Skilled labor drew 62.5 cents of each building-labor dollar, and worked 43.9 percent of the total number of man-hours. In contrast, unskilled labor was paid 23.4 cents per dollar expended for labor and worked 39.4 percent of the total number of man-hours. Skilled labor was paid more than 60 percent of the building dollar in all divisions except the East South Central and the West South Central. In one division, the Pacific, skilled labor worked more than 50 percent of the total man-hours worked.

TABLE 2.—DISTRIBUTION OF TOTAL HOURS WORKED AND WAGES PAID ON PUBLIC WORKS BUILDING-CONSTRUCTION PROJECTS, NOVEMBER 1934, BY TYPE OF LABOR

All projects

Geographic division	Percent of hours worked by—				Percent of monthly wage bill paid to—			
	All classes	Skilled	Semi-skilled	Unskilled	All classes	Skilled	Semi-skilled	Unskilled
Continental United States.....	100.0	43.9	16.7	39.4	100.0	62.5	14.1	23.4
New England.....	100.0	44.2	20.8	35.0	100.0	61.5	16.8	21.7
Middle Atlantic.....	100.0	46.5	15.5	38.0	100.0	63.8	13.2	23.0
East North Central.....	100.0	48.7	16.7	34.6	100.0	65.8	13.5	20.7
West North Central.....	100.0	42.9	17.6	39.5	100.0	62.2	15.0	22.8
South Atlantic.....	100.0	40.5	16.5	43.0	100.0	61.4	13.6	25.0
East South Central.....	110.0	39.8	15.2	45.0	100.0	59.8	12.8	27.4
West South Central.....	100.0	36.8	12.8	50.4	100.0	57.1	11.2	31.7
Mountain.....	110.0	43.1	15.6	41.3	100.0	60.9	13.7	25.4
Pacific.....	100.0	50.1	18.2	31.7	100.0	63.9	16.4	19.7

Federal projects

Continental United States.....	100.0	44.9	12.1	43.0	100.0	64.6	10.4	25.0
New England.....	100.0	42.1	25.1	32.8	100.0	58.8	21.3	19.9
Middle Atlantic.....	100.0	51.0	15.2	33.8	100.0	66.3	12.3	21.4
East North Central.....	100.0	43.6	14.7	41.7	100.0	61.2	13.0	25.8
West North Central.....	100.0	47.2	7.9	44.9	100.0	67.2	6.7	26.1
South Atlantic.....	100.0	43.9	8.9	47.2	100.0	66.5	7.4	26.1
East South Central.....	100.0	41.5	12.2	46.3	100.0	61.9	10.3	27.8
West South Central.....	100.0	36.5	8.8	54.7	100.0	57.4	7.8	34.8
Mountain.....	100.0	31.4	13.5	55.1	100.0	52.9	12.3	34.8
Pacific.....	100.0	53.3	15.7	31.0	100.0	67.0	14.1	18.9

Non-Federal projects

Continental United States.....	100.0	43.6	18.1	38.3	100.0	61.9	15.2	22.9
New England.....	100.0	44.4	20.4	35.2	100.0	61.8	16.4	21.8
Middle Atlantic.....	100.0	45.4	15.6	39.0	100.0	63.1	13.5	23.4
East North Central.....	100.0	49.4	17.0	33.6	100.0	66.4	13.5	20.1
West North Central.....	100.0	42.0	19.6	38.4	100.0	61.2	16.6	22.2
South Atlantic.....	100.0	38.4	21.4	40.2	100.0	57.8	18.1	24.1
East South Central.....	100.0	33.2	18.1	43.7	100.0	57.8	15.3	26.9
West South Central.....	100.0	36.8	13.6	49.6	100.0	57.0	11.9	31.1
Mountain.....	100.0	49.5	16.8	33.7	100.0	63.9	14.2	21.9
Pacific.....	100.0	49.0	19.0	32.0	100.0	62.8	17.3	19.9

Cigar Industry—Wages and Costs in York County, Pa.,² July 1934

IMMEDIATELY following the adoption of the Code of Fair Competition for the Cigar Industry on July 2, 1934, the workers contended that the manufacturers in York County, Pa., endeavored to employ only the cigarmakers who could make the code minimum. In an effort to settle the dispute, a bipartisan board, composed of a representative of labor and a representative of the manufacturers, was chosen by the code authority to investigate the cost of manufacturing 2-for-5-cent cigars. Attempts to establish wage rates on the basis of the findings and recommendations of this board, however, were unsuccessful. When no agreement could be reached, arbitration by the National Labor Relations Board was agreed to by the employees and employers.

Before attempting to settle the controversy, the National Labor Relations Board requested the United States Bureau of Labor Statistics to make a study of the cost of manufacturing 5-cent and 3-for-10-cent cigars and to obtain data on the hourly earnings of employees engaged in the manufacture of these two types of cigars.

Coverage of survey.—The plants included in the study were selected by representatives of labor and the cigar manufacturers of York County in a conference with the agents of the Bureau of Labor Statistics. All of the factories selected produced cigars by what is known as the "hand method." The number of workers covered in the survey included 728 employees making 5-cent cigars and 162 making 3-for-10-cent cigars. The number of employees in the different plants varied considerably, ranging from 26 to 164 on 5-cent cigars and from 25 to 74 on 3-for-10-cent cigars.

The 6 months ending June 30, 1934, was used in determining the cost of manufacture. However, since the most active period of the year in the cigar business is the Christmas holiday season, the results cannot be accepted as representative of annual operations.

The wage data are based on records kept for 1 week from August 13, 1934, when work was resumed after the strike. Previously no record was maintained of hours of work and, consequently, hourly earnings could not be calculated.

Average Hourly Earnings

IN COMPUTING average hourly earnings of employees, supplementary payments to meet code minimums and wages earned in the manufacture of cigars other than 5-cent and 3-for-10-cent cigars were excluded. A few cellophaners and banders had their piecework earnings supplemented by additional payments in order to bring their wages up to the minimum rates prescribed by the code. Such instances, however, were exceptional and because of the difficulty in prorating these supplemental payments between the different types of cigars produced they were omitted entirely.

Table 1 gives the average hourly earnings for the major occupations in the manufacture of 5-cent cigars.

² From an unpublished report prepared by the United States Bureau of Labor Statistics for the National Labor Relations Board.

TABLE 1.—AVERAGE HOURLY EARNINGS OF WORKERS EMPLOYED IN THE MANUFACTURE OF 5-CENT CIGARS AT 9 FACTORIES IN YORK COUNTY, PA., BY OCCUPATION¹

Occupation	Average, 9 factories	Factory no. 1	Factory no. 2	Factory no. 3	Factory no. 4	Factory no. 5	Factory no. 6	Factory no. 7	Factory no. 8	Factory no. 9
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Wrapper strippers, hand.....	25.6					25.6	(?)			
Wrapper strippers, machine.....	31.4	29.5	44.0		30.5			34.3	27.1	25.0
Binder strippers, hand.....	33.6		33.0	36.1			(?)			(?)
Binder strippers, machine.....	29.4	29.2			23.3	39.2		30.7	27.5	
Bunchers.....	44.3	37.6	39.4	41.0	49.4	47.0	42.4	43.2	40.5	47.0
Rollers.....	36.3	29.8	36.8	28.9	38.9	37.2	32.4	37.8	33.2	41.0
Packers.....	42.3	33.5	50.0	58.4	45.6	38.0	34.1	42.8	41.6	32.9
Cellophaners, banders, and foilers, hand and machine.....	34.5	26.7	32.7	33.9	42.8	39.0	30.2	35.1	35.3	32.8

¹ Excludes supplementary payments made in order to meet code minimums and wages earned in the manufacture of cigars other than the 5-cent type.

² Work done at workers' homes.

During the pay period covered by the survey approximately 98 percent of the bunchers employed by the factories included earned 30 cents or more per hour, while about 80 percent of the rollers earned 30 cents or more per hour. On the other hand, all of the hand wrapper strippers and half of the machine wrapper strippers earned less than 30 cents per hour.

The average hourly earnings of workers engaged in the manufacture of 3-for-10-cent cigars are given in table 2. This table shows that the average earnings in this branch of the industry ranged from 25 cents per hour for machine wrapper strippers at factory no. 3 to 43.6 cents per hour for bunchers at factory no. 2.

TABLE 2.—AVERAGE HOURLY EARNINGS OF WORKERS EMPLOYED IN THE MANUFACTURE OF 3-FOR-10-CENT CIGARS AT 3 FACTORIES IN YORK COUNTY, PA., BY OCCUPATION

Occupation	Average of 3 factories	Factory no. 1	Factory no. 2	Factory no. 3
	Cents	Cents	Cents	Cents
Wrapper strippers, hand.....	25.7	25.7		
Wrapper strippers, machine.....	30.6		33.0	25.0
Binder strippers, hand.....				(¹)
Binder strippers, machine.....	30.8	34.7	29.4	
Bunchers.....	36.6	41.7	43.6	30.9
Rollers.....	32.9	31.9	36.0	29.7
Packers.....	33.7	36.9	35.6	29.2
Cellophaners and banders, hand and machine.....	33.4	40.3	30.3	33.4

¹ Work done at workers' homes.

In the manufacture of 3-for-10-cent cigars the hourly earnings of 88 percent of the bunchers and 82 percent of the rollers amounted to 30 cents or more. The workers earning less than 30 cents per hour included all of the hand wrapper strippers, 40 percent of the machine wrapper strippers and 50 percent of the machine binder strippers.

Cigarette, Smoking- and Chewing-Tobacco Industries—Wages and Hours in Virginia and North Carolina, July 1934

A STUDY made by the Bureau of Labor Statistics in July 1934 dealing with wages and hours in six occupations in the cigarette and

smoking- and chewing-tobacco industries covered 14 establishments, some of which manufacture more than one product. Data for the cigarette industry were gathered from 5 establishments in Virginia and 6 in North Carolina; for the smoking-tobacco industry from 2 establishments in Virginia and 4 in North Carolina; and for the chewing-tobacco industry from 1 establishment in Virginia and 3 in North Carolina. The data were for 2,061 employees engaged in the 6 occupations studied. A complete survey of the cigarette industry in Virginia, North Carolina, and Kentucky was made by the Bureau in 1930,³ and six of the occupations in that study included approximately 58 percent of the total employees. The 1934 study includes the same 6 occupations and 6 similar occupations in the smoking- and chewing-tobacco industries. Further details of the results of this study are given in the Monthly Labor Review for October 1934 (p. 963).

Colored workers are employed predominantly in connection with laboring jobs in the ordering, casing, and stemming departments, while white workers are employed mainly in the making and packing departments. In the stemmeries colored women are used almost exclusively and they are found also in most of the other stemmery occupations.

The substitute provision regulating hours of work in the tobacco industry under the President's Reemployment Agreement sets a maximum of 40 hours per week. All the establishments covered in this study were accordingly scheduled to work 8 hours Monday to Friday, with no work on Saturday. Most of the employees in the cigarette and smoking-tobacco industries actually worked under 40 hours during the week covered by the survey, and a majority in the chewing-tobacco industry worked from 30 to 34.9 hours per week.

Classified actual hourly earnings in the different occupations are shown in the following table. Some of the occupations were confined to one or two of the three industries.

PERCENT OF EMPLOYEES CLASSIFIED ACCORDING TO HOURLY EARNINGS, JULY 1934, BY OCCUPATION

Cigarette industry

Classified actual earnings per hour during week covered	Percent in each occupation earning classified wages per hour					
	Stemming-machine feeders (colored, females)	Stemmers, hand (colored, predominantly females)	Strip searchers (colored, predominantly females)	Cutter feeders (colored, males)	Making-machine operators (white, predominantly males)	Laborers (predominantly colored, males and females)
Under 20 cents	1	10	1			
20 to 24.9 cents	2	16	2			
25 to 29.9 cents	72	37	93			20
30 to 34.9 cents		24	5	49	3	57
35 to 39.9 cents	24	9	(1)	38	10	19
40 to 44.9 cents		3		14	27	4
45 to 49.9 cents					22	1
50 to 54.9 cents		1			30	
55 to 59.9 cents					6	
60 to 64.9 cents					1	
65 to 69.9 cents					2	
Total	100	100	100	100	100	100

³ Monthly Labor Review, October 1930 (p. 163).

PERCENT OF EMPLOYEES CLASSIFIED ACCORDING TO HOURLY EARNINGS,
JULY 1934, BY OCCUPATIONS—Continued*Smoking-tobacco industry*

Classified actual earnings per hour during week covered	Stemming- machine feeders (colored, predom- inantly females)	Stemmers, hand (colored, predom- inantly females)	Strip searchers (colored, predom- inantly females)	Cutter feeders (males, predom- inantly colored)	Packing- machine operators (males, predom- inantly white)	Laborers (predom- inantly colored, males)
Under 20 cents		2				
20 to 24.9 cents		18				
25 to 29.9 cents	85	46	97			
30 to 34.9 cents	15	20	3	25	6	72
35 to 39.9 cents		7		25	3	14
40 to 44.9 cents		2		13	24	11
45 to 49.9 cents				13	12	1
50 to 54.9 cents				13	12	1
55 to 59.9 cents				13	30	
60 to 64.9 cents					9	
65 to 69.9 cents					3	
Total	100	100	100	100	100	100

Chewing-tobacco industry

Classified actual earnings per hour during week covered	Stemmers, hand (colored, predom- inantly females)	Strip searchers (predom- inantly colored, females)	Lump makers (males, predom- inantly colored)	Lump wrappers (predom- inantly colored, males and females)	Shape hands (colored, males)	Laborers (predom- inantly colored, males)
Under 20 cents	8			5		
20 to 24.9 cents	36		10	15		
25 to 29.9 cents	39	89	7	23		3
30 to 34.9 cents	14	6	23	28		76
35 to 39.9 cents	3	6	30	15	8	18
40 to 44.9 cents	(¹)		20	11	77	
45 to 49.9 cents			3	2	15	3
50 to 54.9 cents			3			
55 to 59.9 cents						
60 to 64.9 cents						
65 to 69.9 cents						
70 cents and over			3			
Total	100	100	100	100	100	100

¹ Less than 1 percent.**City School Systems—Salaries, 1934-35**

A CONTINUING decline in the salaries of most city school systems in the United States as compared with such salaries of 2 and 4 years ago is shown in the report of a biennial survey made by the National Education Association in 1934-35, and published in the March 1935 issue of the Research Bulletin of the Association.

The 1,989 cities covered in the study constitute almost three-fifths of all the cities, and practically every one of the larger cities in the United States. Nearly 400,000 school employees are included.

According to the above-mentioned bulletin "there is reason to believe that teachers' salaries have already reached their lowest point and are now slowly returning to somewhat more normal levels."

Table 1 discloses the usual tendency to pay higher salaries in the larger cities. The differential between cities of over 100,000 population and those of from 30,000 to 100,000 population is greater than

that between the cities of the last-mentioned group and cities of 10,000 to 30,000, or between the groups of cities having smaller populations. It will also be noted that the decrease percentages in salaries are greater in the smaller cities.

TABLE 1.—MEDIAN SALARIES OF TEACHERS IN SPECIFIED CLASSES OF SCHOOLS IN THE UNITED STATES, 1930-31, 1932-33, AND 1934-35

Reporting cities having a population of—	Year			Percent of decrease	
	1930-31	1932-33	1934-35	1931 to 1935	1933 to 1935
Over 100,000:					
Elementary schools.....	\$2, 118	\$1, 947	\$1, 922	9. 25	1. 28
Junior high schools.....	2, 348	2, 204	2, 078	11. 50	8. 46
High schools.....	2, 731	2, 479	2, 436	10. 80	1. 73
30,000 to 100,000:					
Elementary schools.....	1, 609	1, 526	1, 412	12. 24	7. 47
Junior high schools.....	1, 860	1, 761	1, 612	13. 33	8. 46
High schools.....	2, 111	1, 994	1, 834	13. 12	8. 02
10,000 to 30,000:					
Elementary schools ¹	1, 428	1, 360	1, 231	13. 80	9. 49
Junior high schools.....	1, 619	1, 525	1, 390	14. 14	8. 85
High schools.....	1, 876	1, 747	1, 603	14. 55	8. 24
5,000 to 10,000:					
Elementary schools ¹	1, 303	1, 217	1, 050	19. 42	13. 72
Junior high schools.....	1, 494	1, 376	1, 208	19. 14	12. 21
High schools.....	1, 692	1, 575	1, 379	18. 50	12. 44
2,500 to 5,000:					
Elementary schools ¹	1, 162	1, 089	961	17. 30	11. 75
Junior high schools.....	1, 360	1, 270	1, 125	17. 28	11. 42
High schools.....	1, 547	1, 429	1, 260	18. 55	11. 83

¹ Includes kindergarten teachers.

In table 2 are given the median salaries of teachers and principals in city school systems of five groups of cities classified by population. In the group including the largest cities, the median salary of teachers of part-time or continuation schools in 1934-35 was \$2,693, or \$257 more than that of the teachers in high schools, while the principals of part-time or continuation schools received \$4,125, or \$127 less than was paid to the principals of high schools.

TABLE 2.—MEDIAN SALARIES IN CITY SCHOOL SYSTEMS OF VARIOUS CITIES IN THE UNITED STATES, 1934-35

Occupation	Reporting cities having a population of—				
	Over 100,000	30,000 to 100,000	10,000 to 30,000	5,000 to 10,000	2,500 to 5,000
Teachers:					
Kindergartens.....	\$1, 926	\$1, 469	-----	-----	-----
Atypical classes.....	1, 996	1, 611	-----	-----	-----
Elementary schools ¹	1, 922	1, 412	\$1, 231	\$1, 050	\$961
Junior high schools.....	2, 078	1, 612	1, 390	1, 208	1, 125
High schools.....	2, 436	1, 834	1, 603	1, 379	1, 260
Part-time or continuation schools.....	2, 693	1, 902	1, 550	838	600
Principals:					
Elementary schools:					
Supervising.....	3, 016	2, 364	2, 119	1, 962	2, 038
Teaching.....	2, 135	1, 738	1, 476	1, 246	1, 181
Junior high schools.....	3, 718	2, 833	2, 307	1, 669	1, 433
High schools.....	4, 252	3, 635	3, 010	2, 235	1, 851
Part-time or continuation schools.....	4, 125	2, 800	3, 150	-----	-----

¹ Includes kindergarten teachers, in cities having a population of from 2,500 to 30,000.

Table 3 records by States the median salaries of various groups of teachers for 1934-35 in cities of 30,000 population or over.⁴ The median salaries for high-school teachers in the class including the largest cities (over 100,000 population) ranged from \$1,071 in Florida to \$3,418 in New York State.

TABLE 3.—MEDIAN SALARIES OF TEACHERS IN CITIES OVER 30,000 IN POPULATION IN THE UNITED STATES, 1934-35

[Class I, reporting cities of over 100,000 population; class II, reporting cities of 30,000 to 100,000 population]

State	Median salaries paid in city school systems to—											
	Kindergarten teachers		Elementary-school teachers		Teachers of atypical classes		Junior high-school teachers ¹		High-school teachers ²		Part-time school teachers	
	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II	Class I	Class II
United States.....	\$1,926	\$1,469	\$1,922	\$1,412	\$1,996	\$1,611	\$2,078	\$1,612	\$2,436	\$1,834	\$2,693	\$1,902
Alabama.....			1,282	-1,000	1,300			1,031	1,653	1,275		
Arizona.....		1,350		1,378				1,545		2,000		
Arkansas.....				-1,000				1,209		1,417		
California.....	2,050	1,823	2,156	1,856	2,175	1,880	2,396	2,140	2,470	2,407	2,471	2,367
Colorado.....	1,858	1,400	1,986	1,389	2,367	1,425	2,318	1,600	2,349	1,700		
Connecticut.....	1,800	1,558	1,839	1,646	2,004	1,675	2,106	1,505	2,470	2,052		
Delaware.....	1,400		1,810		1,810		1,770		1,957			
District of Columbia.....	2,046		2,034		2,043		2,237		2,645			
Florida.....			-1,000		1,063		1,041		1,071			-1,000
Georgia.....	1,300	-1,000	1,377	1,129	1,491		1,791	1,241	1,797	1,653	1,475	
Illinois.....	1,913	1,292	1,932	1,328	1,930	1,428	1,592	1,441	2,796	1,802	3,412	
Indiana.....	1,438	1,167	1,549	1,265	1,577	1,313	1,735	1,444	1,991	1,617	1,350	
Iowa.....	1,627	1,224	1,515	1,228	1,471	1,375	1,680	1,465	1,863	1,570		
Kansas.....	1,155	1,500	1,418	1,608	1,463	1,617	1,627	1,631	1,632	1,919		
Kentucky.....	1,330	1,333	1,249	1,444	1,450	1,500	1,379	1,544	1,877	1,833		
Louisiana.....	1,070		1,402		1,436				1,739			
Maine.....		1,321		1,346		1,342		1,465		1,659		
Maryland.....	1,715		1,669	1,096	1,759		1,906	1,181	2,278	1,319		
Massachusetts.....	1,635	1,619	1,834	1,551	1,782	1,641	2,007	1,726	2,351	2,000	2,144	1,825
Michigan.....	1,756	1,241	1,844	1,328	2,301	1,461	2,460	1,534	2,450	1,693	2,512	1,583
Minnesota.....	1,638		1,577		1,715		1,825		2,062			
Mississippi.....				-1,000				1,004		1,055		
Missouri.....	2,269		1,810		1,739	-1,000	1,846	1,074	2,448	1,315		
Montana.....				1,401						1,672		
Nebraska.....	1,518	1,058	1,530	1,128	1,267			1,227	1,824	1,278		
New Hampshire.....		1,517		1,540				1,609		2,030		
New Jersey.....	2,156	1,986	1,912	1,975	2,300	2,239	2,076	2,336	2,731	2,518	2,550	
New York.....	2,854	1,814	2,818	1,822	3,404	1,919	3,425	2,044	3,418	2,225	3,420	2,093
Ohio.....	1,607	1,900	1,624	1,193	1,760	1,500	2,011	1,449	2,043	1,702	2,100	
Oklahoma.....	1,405		1,454	-1,000	1,275		1,550	1,130	1,825	1,244		
Oregon.....	1,100		1,752		1,752		1,283		1,916		-1,000	
Pennsylvania.....	1,577	1,458	1,931	1,482	2,365	1,506	2,434	1,624	2,831	1,833	2,600	1,725
Rhode Island.....	1,828	1,350	1,737	1,533	1,956	1,617	2,092	1,631	2,321	1,905		
South Carolina.....				1,035		1,083		1,067		1,366		
South Dakota.....		1,050		1,097				1,106		1,413		
Tennessee.....			1,064				1,302		1,701		1,650	
Texas.....	1,228	1,125	1,385	1,066	1,309		1,632	1,181	1,801	1,443	-1,000	
Utah.....	1,250		1,493	1,012			1,624	1,339	1,776	1,575		
Virginia.....	1,719	1,311	1,185	1,185	1,713	1,175	1,656	1,222	1,800	1,482		
Washington.....	1,611		1,586	1,308	1,675	1,340	1,571	1,325	1,830	1,615	1,875	
Wisconsin.....	2,228	1,268	2,225	1,433	2,235	1,458	2,200	1,659	2,464	1,773		1,713

¹ Includes teachers in prevocational schools.

² Includes teachers in vocational schools.

⁴ In some cases data were insufficient to make it worth while to compute medians for cities of a certain size and for certain groups of employees. In these cases medians are omitted. When as many as 10 cities of a given population group in a single State reported or when half or more of all cities of a given size in a State reported, a median was computed, except that when less than 5 employees were reported, no median was computed. When the use of a computed median makes the State median more than the maximum salary actually paid to teachers in the cities within the State, the maximum rather than the calculated median is reported.

Civil Employees in Field Service of Navy Department and Marine Corps—Wages, 1934

WAGE rates of civilian workers in the clothing service and in the laborer, helper, and mechanical service of the Navy Department and the Marine Corps, within continental United States, are shown in the following tables compiled from data published by the Navy Department. Substantially the same schedule was in effect from 1929 to 1934. The figures for all occupations in the tables are the maximum; the minimum rate is 10 cents under the maximum and there is an intermediate rate 5 cents under the maximum.

TABLE 1.—RATES OF WAGES PER HOUR IN THE CLOTHING SERVICE

Occupation	Rate per hour	Occupation	Rate per hour
<i>Naval Supply Depot, Brooklyn, N. Y.</i>		<i>Naval Supply Depot, Brooklyn, N. Y.—Continued</i>	
Assistant custom cutters.....	\$0. 85	Spreaders.....	\$0. 67
Basters.....	. 85	Trimmers.....	. 60
Bushelmen.....	. 80	Trouser finishers.....	. 55
Canvas makers.....	. 65	Trouser makers.....	. 80
Choppers.....	. 75	Trouser operators.....	. 90
Cleaners.....	. 45	Underpressers.....	. 80
Cloth spongers.....	. 75	Vest makers.....	. 75
Clothing examiners.....	. 75		
Coat finishers.....	. 55	<i>Marine Supply Depot, Philadelphia, Pa.</i>	
Coat makers.....	. 90	Basters.....	. 73
Coat operators.....	1. 00	Cleaners.....	. 37
Collar makers.....	. 90	Coat fitters.....	. 83
Custom cutters.....	1. 25	Coat makers.....	. 90
Cutting-machine operators.....	. 90	Coat operators.....	. 98
Cutters and markers.....	. 85	Custom cutters.....	1. 25
Die-machine operators.....	. 75	Cutters.....	. 83
Double-needle operators.....	. 70	Cutters and markers.....	. 83
Dress-coat makers.....	. 95	Cutting-machine operators.....	. 90
Embroiderers.....	. 55	Embroiderers.....	. 48
Finish pressers.....	. 95	Examiners, clothing.....	. 73
Fitters.....	. 85	Finishers.....	. 40
Garment makers (bundle hands).....	(¹)	Operators (female).....	. 51
General tailors.....	. 85	Head operators (female).....	. 60
Head custom cutters.....	1. 35	Pressers.....	. 73
Hand buttonhole makers.....	. 80	Spongers.....	. 51
Operators (female).....	. 55	Tailors, first class.....	. 83
Operators, sewing machine.....	. 67	Ticketers.....	. 48
Operators, special machine.....	1. 00	Trimmers.....	. 45
Pocket makers.....	1. 00		

¹ Compensation computed on a piecework schedule.

TABLE 2.—RATES OF WAGES PER HOUR IN THE LABORER, HELPER, AND MECHANICAL SERVICE

Occupation	Boston	New York	Philadelphia	Washington	Norfolk	Charleston	New Orleans	Mare Island	Puget Sound	Great Lakes
<i>Group I</i>										
Attendants:										
Battery.....				\$0. 57						
Building (Naval Academy).....				. 40						
Ironers, hand, laundry.....			\$0. 40	. 40		\$0. 25				
Laborers, common.....	\$0. 56	\$0. 56	. 53	1. 53	\$0. 46	. 36	\$0. 36	\$0. 56	\$0. 56	\$0. 57
Laundresses.....					. 35					
Laundrymen.....	. 57	. 60	. 65	. 50		. 40				
Mangle hands, laundry.....	. 29			. 34		. 20				
Press operators, laundry.....	. 40			. 34		. 20				
<i>Group II</i>										
Apprentices:										
First class.....	. 60	. 60	. 60	. 60	. 60	. 60		. 60	. 60	
Second class.....	. 50	. 50	. 50	. 50	. 50	. 50		. 50	. 50	
Third class.....	. 40	. 40	. 40	. 40	. 40	. 40		. 40	. 40	
Fourth class.....	. 30	. 30	. 30	. 30	. 30	. 30		. 30	. 30	
Attendants, powder factory ².....				. 80						
Hammer runners:										
Heavy.....	. 66	. 66	. 63	. 66	. 60	. 57				
Other.....	. 60	. 62	. 58	. 61	. 55	. 52				

¹ Rate for laborer, common, at Naval Powder Factory, Indianhead, Md., and Naval Proving Ground, Dahlgren, Va., 50 cents per hour.

² Intermediate rates, 75, 70, 65, and 60 cents per hour. Minimum rate, 55 cents per hour.

WAGES AND HOURS OF LABOR

TABLE 2.—RATES OF WAGES PER HOUR IN THE LABORER, HELPER, AND MECHANICAL SERVICE—Continued

Occupation	Boston	New York	Philadelphia	Washington	Norfolk	Charleston	New Orleans	Mare Island	Puget Sound	Great Lakes
<i>Group II—Continued</i>										
Helpers:										
Blacksmiths—										
Heavy fires	\$0.64	\$0.64	\$0.62	\$0.62	\$0.59	\$0.56		\$0.68	\$0.65	
Other fires	.61	.61	.57	.57	.54	.51		.64	.61	
Boilermakers	.61	.61	.57	.57	.56	.51		.63	.63	
Coppersmiths	.61	.61	.57	.57	.54	.51		.63	.63	
Electricians	.63	.63	.59	.59	.56	.51	\$0.51	.63	.63	\$0.61
Flange turners	.64	.64	.62		.59	.61		.68	.68	
Forgers, heavy	.64	.64	.62		.59	.66		.68	.68	
General	.61	.61	.57	.57	.54	.51	.51	.63	.63	.60
Machinists	.61	.61	.57	.57	.56	.61	.51	.63	.63	.60
Metalsmiths										
Molders	.61	.63	.57	.57	.56	.61		.62	.62	
Pipe fitters	.63	.63	.59	.59	.55	.61	.51	.63	.63	.61
Riggers	.61	.61	.57	.57	.54	.61	.51	.63	.63	.60
Ropemakers	.61									
Sheet-metal workers	.61	.61	.57	.57	.55	.61		.63	.63	
Shipfitters	.61	.61	.57		.55	.61		.63	.63	
Woodworkers	.63	.63	.59	.59	.57	.61		.63	.63	
Hod carriers		.64		.62	.56	.66			.65	
Holders-on	.67	.66	.65		.62	.69		.68	.68	
Laborers, classified	.66	.56	.53	.53	.46	.36	.36	.56	.56	.57
Oilers	.74	.75	.70	.70	.70				.70	
Rivet heaters	.58	.60	.56		.45	.35		.60	.60	
Sand blasters	.72	.76	.72	.72	.70	.67		.72	.72	
Stable keepers	.58	.58	.56	.56					.58	
Stevedores	.67	.68	.65		.53	.53		.71	.71	
Teamsters	.60	.63	.56	.56	.48			.62	.62	.62
<i>Group III</i>										
Aircraft-fabric workers			.57		.56					
Aircraft mechanics:										
General			.88		.88					
Motor			.88		.88				.93	.88
Angle smiths:										
Heavy fires	.96	.99	.93		.93	.89		1.01	1.01	
Other fires	.86	.89	.83		.83	.79		.91	.91	
Blacksmiths:										
Heavy fires	.98	.99	.93	.93	.93	.89		1.02	1.05	
Other fires	.88	.89	.83	.83	.83	.79		.92	.91	
Boat builders	.90	.92	.87	.87	.87			.97	.97	
Boilermakers	.88	.92	.87	.87	.87	.82	.80	.93	.92	.87
Box makers	.62	.65	.60	.60	.60	.68		.65	.65	.63
Brakemen	.76	.76	.76	.76	.76	.76		.81	.81	
Buffers and polishers	.83	.83	.83	.83	.83			.89	.89	
Butchers				.73		.65				.73
Calkers, wood	.84	.89	.84	.84	.84		.80	.92	.92	
Calkers and chippers, iron	.86	.89	.84		.84	.82	.80	.91	.91	
Cement finishers	.92	.95	.90	.90	.88	.88	.84	.98	.98	.93
Cement workers	.63		.61	.61	.51	.41		.63	.63	
Chain makers	.91									
Chauffeurs	.68	.71	.65	.65	.62	.56	.60	.75	.75	.71
Coffee roasters		.92								
Conductors, railroad		.82	.82	.82	.82			.84	.84	
Coopers	.75	.76			.68			.78	.78	
Coppersmiths	.93	.98	.92	.92	.92	.85	.84	.98	.98	
Cranemen, electric (under 20 tons)	.72	.75	.70	.70	.75	.68		.78	.78	
Crystal oscillator makers				.82						
Cupola tenders	.78	.81	.75	.75	.75			.83	.83	
Die sinkers	.98	1.02	.98	.98	.98			1.03	1.03	
Divers	1.90	1.90	1.90		1.90	1.90	1.90	1.90	1.90	
Dredge operators					1.00					
Drillers	.73	.76	.70		.70	.68		.78	.78	
Electricians	.95	.98	.93	.93	.93	.87	.90	.99	.99	.95
Electroplaters	.88	.93	.87	.87	.87			.99	.99	
Elevator mechanics		1.10								
Enginemen	.87	.91	.84	.84	.84	.81	.80	.93	.93	.88
Locomotive	.88	.92	.86	.86	.86	.81			.93	
Locomotive, electric				.80						
Hoisting and portable	.88	.92	.86	.86	.86				.93	
Firemen	.72	.75	.70	.70	.70		.65	.79	.77	.74
Firemen, power plant						.66				
Firemen, other fires						.51				
Flange turners	.89	.94	.87	.87	.87	.86		.94	.94	
Forgers:										
Drop	.84	.91	.82	.82	.82			.90	.88	
Heavy	1.33	1.36	1.31	1.31	1.31	1.30		1.38	1.38	
Light	1.08	1.09	1.03	1.03	1.03	.99		1.12	1.15	
Foundry chippers	.64	.70	.64	.64	.64			.65	.65	
Frame benders	.89	.94	.87		.87	.85		.94	.94	

* Rate for laborers, classified, at Naval Powder Factory, Indianhead, Md., and Naval Proving Ground, Dahlgren, Va., 50 cents per hour.

TABLE 2.—RATES OF WAGES PER HOUR IN THE LABORER, HELPER, AND MECHANICAL SERVICE—Continued

Occupation	Boston	New York	Philadelphia	Washington	Norfolk	Charleston	New Orleans	Mare Island	Puget Sound	Great Lakes
<i>Group III—Continued</i>										
Furnace men:										
Foundry.....		\$0.70	\$0.65	\$0.65	\$0.65	\$0.60		\$0.75	\$0.75	
Heaters.....		.70	.65	.65	.65	.60		.70	.70	
Heavy forge heaters.....	\$0.75	.80	.75	.72	.72	.70		.75	.75	
Other forge.....	.65	.70	.65	.64	.64	.60		.70	.70	
Galvanizers.....	.71	.72	.67		.67	.64		.83	.80	
Gardeners.....	.64	.63	.63	.63	.63	.63	\$0.63	.73	.73	\$0.63
Gas cutters or burners.....	.76	.79	.74		.74	.70		.76	.76	
Glass apparatus makers.....				1.20						
Instrument makers.....	.92	.95	.91	.91				.97	.97	
Joiners.....	.90	.93	.88	.88	.88	.85	.85	.99	.99	.92
Ladle men, foundry.....	.64	.70	.65		.67	.88		.70	.70	
Lead burners.....				1.07						
Leather workers.....	.72	.75	.70	.70	.68			.78		
Letterers and grainers.....	.94	.97	.92	.92	.92			1.01	1.00	
Linotype or monotype operators, or compositors.....			.90		.90			.95	.95	
Loftsmen.....	.94	.96	.93		.93	.87		.97	.97	
Machine operators.....	.68	.71	.67	.67	.67			.76	.76	
Machinists.....	.88	.92	.88	.88	.88	.82	.82	.93	.93	.90
Markers and sorters, laundry.....				.55		.30				
Masons, brick or stone.....	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.17	1.17	1.14
Mechanics, bombsight.....				1.10						
Melters.....	.79	.82	.77	.77	.77				.83	
Electric.....		1.05	1.10	1.05	1.15				1.05	
Open hearth.....				1.15						
Metallic cartridge case makers.....				.68						
Millmen.....	.90	.93	.88	.88	.88	.87		.99	.99	
Model makers, wood.....				1.03						
Molders.....	.96	1.03	.98	.98	.98	.90		1.02	1.01	
Operators, gas plant.....	.82	.84	.80	.80	.80	.78		.84	.84	
Optical glass plate and gage makers.....				.92						
Optical instrument finishers.....				.84						
Optical instrument makers.....				.92						
Optical glass grinders and polishers.....				.82						
Optical parts inspectors.....				.82						
Optical instrument assemblers.....				.74						
Optical polish and wax mixers.....				.82						
Ordnancemen.....	.75	.75	.75	.75	.75	.75		.80	.80	
Packers.....	.68	.70	.65	.70	.65	.65		.77	.77	.72
Painters.....	.89	.92	.88	.88	.88	.81	.81	.96	.96	.90
Painters, coach.....				.90						
Pattern makers.....	1.02	1.06	1.04	1.04	1.04	.94		1.13	1.10	
Pipe coverers and insulators.....	.88	.91	.88	.88	.88	.85		.93	.91	
Pipe fitters.....	.95	.98	.93	.93	.93	.90	.87	.99	.99	.94
Plasterers.....	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.17	1.17	1.12
Plumbers.....	.95	.98	.93	.93	.93	.90	.89	.99	.99	.94
Printers, job.....	.90	.90	.90	.90	.90	.87		.97	.97	
Punchers and shearers.....	.65	.73	.64		.64	.60		.72	.70	
Riggers.....	.90	.92	.84	.84	.84	.81	.80	.94	.94	.85
Riggers, antennae.....								1.04		
Riveters.....	.88	.91	.86		.84	.80		.90	.90	
Rollers, brass and copper.....				.76						
Roofers.....	.95	.98								
Ropemakers.....	.77									
Sailmakers.....	.88	.90	.84	.84	.84	.84		.94	.92	
Saw filers.....	.97	1.04	.95	.95	1.00	.95		1.05	1.00	
Sewers.....	.57	.58	.55	.55	.55	.46		.58	.57	.50
Sheet-metal workers.....	.95	.98	.93	.93	.93	.89	.83	.99	.99	.94
Ship fitters.....	.88	.91	.87	.87	.87	.82		.93	.91	
Shipwrights.....	.90	.93	.88	.88	.88	.85		.99	.97	
Temperers.....				.90						
Tile and plate setters.....	.88	.90				.83			.92	
Toolmakers.....	.93	.97	.93	.93	.93	.87		.98	.98	
Trackmen.....	.63	.63	.61	.61	.56	.56		.63	.63	.63
Typewriter repairmen.....										
Upholsterers.....	.89	.92	.87	.87	.87			1.00	.95	
Watch and chronometer repairers.....				1.05						
Water tenders.....	.76	.79	.73	.73	.73	.70				
Welders:										
Electric.....	.88	.91	.86	.86	.86	.83	.83	.93	.93	
Gas.....	.86	.89	.84	.84	.84	.83	.80	.90	.90	
Wharf builders.....	.90	.92	.88	.88	.88	.85		.99	.99	

⁴ Rate of 99 cents per hour for gardeners allowed at naval ammunition depot, Hawthorne, Nev.

⁵ For use at Naval Powder Factory, Indianhead, Md., only.

⁶ For use at Naval Observatory, Washington, D. C., only.

Common Labor—Entrance Wage Rates, July 1931 to July 1934

THE term "common labor" has many interpretations among different industries and even among different localities or plants in the same industry. Also, many employers make a practice of increasing the rate of pay of a laborer after a stated length of service, provided a sufficient degree of fitness for the job has been developed; otherwise the employee is dropped. Owing to these difficulties in the way of securing comparable data as to wage rates for common labor, the Bureau of Labor Statistics has limited its study to entrance rates alone; that is, the rates of pay per hour for unskilled adult male common labor when first hired.

This survey has been confined to 13 important industries, in which a considerable number of common laborers are employed. The number of common laborers employed at entrance rates in the establishments reporting were 94,529 on July 1, 1931; 142,938 on July 1, 1932; 152,653 on July 1, 1933; and 173,188 on July 2, 1934. The industries included in the surveys were as follows:

Automobiles	Leather
Brick, tile, and terra cotta	Lumber (sawmills)
Cement	Paper and pulp
Electrical machinery, apparatus, and supplies	Petroleum refining
Foundry and machine-shop products	Slaughtering and meat packing
Iron and steel	Public utilities
	General contracting

The weighted average entrance rate per hour for each of the 13 industries, for their combined total, and for the total of these industries omitting general contracting, for the years 1926-34, is shown in table 1.

TABLE 1.—AVERAGE HOURLY ENTRANCE WAGE RATES FOR ADULT MALE COMMON LABOR, JULY OF EACH YEAR, 1926 TO 1934

Industry	Average hourly entrance rates (in cents) in—								
	1926	1927	1928	1929	1930	1931	1932	1933	1934
All industries.....	42.8	42.6	44.9	43.7	43.1	41.2	38.1	35.0	43.0
All industries except general contracting.....	40.9	40.4	44.1	42.1	41.6	40.7	37.6	34.2	42.3
Automobile.....	46.1	46.3	57.2	49.9	48.2	57.7	62.0	46.5	54.9
Brick, tile, and terra cotta.....	40.7	42.2	39.4	37.8	38.0	33.9	28.9	24.7	36.9
Cement.....	40.1	39.2	37.2	37.8	37.9	37.2	30.6	29.5	44.7
Electrical machinery, apparatus, and supplies.....	43.1	44.2	46.0	45.9	44.8	42.9	39.6	37.1	43.5
Foundry and machine-shop products.....	37.1	37.8	38.4	39.8	39.0	38.2	34.8	31.8	40.1
Iron and steel.....	42.7	43.2	42.5	42.5	42.1	41.8	31.8	33.6	43.2
Leather.....	40.9	41.4	42.3	42.2	41.9	39.1	32.9	31.6	39.3
Lumber (sawmills).....	33.6	32.2	31.7	32.0	31.6	27.7	21.5	20.8	33.1
Paper and pulp.....	42.8	42.5	44.3	44.0	43.2	37.2	35.6	32.6	40.3
Petroleum refining.....	47.9	44.0	45.4	45.7	48.1	47.5	42.1	40.7	52.6
Slaughtering and meat packing.....	41.5	41.7	42.2	42.0	41.8	41.7	34.6	32.3	43.9
Public utilities.....	42.0	39.8	42.9	42.8	44.6	44.6	41.5	38.7	41.8
General contracting.....	47.1	48.2	47.4	48.3	47.0	42.6	39.9	38.3	45.5

The maximum, minimum, and average common labor entrance rates per hour on July 1, 1931, 1932, 1933, and July 2, 1934, for each of the 13 industries and for all industries combined, for each geographic division and for the United States as a whole, are shown in table 2.

TABLE 2.—HOURLY ENTRANCE WAGE RATES FOR COMMON LABOR, JULY 1, 1931, 1932, 1933, AND JULY 2, 1934, BY INDUSTRY

Industry	United States				Geographic division												
					New England				Middle Atlantic				East North Central				
	1931	1932	1933	1934	1931	1932	1933	1934	1931	1932	1933	1934	1931	1932	1933	1934	
All industries:																	
Low.....	10.0	5.0	5.0	10.0	30.0	20.0	20.0	27.5	21.5	12.5	17.0	30.0	25.0	15.0	15.0	20.0	
High.....	125.0	100.0	95.0	100.0	90.0	80.0	70.0	70.0	125.0	100.0	95.0	87.5	125.0	90.0	95.0	100.0	
Average.....	41.2	38.1	35.0	43.0	45.4	40.4	37.1	43.3	45.1	40.4	36.7	45.2	45.2	45.0	38.7	44.7	
Automobiles:																	
Low.....	35.0	30.0	29.2	32.0	30.0	30.0	32.0	35.0	30.0	30.0	40.0	35.0	30.0	29.2	38.0		
High.....	75.0	75.0	53.0	62.5	45.0	45.0	45.0	75.0	75.0	50.0	62.5	75.0	75.0	50.0	62.5		
Average.....	57.7	62.0	46.5	54.9	38.1	33.8	41.6	62.4	62.5	47.2	55.8	46.4	62.0	46.3	54.6		
Brick, tile, and terra cotta:																	
Low.....	13.5	6.0	5.5	24.0	35.0	28.0	20.0	35.0	21.5	22.0	18.0	35.0	30.0	15.0	15.0	35.0	
High.....	51.0	60.0	50.0	50.0	45.0	45.0	40.0	40.0	51.0	44.0	40.0	50.0	48.0	60.0	50.0	50.0	
Average.....	33.9	28.9	24.7	36.9	36.2	35.8	32.0	38.6	41.4	31.5	28.2	38.5	32.3	32.3	25.0	39.8	
Cement:																	
Low.....	25.0	20.0	20.0	30.0	40.0	40.0	40.0	40.0	40.0	32.0	25.0	44.0	30.0	24.0	24.0	40.0	
High.....	50.0	40.0	40.0	51.0	44.0	44.0	44.0	44.0	44.0	35.0	33.0	47.0	44.0	33.5	33.5	47.5	
Average.....	37.2	30.6	29.5	44.7	42.1	42.1	42.1	42.1	42.1	33.5	29.1	44.5	39.8	28.1	29.5	44.3	
Electrical machinery, apparatus, and supplies:																	
Low.....	32.0	26.0	26.0	34.0	32.0	30.0	27.0	35.0	38.0	32.0	32.0	40.0	35.0	30.0	27.5	34.0	
High.....	58.0	50.0	49.5	60.0	48.0	45.0	38.0	57.5	54.0	50.0	45.0	50.0	58.0	46.0	49.5	60.0	
Average.....	42.9	39.6	37.1	43.5	44.2	38.1	35.3	51.5	43.7	38.3	38.2	42.2	42.7	41.8	36.4	43.7	
Foundry and machine-shop products:																	
Low.....	17.0	15.0	12.5	18.0	30.0	20.0	25.0	35.0	30.0	17.9	17.0	32.0	30.0	18.0	18.0	32.0	
High.....	56.3	55.0	53.0	62.5	45.0	50.0	53.0	55.0	51.0	54.0	51.0	54.0	55.0	45.0	45.0	62.5	
Average.....	38.2	34.8	31.8	40.1	37.8	36.1	35.3	39.1	41.3	36.9	33.8	41.3	40.7	35.3	31.1	41.3	
Iron and steel:																	
Low.....	20.0	15.5	15.0	25.0	35.0	30.0	20.0	37.0	28.0	19.0	17.0	35.0	31.5	25.0	25.0	37.0	
High.....	50.0	45.0	45.0	55.0	45.0	40.0	45.0	47.0	50.0	41.0	40.0	50.0	50.0	45.0	45.0	55.0	
Average.....	41.8	31.8	33.6	43.2	41.7	32.4	31.3	44.5	42.0	31.2	31.6	43.9	45.1	33.2	34.7	45.7	
Leather:																	
Low.....	20.0	15.0	15.0	24.0	40.0	30.0	27.9	32.0	33.3	30.0	25.0	32.0	30.0	24.0	20.0	32.0	
High.....	55.0	55.0	47.6	62.5	54.2	50.0	41.7	56.3	50.0	45.8	47.6	62.5	49.0	55.0	45.0	45.0	
Average.....	39.1	32.9	31.6	39.3	46.5	38.4	39.5	48.5	42.9	38.8	38.0	46.9	38.7	32.4	28.2	38.5	
Lumber (sawmills):																	
Low.....	10.0	5.0	5.0	20.0	30.0	24.0	25.0	30.0	32.5	12.5	25.0	30.0	26.0	20.0	15.0	20.0	
High.....	50.0	62.5	45.0	50.0	35.0	36.0	27.0	45.0	32.5	30.0	35.0	35.0	37.5	62.5	37.5	42.5	
Average.....	27.7	21.5	20.8	33.1	32.5	25.8	26.1	32.0	32.5	25.9	27.0	32.6	28.7	28.0	24.8	31.1	
Paper and pulp:																	
Low.....	17.5	12.5	12.5	27.0	35.0	25.0	20.0	32.5	35.0	25.0	20.0	35.0	25.0	20.0	20.0	32.0	
High.....	53.0	50.0	50.0	51.8	58.0	50.0	45.0	46.0	50.0	50.0	45.0	50.0	48.5	45.0	46.0	50.0	
Average.....	37.2	35.6	32.6	40.3	42.7	41.4	35.8	41.5	40.6	35.0	32.5	41.6	39.6	35.5	33.4	41.9	
Petroleum refining:																	
Low.....	30.0	22.5	22.5	36.0	45.0	45.0	45.0	45.0	45.0	36.0	36.0	52.0	45.0	35.0	30.0	52.0	
High.....	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	62.0	56.0	56.0	58.9	50.0	48.0	48.0	56.0	
Average.....	47.5	42.1	40.7	52.6	48.5	46.5	45.9	48.5	46.5	45.9	56.3	45.1	40.9	43.2	52.4		
Slaughtering and meat packing:																	
Low.....	30.0	27.0	22.5	30.0	37.0	34.0	34.0	34.0	35.0	32.5	25.0	42.5	35.0	27.0	22.5	40.0	
High.....	45.0	40.0	45.0	52.0	37.0	34.0	34.0	34.0	45.0	40.0	36.0	52.0	45.0	40.0	36.0	46.5	
Average.....	41.7	34.6	32.3	43.9	37.0	34.0	34.0	34.0	40.8	35.9	33.1	46.4	42.3	36.3	33.5	45.3	
Public utilities:																	
Low.....	15.0	15.0	10.0	10.0	30.0	29.0	20.0	27.5	30.0	25.0	24.0	31.5	32.5	20.0	20.0	22.5	
High.....	67.5	75.0	75.0	75.0	60.0	58.0	58.0	67.5	61.3	65.0	61.3	70.5	67.5	75.0	75.0	75.0	
Average.....	44.6	41.5	38.7	41.8	49.7	47.2	44.8	46.4	44.8	45.9	44.0	48.7	53.4	45.5	45.9	48.0	
General contracting:																	
Low.....	15.0	7.5	5.0	20.0	35.0	25.0	25.0	40.0	25.0	25.0	20.0	30.0	30.0	20.0	20.0	30.0	
High.....	125.0	100.0	95.0	100.0	90.0	80.0	70.0	70.0	125.0	100.0	95.0	87.5	125.0	90.0	95.0	100.0	
Average.....	42.6	39.9	38.3	45.5	51.4	39.7	39.8	46.3	49.7	46.6	42.0	46.4	54.1	45.1	42.8	52.7	

TABLE 25—HOURLY ENTRANCE WAGE RATES FOR COMMON LABOR, JULY 1, 1931, 1932, 1933, AND JULY 2, 1934, BY INDUSTRY—Continued

Industry	Geographic division											
	West North Central				South Atlantic				East South Central			
	1931	1932	1933	1934	1931	1932	1933	1934	1931	1932	1933	1934
All industries:	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>	<i>Ct.</i>
Low.....	15.0	12.5	10.0	23.0	10.0	6.0	5.0	10.0	15.0	5.0	6.5	22.5
High.....	87.5	87.5	80.0	78.8	50.0	50.0	50.0	51.8	40.0	75.0	50.0	62.5
Average.....	42.9	35.8	34.5	43.2	28.9	23.4	25.3	33.6	25.2	21.0	25.7	34.1
Automobiles:												
Low.....	40.0	36.0	35.0	50.0						75.0	50.0	
High.....	75.0	75.0	50.0	62.5						75.0	50.0	
Average.....	72.8	61.7	38.7	54.8						75.0	50.0	
Brick, tile, and terra cotta:												
Low.....	28.0	20.0	20.0	35.0	13.5	6.0	5.5	24.0	15.0	8.0	7.0	24.0
High.....	40.0	34.0	40.0	40.0	30.0	40.0	45.0	44.0	37.5	26.5	30.0	39.0
Average.....	31.1	26.5	24.4	37.5	21.5	17.8	17.1	33.0	20.6	17.2	19.6	30.8
Cement:												
Low.....	31.5	28.0	28.0	40.0					25.0	20.0	20.0	34.0
High.....	44.0	33.0	35.0	50.0					36.0	33.0	25.0	35.0
Average.....	33.8	30.1	31.8	47.7					29.9	23.2	21.3	34.8
Electrical machinery, apparatus, and supplies:												
Low.....	35.0	26.0	26.0	37.0		35.0						
High.....	43.0	31.0	28.0	40.0		38.0						
Average.....	37.1	28.2	26.8	38.1		37.0						
Foundry and machine-shop products:												
Low.....	34.0	25.0	20.0	35.0	17.0	15.0	15.0	25.0	27.5	15.0	12.5	25.9
High.....	45.0	50.0	45.0	43.0	43.8	40.0	40.0	44.0	40.0	35.0	35.0	40.0
Average.....	40.7	35.4	34.4	40.1	27.7	25.0	22.2	29.6	31.8	23.0	19.0	32.8
Iron and steel:												
Low.....	35.0	25.0	30.0		20.0	15.5	15.0	25.0	23.5	16.0	15.5	27.5
High.....	40.0	33.0	30.0		44.0	33.0	40.0	44.0	31.0	31.5	31.5	47.5
Average.....	37.0	30.0	30.0		36.1	30.1	35.8	40.0	25.4	24.3	24.6	32.7
Leather:												
Low.....		20.0	20.0		20.0	15.0	15.0	24.0	20.0	28.5	15.0	28.0
High.....		20.0	20.0		40.0	35.0	30.0	40.0	33.0	28.5	20.0	40.0
Average.....		20.0	20.0		34.0	23.4	27.2	31.0	32.9	28.5	18.3	39.6
Lumber (sawmills):												
Low.....	30.0	12.5	10.0	23.0	10.0	6.5	5.0	23.0	15.0	5.0	6.5	24.0
High.....	30.0	30.0	27.5	40.0	32.5	31.0	25.0	28.5	25.0	25.0	20.0	28.5
Average.....	30.0	25.0	24.2	35.8	14.1	14.6	13.3	24.8	16.4	14.9	11.7	25.1
Paper and pulp:												
Low.....	31.5	25.0	25.0	33.5	25.0	16.0	14.3	30.0	17.5	12.5	12.5	30.0
High.....	45.0	38.0	35.0	45.0	42.0	40.0	40.0	51.8	30.0	20.0	26.0	36.0
Average.....	38.5	33.3	33.5	40.8	36.5	25.5	24.2	34.1	23.5	19.1	16.9	32.4
Petroleum refining:												
Low.....	50.0	32.5	32.5	43.0	30.0	29.0	29.0	36.0	35.0		30.0	
High.....	50.0	45.0	45.0	55.0	50.0	50.0	50.0	50.0	35.0		30.0	
Average.....	50.0	36.9	37.4	51.0	39.9	40.0	39.2	47.0	35.0		30.0	
Slaughtering and meat packing:												
Low.....	37.5	29.0	25.0	30.2	40.0	35.0	30.0					
High.....	43.0	40.0	38.0	45.0	40.0	35.0	35.0					
Average.....	42.2	33.7	31.7	43.2	40.0	35.0	32.5					
Public utilities:												
Low.....	30.0	20.0	20.0	25.0	15.0	15.0	10.0	10.0	25.0	15.0	15.0	22.5
High.....	40.0	55.0	50.0	50.0	45.0	50.0	45.0	50.0	40.0	40.0	40.0	45.0
Average.....	34.0	39.5	35.1	37.7	36.9	30.8	29.0	34.0	31.9	27.9	24.9	33.1
General contracting:												
Low.....	15.0	15.0	12.5	35.0	15.0	10.0	5.0	20.0	15.0	15.0	10.0	30.0
High.....	87.5	87.5	80.0	78.8	50.0	50.0	40.0	50.0	35.0	37.5	50.0	50.0
Average.....	38.1	36.8	36.7	44.2	28.7	23.0	21.9	36.7	25.1	22.7	21.1	37.2

TABLE 2.—HOURLY ENTRANCE WAGE RATES FOR COMMON LABOR JULY 1, 1931, 1932, 1933, AND JULY 2, 1934, BY INDUSTRY—Continued

Industry	Geographic division											
	West South Central				Mountain				Pacific			
	1931	1932	1933	1934	1931	1932	1933	1934	1931	1932	1933	1934
All industries:												
Low.....	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.	Ct.
High.....	15.0	7.5	10.0	18.0	22.5	16.5	15.5	22.5	22.0	18.8	18.0	25.0
Average.....	50.0	75.0	50.0	62.5	62.5	65.6	59.4	65.0	75.0	75.0	68.8	87.5
	29.9	23.7	23.4	32.7	43.1	39.3	42.3	46.4	43.5	40.2	38.0	46.9
Automobiles:												
Low.....		75.0	50.0						50.0	45.0	45.0	45.0
High.....		75.0	50.0						55.0	55.0	53.0	50.0
Average.....		75.0	50.0						54.0	52.2	50.7	47.2
Brick, tile, and terra cotta:												
Low.....	22.5	12.5	10.0	24.0	38.5	23.5	23.5	30.0	37.0	30.0	25.0	35.0
High.....	25.0	22.3	20.0	30.0	40.0	45.0	40.5	43.5	50.0	45.0	42.5	50.0
Average.....	23.9	16.5	11.8	25.7	39.0	38.4	33.2	39.0	42.9	36.0	34.2	41.5
Cement:												
Low.....	25.0	22.5	24.0	30.0					34.0	36.0	36.0	50.0
High.....	28.0	26.0	26.0	38.0					50.0	40.0	40.0	51.0
Average.....	27.4	24.4	25.5	34.0					40.9	38.6	38.3	50.8
Electrical machinery, apparatus, and supplies:												
Low.....												
High.....												
Average.....												
Foundry and machine-shop products:												
Low.....	22.5	17.5	15.0	18.0	40.0	35.0	25.0		45.0	32.0	32.0	40.0
High.....	30.0	36.0	40.0	45.0	45.0	55.0	40.0		56.3	50.0	50.0	55.0
Average.....	25.5	28.5	24.2	34.5	43.1	43.0	36.2		50.4	43.9	41.5	43.4
Iron and steel:												
Low.....					49.0	37.0	37.0		45.0	27.0	25.0	38.5
High.....					49.0	37.0	37.0		45.0	35.0	35.0	45.0
Average.....					49.0	37.0	37.0		45.0	32.4	30.1	41.8
Leather:												
Low.....									22.0	31.3	31.3	40.0
High.....									55.0	52.0	37.5	45.0
Average.....									51.0	42.8	32.7	40.5
Lumber (sawmills):												
Low.....	15.0	7.5	10.0	23.0	22.5	16.5	15.5	24.0	27.0	18.8	18.0	32.5
High.....	25.0	25.0	20.0	27.5	42.0	37.0	37.0	46.5	50.0	40.0	45.0	50.0
Average.....	20.7	15.1	13.7	24.0	36.1	32.0	32.5	41.9	36.3	30.1	28.7	44.2
Paper and pulp:												
Low.....	22.0	18.0	18.0	27.0					36.0	25.0	27.5	38.0
High.....	30.0	22.5	20.0	36.0					51.3	50.0	50.0	49.5
Average.....	26.3	20.4	19.3	31.2					37.5	37.5	35.2	42.4
Petroleum refining:												
Low.....	35.0	22.5	22.5	43.0	45.0	40.0	40.0	50.0	53.0	53.0	46.9	52.0
High.....	50.0	48.0	45.0	58.0	56.3	54.0	54.0	50.0	62.0	62.0	62.0	62.0
Average.....	43.2	35.4	35.6	49.1	50.6	51.1	51.3	50.0	56.4	55.2	51.5	54.8
Slaughtering and meat packing:												
Low.....	30.0	27.0	27.0	30.0	40.0	31.5	27.0	40.0	40.0	31.0	25.0	42.5
High.....	37.5	33.0	30.0	38.5	40.0	40.0	45.0	44.0	42.5	40.0	38.0	44.0
Average.....	37.2	29.9	27.7	37.3	40.0	33.7	30.0	43.9	41.4	34.5	33.1	44.0
Public utilities:												
Low.....	28.0	15.0	15.0	20.0	35.0	25.0	22.5	22.5	35.0	27.0	22.0	25.0
High.....	36.0	49.0	47.0	40.0	42.0	65.6	59.4	59.4	60.0	60.0	54.5	65.0
Average.....	30.3	27.6	26.4	29.5	36.1	42.9	41.3	44.7	50.5	44.3	42.0	42.8
General contracting:												
Low.....	20.0	7.5	15.0	25.0	30.0	20.0	37.5	40.0	35.0	30.0	25.0	40.0
High.....	50.0	40.0	45.0	55.0	62.5	62.5	50.0	65.0	75.0	75.0	68.8	87.5
Average.....	30.0	25.6	27.3	35.5	45.3	44.8	49.2	50.9	50.0	48.2	49.0	55.4

Common Street Laborers—Wages and Hours, 1932

A SURVEY of the entrance wage rates and regular full-time hours of common street laborers was made by the Bureau of Labor Statistics in December 1932. Questionnaires were sent to all cities and towns having a population of 2,500 or over according to the census of 1930. Reports were received from 2,733 cities and towns, this number being approximately 86 percent of the municipalities canvassed. Detailed data obtained in the survey were published in the July 1933 issue of the Monthly Labor Review. The rates shown are those paid to workers employed directly by the cities in constructing, repairing, and cleaning streets, and not those paid to workers hired by contractors doing work for the city. Only the regular standard entrance rate was used in the Bureau compilation; usually higher rates were paid after a period of service.

Owing to economic conditions at the time of the survey, street work in a number of cities was very irregular, many workers being given much less than full-time work. In some cities various plans were adopted to spread the work among greater numbers, such as a 6-hour day and double shifts, alternate weeks of employment, etc. Other cities employed "welfare labor" and men from the ranks of the unemployed, usually at a lower rate and on shorter hours. Some laborers were paid with food orders instead of with cash.

Table 1 shows the number of cities reporting as paying each classified hourly rate of pay in December 1932 and in October 1928, when a previous survey was made. The cumulative percentages indicate the general decrease that took place in wage rates for this class of labor during the 4-year period.

TABLE 1.—NUMBER AND PERCENT OF CITIES PAYING EACH CLASSIFIED HOURLY RATE FOR UNSKILLED STREET LABOR IN OCTOBER 1928 AND DECEMBER 1932

Classified entrance rates per hour	Number of cities		Cumulative percent of cities	
	December 1932	October 1928	December 1932	October 1928
Under 15 cents.....	166	4	6.1	0.2
15 and under 20 cents.....	128	64	10.8	2.6
20 and under 25 cents.....	123	119	15.3	7.1
25 and under 30 cents.....	246	195	24.3	14.6
30 and under 35 cents.....	366	201	37.7	22.2
35 and under 40 cents.....	389	313	51.9	34.1
40 and under 45 cents.....	485	593	69.6	56.7
45 and under 50 cents.....	195	198	76.8	64.2
50 and under 55 cents.....	406	553	91.6	85.3
55 and under 60 cents.....	90	154	94.9	91.2
60 and under 70 cents.....	125	194	99.5	98.6
70 and under 80 cents.....	13	35	100.0	99.9
80 and under 85 cents.....	1	3	100.0	100.0
Total.....	2,733	2,626		

Table 2 shows the number of cities reporting as having each classified regular full-time working hours per week in December 1932 and in October 1928. The tendency toward a reduction in regular full-time hours is indicated in the cumulative percentages.

TABLE 2.—NUMBER AND PERCENT OF CITIES WITH CLASSIFIED REGULAR FULL-TIME WEEKLY WORKING HOURS FOR UNSKILLED STREET LABOR IN OCTOBER 1928 AND DECEMBER 1932

Classified full-time hours per week	Number of cities		Cumulative percent of cities	
	December 1932	October 1928	December 1932	October 1928
Under 40.....	43		1.6	
40.....	138		6.6	
Over 40 and under 44.....	7	17	6.9	0.3
44.....	421	238	22.3	9.4
Over 44 and under 48.....	155	109	28.0	13.5
48.....	1,121	1,053	69.0	53.7
Over 48 and under 54.....	227	282	77.3	64.5
54.....	265	378	87.0	78.9
55.....	128	154	91.7	84.8
Over 55 and under 60.....	34	49	92.9	86.7
60.....	188	347	99.8	99.9
Over 60.....	6	2	100.0	100.0
Total.....	2,733	2,619		

¹ Under 44 hours.

Cotton-Textile Industry—Wage Rates and Weekly Earnings, 1933-34

THE adoption of the industrial code for the cotton-textile industry resulted in raising the hourly and weekly earnings in most of the low-paid occupations. In the higher-paid groups the increase was much less, resulting in reducing very considerably the differentials based upon skill. An order issued by the N. R. A. in May 1934 which reduced the maximum weekly hours from 40 to 30, for a period of 12 weeks, caused a marked loss of earnings during that period. The result was that in August 1934 the average money earnings per week of males showed a decline, as compared with those in August 1933, of about 8 percent in the North and about 18 percent in the South. When, however, the purchasing power of those earnings, as determined by the cost of living, was taken into consideration, the "real income" was found to have fallen about 18 and 25 percent, respectively.

This was revealed by a wage study made by the Bureau of Labor Statistics at the order of the President, covering pay-roll records for a week in August 1933 and August 1934 in 177 mills under the cotton-textile code, employing approximately 100,000 workers. A smaller, but nevertheless representative, sample, covering 38,000 wage earners, was taken for a week prior to the code in July 1933. In general the sample included somewhat more than one-quarter of the persons employed in the industry, though in certain States the sample was larger.

Average Hourly Earnings

AVERAGE hourly earnings, by occupations and sex, are shown in table 1 for the North and South, respectively. In August 1934 in occupations subject entirely to the basic code minimum rate, average hourly earnings in the South ranged from 30.3 cents per hour for truckers to 60.7 cents for foremen. In the North the averages ranged from 33.5 cents for female filling hands and trimmers and inspectors to 68.6 cents per hour for foremen.

Minimum wages had not become the maximum for the industry in the sense of a literal equality of average hourly earnings for all occupations. There was, however, in many occupations a concen-

tration of earnings at the minimum. In some occupations it was approximately true that the basic minimum wage was the maximum which could be earned in that occupation.

TABLE 1.—AVERAGE HOURLY EARNINGS, BY OCCUPATION, IN COTTON-TEXTILE MILLS, 1933-34

Northern mills

Occupation	Sex	Average hourly earnings (cents)			Percent of increase		
		July 1933	August 1933	August 1934	July 1933 to August 1934	July 1933 to August 1933	August 1933 to August 1934
Working foremen.....	Male.....	50.3	61.8	68.6	36	23	11
Loom fixers.....	do.....	46.3	63.1	64.8	40	36	3
Second hands.....	do.....	44.2	61.5	62.8	42	39	2
Card grinders.....	do.....	34.1	47.9	49.7	46	40	4
Warp-tying machine tenders.....	do.....	34.0	47.7	49.7	46	40	4
Section hands.....	do.....	33.7	47.6	48.7	44	41	2
Fixers, machinery.....	do.....	32.9	46.2	50.1	52	40	3
Smash hands.....	do.....	31.6	42.3	43.5	38	34	3
Drawers-in, hand.....	Female.....	30.8	42.7	42.7	39	39	0
Slubber tenders.....	Male.....	30.3	46.1	48.8	61	52	6
Weavers.....	do.....	30.1	43.9	44.2	47	46	1
Speeder tenders.....	do.....	29.6	43.5	45.4	53	47	4
Card tenders and strippers.....	do.....	28.4	40.2	41.0	44	42	2
Weavers.....	Female.....	28.3	42.5	43.5	54	50	2
Smash hands.....	do.....	27.9	39.6	38.9	39	42	1
Picker tenders.....	Male.....	27.9	40.3	40.7	46	44	1
Warper tenders.....	Female.....	27.8	44.9	39.9	44	62	1
Spinners, frame.....	Male.....	27.3	42.3	44.5	63	55	5
Helpers, general, factory.....	do.....	26.8	38.1	36.9	38	42	1
Doffers.....	do.....	26.4	41.3	43.2	64	56	5
Watchmen.....	do.....	26.2	41.9	42.7	63	60	2
Drawing-frame tenders.....	do.....	25.6	38.2	38.9	52	49	2
Truckers, hand.....	do.....	25.3	36.9	37.8	49	46	2
Speeder tenders.....	Female.....	24.7	39.6	40.2	63	60	2
Doffers.....	do.....	24.7	35.2	35.9	63	43	2
Laborers, white.....	Male.....	24.5	34.5	35.5	45	41	3
Spinners, frame.....	Female.....	23.9	37.3	37.8	58	56	1
Oilers.....	Male.....	23.7	35.3	36.0	52	49	2
Drawing-frame tenders.....	Female.....	23.7	35.4	35.2	49	49	1
Roving men.....	Male.....	22.6	35.5	36.0	59	57	1
Spooler tenders.....	Female.....	22.1	36.4	38.0	72	65	4
Cleaners, machinery.....	Male.....	21.4	31.6	32.5	52	48	3
Trimmers and inspectors.....	Female.....	20.9	33.2	33.5	60	59	1
Filling hands.....	Male.....	20.5	33.6	34.3	67	64	2
Cleaners, machinery.....	Female.....	20.5	32.7	33.5	63	60	2
Filling hands.....	do.....	20.2	33.4	33.5	66	65	(¹)
Laborers, white.....	do.....	18.4	31.3	33.3	80	70	6
Learners and apprentices.....	Male.....	17.0	26.4	29.1	71	55	10
Do.....	Female.....	11.5	24.1	24.1	110	110	0

Southern mills

Working foremen.....	Male.....	40.1	57.2	60.7	51	43	6
Second hands.....	do.....	35.7	53.6	53.9	51	50	1
Loom fixers.....	do.....	32.4	49.9	50.7	56	54	2
Section hands.....	do.....	28.9	45.5	45.0	56	57	1
Card grinders.....	do.....	27.3	44.0	44.3	62	61	1
Warp-tying machine tenders.....	do.....	25.5	42.4	43.6	71	66	3
Fixers, machinery.....	do.....	25.1	40.3	40.8	62	61	1
Warper tenders.....	do.....	24.2	36.6	37.3	54	51	2
Weavers.....	do.....	23.5	39.5	40.1	71	68	2
Drawers-in, hand.....	Female.....	23.2	38.3	38.8	67	65	1
Smash hands.....	Male.....	22.3	35.9	36.2	62	61	1
Speeder tenders.....	do.....	21.5	36.5	36.8	71	70	1
Weavers.....	Female.....	21.5	38.4	38.2	77	79	1
Slubber tenders.....	Male.....	21.3	37.2	37.4	75	75	1
Spinners, frame.....	do.....	19.7	34.3	33.8	72	74	1
Speeder tenders.....	Female.....	19.6	34.6	35.3	80	77	2
Doffers.....	Male.....	19.5	34.4	34.9	79	76	1
Carders and strippers.....	do.....	19.4	32.4	32.5	72	67	(¹)
Warper tenders.....	Female.....	19.4	34.0	33.3	72	75	1
Drawing-frame tenders.....	Male.....	19.1	32.8	33.8	77	72	3
Spooler tenders.....	do.....	19.0	32.1	33.2	75	69	3
Smash hands.....	Female.....	18.7	33.3	33.4	79	78	(¹)

¹ Decrease.

¹ Less than 1/4 of 1 percent.

TABLE 1.—AVERAGE HOURLY EARNINGS, BY OCCUPATION, IN COTTON-TEXTILE MILLS, 1933-34—Continued

Southern mills—Continued

Occupation	Sex	Average hourly earnings (cents)			Percent of increase		
		July 1933	August 1933	August 1934	July 1933 to August 1934	July 1933 to August 1933	August 1933 to August 1934
Watchmen.....	Male.....	18.3	30.8	32.7	79	68	6
Helpers, general, factory.....	do.....	18.3	31.6	32.1	75	73	2
Oilers.....	do.....	18.0	31.3	31.5	75	74	1
Drawing-frame tenders.....	Female.....	18.0	31.5	30.9	72	75	1 ²
Picker tenders.....	Male.....	17.3	30.9	31.3	81	79	1
Creelers.....	do.....	17.1	31.1	31.2	82	82	(¹)
Roving men.....	do.....	16.8	30.4	30.4	81	81	0
Truckers.....	do.....	16.6	29.9	30.3	82	80	1
Filling hands.....	do.....	16.5	30.8	31.1	89	87	1
Spooler tenders.....	Female.....	16.2	32.8	33.4	106	102	2
Cleaners, machinery.....	Male.....	16.1	26.0	27.4	70	61	5
Spinners, frame.....	Female.....	16.1	32.2	32.1	99	100	(¹)
Creelers.....	do.....	16.0	31.5	31.0	94	97	1 ²
Trimmers and inspectors.....	do.....	16.0	30.9	31.0	94	93	(¹)
Laborers, white.....	Male.....	15.6	26.4	28.0	79	69	6
Cleaners, machinery.....	Female.....	14.9	25.9	27.8	87	74	7
Laborers, colored.....	Male.....	14.3	20.4	24.0	67	43	18
Laborers, white.....	Female.....	14.0	26.3	29.7	112	88	13
Filling hands.....	do.....	13.7	30.6	30.7	124	123	(¹)
Learners and apprentices.....	Male.....	13.4	22.3	28.4	112	66	27
Do.....	Female.....	10.8	22.0	24.2	124	104	10
Laborers, colored.....	do.....	10.5	17.0	22.6	115	62	33

¹ Decrease.² Less than 1/2 of 1 percent.³ Decrease of less than 1/2 of 1 percent.

Median average hourly earnings are shown in table 2.

TABLE 2.—AVERAGE (MEDIAN) HOURLY EARNINGS IN COTTON-TEXTILE MILLS, 1933-34

Section and sex	July 1933	August 1933	August 1934	Percent of increase	
				July 1933 to August 1934	August 1933 to August 1934
North:					
Males.....	<i>Cents</i> 28.3	<i>Cents</i> 40.9	<i>Cents</i> 42.1	48.8	2.9
Females.....	23.1	36.1	37.3	61.3	3.1
South:					
Males.....	19.9	33.2	33.9	70.0	2.0
Females.....	16.1	32.0	32.1	100.0	.3

In table 3 the distribution of hourly earnings is shown in greater detail.

TABLE 3.—CUMULATIVE PERCENTAGE DISTRIBUTION OF AVERAGE HOURLY EARNINGS IN COTTON-TEXTILE MILLS

Average hourly earnings	July 1933				August 1933				August 1934			
	North		South		North		South		North		South	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent	Per- cent
Less than 12.5 cents.....	1.4	3.8	8.3	21.4								
Less than 17.5 cents.....	6.0	13.0	35.0	61.7								
Less than 22.5 cents.....	22.3	46.4	64.0	87.9	0.9	1.8	5.5	4.4	0.2	0.6	0.6	0.5
Less than 27.5 cents.....	46.1	74.1	81.5	94.3	2.8	3.7	9.4	6.6	1.0	1.5	7.6	3.5
Less than 30.0 cents.....	58.8	84.1	86.0	95.5	4.1	4.7	10.2	7.8	2.1	1.8	8.3	4.0
Less than 32.5 cents.....	66.8	90.0	91.3	98.2	6.1	7.9	46.8	61.4	3.2	3.8	44.0	58.1
Less than 35.0 cents.....	74.0	93.8	94.7	99.2	26.5	43.3	58.0	77.4	22.8	38.3	54.9	75.4
Less than 40.0 cents.....	83.5	97.2	97.6	99.6	46.6	73.6	73.8	92.8	42.1	68.8	70.9	91.1
Less than 45.0 cents.....	89.8	98.9	98.7	99.8	63.1	88.3	83.8	97.4	58.7	85.2	82.7	96.7
Less than 50.0 cents.....	95.4	99.5	99.1	99.9	74.6	94.7	92.6	98.9	70.3	91.9	91.6	98.6
Less than 60.0 cents.....	98.6	99.8	99.5	99.9	83.3	99.3	97.9	99.8	85.2	99.0	97.5	99.7
Less than 70.0 cents.....	99.5	99.9	99.8	99.9	97.0	99.8	99.2	99.9	96.1	99.8	99.0	99.9

Average Weekly Earnings

WEEKLY earnings of workers reflect, of course, both rates of pay per hour and the number of hours worked. The characteristic conditions governing comparisons in the three periods covered by this study are the relatively low hourly earnings of July 1933 coupled with an unregulated working week, and higher hourly earnings in August 1933 and 1934 coupled in August 1933 with a large volume of production within a maximum week of 40 hours and in August 1934 with low volume of production. Long hours and low pay in July 1933 yielded for many classes of labor as high weekly earnings as did higher wages with curtailed hours in August 1934.

The median weekly earnings—those earnings marking the upper limit for half of the workers and which were exceeded by the earnings of the other half of the workers—are shown in table 4.

TABLE 4.—AVERAGE (MEDIAN) WEEKLY EARNINGS IN COTTON-TEXTILE MILLS, 1933-34

Section and sex	Weekly earnings			Percent of increase		
	July 1933	August 1933	August 1934	July 1933 to August 1934	July 1933 to August 1933	August 1933 to August 1934
North:						
Males.....	\$14.32	\$15.75	\$14.48	1.1	10.0	18.1
Females.....	10.80	13.42	12.18	12.8	24.3	19.2
South:						
Males.....	10.24	12.37	10.29	.5	20.8	16.8
Females.....	7.35	11.18	9.19	25.0	51.1	17.8

¹ Decrease.

The distribution of weekly earnings in each of the three periods for all workers in the industry is shown in table 5.

TABLE 5.—CUMULATIVE PERCENTAGE DISTRIBUTION OF WEEKLY EARNINGS IN COTTON-TEXTILE MILLS

Weekly earnings	July 1933				August 1933				August 1934			
	North		South		North		South		North		South	
	Males	Fe- males										
	<i>Per- cent</i>											
Less than \$5.....	6.6	9.6	11.4	25.3	3.0	5.0	5.8	7.4	2.6	4.1	7.0	10.1
Less than \$10.....	20.7	41.4	47.9	78.2	9.0	15.0	25.8	39.8	15.2	28.4	47.8	68.9
Less than \$12.....	34.4	66.1	64.3	91.5	14.4	24.7	36.2	55.3	27.8	48.1	62.8	83.8
Less than \$13.....	41.9	74.7	71.8	95.1	17.7	30.9	59.3	79.8	34.2	57.5	73.4	91.5
Less than \$14.....	48.1	80.9	77.0	96.9	34.8	58.0	67.3	87.5	46.1	70.9	79.5	94.5
Less than \$18.....	72.5	96.7	91.2	99.5	65.7	90.6	86.7	98.4	70.8	92.9	92.5	98.9
Less than \$23.....	88.0	99.5	97.7	99.8	85.5	99.2	97.3	99.8	88.3	99.2	97.8	99.8

Domestic Service—Wages and Hours in Philadelphia, 1932

THE results of a survey of household employment in Philadelphia and vicinity was published by the United States Women's Bureau in 1932, as Bulletin No. 93. The investigation was originated by the women's problem group of the social order committee of the Society of Friends, and the questionnaires were sent out in 1928 by a committee of that group.

The number of householders returning satisfactory questionnaires on household employment was 954. Of the 2,833 employees reported upon in these 954 schedules, 1,781 were full-time and 1,052 were day workers; 2,062 were women and 709 were men. Replies were received to only 76 of the questionnaires sent employees; of that number, 2 were from male domestic workers.

Employers' Questionnaire

NEARLY three-fourths of the 2,771 workers for whom the employers reported sex were women. Nearly one-third of the women and slightly over one-eighth of the men were under 30 years of age. Only 21.7 percent of the men were reported as single as compared with 51 percent of the women. Nearly 70 percent of the women, as compared with 55 percent of the men, were full-time workers.

Three-fifths of the women and approximately one-fifth of the men lived where they were employed. Approximately four-fifths of the women who lived in had a room alone and practically all of these had access to a bath. Of the women for whom information was given as to whether they had a room in which they might receive friends, almost one-half had only the kitchen; the remainder had other rooms or were permitted to use certain rooms that belonged to the family.

Only about one-tenth of the replying employers lived in apartments, ranging in size from 1 room and bath to 15 rooms and 5 baths. The size of the houses in which the remaining nine-tenths of these employers lived ranged from 5 rooms and a bath to 58 rooms and 11 baths.

Hours of labor.—With regard to hours worked, the report states:

The over-all hours, from the beginning to the end of the day's work, were long; nearly three-fifths of the women had an over-all of at least 12 hours. For one-tenth the day was less than 8 hours; for less than one-third it was 8 and under 12 hours. Of the men for whom the time of beginning and of ending work was reported, less than one-third had an over-all as long as 12 hours; for less than one-twelfth, however, it was under 8 hours, and for three-fifths it was 8 and under 12.

The actual hours of work were tabulated for the women in five of the principal occupations only—chambermaids, children's nurses, cooks, general houseworkers, and waitresses—hour data being reported for about one-half of the women in these occupations. Of these 630 women, nearly three-fifths worked 10 hours or more, about one-twelfth working 12 hours or longer. The majority of the cooks whose hours were given on the questionnaire (58.3 percent) worked a day of 10 and under 12 hours, and 43.4 percent of the general houseworkers had hours as long as this.

Slightly over 11 percent of the 758 employers who reported on time off allowed their domestic workers one-half day, and 42.7 percent, two half days per week. The remaining 46.1 percent varied their practices in this regard.

Wages.—The proportions of men and women paid by the month, week, day, and hour were as follows:

DISTRIBUTION OF WORKERS, BY PERIOD OF WAGE PAYMENT

Paid by—	Men	Women
	Percent	Percent
Month.....	45.1	12.7
Week.....	30.1	61.2
Day.....	8.0	24.7
Hour.....	16.8	1.4

Approximately one-tenth of the women and also one-tenth of the men, paid by the month and living with their employers, received under \$60. Over two-fifths of the men who lived out were reported as being paid under \$60; since, with one exception, all were part-time employees, they undoubtedly received pay from other employers.

Of those reported as living in and paid by the month, slightly less than one-third of the women and slightly more than one-third of the men were in the \$80 to \$109.99 wage group, while 56.6 percent of the women were in the \$60 to \$79.99 wage group. The monthly wages of 30 men, 7 of whom lived in, were \$140 or more. No woman was paid as much as this.

Employees paid by the week for whom a specified amount was reported included 1,147 women and 154 men. Living conditions of the women and men in this group are in direct contrast, for while more than four-fifths of the women lived in, about three-fourths of the men lived away from their place of employment. Though nearly three-fourths of the women living in were paid from \$14 to \$20 a week, slightly less than three-eighths of those living out received amounts within this range. The largest proportion of women living out in any group is found in the \$9-and-under-\$14 class, while the largest proportion of men living out received \$20 and under \$45 a week. More than two-fifths of the men living out—all but one of whom were part-time workers—received less than \$9.

The day wage paid most women—84.2 percent of those doing day's work—was \$3 and under \$4, while the day rate for the largest proportion of men was \$5 and under \$6.

Training for present job.—No question was asked concerning the worker's special vocational training for her job, but inquiry was made as to her training at home or with a previous employer. Such infor-

mation was tabulated for 1,078 women, including cooks, general houseworkers, chambermaids, waitresses, and children's nurses. Over seven-tenths of these employees had had training from a previous employer, almost one-eighth and nearly the same proportion had received training both at home and from a previous employer.

Length of service.—More than two-fifths of the 1,103 women for whom a report was made as to length of service with present employer had been with such employers 2 years or more; approximately one-third between 6 months and 2 years; and about one-fourth for less than 6 months.

Employment policies.—Of the 798 employers reporting in regard to their policy as to references, only about 5 percent required none and approximately the same percentage accepted the recommendation of previous employers, friends, or neighbors. The remainder, 90.1 percent, stated that they investigated references, by telephone, through the employment bureau, or in person, or by a combination of two of these methods.

Over three-fifths of the 814 employers who answered the inquiry on their dismissal procedure reported that they gave notice only. Of those who replied as to specified time, a very large proportion gave a week's notice. Less than 4 percent gave only wages in advance and 25 percent stated that they gave both wages and notice, the great majority reporting 1 week as the specified time.

Of 785 employers who reported on the subject, 6 percent granted no vacations. The length of vacations given varied from less than a week to 3 months. Of 728 householders, about five-sixths paid wages to their workers for the entire vacation period, while less than 7 percent paid no wages at all during such holidays.

Employees' Schedule

THE employees' schedule was returned by 76 workers, 2 of whom were men. The median weekly wage of the 72 women was \$14.80, the median for those living out being \$12.70 and for those living in, \$15.25. The median for the white women was \$15.35, and for the colored women, \$14.50.

About two-thirds of the women living in who reported the length of their usual day worked as much as 12 hours. One Negro cook had a day 14½ hours in length. Of the women living out, two-fifths had a day of 12 hours or more. Two-fifths of all reporting went on duty between 7 and 8 o'clock in the morning. Nearly one-half of those by whom the time of quitting work was given went off duty between 7 and 8 o'clock in the evening.

Dyeing and Finishing of Textiles—Hours and Earnings, 1930 and 1932

THIS article presents summaries of the results of studies in 1930 and 1932 by the Bureau of Labor Statistics of wages and hours of labor of wage earners in the dyeing and finishing of textiles in the United States. The 1932 results were published in more detail in Bulletin No. 588 of the Bureau.

The 1932 basic wage figures used in compiling this article were collected from 93 representative dyeing and finishing plants in 8 States for a pay period in January, February, or March, and covered 19,246 wage earners, including 16,215 males and 3,031 females. These wage

earners were in the dyeing and finishing department of 16 cotton mills that produce, dye, and finish cotton goods and in 77 plants that do nothing but the dyeing and finishing of textiles. The dyeing and finishing done in a vast majority of the plants included in the study consisted mainly of cotton textiles, but in a few plants was of cloth made of mixtures of cotton and rayon.

Table 1 shows for each of the 42 important occupations in the dyeing and finishing of textiles, for a group designated as "Other employees", and for all occupations combined, average hours and earnings in 1 week, average earnings per hour, and the percent of full time worked in 1 week, in 1930 and 1932.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE DYEING AND FINISHING OF TEXTILES, 1930 AND 1932, BY OCCUPATION AND SEX

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All employees:												
Males.....	51.0	51.4	50.7	51.1	99.4	99.4	\$0.473	\$0.418	\$24.12	\$21.49	\$23.99	\$21.37
Females.....	50.5	51.2	42.4	43.5	84.0	85.0	.335	.290	16.92	14.90	14.20	12.65
Males and females.....	50.9	51.3	49.3	49.9	96.9	97.3	.452	.400	23.01	20.52	22.29	19.99
Ager tenders, male.....	51.4	51.3	61.3	56.7	119.3	110.5	.435	.378	22.36	19.39	26.67	21.43
Back tenders, printing, male.....	51.3	51.4	56.8	52.9	110.7	102.9	.466	.381	23.91	19.58	26.44	20.15
Balers, male.....	51.4	51.4	44.9	46.0	86.8	89.5	.362	.331	18.72	17.01	16.24	15.24
Batchers (cloth winders), male.....	49.9	50.8	48.3	51.5	96.8	101.4	.443	.377	22.11	19.15	21.41	19.42
Batchers (cloth winders), female.....	48.3	49.2	38.9	25.7	80.5	52.2	.438	.331	21.16	16.29	17.02	8.50
Bath mixers, male.....	50.1	51.9	49.8	53.3	99.4	102.7	.473	.394	23.70	20.45	23.55	20.96
Calender tenders, male.....	51.4	52.1	50.7	49.3	98.6	95.6	.431	.383	22.15	19.95	21.81	19.06
Color mixers, male.....	52.1	52.5	55.3	57.6	106.1	109.7	.489	.387	25.48	20.32	27.06	22.28
Die makers, male.....	48.7	(1)	43.7	(1)	89.7	(1)	1.240	(1)	60.39	(1)	54.25	(1)
Drier tenders, male.....	51.2	51.6	51.6	53.6	100.8	103.9	.435	.375	22.27	19.35	22.42	20.09
Drier tenders, female.....	48.5	48.3	43.8	31.4	90.3	65.0	.299	.270	14.50	13.04	13.10	8.50
Dyeing-machine tenders, male.....	50.6	50.8	48.6	49.7	96.0	97.8	.465	.415	23.53	21.08	22.62	20.61
Engravers, hand, male.....	49.1	50.6	50.0	50.3	101.8	99.4	1.235	1.021	60.64	51.66	61.70	51.37
Engravers, machine, male.....	49.4	51.7	50.7	44.9	102.6	86.8	1.247	1.004	61.60	51.91	63.18	45.07
Etchers, male.....	50.3	(1)	49.5	(1)	98.4	(1) #	.938	(1) *	47.18	(1)	46.45	(1)
Floormen, male.....	52.3	50.4	54.3	47.8	103.8	94.8	.466	.376	24.37	18.95	25.31	17.99
Folders, male.....	51.3	51.7	47.1	49.2	91.8	95.2	.587	.498	30.11	25.75	27.62	24.47
Folders, female.....	49.4	51.2	42.5	38.9	86.0	76.0	.368	.338	18.18	17.31	15.62	13.14
Inspectors, male.....	51.0	50.4	47.8	48.0	93.8	95.2	.459	.408	23.00	20.56	21.57	19.60
Inspectors, female.....	51.8	52.2	41.2	44.5	79.5	85.2	.295	.249	15.28	13.00	12.14	11.06
Jackmen, printing, male.....	51.2	51.0	57.5	56.7	112.3	111.2	.483	.395	24.73	20.18	27.75	22.37
Kettlemen, color mixing, male.....	51.8	51.2	56.3	56.5	108.7	110.4	.485	.424	25.12	21.71	27.29	23.96
Kettlemen's helpers, male.....	49.9	51.3	49.6	50.8	99.4	99.0	.475	.320	23.70	16.42	23.60	16.24
Kier boilers, male.....	53.0	53.5	56.9	53.4	107.4	109.2	.433	.391	22.95	20.92	24.66	22.83
Knotters, female.....	51.0	51.4	41.2	45.4	80.8	88.3	.298	.267	15.20	13.72	12.31	12.12
Mangle tenders, male.....	51.2	51.6	50.9	51.5	99.4	99.3	.424	.366	21.71	18.89	21.60	18.86
Mangle tenders, female.....	50.4	49.5	49.9	34.6	99.0	69.9	.310	.241	15.62	11.93	15.45	8.35
Measurers, male.....	50.8	53.4	43.2	53.1	85.0	94.4	.457	.323	23.22	17.25	19.79	17.14
Measurers, female.....	50.5	52.8	43.1	46.9	85.3	82.3	.423	.356	21.36	18.08	18.22	16.69
Mercerizers, male.....	52.7	52.0	50.2	46.9	95.3	107.7	.434	.356	22.87	22.36	21.79	24.07
Openers, male.....	49.6	50.1	47.1	47.6	95.0	95.0	.487	.394	24.16	18.74	22.94	13.77
Packers, male.....	51.8	52.0	49.1	51.4	94.8	98.8	.423	.367	21.91	19.08	20.77	18.86
Packers, female.....	50.4	(1)	41.3	(1)	81.9	(1)	.313	(1)	15.78	(1)	12.95	(1)
Pilers, male.....	49.4	51.4	43.1	46.5	87.2	90.5	.337	.303	16.65	15.57	14.49	14.10
Plaiters, male.....	51.1	51.8	46.8	51.1	91.6	98.6	.374	.308	19.11	15.95	17.51	15.71
Plaiters, female.....	50.3	49.5	42.2	34.5	83.9	69.7	.281	.240	14.13	11.88	11.88	8.28
Polishers, metal, male.....	50.9	49.8	52.9	48.7	103.9	97.8	.490	.425	24.94	21.17	25.91	20.71
Printing-machine tenders, male.....	51.5	50.8	54.7	55.2	106.2	108.7	1.201	1.019	61.85	51.77	65.66	56.23
Roller turners, male.....	50.5	51.7	51.1	44.6	101.2	86.3	.570	.388	28.79	20.58	29.11	17.73
Scutcher tenders, male.....	50.6	51.8	50.9	54.8	100.6	105.8	.409	.304	20.70	15.75	20.81	16.64
Sewers, male.....	51.2	51.0	54.2	52.2	105.9	102.4	.389	.332	19.92	16.93	21.07	17.32
Sewers, female.....	51.4	51.4	41.4	46.0	80.5	89.5	.312	.277	16.04	14.24	12.93	12.73
Singers, male.....	50.7	51.6	46.4	51.1	91.5	99.0	.415	.366	21.04	18.89	19.23	18.71
Soap tenders, male.....	51.2	51.8	58.9	55.0	115.0	106.2	.410	.350	20.99	18.13	24.15	19.23
Soap mixers, male.....	51.1	50.6	58.9	57.7	115.5	114.0	.429	.403	21.92	20.39	25.26	23.24
Sprinkler tenders, male.....	51.4	52.4	52.7	51.0	102.5	97.3	.379	.338	19.48	17.71	20.00	17.26

*None reported in 1932.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE DYEING AND FINISHING OF TEXTILES, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
Steamer tenders, male.....	48.8	49.4	52.4	51.4	107.4	104.0	\$0.438	\$0.345	\$21.37	\$17.04	\$22.07	\$17.72
Swing tenders, male.....	50.6	52.0	50.8	51.4	100.4	98.8	.373	.336	18.87	17.47	18.94	17.30
Swing tenders, female.....	49.2	53.7	35.5	40.6	72.2	75.6	.310	.275	15.25	14.77	11.00	11.18
Tenter-frame tenders, male.....	51.0	51.5	51.2	53.3	100.4	103.5	.435	.385	22.19	19.83	22.26	20.55
Tenter-frame tenders, female.....	50.4	50.5	49.9	43.8	99.0	86.7	.353	.319	17.79	16.11	17.62	13.95
Truckers, male.....	50.6	51.2	51.5	51.2	101.8	100.0	.405	.344	20.49	17.58	20.86	17.58
Tub washers, male.....	52.9	50.8	56.7	55.3	107.2	108.9	.404	.355	21.37	18.03	22.91	19.62
Washer tenders, male.....	51.3	51.4	48.3	51.8	94.2	100.8	.447	.378	22.93	19.43	21.59	19.58
Yarn winders, male.....	56.2	56.3	35.5	32.1	63.2	57.0	.290	.246	16.30	19.48	10.28	11.08
Yarn winders, female.....	51.9	53.4	39.6	39.3	76.3	73.6	.350	.282	18.17	13.99	13.84	10.29
Other employees, male.....	51.0	51.3	51.1	50.7	100.2	98.8	.475	.441	24.23	22.62	24.30	22.34
Other employees, female.....	50.1	50.6	43.1	44.4	86.0	87.7	.336	.298	16.83	15.08	14.47	13.22

Table 2 shows for all of the males, for all of the females, and for all males and females combined, who were included in the studies of dyeing and finishing of textiles in each State in 1930 and 1932, average hours and earnings per week, average earnings per hour, and the percent of full time worked in the week.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE DYEING AND FINISHING OF TEXTILES, 1930 AND 1932, BY SEX AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
Males												
Connecticut.....	53.5	54.5	54.2	54.0	101.3	99.1	\$0.572	\$0.487	\$30.60	\$26.54	\$30.96	\$26.32
Massachusetts.....	48.9	49.0	52.7	52.1	107.8	106.3	.433	.379	21.17	18.57	22.80	19.76
New Jersey.....	49.8	50.3	45.0	49.8	96.4	99.0	.523	.476	26.05	23.94	25.09	23.69
New York.....	48.9	48.9	45.3	45.7	92.6	93.5	.520	.417	25.43	20.39	23.58	19.07
North Carolina.....	55.0	54.4	47.1	48.3	85.6	88.8	.320	.296	17.60	16.10	15.05	14.29
Pennsylvania.....	53.3	52.2	51.4	53.4	96.4	102.3	.546	.497	29.10	25.94	28.09	26.56
Rhode Island.....	52.5	52.9	54.9	50.8	104.6	96.0	.511	.453	26.83	23.96	28.03	23.03
South Carolina.....	55.0	55.2	58.6	61.2	106.5	110.9	.332	.278	18.26	15.35	19.45	17.01
Total.....	51.0	51.4	50.7	51.1	99.4	99.4	.473	.418	24.12	21.49	23.99	21.37
Females												
Connecticut.....	53.4	54.1	49.7	48.1	93.1	88.9	.386	.347	20.61	18.77	19.20	16.67
Massachusetts.....	48.0	48.0	41.3	43.2	86.0	90.0	.313	.286	15.02	13.73	12.90	12.34
New Jersey.....	48.6	48.7	40.5	40.6	83.3	83.4	.377	.352	18.32	17.14	15.27	14.28
New York.....	48.5	48.7	40.6	38.4	83.7	78.9	.343	.285	16.64	13.88	13.93	10.95
North Carolina.....	54.0	54.5	42.0	43.7	77.8	80.2	.288	.232	15.55	12.64	12.10	10.15
Pennsylvania.....	51.7	51.7	43.8	44.6	84.7	86.3	.352	.338	18.20	17.47	15.42	15.07
Rhode Island.....	52.5	52.9	47.2	44.2	89.9	83.6	.377	.316	19.79	16.72	17.78	13.99
South Carolina.....	55.0	55.0	54.4	58.5	106.4	99.4	.223	.210	12.27	11.55	12.13	12.89
Total.....	50.5	51.2	42.4	43.5	84.0	85.0	.335	.291	16.92	14.90	14.20	12.65
Males and females												
Connecticut.....	53.4	54.4	52.7	53.3	100.6	98.0	.554	.472	29.58	25.68	29.73	25.20
Massachusetts.....	48.8	48.9	50.8	50.8	104.1	103.9	.417	.367	20.35	17.95	21.15	18.62
New Jersey.....	49.6	50.1	46.8	48.7	94.4	97.2	.502	.463	24.90	23.20	23.48	22.53
New York.....	48.8	48.9	44.7	44.8	91.6	91.6	.497	.408	24.25	19.71	22.20	18.04
North Carolina.....	54.7	54.4	45.4	46.8	83.0	86.0	.310	.276	16.96	15.01	14.09	12.92
Pennsylvania.....	53.0	52.1	49.9	51.7	94.2	99.2	.512	.471	27.14	24.54	25.56	24.37
Rhode Island.....	52.5	52.9	53.9	50.0	102.7	94.5	.497	.439	26.09	23.22	26.78	21.94
South Carolina.....	55.0	55.1	58.2	60.9	105.8	110.5	.321	.270	17.66	14.88	18.71	16.45
Total.....	50.9	51.8	49.3	49.9	96.9	97.3	.452	.400	23.01	20.52	22.29	19.99

Electric-Railway Workers: Earnings in 1932

THE quinquennial census of electrical industries, covering the year 1932,⁵ indicated a very drastic decline in the number of workers employed on electric railroads. Indeed, according to that census fewer workers looked to the electric railways for their livelihood in 1932 than in 1907.

Although the number of workers employed by the electric railways was sharply reduced between 1927 and 1932, the earnings of the workers fortunate enough to retain their jobs were better maintained than those of workers in many other branches of industry. For all employees of the electric railways, the average earnings in 1932 were \$1,547. This represents a decrease of only 6.5 percent when compared with the average of \$1,655 in 1927 and is slightly higher than the average for 1922. (See table 1.)

TABLE 1.—COMPARISON OF AVERAGE ANNUAL EARNINGS ON ELECTRIC RAILWAYS AND MOTOR BUSES IN 1922, 1927, AND 1932, BY OCCUPATIONAL CLASSES

Occupational class	Average earnings			Percent of change	
	1932	1927	1922	1927 to 1932	1922 to 1932
Average, all employees.....	\$1,547	\$1,655	\$1,483	-6.5	+4.3
Salaried employees, average.....	1,982	2,034	1,901	-2.6	+4.3
Officials.....	4,914	5,090	4,436	-3.5	+10.8
Managers and superintendents.....	3,206	3,096	3,098	+3.6	+3.5
Clerks, stenographers, and others.....	1,587	1,663	1,534	-4.6	+3.5
Wage earners, average.....	1,493	1,610	1,436	-7.3	+4.0
Conductors.....	1,591	1,736	1,576	-8.4	+1.0
Motormen.....	¹ 1,523	¹ 1,737	¹ 1,568	-12.3	-2.9
Other wage earners.....	1,445	1,492	1,310	-3.2	+10.3

¹ Includes 1-man car and trolley-bus operators.

² Includes 1-man car and motor-bus operators.

Earnings of electric-railway employees vary widely between occupational groups as well as within the same occupational group, while sharp geographical differentials in their earnings are also apparent (table 2).

TABLE 2.—GEOGRAPHIC VARIATIONS IN AVERAGE EARNINGS OF ELECTRIC-RAILWAY EMPLOYEES IN 1932, BY OCCUPATIONAL CLASSES

Geographic division	Average, all employees	Salaried employees				Wage earners			
		All salaried employees	Officials	Managers and superintendents	Clerks, stenographers, etc.	All wage earners	Conductors	Motormen ¹	Other wage earners
United States.....	\$1,547	\$1,982	\$4,914	\$3,206	\$1,587	\$1,493	\$1,591	\$1,523	\$1,445
New England.....	1,617	1,853	4,075	3,178	1,473	1,597	1,863	1,656	1,527
Middle Atlantic.....	1,656	2,241	6,565	3,627	1,734	1,591	1,585	1,625	1,576
East North Central.....	1,527	1,815	4,496	2,995	1,443	1,491	1,701	1,579	1,319
West North Central.....	1,393	1,980	4,427	2,943	1,619	1,306	1,281	1,344	1,276
South Atlantic.....	1,409	1,958	4,254	2,793	1,660	1,328	1,503	1,869	1,230
East South Central.....	1,308	1,763	3,270	2,393	1,440	1,252	1,521	1,867	1,035
West South Central.....	1,251	1,674	3,302	3,117	1,801	1,166	1,261	1,237	1,049
Mountain.....	1,321	1,810	3,372	2,834	1,882	1,232	1,085	1,235	1,250
Pacific.....	1,549	1,893	5,544	3,087	1,666	1,501	1,542	1,490	1,489

¹ Includes 1-man car and trolley-bus operators.

² United States Department of Commerce. Bureau of the Census. Census of Electrical Industries 1932: Electric Railways and Motor Bus Operations of Affiliates and Successors. Washington, 1934.

Factory Workers—Earnings in New York State, 1914 to 1935

AVERAGE weekly earnings of office and shop employees in representative factories in New York State from June 1914 to December 1935 are shown, by months, in the following table reproduced from the January 1936 issue of the Industrial Bulletin of the State department of labor.

AVERAGE WEEKLY EARNINGS IN REPRESENTATIVE NEW YORK STATE FACTORIES

[Includes all employees in both office and shop. The average weekly earnings are obtained by dividing the total weekly pay roll by the total number of employees on the pay roll for the given week. Reports cover the week including the 15th of the month]

Year	Average for year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1914							\$12.70	\$12.54	\$12.53	\$12.48	\$12.26	\$12.32	\$12.56
1915	\$12.85	\$12.44	\$12.41	\$12.65	\$12.54	\$12.74	12.81	12.66	12.89	12.86	13.30	13.45	13.49
1916	14.43	13.53	13.77	13.96	14.15	14.24	14.41	14.11	14.44	14.87	14.95	15.16	15.51
1917	16.37	15.28	15.31	15.79	15.50	16.08	16.20	16.17	16.44	16.97	17.33	17.69	17.71
1918	20.35	16.81	17.66	18.71	19.25	19.91	20.44	20.78	21.23	22.31	22.34	21.60	23.18
1919	23.50	23.03	22.07	22.20	22.11	22.23	22.51	23.10	23.85	24.83	24.41	25.37	26.32
1920	28.15	26.52	26.47	27.87	27.80	28.45	28.77	28.49	28.71	28.73	28.93	28.70	28.35
1921	25.72	27.61	26.77	26.97	26.20	25.86	25.71	25.26	25.43	25.07	24.53	24.32	24.91
1922	25.04	24.43	24.17	24.57	24.15	24.59	24.91	24.77	25.10	25.71	25.61	26.04	26.39
1923	27.24	26.21	25.87	26.92	27.00	27.63	27.87	27.54	27.12	27.41	27.72	27.64	27.98
1924	27.68	27.81	27.73	28.16	27.70	27.56	27.21	27.06	27.40	28.05	27.53	27.66	28.25
1925	28.26	28.30	27.96	28.45	27.67	28.07	27.94	27.98	28.16	28.33	28.57	28.67	29.05
1926	29.02	29.05	28.61	29.04	28.85	28.69	28.99	28.81	28.86	29.31	29.35	29.15	29.47
1927	29.30	29.52	29.39	29.78	29.17	29.18	29.17	28.95	29.29	29.57	29.28	28.75	29.57
1928	29.44	29.21	29.16	29.64	28.79	29.19	29.48	29.15	29.38	29.72	29.78	29.62	30.12
1929	29.99	29.71	29.99	30.35	30.07	30.03	30.02	29.80	30.09	30.47	30.08	29.54	29.75
1930	28.81	29.80	29.46	29.90	29.44	29.10	28.96	28.50	28.59	28.94	28.03	27.42	27.52
1931	26.42	27.01	27.44	27.96	27.35	26.96	26.34	26.39	26.33	26.16	25.34	24.99	24.74
1932	22.73	24.35	24.02	24.14	23.36	22.59	22.20	21.82	21.92	22.50	22.55	21.74	21.62
1933	21.83	20.96	20.95	20.73	21.02	21.49	21.95	22.34	22.48	22.87	22.52	22.25	22.43
1934	23.19	22.79	22.76	23.39	23.34	23.38	23.24	23.12	23.43	23.24	23.02	22.92	23.63
1935	24.36	23.92	24.11	24.62	24.36	24.05	24.04	23.93	24.52	24.83	24.68	24.24	25.02

Farm Labor—Wages, 1910 to 1936

AVERAGE wage rates of hired farm labor in the United States are compiled and published quarterly by the United States Department of Agriculture in the form of a mimeographed press release and later in the printed periodical Crops and Markets. The compilations show both daily and monthly rates, with and without board, as well as index numbers.

Table 1 gives average farm wage rates and index numbers thereof, by years from 1910 to 1935, and for the months of January, April, July, and October of each year, 1929 to 1935 and for January 1936.

TABLE 1.—FARM WAGE RATES AND INDEX NUMBERS, 1910 TO JANUARY 1936

Year	Average farm wage 1—				Index numbers of farm wages (1910-14=100)
	Per month		Per day		
	With board	Without board	With board	Without board	
1910.....	\$19.58	\$28.04	\$1.07	\$1.40	97
1911.....	19.85	28.33	1.07	1.40	97
1912.....	20.46	29.14	1.12	1.44	101
1913.....	21.27	30.21	1.15	1.48	104
1914.....	20.90	29.72	1.11	1.44	101
1915.....	21.08	29.97	1.12	1.45	102
1916.....	23.04	32.58	1.24	1.60	112
1917.....	28.64	40.19	1.56	2.00	140
1918.....	35.12	49.13	2.05	2.61	176
1919.....	40.14	56.77	2.44	3.10	206
1920.....	47.24	65.05	2.84	3.56	239
1921.....	30.25	43.58	1.66	2.17	150
1922.....	29.31	42.09	1.64	2.14	146
1923.....	33.09	46.74	1.91	2.45	166
1924.....	33.34	47.22	1.88	2.44	166
1925.....	33.88	47.80	1.89	2.46	168
1926.....	34.56	48.86	1.91	2.48	171
1927.....	34.58	48.63	1.90	2.46	170
1928.....	34.66	48.65	1.88	2.43	169
1929.....	34.74	49.08	1.88	2.42	170
1930.....	31.14	44.59	1.65	2.16	152
1931.....	23.60	35.03	1.22	1.65	116
1932.....	17.53	26.67	.88	1.21	86
1933.....	15.86	24.51	.86	1.18	80
1934.....	17.89	27.17	.98	1.31	90
1935.....	19.66	29.48	1.06	1.43	.98
1929—January.....	33.04	47.24	1.78	2.34	162
April.....	34.68	49.00	1.79	2.34	167
July.....	36.08	50.53	1.89	2.43	173
October.....	35.90	50.00	1.92	2.46	174
1930—January.....	32.29	46.80	1.73	2.27	159
April.....	33.83	47.81	1.72	2.27	162
July.....	33.47	47.24	1.72	2.23	160
October.....	31.23	44.28	1.61	2.12	150
1931—January.....	26.03	39.04	1.38	1.87	129
April.....	25.99	38.37	1.33	1.80	127
July.....	25.35	37.00	1.29	1.73	123
October.....	23.31	34.22	1.18	1.59	113
1932—January.....	19.77	30.53	1.02	1.40	98
April.....	19.19	29.13	.97	1.35	94
July.....	18.00	27.10	.89	1.23	87
October.....	17.29	26.36	.87	1.19	84
1933—January.....	14.77	23.62	.76	1.06	74
April.....	14.67	22.98	.75	1.05	73
July.....	15.84	24.27	.82	1.12	78
October.....	17.19	25.89	.91	1.25	86
1934—January.....	15.73	24.90	.87	1.21	81
April.....	17.70	26.88	.93	1.27	88
July.....	18.18	27.29	.97	1.30	90
October.....	18.63	27.83	1.00	1.34	93
1935—January.....	17.04	26.69	.92	1.26	86
April.....	19.11	28.82	.97	1.34	94
July.....	20.41	30.08	1.05	1.41	99
October.....	20.57	30.38	1.11	1.47	102
1936—January.....	18.54	28.63	1.00	1.37	94

¹ Yearly averages are from reports by crop reporters, giving average wages for the year in their localities, except for 1927-32, when the wage rates per month are a straight average of quarterly rates, April, July, October of the current year, and January of the following year, and the wage rates per day are weighted averages of quarterly rates.

The average rates paid to hired farm labor in the different States and geographic divisions on October 1, 1935, are shown in table 2.

TABLE 2.—AVERAGE FARM WAGE RATES ON OCTOBER 1, 1935, BY STATE AND GEOGRAPHIC DIVISION

Geographic division and State	Per month		Per day	
	With board	Without board	With board	Without board
United States.....	\$20.57	\$30.38	\$1.11	\$1.47
New England.....	27.44	49.94	1.66	2.31
Maine.....	27.50	43.75	1.60	2.10
New Hampshire.....	27.75	48.00	1.50	2.40
Vermont.....	26.00	45.00	1.40	2.10
Massachusetts.....	25.75	54.75	1.90	2.50
Rhode Island.....	40.00	66.25	1.95	2.45
Connecticut.....	28.50	53.50	1.70	2.45
Middle Atlantic.....	24.38	38.79	1.47	2.01
New York.....	25.25	39.25	1.50	2.10
New Jersey.....	27.00	46.25	1.60	2.20
Pennsylvania.....	22.50	36.00	1.40	1.85
East North Central.....	23.46	33.58	1.33	1.75
Ohio.....	21.25	31.75	1.35	1.80
Indiana.....	22.50	32.75	1.25	1.60
Illinois.....	25.25	34.25	1.35	1.75
Michigan.....	22.50	33.75	1.35	1.80
Wisconsin.....	25.00	35.25	1.35	1.80
West North Central.....	23.61	33.08	1.35	1.81
Minnesota.....	26.00	37.00	1.65	2.20
Iowa.....	26.75	34.75	1.50	1.95
Missouri.....	19.00	27.00	.95	1.22
North Dakota.....	25.75	38.00	1.50	2.00
South Dakota.....	24.75	34.50	1.50	1.55
Nebraska.....	23.00	32.25	1.30	2.80
Kansas.....	21.75	32.25	1.25	1.65
South Atlantic.....	14.82	21.95	.78	1.03
Delaware.....	22.25	34.25	1.50	1.65
Maryland.....	22.75	33.50	1.25	1.70
Virginia.....	19.00	27.00	.95	1.25
West Virginia.....	20.00	30.00	1.00	1.40
North Carolina.....	16.00	24.25	.85	1.10
South Carolina.....	10.50	15.50	.55	.70
Georgia.....	11.00	16.00	.60	.80
Florida.....	14.00	23.00	.75	1.05
East South Central.....	13.96	20.03	.71	.92
Kentucky.....	17.00	24.00	.85	1.10
Tennessee.....	15.50	22.25	.75	.95
Alabama.....	11.75	17.25	.65	.85
Mississippi.....	11.75	16.75	.60	.80
West South Central.....	17.33	24.70	.87	1.11
Arkansas.....	13.75	20.50	.70	.90
Louisiana.....	14.00	19.75	.75	.95
Oklahoma.....	19.00	27.00	1.05	1.30
Texas.....	19.50	27.50	.95	1.20
Mountain.....	32.23	46.85	1.84	2.05
Montana.....	34.25	51.75	1.65	2.40
Idaho.....	36.50	50.25	1.75	2.35
Wyoming.....	32.50	47.25	1.55	2.20
Colorado.....	26.50	41.75	1.35	1.90
New Mexico.....	25.00	36.75	1.20	1.55
Arizona.....	37.25	50.75	1.60	1.95
Utah.....	39.00	55.00	1.85	2.20
Nevada.....	38.50	54.25	1.80	2.45
Pacific.....	35.76	57.27	1.70	2.42
Washington.....	27.50	47.50	1.70	2.30
Oregon.....	30.50	47.00	1.70	2.20
California.....	39.00	62.00	1.70	2.50

Farm Workers—Piece-Rate Wages in Harvesting of Crops, 1934

WAGES paid to workers hired at piece rates in connection with crops other than cotton were collected for the first time by the United States Department of Agriculture in February 1935, the data applying to the 1934 crop season and covering chiefly harvesting operations. The collection of this information was inaugurated in response to a growing demand for wage rates on specific tasks. Cotton-picking rates have been gathered annually by the Department of Agriculture since 1924.

Table 1 shows by State and geographic division, average piece-wage rates of workers hired for the harvesting of potatoes, corn, and several varieties of fruit. The data are from Crops and Markets, a monthly periodical published by the Department of Agriculture, for March 1935.

TABLE 1.—PIECE RATES OF WORKERS HIRED FOR HARVESTING OF SPECIFIED CROPS, 1934

Geographic division and State	Rate for—							
	Picking apples, per bushel	Picking peaches, per bushel	Picking pears, per bushel	Picking grapes, per 100 pounds	Picking potatoes, per bushel	Cutting and shocking corn, per acre	Husking corn	
							From standing stalk, per bushel	From shock, per bushel, ear corn
United States.....	\$0.042	\$0.050	\$0.049	\$0.125	\$0.031	\$1.460	\$0.038	\$0.043
New England.....	.064	.....	.060	.....	.026	.....	.....	.....
Maine.....	.065	.....	.....	.....	.024	.....	.....	.....
New Hampshire.....	.065	.....	.....	.....	.033	.....	.....	.....
Vermont.....	.050	.....	.....	.....	.034	.....	.....	.....
Massachusetts.....	.067	.....	.060	.....	.036	.....	.....	.....
Rhode Island.....	.067	.....	.060	.....	.035	.....	.....	.....
Connecticut.....	.058	.....	.060	.170	.036	2.300	.050	.056
Middle Atlantic.....	.049	.047	.049	.170	.032	1.820	.041	.044
New York.....	.051	.059	.051	.170	.032	1.850	.050	.053
New Jersey.....	.047	.046	.050	.170	.032	1.900	.040	.051
Pennsylvania.....	.048	.046	.045	.170	.033	1.800	.040	.042
East North Central.....	.048	.051	.048	.141	.028	1.660	.039	.048
Ohio.....	.049	.055	.060	.160	.035	1.850	.041	.051
Indiana.....	.051	.054	.051	.130	.038	1.700	.038	.051
Illinois.....	.048	.049	.043	.180	.043	1.550	.038	.044
Michigan.....	.045	.049	.046	.130	.026	1.500	.039	.044
Wisconsin.....	.055	.....	.....	.....	.024	1.600	.040	.047
West North Central.....	.046	.048	.046	.170	.035	1.520	.038	.044
Minnesota.....	.050	.....	.....	.....	.035	1.600	.043	.052
Iowa.....	.047	.057	.048	.170	.031	1.550	.037	.041
Missouri.....	.044	.049	.049	.170	.030	1.200	.034	.045
North Dakota.....	.....	.....	.....	.....	.040	.....	.....	.....
South Dakota.....	.....	.....	.....	.....	.038	1.300	.046	.044
Nebraska.....	.050	.040	.050	.170	.035	1.250	.040	.051
Kansas.....	.045	.036	.038	.170	.041	1.250	.043	.047
South Atlantic.....	.044	.040	.046	.154	.035	1.330	.040	.043
Delaware.....	.044	.048	.045	.100	.035	1.900	.033	.046
Maryland.....	.044	.043	.042	.160	.037	1.900	.033	.038
Virginia.....	.042	.046	.050	.150	.034	1.500	.041	.049
West Virginia.....	.043	.050	.054	.170	.033	1.500	.045	.045
North Carolina.....	.047	.039	.044	.150	.035	1.250	.043	.042
South Carolina.....	.050	.046	.048	.150	.035	1.000	.039	.041
Georgia.....	.047	.038	.043	.150	.036	1.100	.038	.043
Florida.....	.....	.055	.052	.150	.037	1.350	.045	.045
East South Central.....	.044	.056	.046	.163	.040	1.210	.034	.037
Kentucky.....	.042	.050	.033	.170	.046	1.300	.035	.037
Tennessee.....	.044	.061	.049	.170	.040	1.250	.034	.040
Alabama.....	.047	.054	.045	.150	.035	1.100	.035	.041
Mississippi.....	.047	.050	.050	.....	.030	1.150	.032	.030
West South Central.....	.044	.044	.051	.158	.041	1.130	.038	.036
Arkansas.....	.041	.040	.048	.160	.044	.950	.035	.035
Louisiana.....	.....	.050	.045	.....	.041	1.150	.035	.035
Oklahoma.....	.052	.049	.060	.150	.042	1.250	.040	.034
Texas.....	.052	.045	.050	.150	.036	1.150	.040	.037
Mountain.....	.041	.045	.041	.156	.030	1.660	.045	.044
Montana.....	.050	.....	.....	.....	.031	.....	.....	.....
Idaho.....	.040	.041	.039	.180	.027	1.800	.043	.040
Wyoming.....	.....	.....	.....	.....	.037	.....	.....	.....
Colorado.....	.040	.038	.041	.....	.036	1.650	.048	.047
New Mexico.....	.040	.038	.038	.150	.042	1.550	.040	.040
Arizona.....	.040	.055	.050	.150	.046	.....	.....	.....
Utah.....	.060	.060	.038	.150	.042	.....	.....	.....
Nevada.....	.....	.055	.050	.....	.045	.....	.....	.....
Pacific.....	.034	.055	.049	.120	.029	2.250	.047	.038
Washington.....	.032	.044	.037	.170	.028	.....	.....	.....
Oregon.....	.034	.050	.038	.160	.028	1.950	.040	.033
California.....	.044	.056	.057	.120	.030	2.400	.050	.040

Average wage rates for picking 100 pounds of seed cotton in the different cotton-growing States are shown in table 2 for each year from 1924 to 1934, inclusive, the figures being from Crops and Markets for November 1934.

TABLE 2.—AVERAGE WAGE RATE FOR PICKING 100 POUNDS OF SEED COTTON

State	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
United States.....	\$1.25	\$1.27	\$1.11	\$1.12	\$1.10	\$1.06	\$0.63	\$0.41	\$0.42	\$0.53	\$0.60
Virginia.....	1.30	1.13	1.00	1.12	1.23	1.15	.75	.45	.34	.45	.65
North Carolina.....	1.24	1.17	1.03	1.07	1.07	1.01	.58	.36	.38	.48	.65
South Carolina.....	.95	.86	.82	.78	.83	.81	.52	.36	.36	.45	.50
Georgia.....	.85	.84	.90	.88	.85	.90	.57	.35	.35	.45	.50
Florida.....	.94	1.13	1.12	.95	1.02	1.07	.76	.41	.39	.48	.55
Illinois.....	1.19	-----	-----	1.20	1.20	1.15	.71	.50	.40	.65	.75
Missouri.....	1.32	1.38	1.12	1.14	1.14	1.12	.71	.49	.52	.67	.80
Kansas.....	-----	1.54	-----	1.50	1.40	1.30	.75	.45	.48	.65	.75
Kentucky.....	-----	1.48	1.10	1.20	1.20	1.18	.70	.49	.50	.60	.80
Tennessee.....	1.11	1.41	1.05	1.08	1.04	1.34	.63	.43	.47	.54	.65
Alabama.....	.95	1.08	1.03	.96	.95	.92	.65	.34	.36	.45	.55
Mississippi.....	1.00	1.35	.16	1.03	1.02	1.08	.56	.39	.40	.49	.55
Louisiana.....	1.02	1.25	1.12	1.03	1.03	1.01	.61	.41	.39	.48	.55
Texas.....	1.48	1.33	1.20	1.24	1.21	1.11	.71	.44	.45	.55	.60
Oklahoma.....	1.48	1.60	1.23	1.40	1.28	1.22	.73	.45	.48	.65	.75
Arkansas.....	1.06	1.27	1.06	1.05	1.03	1.06	.56	.40	.44	.52	.60
New Mexico.....	1.40	1.40	1.15	1.30	1.22	1.25	.68	.43	.44	.55	.65
Arizona.....	1.60	1.75	1.45	1.53	1.50	1.50	.89	.58	.50	.67	.90
California.....	1.55	1.65	1.55	1.47	1.46	1.45	.89	.50	.45	.65	.90

Farm Workers—Wage Rates and Annual Earnings in the Onion Fields of Ohio, 1934⁶

IN THE summer of 1934 Nation-wide attention was attracted to the onion field area of Ohio by the serious labor disturbances which occurred there. As a result of the strike, the Secretary of Agriculture, the Secretary of Labor, and the Federal Emergency Relief Administrator on August 29, 1934, appointed a committee to make a thorough investigation of labor conditions in the onion fields of Hardin County, Ohio.

The results of this investigation show that before the strike the customary hourly wage rate was 12½ cents and some adult workers were employed for only 10 cents an hour. Moreover, during the year ending August 31, 1934, the cash income from all sources of 53 percent of the 177 families was less than \$250, and 83 percent of the families had incomes of less than \$500. Only 3 percent of the families canvassed had incomes of \$1,000 or more.

Wage Rates

THE Interdepartmental Committee found that the grievances of the agricultural workers were concerned chiefly with hourly wage rates, scarcity of work, employment of children, and the difficulty of marketing at a fair price the onions grown on a crop-sharing basis.

The work in the onion fields is done both by workers who depend on day labor alone and those who plant some acreage on a crop-sharing basis in addition to doing day labor. Of the 195 families included in this study, 109 were share-croppers; 36 of these families had less than 3 acres of land, 38 families between 3 and 5 acres, 18 families between 5 and 10 acres, and only 17 families 10 acres or

⁶ Summary of report published in the Monthly Labor Review for February 1935 (p. 324).

more. A landowner who needs day labor on the land he is farming has first claim on the time of the share-cropper who rents from him.

Onions are the chief crop grown by share-croppers. They were raised by 104 of the 109 families of share-croppers included in the survey and were the only product raised by 84 of these families.

Under the arrangement between the landowner and the share-cropper, the landowner prepares the soil and sows the seed, usually making a charge to the share-cropper for this service. In the 1934 season this "fitting cost" ranged from \$3.50 to \$12.50 an acre. In some cases the share-cropper is unaware of the amount of the "fitting cost" until the end of the harvest. The harvested onions are divided on a 50-50 basis. The share-croppers claim that, even if the seed were "blown out" by spring windstorms, they sometimes are required to pay the "fitting" bill, although they had no crop as a source of income with which to meet the charge.

According to both workers and growers, the wage rate of workers in the onion fields 15 years ago was 35 cents an hour and as recently as 1930 the prevailing rate was 25 cents an hour. In 1934, however, the usual wage rate was 12½ cents an hour before the strike, and some adult workers received as low as 10 cents an hour. After the strike the majority of the workers were paid 15 cents an hour.

The table below indicates the level of wage rates during the 1934 season. The figures were based on the replies of 202 persons who had worked at weeding before the strike and of 149 who had weeded subsequent to the strike.

TABLE 1.—DISTRIBUTION OF WAGE RATES BEFORE AND AFTER STRIKE

Hourly wage rate	Number receiving specified rate	
	Before strike	After strike
Number of workers reporting.....	202	149
Under 10 cents.....	6	2
10 and under 12½ cents.....	37	3
12½ and under 15 cents.....	148	14
15 and under 20 cents.....	10	98
20 and under 25 cents.....		23
25 and under 30 cents.....	1	3
30 and under 35 cents.....		2
35 cents and over.....		4

Most of the workers who received 25 cents an hour or more after the strike were those working for growers who had made arrangements with the union. The rates of less than 10 cents were received by children under 14 years of age.

Annual Earnings

FOUR sources were included in considering the total income of families of workers in the marsh: (1) Cash earnings from agricultural work, (2) cash income from all other work, (3) income in kind, and (4) income from relief.

Cash earnings from agricultural work.—The income from agricultural work during the 1934 season was affected by the scarcity of work, the shortage of share-crop land, and the decrease in the hourly rates of pay. The annual earnings from agricultural work reported by 179 families for the year September 1, 1933, to August 31, 1934, amounted to less than \$250 for 60 percent of the families, 26 percent earned between \$250 and \$500, and only 14 percent earned \$500 or more. When the families which had no work since June 20 because of the strike were eliminated the situation was only slightly improved; 77 of the 140 reporting families not on strike earned less than \$250, while 39 earned between \$250 and \$500, and the earnings of only 24 families were \$500 or more.

The families depending on day labor alone had lower incomes than those working land on the crop-sharing basis. More than three-fourths of the families of day laborers earned less than \$250 from agricultural work during the year and 98 percent less than \$500. Even in the group of 98 share-croppers 46 percent earned less than \$250 and 77 percent less than \$500.

These figures represent the earnings from farm work of all members of the families. In 130 of the 195 families interviewed more than 1 person was working. The earnings of families did not rise greatly as number of workers in the family increased. Of the 107 families with earnings of less than \$250, 63 had 2 or more persons working. Although 10 of the 12 families on strike which had only 1 worker reported earnings of less than \$250, 12 of the 15 families with 2 workers were also in this earnings group. Much the same condition existed among families not on strike. Of the 51 families not on strike having 1 worker, 34 earned less than \$250, while 27 of the 42 families having 2 workers likewise earned less than \$250. Only 4 families in the entire group earned \$1,000 or more, and in every case there were 3 or more workers in the family. All 4 of the families with earnings of \$1,000 or more were nonstrikers.

Cash income from all sources other than relief.—When the income from all sources except relief is added to agricultural earnings the picture is not materially altered. Fifty-three percent of all reporting families had annual incomes of less than \$250 and 83 percent less than \$500. Moreover, 8 percent of the families had incomes of less than \$50 for the year and 29 percent less than \$150. Only 3 percent of the entire group earned \$1,000 or more. Even when families not on strike are considered separately, the proportion in the income group is practically the same; 48 percent received less than \$250 and 79 percent less than \$500. Table 2 shows the annual cash incomes from all sources exclusive of relief.

TABLE 2.—ANNUAL INCOME FROM ALL SOURCES, EXCLUSIVE OF RELIEF, OF FAMILIES WITH WORKERS IN OHIO ONION FIELDS, YEAR ENDING AUG. 31, 1934

Annual family income	Number of families canvassed, having workers in onion fields									
	Total		Day labor only				Share-croppers and day labor			
	Number	Per cent	Total		Number on strike	Number not on strike	Total		Number on strike	Number not on strike
			Number	Per cent			Number	Per cent		
All families covered.....	195	-----	86	-----	29	57	109	-----	14	95
Families reporting whose income was specified amount.....	177	100	79	100	25	54	98	100	13	85
Under \$250.....	94	53	52	66	19	33	42	43	8	34
Under \$50.....	12	8	8	10	4	4	4	4	1	3
\$50 and under \$150.....	37	21	20	25	11	9	17	17	4	13
\$150 and under \$250.....	45	25	24	31	4	20	21	21	3	18
\$250 and under \$500.....	53	30	24	31	6	18	29	30	4	25
\$500 and under \$750.....	16	9	1	1	-----	1	15	15	-----	15
\$750 and under \$1,000.....	9	5	1	1	-----	1	8	8	-----	7
\$1,000 and over.....	5	3	1	1	-----	1	4	4	-----	4
Families not reporting income.....	18	-----	7	-----	4	3	11	-----	1	10

Income in kind.—The cash income of families was supplemented in part by income in kind. There were wide variations, between families, in the value of the payments received in kind. Reports on tenure of homes were secured from 194 of the 195 families and on food supplies from all families. Houses were furnished by the growers to 109 families, 7 families had free homes from other sources, 41 families rented homes, and 37 owned their homes.

Farm laborers in the area were able to supplement their income through raising a part of their food, provided they could make the necessary investment. Twelve of the 195 families interviewed, however, had no supplementary food supply; only 16 had a garden, a cow, chickens, and pigs; the other families had varying combinations of these sources of food. A garden was the most frequent source of supplementary food supply; 170 families grew a part of their food at home and usually canned a few vegetables for winter use. The drought of 1934 resulted in poorer returns than usual from garden produce, with the result that food supplies for summer and winter were not adequate. Cows were owned by 70 of the 195 families.

Fire Departments of Principal Cities—Salaries and Hours, 1934

THE Bureau of Labor Statistics made a survey of the salaries and hours on duty in 1934 of fire-department employees of all cities in the United States with a population of 25,000 or over. A summary of the findings of this survey is given in the Monthly Labor Review for November 1935 (p. 1159).

Reports were received from 379 cities, and the number of employees covered totaled 62,479. Table 1 shows the average annual salaries and the average number of hours on duty per day of these fire-department employees in 1934, classified by size of city.

TABLE 1.—AVERAGE ANNUAL SALARIES AND DAILY HOURS ON DUTY OF FIRE-DEPARTMENT EMPLOYEES IN 1934, BY SIZE OF CITY

Rank or occupation	All cities		Cities of 1,000,000 or more		Cities of 500,000 and under 1,000,000	
	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day
Chief of fire department.....	\$3, 023	1 18.8	\$7, 900	17.8	\$5, 434	22.1
Assistant or deputy chiefs.....	2, 886	1 17.4	4, 380	20.6	3, 172	15.9
Captains.....	2, 217	16.7	3, 330	18.5	2, 284	15.6
Lieutenants.....	2, 233	15.9	3, 119	14.9	2, 147	16.9
Engineers, fire engine.....	2, 062	16.6	2, 610	17.5	2, 031	16.6
Assistant engineers.....	1, 796	16.4			1, 888	16.3
Chauffeurs or drivers.....	1, 735	15.5	2, 574	12.0	2, 123	14.6
Fire marshals or wardens.....	2, 724	1 13.6	4, 048	21.0	3, 429	8.0
Assistant marshals or wardens.....	2, 209	9.6	2, 507	10.1	2, 118	8.0
Fire inspectors.....	1, 903	1 9.1	2, 353	8.0	1, 944	8.0
Superintendents of machinery.....	2, 388	1 10.8	3, 811	8.3	3, 442	8.0
Assistant superintendents of machinery.....	2, 119	1 9.4	2, 902	8.0	2, 475	8.0
Master mechanics.....	2, 329	11.3			2, 988	8.0
Mechanics or machinists.....	2, 004	1 10.5	2, 486	8.0	1, 706	8.0
Superintendents of fire alarm.....	2, 291	1 11.3	3, 929	8.0	3, 456	10.7
Assistant superintendents of fire alarm.....	1, 976	11.1	2, 400	8.0	2, 659	11.2
Fire-alarm operators.....	1, 882	8.9	2, 744	8.0	2, 059	8.0
Fire-alarm linemen or electricians.....	1, 953	1 9.3	2, 527	8.0	1, 697	8.1
Telephone operators.....	1, 687	9.3	1, 845	8.0	1, 711	9.0
Secretaries or chief clerks.....	1, 947	1 9.8	3, 962	7.8	2, 711	8.1
Clerical workers.....	1, 804	8.1	1, 948	8.0	1, 725	8.0
Privates.....	1, 975	1 16.7	2, 485	19.8	1, 912	14.3

Rank or occupation	Cities of 250,000 and under 500,000		Cities of 100,000 and under 250,000		Cities of 50,000 and under 100,000		Cities of 25,000 and under 50,000	
	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day
Chief of fire department.....	\$4, 344	1 19.4	\$3, 546	1 19.0	\$3, 041	1 18.8	\$2, 431	1 18.5
Assistant or deputy chiefs.....	2, 802	16.0	2, 451	15.6	2, 277	18.2	1, 908	1 17.6
Captains.....	2, 103	15.9	2, 005	16.7	1, 960	16.9	1, 775	16.3
Lieutenants.....	2, 001	15.9	1, 960	14.5	1, 819	17.9	1, 733	16.4
Engineers, fire engine.....	1, 971	16.6	1, 827	16.8	1, 823	14.0	1, 601	17.0
Assistant engineers.....	1, 644	20.4	1, 818	14.5	1, 687	15.6	1, 431	23.3
Chauffeurs or drivers.....	1, 705	16.1	1, 636	13.3	1, 657	17.8	1, 554	15.9
Fire marshals or wardens.....	2, 537	9.8	2, 352	1 8.9	2, 061	15.8	1, 596	8.1
Assistant marshals or wardens.....	1, 937	8.3	1, 980	8.4	2, 085	20.0	600	12.0
Fire inspectors.....	1, 868	8.1	1, 852	9.7	1, 816	1 9.3	1, 641	1 12.1
Superintendents of machinery.....	2, 580	9.1	2, 278	1 10.4	2, 113	11.4	2, 054	13.8
Assistant superintendents of machinery.....	2, 109	8.4	2, 036	1 9.9	1, 951	9.6	1, 864	12.5
Master mechanics.....	2, 574	9.0	2, 305	8.8	2, 092	12.7	2, 047	24.0
Mechanics or machinists.....	1, 988	9.4	1, 917	11.7	1, 910	11.6	1, 731	1 14.1
Superintendents of fire alarm.....	2, 922	10.8	2, 441	1 9.8	2, 237	1 11.6	1, 865	1 12.4
Assistant superintendents of fire alarm.....	2, 187	11.4	2, 065	10.0	1, 811	12.3	1, 755	10.8
Fire-alarm operators.....	1, 880	8.9	1, 696	8.2	1, 615	9.6	1, 559	10.6
Fire-alarm linemen or electricians.....	1, 911	9.6	1, 838	9.0	1, 800	10.9	1, 696	1 10.7
Telephone operators.....	1, 604	8.1	1, 479	9.0	1, 412	8.7	1, 465	13.3
Secretaries or chief clerks.....	2, 205	8.6	1, 878	8.7	1, 811	1 11.4	1, 546	10.7
Clerical workers.....	1, 661	8.1	1, 674	8.8	1, 349	9.3	970	8.0
Privates.....	1, 863	15.4	1, 762	1 15.7	1, 751	16.6	1, 656	16.1

1 For all men in this group except a very few for whom data were not reported.

Table 2 shows, by size of cities, the number of days on duty per week for privates. In this connection it should be noted that many cities have adopted the double-platoon system, by means of which half of the fire-fighting force is alternately on and off duty 84 hours.

TABLE 2.—NUMBER OF DAYS ON DUTY PER WEEK FOR PRIVATES IN FIRE DEPARTMENTS OF 379 CITIES IN 1934, BY SIZE OF CITIES

Size of city	Number of employees	Number of days on duty per week		
		Low	High	Average
All cities.....	41,489	3.0	7.0	5.4
Cities of 1,000,000 or more.....	10,786	3.5	6.0	4.4
Cities of 500,000 and under 1,000,000.....	5,996	3.5	7.0	5.9
Cities of 250,000 and under 500,000.....	6,805	3.3	7.0	5.7
Cities of 100,000 and under 250,000.....	7,413	3.5	7.0	5.8
Cities of 50,000 and under 100,000.....	5,783	3.0	7.0	5.7
Cities of 25,000 and under 50,000.....	4,706	3.5	7.0	5.8

¹ For all except a very few for whom data were not reported.

Annual vacations with pay are now granted by most cities to employees in the fire departments. The practice is general in all the most important cities, and even in the smallest cities the great majority of those covered by the survey had adopted the policy of annual vacations with pay. For most of the cities the customary vacation was 2 weeks (14 days), but in some cities the annual vacations were considerably longer. The maximum for the rank and file was 21 days, but in a number of cities chiefs and assistant chiefs were allowed 30 days annually.

Foundries and Machine Shops—Hours and Earnings, 1933

THE Bureau of Labor Statistics made a study in 1933 of hours and earnings in foundries and machine shops covering 19,763 wage earners of 364 representative foundries and 41,960 wage earners of 492 machine shops in the United States, the data collected being mainly for a representative pay-roll period in April, May, or June. The results of that study were published in the Monthly Labor Review for December 1933 (p. 1459). A few minor revisions of original figures are shown in this report. Table 1 presents summary data for 1933, together with similar data for each of the other years in which studies of these industries have been made by the Bureau. It also shows index numbers of average full-time hours per week, average earnings per hour, and average full-time earnings per week, with the 1923 average as the base, or 100.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN FOUNDRIES AND MACHINE SHOPS 1923 TO 1933, AND INDEX NUMBERS THEREOF, BY INDUSTRY AND YEAR

Industry and year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1923=100.0)		
		Average number	Per cent of full time				Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Foundries:									
1923.....	52.4	(1)	(1)	\$0.558	\$29.24	(1)	100.0	100.0	100.0
1925.....	51.5	(1)	(1)	.610	31.42	(1)	98.3	109.3	107.5
1927.....	51.1	46.6	91.2	.624	31.89	\$29.04	97.5	111.8	109.1
1929.....	51.0	48.7	95.5	.624	31.82	30.39	97.3	111.8	108.8
1931.....	50.3	33.5	66.6	.600	30.18	20.06	96.0	107.5	103.2
1933.....	49.5	29.6	59.8	.482	23.86	14.25	94.3	86.4	81.4
Machine shops:									
1923.....	50.8	(1)	(1)	.559	28.40	(1)	100.0	100.0	100.0
1925.....	50.4	(1)	(1)	.602	30.34	(1)	99.2	107.7	106.8
1927.....	50.1	48.2	96.2	.625	31.31	30.15	98.6	111.8	110.2
1929.....	50.3	50.3	100.0	.638	32.09	32.06	99.0	114.1	113.0
1931.....	49.8	38.2	76.7	.634	31.57	24.22	98.0	113.4	111.2
1933.....	48.5	34.6	71.3	.541	26.24	18.72	95.5	96.6	92.2

¹ Data not available.

Table 2 shows average hours and earnings in 1 week, average earnings per hour, and the percent of full time actually worked in a representative week in 1931 and 1933. The averages are for all wage earners of each sex found in each of the important occupations in the foundries and in the machine shops covered in the study and also for the group designated as "Other employees". Averages are shown for males in all and for females in 3 of the 12 important occupations in foundries, and for males in all and for females in 16 of the 27 important occupations in machine shops, and also for the group of "Other employees" of each sex in each industry.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN FOUNDRIES AND MACHINE SHOPS, 1931 AND 1933, BY INDUSTRY, OCCUPATION, AND SEX

Foundries

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1931	1933	Average number		Percent of full time		1931	1933	1931	1933	1931	1933
			1931	1933	1931	1933						
All occupations:												
Males.....	50.3	49.5	33.5	29.6	66.6	59.8	\$0.601	\$0.483	\$30.23	\$23.91	\$20.13	\$14.28
Females.....	48.7	48.3	29.4	30.2	60.4	62.5	.422	.314	20.55	15.17	12.40	9.51
Males and females..	50.3	49.5	33.5	29.6	66.6	59.8	.600	.482	30.18	23.86	20.06	14.25
Chippers and rough grinders, male.....	50.6	49.4	33.1	29.8	65.4	60.3	.509	.396	25.76	19.56	16.86	11.78
Chippers and rough grinders, female.....	50.0	(1)	21.5	(1)	43.0	(1)	.496	(1)	24.80	(1)	10.65	(1)
Coremakers, male.....	50.0	49.0	31.2	29.8	62.4	60.8	.706	.550	35.30	26.95	22.05	16.41
Coremakers, female.....	48.6	48.1	31.2	31.5	64.2	65.5	.430	.324	20.90	15.58	13.42	10.22
Crane operators, male.....	50.8	49.5	37.6	30.5	74.0	61.6	.552	.440	28.04	21.78	20.74	13.40
Cupola tenders, male.....	50.8	49.9	34.5	28.9	67.9	57.9	.597	.470	30.33	23.45	20.59	13.60
Laborers, male.....	50.8	50.0	33.6	27.8	66.1	55.6	.460	.378	23.37	18.90	15.43	10.51
Laborers, female.....	47.8	50.6	20.8	16.9	43.5	33.4	.377	.296	18.02	14.98	7.83	5.00
Molders (hand), bench, male.....	50.2	49.4	30.2	27.2	60.2	55.1	.727	.550	36.50	27.17	21.96	14.98
Molders (hand), floor, male.....	50.0	48.9	29.6	25.7	59.2	52.6	.782	.612	39.10	29.92	23.14	15.70
Molders (machine), male.....	50.0	49.2	30.4	28.5	60.8	57.9	.681	.508	33.05	24.99	20.06	14.50
Molders' helpers, floor, male.....	50.0	48.7	33.6	29.8	67.2	61.2	.492	.382	24.60	18.60	16.50	11.40
Patternmakers, male.....	49.3	49.2	39.8	38.9	80.7	79.1	.834	.652	41.12	32.08	33.19	25.36
Rough carpenters, male.....	50.3	49.2	37.4	31.0	74.4	63.0	.599	.466	30.13	22.93	22.40	14.47
Sand blasters, male.....	50.3	50.0	34.7	30.9	69.0	61.8	.559	.413	28.12	20.65	19.41	12.76
Other employees, male.....	50.5	49.8	38.6	34.0	76.4	68.3	.600	.496	30.30	24.70	23.16	16.87
Other employees, female.....	49.6	46.7	24.4	36.4	49.2	77.9	.345	.228	17.11	10.65	8.44	8.30

Machine shops

All occupations:												
Males.....	49.8	48.5	38.2	34.6	76.7	71.3	\$0.637	\$0.545	\$31.72	\$26.43	\$24.36	\$18.87
Females.....	49.2	47.4	33.8	34.2	78.9	72.2	.408	.351	20.07	16.64	15.85	11.98
Males and females..	49.8	48.5	38.2	34.6	76.7	71.3	.634	.541	31.57	26.24	24.22	18.72
Assemblers, male.....	49.9	48.3	37.9	34.0	76.0	70.4	.656	.538	32.73	25.99	24.84	18.31
Assemblers, female.....	50.7	47.6	37.6	31.9	74.2	67.0	.426	.359	21.60	17.09	16.01	11.43
Blacksmiths, male.....	50.5	49.0	36.5	30.0	72.3	61.2	.728	.601	36.76	29.45	26.57	18.08
Blacksmiths' helpers, male.....	49.8	48.8	36.5	30.4	73.3	62.3	.533	.433	26.54	21.13	19.47	13.16
Boring-mill operators, male.....	50.0	49.1	37.4	33.5	74.8	68.2	.733	.596	36.65	29.26	27.39	19.98
Crane operators, male.....	50.4	49.8	39.7	35.0	78.8	70.3	.537	.444	27.06	22.11	21.35	15.52
Crane operators, female.....	47.5	(1)	46.0	(1)	96.8	(1)	.422	(1)	20.05	(1)	19.38	(1)
Craters and packers, male.....	50.1	48.6	39.1	35.0	78.0	72.0	.540	.437	27.05	21.24	21.10	15.31
Craters and packers, female.....	49.7	47.8	34.1	37.9	68.6	79.3	.343	.281	17.05	13.43	11.71	10.66
Drill-press operators, male.....	49.8	48.5	36.0	33.7	72.3	69.5	.612	.514	30.48	24.93	22.06	17.30
Drill-press operators, female.....	49.3	46.4	36.1	38.2	73.2	82.3	.446	.419	21.99	19.44	16.09	15.99

1 None reported in 1933.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN FOUNDRIES AND MACHINE SHOPS, 1931 AND 1933, BY INDUSTRY, OCCUPATION, AND SEX—Continued

Machine shops—Continued

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1931	1933	Average number		Percent of full time		1931	1933	1931	1933	1931	1933
			1931	1933	1931	1933						
Fitters and bench hands, male.....	49.5	48.5	38.0	33.7	76.8	69.5	\$0.666	\$0.562	\$32.97	\$27.26	\$25.28	\$18.96
Fitters and bench hands, female.....	50.4	48.0	37.1	32.9	73.6	68.5	.411	.326	20.71	15.65	15.23	10.72
Grinding-machine operators, male.....	50.2	47.9	36.9	34.2	73.5	71.4	.669	.557	33.58	26.68	24.69	19.04
Grinding-machine operators, female.....	48.0	46.3	39.3	30.1	81.9	65.0	.443	.519	21.26	24.03	17.43	15.60
Hammersmiths, male.....	49.4	49.2	29.6	29.3	59.9	59.6	.776	.614	38.33	30.21	22.94	18.00
Helpers, not otherwise specified, male.....	50.6	48.8	37.1	35.0	73.3	71.7	.481	.399	24.34	19.47	17.84	13.94
Laborers, male.....	50.3	48.8	38.6	33.0	76.7	67.6	.455	.379	22.89	18.50	17.56	12.52
Laborers, female.....	49.5	49.1	56.3	39.3	113.7	80.0	.591	.309	19.35	15.17	22.00	12.13
Lathe operators, engine, male.....	50.0	48.8	36.8	33.5	73.6	68.6	.706	.578	35.30	28.21	25.97	19.33
Lathe operators, engine, female.....	50.0	46.0	13.0	33.3	26.0	72.4	.516	.523	25.80	24.06	6.71	17.44
Lathe operators, turret, male.....	49.8	48.5	35.6	33.3	71.5	68.7	.672	.559	33.47	27.11	23.92	18.63
Lathe operators, turret, female.....	50.0	45.0	16.2	33.8	32.4	75.1	.527	.541	26.35	24.35	8.52	18.32
Machinists, male.....	49.0	48.3	40.4	36.7	82.4	76.0	.733	.606	35.92	29.27	29.62	22.27
Machinists' and toolmakers' helpers, male.....	49.3	48.2	38.9	35.3	78.9	73.2	.513	.393	25.29	18.94	19.98	13.87
Milling-machine operators, male.....	49.3	47.9	37.8	33.7	76.6	70.4	.685	.576	33.77	27.59	25.85	19.43
Milling-machine operators, female.....	48.9	47.2	38.1	36.2	77.9	76.7	.492	.446	24.06	21.05	18.74	16.12
Patternmakers, male.....	50.1	48.4	40.9	33.4	81.6	69.0	.812	.672	40.68	32.52	33.22	22.42
Planer operators, male.....	50.1	48.7	37.3	33.1	74.5	68.0	.738	.608	36.97	29.61	27.53	20.15
Polishers and buffers, male.....	49.4	47.7	33.5	34.3	67.8	71.9	.656	.483	32.41	23.04	21.96	16.60
Polishers and buffers, female.....	50.1	48.5	34.7	35.2	69.3	72.6	.377	.400	18.89	19.40	13.08	14.07
Punch-press operators, male.....	50.2	48.6	36.8	34.1	73.3	70.2	.619	.505	31.07	24.54	22.79	17.21
Punch-press operators, female.....	49.0	48.8	37.3	35.5	76.1	72.7	.386	.358	18.91	17.47	14.39	12.72
Screw machine operators (automatic), male.....	49.5	47.6	37.1	36.3	74.9	76.3	.694	.576	34.35	27.42	25.76	20.90
Screw machine operators (hand), male.....	49.9	48.0	36.4	35.6	72.9	74.2	.654	.493	32.63	23.66	23.79	17.61
Screw machine operators (hand), female.....	49.5	46.8	40.9	43.0	82.6	91.9	.356	.204	17.62	9.55	14.57	8.79
Screw machine operators (semi-automatic), male.....	48.5	48.5	39.5	35.6	81.4	73.4	.705	.523	34.19	25.37	27.87	18.58
Screw machine operators (semi-automatic), female.....	49.5	(¹)	43.2	(¹)	87.3	(¹)	.326	(¹)	16.14	(¹)	14.10	(¹)
Toolmakers, male.....	49.4	48.6	41.9	36.8	84.8	75.7	.758	.643	37.45	31.25	31.78	23.62
Other precision machine operators, male.....	50.0	49.0	35.7	33.1	71.4	67.6	.657	.534	32.85	26.17	23.46	17.69
Other precision machine operators, female.....	48.5	46.8	38.6	31.0	79.6	66.2	.399	.341	19.35	15.96	15.37	10.58
Other skilled employees, male.....	49.9	48.5	39.8	35.6	79.8	73.4	.695	.578	34.68	28.03	27.63	20.60
Other skilled employees, female.....	49.3	47.1	40.5	33.9	82.2	72.0	.391	.337	19.28	15.87	15.84	11.43
Other employees, male.....	50.1	48.5	39.2	36.4	78.2	75.1	.506	.550	25.35	26.63	19.82	20.05
Other employees, female.....	47.9	47.5	39.0	33.7	81.4	70.9	.439	.384	21.03	18.24	17.13	12.96

¹ None reported in 1933.

Table 3 shows average hours and earnings, and the percent of full time worked in 1 week. The averages are, by States, for the wage earners of each sex and of both sexes combined who were included in the study of foundries and of machine shops in 1931 and 1933.

TABLE 3.—AVERAGE HOURS, EARNINGS, AND PERCENT OF FULL TIME WORKED 1931 AND 1933, BY INDUSTRY, SEX, AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1931	1933	Average number		Percent of full time		1931	1933	1931	1933	1931	1933
			1931	1933	1931	1933						
<i>Males</i>												
Alabama.....	53.8	50.0	43.2	46.9	80.3	93.8	\$0.423	\$0.322	\$22.76	\$16.10	\$18.28	\$15.08
California.....	45.4	43.7	34.7	35.4	76.4	81.0	.743	.623	33.73	27.23	25.81	22.07
Colorado.....	48.0	48.0	45.6	30.5	95.0	63.5	.600	.500	28.80	24.00	27.33	15.25
Connecticut.....	50.7	51.4	28.5	19.3	56.2	37.5	.589	.462	29.86	23.75	16.77	8.93
Georgia.....	50.9	51.5	36.0	30.8	70.7	59.8	.403	.341	20.51	17.56	14.52	10.48
Illinois.....	49.6	47.8	30.9	32.1	62.3	67.2	.647	.492	32.09	23.52	19.95	15.79
Indiana.....	51.1	51.7	29.7	25.4	59.1	49.1	.559	.422	28.56	21.82	16.62	10.72
Iowa.....	53.6	50.7	35.0	35.6	65.3	70.2	.600	.506	32.16	25.65	20.86	18.03
Kansas.....	56.0	55.2	37.1	36.8	66.3	66.7	.455	.379	25.48	20.92	16.86	13.95
Kentucky.....	51.2	51.2	30.3	37.6	59.2	73.4	.521	.374	26.08	19.15	15.76	14.08
Louisiana.....	52.4	48.4	35.8	27.9	68.3	57.6	.401	.371	21.01	17.96	14.35	10.35
Maine.....	48.3	52.2	41.4	35.3	85.7	67.6	.558	.414	26.95	21.61	23.08	14.58
Maryland.....	49.9	48.0	40.6	28.1	81.4	58.5	.543	.462	27.10	22.18	22.06	12.98
Massachusetts.....	47.2	46.7	33.8	30.1	71.6	64.7	.690	.617	32.57	28.81	23.31	18.58
Michigan.....	52.1	50.4	33.3	30.0	63.9	59.5	.532	.446	30.32	22.48	19.37	13.40
Minnesota.....	51.2	46.4	32.9	28.4	64.3	61.2	.589	.510	30.16	24.08	19.38	14.77
Missouri.....	51.9	51.8	35.3	33.0	68.0	63.7	.577	.445	29.95	23.05	20.36	14.67
New Hampshire.....	50.7	47.1	37.8	22.1	74.6	46.9	.587	.526	28.75	24.77	21.43	11.62
New Jersey.....	48.9	49.2	35.1	29.9	71.8	60.8	.608	.472	29.73	23.22	21.30	14.11
New York.....	49.2	49.2	33.2	30.3	67.5	61.6	.599	.502	29.47	24.70	19.87	15.24
Ohio.....	51.0	51.3	34.7	30.6	68.0	59.6	.610	.459	31.11	23.65	21.19	14.05
Oregon.....	47.2	39.1	36.5	29.3	77.3	74.9	.675	.595	31.86	23.26	24.63	17.41
Pennsylvania.....	51.1	48.8	32.5	28.9	63.6	59.2	.606	.494	30.97	24.11	19.70	14.31
Rhode Island.....	50.4	50.7	31.7	33.1	62.9	65.3	.597	.557	30.09	28.24	18.93	14.83
Tennessee.....	49.0	49.5	33.4	31.8	68.2	64.2	.471	.454	23.08	22.47	15.74	14.42
Texas.....	49.0	49.6	36.7	27.7	74.9	55.8	.515	.402	25.24	19.94	18.94	11.15
Washington.....	47.9	48.0	37.8	28.6	78.9	59.6	.698	.551	33.43	26.45	26.43	15.76
Wisconsin.....	51.5	50.5	35.1	24.4	68.2	48.3	.584	.472	30.08	23.84	20.49	11.50
Total males.....	50.3	49.5	33.5	29.6	66.6	59.8	.601	.483	30.23	23.91	20.13	14.28
<i>Females</i>												
Connecticut.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Illinois.....	50.3	46.4	24.7	27.8	49.1	59.9	.409	.348	20.57	16.15	10.09	6.69
Indiana.....	49.7	50.9	22.7	21.4	45.7	42.0	.472	.296	23.46	15.07	10.70	6.35
Iowa.....	(3)	45.0	(2)	45.0	(2)	100.0	(2)	.314	(2)	14.14	(2)	14.14
Kentucky.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Massachusetts.....	(2)	46.5	(2)	37.7	(2)	81.1	(2)	.424	(2)	19.72	(2)	15.96
Michigan.....	51.4	52.9	20.9	39.2	40.7	74.1	.448	.290	23.03	15.34	9.39	11.38
New Jersey.....	48.2	48.8	25.7	32.4	53.3	71.1	.380	.271	18.32	13.22	9.81	9.40
New York.....	46.9	46.6	38.0	34.7	81.0	69.5	.403	.334	18.90	15.56	15.33	10.83
Ohio.....	44.5	54.0	30.5	34.6	68.5	64.1	.438	.275	19.49	14.85	13.34	9.50
Pennsylvania.....	50.3	48.0	29.3	28.3	58.3	59.0	.447	.344	22.48	16.51	13.08	9.75
Rhode Island.....	50.9	(1)	32.3	(1)	63.5	(1)	.460	(1)	23.41	(1)	14.85	(1)
Tennessee.....	50.0	(1)	48.3	(1)	96.6	(1)	.318	(1)	15.90	(1)	15.38	(1)
Wisconsin.....	48.7	44.6	32.3	27.1	66.3	60.8	.430	.330	20.94	14.72	13.88	8.93
Total females.....	48.7	48.3	29.4	30.2	60.4	62.5	.422	.314	20.55	15.17	12.40	9.51
<i>Males and females</i>												
Alabama.....	53.8	50.0	43.2	46.9	80.3	93.8	.423	.322	22.76	16.10	18.28	15.08
California.....	45.4	43.7	34.7	35.4	76.4	81.0	.743	.623	33.73	27.23	25.81	22.07
Colorado.....	48.0	48.0	45.6	30.5	95.0	63.5	.600	.500	28.80	24.00	27.33	15.25
Connecticut.....	50.6	51.4	28.5	19.3	56.3	37.5	.589	.462	29.80	23.75	16.77	8.93
Georgia.....	50.9	51.5	36.0	30.8	70.7	59.8	.403	.341	20.51	17.56	14.52	10.48
Illinois.....	49.6	47.8	30.8	32.1	62.1	67.2	.646	.492	32.04	23.52	19.91	15.76
Indiana.....	51.1	51.6	29.5	25.3	57.7	49.0	.557	.420	28.46	21.67	16.45	10.62
Iowa.....	53.6	50.8	35.0	35.8	65.3	70.5	.600	.503	32.16	25.55	20.86	17.97
Kansas.....	56.0	55.2	37.1	36.8	66.3	66.7	.455	.379	25.48	20.92	16.86	13.95
Kentucky.....	51.1	51.2	30.4	37.5	59.5	73.2	.519	.373	26.52	19.10	15.76	13.99
Louisiana.....	52.4	48.4	35.8	27.9	68.3	57.6	.401	.371	21.01	17.96	14.35	10.35
Maine.....	48.3	52.2	41.4	35.3	85.7	67.6	.558	.414	26.95	21.61	23.08	14.58
Maryland.....	49.9	48.0	40.6	28.1	81.4	58.5	.543	.462	27.10	22.18	22.06	12.98
Massachusetts.....	47.2	46.7	33.8	30.2	71.6	64.7	.690	.616	32.57	28.77	23.31	18.58
Michigan.....	52.1	50.4	33.2	30.1	63.7	59.7	.581	.445	30.27	22.43	19.27	13.39
Minnesota.....	51.2	46.4	32.9	28.4	64.3	61.2	.589	.519	30.16	24.08	19.38	14.77
Missouri.....	51.9	51.8	35.3	33.0	68.0	63.7	.577	.445	29.95	23.05	20.36	14.67

See footnotes at end of table.

TABLE 3.—AVERAGE HOURS, EARNINGS, AND PERCENT OF FULL TIME WORKED, 1931 AND 1933, BY INDUSTRY, SEX, AND STATE—Continued

Foundries—Continued

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933
<i>Males and females—Continued</i>												
New Hampshire.....	50.7	47.1	37.8	22.1	74.6	46.9	\$0.567	\$0.526	\$28.75	\$24.77	\$21.43	\$11.62
New Jersey.....	48.9	49.2	34.9	30.0	71.4	61.0	.604	.466	29.54	22.93	21.09	14.00
New York.....	49.2	49.2	33.3	30.4	67.7	61.8	.594	.499	29.22	24.55	19.78	15.16
Ohio.....	50.9	51.3	34.7	30.7	68.2	59.8	.610	.458	31.05	23.50	21.16	14.04
Oregon.....	47.2	39.1	36.5	29.3	77.3	74.9	.675	.595	31.86	23.26	24.63	17.41
Pennsylvania.....	51.1	48.8	32.5	28.9	63.6	59.2	.605	.494	30.92	24.11	19.65	14.28
Rhode Island.....	50.4	50.7	31.7	33.1	62.9	65.3	.597	.550	30.09	28.19	18.91	18.40
Tennessee.....	49.0	49.5	33.6	31.8	68.6	64.2	.489	.452	22.98	22.37	15.74	14.37
Texas.....	49.0	49.6	36.7	27.7	74.9	55.8	.515	.402	25.24	19.94	18.94	11.15
Washington.....	47.9	48.0	37.8	28.6	78.9	59.6	.698	.551	33.43	26.45	26.43	15.76
Wisconsin.....	51.5	50.4	35.1	24.4	68.2	48.4	.583	.471	30.02	23.74	20.44	11.48
Total males and females.....	50.3	49.5	33.5	29.6	66.6	59.8	.600	.482	30.18	23.86	20.06	14.25

Machine shops

<i>Males</i>												
	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933	1931	1933
Alabama.....	54.0	50.1	40.1	41.3	74.3	82.4	\$0.596	\$0.401	\$32.18	\$20.09	\$23.88	\$16.55
California.....	45.1	44.3	39.2	40.7	86.9	91.9	.753	.643	33.96	28.48	29.47	26.20
Colorado.....	48.0	47.7	36.5	32.0	76.0	67.1	.647	.550	31.06	26.24	23.63	17.64
Connecticut.....	49.3	48.0	37.0	30.1	75.1	62.7	.659	.608	32.49	29.18	24.34	18.30
Georgia.....	51.2	51.8	42.6	40.8	83.4	78.8	.462	.352	23.65	18.23	19.66	14.35
Illinois.....	49.5	48.3	37.6	34.7	76.0	71.8	.657	.549	32.52	26.52	24.72	19.03
Indiana.....	51.1	50.8	35.8	27.8	70.1	54.7	.543	.477	27.75	24.23	19.44	13.28
Iowa.....	52.2	49.5	34.3	38.4	65.7	77.6	.569	.440	29.70	21.78	19.50	16.88
Kansas.....	52.9	49.9	47.6	45.4	80.0	91.0	.543	.467	28.72	23.30	25.81	21.28
Kentucky.....	48.9	49.7	36.7	36.0	75.1	74.2	.551	.439	26.94	21.82	20.23	16.13
Louisiana.....	51.4	48.7	43.2	38.5	84.0	79.1	.524	.464	26.93	22.60	22.66	17.86
Maine.....	48.1	49.8	39.4	34.4	81.9	70.5	.550	.420	26.46	20.50	21.69	14.44
Maryland.....	48.4	47.5	41.3	37.7	85.3	79.4	.658	.593	31.85	28.17	27.17	23.37
Massachusetts.....	48.2	46.4	41.8	37.2	86.7	80.2	.646	.563	31.14	26.12	27.01	20.95
Michigan.....	51.5	48.1	38.5	36.4	74.8	75.7	.645	.533	33.22	25.64	24.84	19.42
Minnesota.....	49.2	48.8	37.6	38.9	76.4	79.7	.601	.570	29.57	27.82	22.57	22.15
Missouri.....	51.3	50.4	39.4	40.6	76.8	80.6	.562	.481	28.83	24.24	22.17	19.50
New Hampshire.....	48.8	48.6	40.7	32.0	83.4	65.8	.600	.605	29.28	29.40	24.37	19.37
New Jersey.....	49.4	48.9	40.7	36.3	82.4	74.2	.679	.568	33.54	27.78	27.65	20.63
New York.....	49.2	48.1	40.3	31.4	81.9	65.3	.680	.612	33.46	29.44	27.37	19.22
Ohio.....	49.9	49.0	37.4	34.8	74.9	71.0	.628	.526	31.34	25.77	23.50	18.29
Oregon.....	46.2	47.1	41.2	36.0	89.2	76.4	.724	.650	33.45	30.62	29.82	23.43
Pennsylvania.....	51.2	49.3	35.9	34.0	70.1	69.0	.616	.531	31.64	26.18	22.08	18.02
Rhode Island.....	50.4	50.6	34.9	36.5	69.2	72.1	.595	.525	29.99	26.50	20.74	19.16
Tennessee.....	49.0	48.7	35.2	37.1	71.8	76.2	.568	.460	27.83	22.40	20.00	17.10
Texas.....	48.0	45.1	39.1	34.9	81.5	77.4	.603	.527	28.94	23.77	23.59	18.41
Washington.....	47.6	45.0	42.8	38.3	89.9	85.1	.729	.636	34.70	28.62	31.16	24.39
Wisconsin.....	51.2	50.4	36.3	29.5	70.9	58.5	.617	.530	31.69	26.71	22.43	15.65
Total males.....	49.8	48.5	38.2	34.6	76.7	71.3	.637	.545	31.72	26.43	24.36	18.87
<i>Females</i>												
	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Connecticut.....												
Illinois.....	50.9	50.9	34.7	35.8	68.2	70.3	.373	.299	18.99	15.22	12.95	10.68
Indiana.....	50.0	50.0	27.2	17.4	54.4	34.8	.471	.371	23.55	15.55	12.80	6.45
Maine.....	50.0	50.0	27.0	28.1	54.0	56.2	.380	.270	19.00	13.50	10.26	7.60
Massachusetts.....	47.7	45.5	38.7	31.8	81.1	69.9	.448	.399	21.37	15.15	17.35	12.69
Michigan.....	52.3	46.2	41.9	41.1	80.1	90.9	.398	.374	20.82	16.90	16.66	15.41
New Hampshire.....	48.0	48.0	31.6	23.3	65.8	48.5	.431	.328	20.69	15.74	13.63	7.63
New Jersey.....	50.0	48.5	39.0	43.0	78.0	88.7	.423	.263	21.15	12.76	16.49	11.30
New York.....	48.1	48.0	38.6	35.4	80.2	73.8	.473	.383	22.75	18.38	18.23	13.57
Ohio.....	49.4	48.6	41.4	37.6	83.8	77.4	.347	.265	17.14	12.39	14.38	9.60
Pennsylvania.....	46.4	46.7	35.6	25.9	76.7	55.5	.397	.389	18.42	18.17	14.13	10.07
Rhode Island.....	50.8	51.4	36.2	41.8	71.3	81.8	.453	.366	23.01	18.81	16.40	15.30

See footnotes at end of table.

TABLE 3.—AVERAGE HOURS, EARNINGS, AND PERCENT OF FULL TIME WORKED, 1931 AND 1933, BY INDUSTRY, SEX, AND STATE—Continued

Machine shops—Continued

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	(1)	(2)	Average number		Percent of full time		(1)	(2)	(1)	(2)	(1)	(2)
			1931	1933	1931	1933						
<i>Females—Contd.</i>												
Tennessee.....	(1) 45.5	(2) 44.9	(1) 38.8	(2) 23.7	(1) 85.3	(2) 52.8	(1) \$0.378	(2) \$0.291	(1) \$17.20	(2) \$13.07	(1) \$14.66	(2) \$6.89
Wisconsin.....	49.2	47.4	38.8	34.2	78.9	72.2	408	351	20.07	16.64	15.85	11.98
<i>Total females.</i>												
<i>Males and females</i>												
Alabama.....	54.0	50.1	40.1	41.3	74.3	82.4	.596	.401	32.18	20.09	23.88	16.55
California.....	45.1	44.3	39.2	40.7	86.9	91.9	.753	.643	33.96	28.48	29.47	26.20
Colorado.....	48.0	47.7	36.5	32.0	76.0	67.1	.647	.550	31.06	26.24	23.63	17.64
Connecticut.....	49.3	48.0	37.0	30.1	75.1	62.7	.659	.608	32.49	29.18	24.34	18.30
Georgia.....	51.2	51.8	42.6	40.8	83.2	78.8	.462	.352	23.65	18.23	19.66	14.35
Illinois.....	49.6	48.3	37.6	34.7	75.8	71.8	.655	.547	32.49	26.42	24.63	18.96
Indiana.....	51.0	50.8	35.7	27.2	70.0	53.5	.543	.473	27.69	24.03	19.37	12.89
Iowa.....	52.2	49.5	34.3	38.4	65.7	77.6	.569	.440	29.70	21.78	19.50	16.88
Kansas.....	52.9	49.9	47.6	45.4	90.0	91.0	.543	.467	28.72	23.30	25.81	21.20
Kentucky.....	48.9	49.7	36.7	36.9	75.1	74.2	.551	.439	26.94	21.82	20.23	16.18
Louisiana.....	51.4	48.7	43.2	38.5	84.0	79.1	.524	.464	26.93	22.60	22.66	17.86
Maine.....	48.1	48.8	39.2	34.3	81.5	70.3	.548	.418	26.36	20.40	21.51	14.31
Maryland.....	48.4	47.5	41.3	37.7	85.3	79.4	.658	.593	31.85	28.17	27.17	22.37
Massachusetts.....	48.2	46.4	41.8	37.1	86.7	80.0	.644	.561	31.04	26.03	26.88	20.81
Michigan.....	51.5	47.9	37.8	36.8	75.1	76.8	.631	.519	32.50	24.86	24.40	19.10
Minnesota.....	49.2	48.8	37.6	38.9	76.4	79.7	.601	.570	29.57	27.82	22.57	22.15
Missouri.....	51.3	50.4	39.4	40.6	76.8	80.6	.562	.481	28.83	24.24	22.17	19.50
New Hampshire.....	48.7	48.6	40.2	31.1	82.5	64.0	.594	.564	28.93	28.38	23.83	18.18
New Jersey.....	49.4	48.9	40.7	36.3	82.4	74.2	.677	.568	33.44	27.78	27.55	20.62
New York.....	49.2	48.1	40.3	31.6	81.9	65.7	.674	.599	33.16	28.81	27.13	18.94
Ohio.....	49.9	49.0	37.5	34.8	75.2	71.0	.622	.518	31.04	25.38	23.32	18.04
Oregon.....	46.2	47.1	41.2	36.0	89.2	76.4	.724	.650	33.45	30.62	29.82	23.43
Pennsylvania.....	51.1	49.3	35.9	33.9	70.3	68.8	.614	.529	31.38	26.08	22.00	17.94
Rhode Island.....	50.4	50.6	34.9	36.6	69.2	72.3	.591	.521	29.79	26.36	20.63	19.08
Tennessee.....	49.0	48.7	35.3	37.1	72.0	76.2	.567	.460	27.78	22.40	19.99	17.10
Texas.....	48.0	45.1	39.1	34.9	81.5	77.4	.603	.527	28.94	23.77	23.59	18.41
Washington.....	47.6	45.0	42.8	38.3	89.9	85.1	.729	.636	34.70	28.62	31.16	24.39
Wisconsin.....	51.1	50.4	36.4	29.5	71.2	58.5	.615	.528	31.43	26.61	22.36	15.55
<i>Total males and females.....</i>	49.8	48.5	38.2	34.6	76.7	71.3	.634	.541	31.57	26.24	24.22	18.72

1 Fewer than 3 employees; data included only in total.
 2 None reported in 1931.
 3 None reported in 1933.

Foundries—Hours and Earnings of Stove Molders and Mounters, 1934

IN RESPONSE to a request of the Atlanta Regional Labor Board for information pertaining to the earnings of molders and mounters in stove foundries, the United States Bureau of Labor Statistics obtained pay-roll records from 11 stove foundries in Alabama, Georgia, and Tennessee for 1 pay period ending in September 1934.

The data showed that the molders, 744 in all, had average earnings of \$20.08 per week of 36.1 hours. This was an average of 55.6 cents per hour, or \$4.44 per 8-hour day. Four percent of the molders earned less than \$2.50 per day and 8 percent earned \$6 and over per day.

The 209 mounters had average earnings of \$14.08 per week of 32.1 hours, or 43.9 cents per hour and \$3.51 per 8-hour day. Of the mounters, 9 percent earned less than \$2.50 per day and 1 percent earned \$7 and over per day.

Furniture Industry—Hours and Earnings, 1931

SUMMARIES of average hours and earnings of wage earners in the furniture industry in the United States, computed by the Bureau of Labor Statistics from wage figures collected by the Bureau in 1931, are presented in table 1 together with similar averages for each year 1910 to 1913, 1915, and 1929. Index numbers, with the 1913 average as the base or 100, are also shown.

The 1931 averages and index numbers are for a total of 30,659 wage earners of 299 representative furniture factories in 17 States. These factories are the same as those covered in 1929, except for a few substituted for those closed since 1929. The same States were included in both years. Each State included is of material importance in number of wage earners in the industry, according to reports of the Bureau of the Census. The wage figures used in computing the 1931 averages, except for a very few factories, were taken directly from the pay rolls and are for a representative pay period in July, August, September, or October. Detailed figures of the 1931 study were published in Bulletin No. 571 of the Bureau.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE FURNITURE INDUSTRY, AND INDEX NUMBERS THEREOF, 1910-31, BY YEAR

Year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1913=100.0)		
		Average number	Percent of full time				Average full-time hours per week	Average earnings per hour	Average full-time earnings per week
Selected occupations only:									
1910.....	58.2	(1)	(1)	\$0.217	\$12.56	(1)	101.4	98.6	99.8
1911.....	58.4	(1)	(1)	.216	12.50	(1)	101.7	98.2	99.4
1912.....	58.2	(1)	(1)	.214	12.41	(1)	101.4	97.3	98.6
1913.....	57.4	(1)	(1)	.220	12.58	(1)	100.0	100.0	100.0
1915 ¹	57.1	(1)	(1)	.227	12.88	(1)	99.5	103.2	102.4
All occupations:									
1915 ²	57.4	(1)	(1)	.214	12.24	(1)	89.9	236.3	212.8
1929.....	51.9	50.1	96.5	.490	25.43	\$24.52	89.8	198.2	178.1
1931.....	51.8	41.1	79.3	.411	21.29	16.88			

¹ Data not available.

² 2 sets of averages are shown for this year, 1 for selected occupations and the other for all occupations in the industry. The 1910 to 1915 figures for selected occupations are comparable one year with another, as are those for all occupations one year with another from 1915 to 1931.

Table 2 shows for 1929 and for 1931 average hours and earnings for each of 19 specified occupations, and also for a group of "other employees." Averages are shown in the table for males in each of the 19 specified occupations and for females in all except 4—hand carvers, machine carvers, gluers of rough stock, and laborers.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE FURNITURE INDUSTRY, 1929 AND 1931, BY OCCUPATION AND SEX

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
All occupations:												
Males.....	52.1	51.9	50.3	41.4	96.5	79.8	\$0.499	\$0.416	\$26.00	\$21.59	\$25.12	\$17.22
Females.....	50.5	49.8	46.4	36.3	91.9	72.9	.345	.314	17.42	15.64	16.03	11.40
Males and females..	51.9	51.8	50.1	41.1	96.5	79.3	.490	.411	25.43	21.29	24.52	16.88
Assemblers and cabinet-makers, male.....	52.1	51.9	50.8	42.0	97.5	80.9	.560	.445	29.18	23.10	28.44	18.68
Assemblers and cabinet-makers, female.....	50.7	49.7	47.5	37.2	93.7	74.8	.317	.283	16.07	14.07	15.05	10.53
Carvers, hand, male.....	48.6	49.7	44.6	38.0	91.8	76.5	.956	.745	46.46	37.03	42.66	28.33
Carvers, machine, male.	51.1	51.7	51.3	44.1	100.4	85.3	.765	.576	39.09	29.78	39.22	25.40
Craters and packers, male.....	52.8	52.4	51.3	42.3	97.2	80.7	.435	.365	22.97	19.13	22.34	15.44
Craters and packers, female.....	50.3	50.6	43.7	35.8	86.9	70.8	.331	.252	16.65	12.75	14.43	9.01
Cushion and pad makers, male.....	50.0	49.8	48.3	40.7	96.6	81.7	.571	.514	28.55	25.60	27.62	20.93
Cushion and pad makers, female.....	50.6	49.1	49.4	32.0	97.6	65.2	.353	.334	17.86	16.40	17.53	10.70
Cutters, upholstering materials, male.....	50.0	50.3	49.6	38.2	99.2	75.9	.647	.566	32.35	28.47	32.09	21.64
Cutters, upholstering materials, female.....	50.1	49.6	49.2	36.8	98.2	74.2	.409	.383	20.49	19.00	20.10	14.10
Finishers, male.....	52.0	51.6	50.0	41.7	96.2	80.8	.505	.414	26.26	21.36	25.28	17.26
Finishers, female.....	50.5	50.2	47.0	38.3	93.1	76.3	.371	.319	18.74	16.01	17.45	12.22
Glueers, rough stock, male.	52.5	52.3	51.5	42.3	98.1	80.9	.460	.379	24.15	19.82	23.67	16.02
Helpers, male.....	52.4	52.6	49.7	42.5	94.8	80.8	.304	.231	15.93	12.15	15.13	9.82
Helpers, female.....	52.0	51.2	46.2	40.7	88.8	79.5	.224	.195	11.65	9.98	10.37	7.93
Laborers, male.....	52.2	52.2	50.2	41.4	96.2	79.3	.378	.317	19.73	16.55	18.97	13.13
Machine hands, male.....	52.4	52.1	51.4	41.5	98.1	79.7	.512	.428	26.83	22.30	26.30	17.77
Machine hands, female..	51.1	52.4	44.4	37.2	86.9	71.0	.293	.310	14.97	16.24	13.01	11.53
Polishers and rubbers, male.....	52.7	52.8	49.4	40.2	93.7	76.1	.507	.403	26.72	21.28	25.01	16.21
Polishers and rubbers, female.....	52.5	50.9	48.6	36.7	92.6	72.1	.300	.259	15.75	13.18	14.59	9.53
Sanders, hand, male.....	52.5	52.8	49.5	42.4	94.3	80.3	.419	.331	22.00	17.48	20.77	14.03
Sanders, hand, female..	51.6	50.1	46.5	38.3	90.1	76.4	.268	.226	13.83	11.32	12.47	8.67
Sewers, male.....	49.3	50.5	49.5	38.8	100.4	76.8	.670	.578	33.03	29.19	33.19	22.40
Sewers, female.....	49.4	49.0	46.0	35.6	93.1	72.7	.408	.374	20.16	18.33	18.79	13.32
Sprayers, male.....	52.8	52.4	52.4	43.0	99.2	82.1	.527	.445	27.83	23.32	27.63	19.12
Sprayers, female.....	52.0	48.2	43.8	39.9	84.2	82.8	.386	.324	20.07	15.62	16.92	12.92
Spring setters, male.....	50.0	50.2	45.1	34.0	90.2	67.7	.507	.444	25.35	22.29	22.86	15.11
Spring setters, female..	49.7	50.1	44.5	32.9	89.5	65.7	.475	.405	23.61	20.29	21.13	13.34
Trimmers, male.....	52.2	51.9	51.5	40.6	98.7	78.2	.506	.432	26.41	22.42	26.07	17.52
Trimmers, female.....	50.9	52.1	46.0	29.1	90.4	55.9	.314	.265	15.98	10.68	14.46	5.96
Upholsterers, male.....	50.1	50.3	46.5	34.5	92.8	68.6	.724	.538	36.27	27.06	33.61	18.53
Upholsterers, female..	50.3	52.2	42.0	36.4	83.5	69.7	.403	.296	20.27	15.45	16.93	10.78
Veneers, male.....	52.5	52.5	52.7	43.4	100.4	82.7	.454	.376	23.84	19.74	23.93	16.32
Veneers, female.....	51.5	50.4	49.0	37.0	95.1	73.4	.290	.296	14.94	14.92	14.21	10.93
Other employees, male..	51.6	51.5	50.7	44.2	98.3	85.8	.516	.459	26.63	25.18	26.15	21.57
Other employees female..	50.3	50.1	47.1	32.0	93.6	63.9	.343	.297	17.25	14.88	16.17	9.51

Table 3 shows average hours and earnings for the wage earners included in the studies of the industry in 1929 and 1931. The averages are for males and females separately in each State and in all States combined.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE FURNITURE INDUSTRY, 1929 AND 1931, BY SEX AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
<i>Males</i>												
California.....	47.0	47.4	45.9	42.5	97.7	89.7	\$0.599	\$0.525	\$28.15	\$24.89	\$27.48	\$22.33
Georgia.....	55.1	55.0	49.6	42.4	90.0	77.1	.290	.244	15.98	13.42	14.40	10.34
Illinois.....	50.0	50.1	49.7	34.5	99.4	68.9	.608	.498	30.40	24.95	30.21	17.18
Indiana.....	52.6	51.6	50.5	39.2	96.0	76.0	.443	.399	23.30	20.59	22.33	15.65
Kentucky.....	56.9	54.3	45.1	43.4	79.3	79.9	.453	.389	25.78	21.12	20.44	16.90
Maryland.....	51.1	49.5	50.1	42.6	98.0	86.1	.516	.482	26.37	23.86	25.84	20.55
Massachusetts.....	48.3	48.6	47.3	41.3	97.9	85.0	.646	.594	31.20	28.87	30.53	24.56
Michigan.....	51.2	51.0	50.1	39.9	97.9	78.2	.555	.461	28.42	23.51	27.78	18.43
Missouri.....	51.9	50.8	47.9	40.5	92.3	79.7	.477	.432	24.76	21.95	22.82	17.48
New Jersey.....	49.0	49.0	47.2	35.4	96.3	72.2	.619	.589	30.33	28.86	29.25	20.83
New York.....	51.4	51.3	50.4	39.1	98.1	76.2	.566	.475	29.09	24.37	28.49	18.56
North Carolina.....	55.0	54.2	52.9	48.1	96.2	88.7	.333	.288	18.32	15.61	17.61	13.85
Ohio.....	53.6	53.8	50.8	41.9	94.8	77.9	.493	.435	26.42	23.40	25.04	18.23
Pennsylvania.....	53.2	53.3	49.7	46.4	93.4	87.1	.474	.418	25.22	22.28	23.54	19.36
Tennessee.....	54.4	52.7	53.3	45.8	98.0	86.9	.348	.289	18.93	15.23	18.56	13.23
Virginia.....	55.0	55.0	52.8	50.9	96.0	92.5	.298	.286	16.39	12.98	15.75	11.98
Wisconsin.....	53.7	53.6	54.1	37.7	100.7	70.3	.459	.430	24.65	23.05	24.60	16.19
Total males.....	52.1	51.9	50.3	41.4	96.5	79.8	.499	.416	26.00	21.59	25.12	17.22
<i>Females</i>												
California.....	45.4	44.8	41.9	38.4	92.3	85.7	.492	.470	22.34	21.06	20.58	18.04
Georgia.....	(1)	55.0	(1)	32.7	(1)	59.5	(1)	.208	(1)	11.44	(1)	6.79
Illinois.....	50.0	50.1	49.6	31.9	99.2	63.7	.427	.375	21.35	18.79	21.17	11.95
Indiana.....	52.9	51.1	46.1	32.1	87.1	62.8	.272	.233	14.39	11.91	12.53	7.47
Kentucky.....	(1)	52.9	(1)	37.3	(1)	70.5	(1)	.232	(1)	12.27	(1)	8.66
Maryland.....	50.0	49.0	47.7	40.3	95.4	82.2	.387	.350	19.35	17.15	18.45	14.08
Massachusetts.....	47.7	46.4	43.9	38.9	92.0	83.8	.356	.336	16.98	20.23	15.63	16.97
Michigan.....	51.4	51.8	46.1	37.2	89.7	71.8	.340	.295	17.48	15.28	15.67	10.95
Missouri.....	50.0	49.8	42.6	37.2	85.2	74.7	.319	.277	15.95	13.79	13.67	10.28
New Jersey.....	46.2	45.5	42.5	37.2	92.0	81.8	.404	.434	18.68	19.75	17.18	16.15
New York.....	48.8	48.6	45.4	34.0	93.0	70.0	.389	.336	18.98	16.33	17.66	11.42
North Carolina.....	55.0	49.4	52.9	46.3	96.2	93.7	.189	.176	10.40	8.69	10.00	8.16
Ohio.....	49.8	49.7	46.1	41.5	92.6	83.5	.374	.314	18.63	15.61	17.25	13.05
Pennsylvania.....	50.8	50.6	43.4	46.9	85.4	92.7	.363	.241	18.44	12.19	15.73	11.30
Tennessee.....	55.0	50.7	52.8	38.8	96.0	76.5	.161	.141	8.86	7.15	8.53	5.46
Virginia.....	55.0	(2)	51.0	(2)	92.7	(2)	.145	(2)	7.98	(2)	7.39	(2)
Wisconsin.....	50.0	50.0	43.8	33.6	87.6	87.2	.315	.297	15.75	14.85	13.83	9.98
Total females.....	50.5	49.8	46.4	36.3	91.9	72.9	.345	.314	17.42	15.64	16.03	11.40
<i>Males and females</i>												
California.....	46.9	47.2	45.6	42.2	97.2	89.4	.591	.521	27.72	24.59	26.95	22.01
Georgia.....	55.1	55.0	49.7	41.6	90.2	75.6	.289	.241	15.92	13.26	14.86	10.04
Illinois.....	50.0	50.1	49.7	34.2	99.4	68.3	.593	.488	29.65	24.45	29.44	16.72
Indiana.....	52.6	51.5	50.2	39.0	95.4	75.7	.434	.394	22.83	20.29	21.83	15.34
Kentucky.....	57.0	54.2	45.1	43.1	79.1	79.5	.453	.383	25.82	20.76	20.42	16.53
Maryland.....	51.0	49.5	49.9	42.4	97.8	85.7	.505	.471	25.76	23.31	25.22	19.99
Massachusetts.....	48.2	48.4	46.9	41.1	97.3	84.9	.620	.581	29.88	28.12	29.11	23.87
Michigan.....	51.2	51.0	49.7	39.7	97.1	77.8	.535	.449	27.39	22.90	26.69	17.82
Missouri.....	51.8	50.8	47.5	40.3	91.7	79.3	.467	.425	24.19	21.59	22.17	17.12
New Jersey.....	48.9	48.8	47.1	35.5	96.3	72.7	.615	.580	30.07	28.30	29.00	20.59
New York.....	51.2	51.2	50.1	38.9	97.9	76.0	.558	.469	28.57	24.01	27.97	18.28
North Carolina.....	55.0	54.1	52.9	48.0	96.2	88.7	.331	.286	18.21	15.47	17.50	13.76
Ohio.....	53.3	53.5	50.4	41.9	94.6	78.1	.485	.425	25.85	22.74	24.46	17.82
Pennsylvania.....	53.1	53.2	49.5	46.4	93.2	87.2	.471	.413	25.01	21.97	23.29	19.13
Tennessee.....	54.5	52.3	53.2	44.6	97.6	85.3	.313	.266	17.06	13.91	16.08	11.88
Virginia.....	55.0	55.0	52.7	50.9	95.8	92.5	.296	.236	16.28	12.98	15.69	11.98
Wisconsin.....	53.3	53.3	52.9	37.3	99.2	70.0	.445	.420	23.72	22.39	23.53	15.66
Total males and females.....	51.9	51.8	50.1	41.1	96.5	79.3	.490	.411	25.43	21.29	24.52	16.88

¹ Data included in total.

² No females reported in 1931.

Gasoline Filling Stations—Hours and Earnings, 1931

A STUDY made by the Bureau of Labor Statistics during the months of April to July in 1931 covered 2,960 employees of 736 gasoline filling stations in 43 representative cities. More detailed information is published in Bulletin No. 578 of the Bureau.

Average hours and earnings are shown in table 1 for eight of the most important occupations in the industry and for a group designated as "Other employees." The averages are for males only; but 8 females were employed at the 736 stations included in the study. There were 198 Negroes employed mostly by stations in cities in Southern States and working principally as car washers, greasers, or tire men. Operators and operators' helpers were the most important occupations in point of numbers employed, forming approximately 75 percent of the total number of employees.

The study included filling-station employees in 2 cities in each of 8 States and in 1 city in each of 26 States and in the District of Columbia. In 1 city data were obtained for 9 filling stations; in each of 4 cities, 14 stations; in each of 2 cities, 15 stations; in each of 11 cities, 16 stations; in 1 city, 17 stations; in each of 16 cities, 18 stations; and in each of 8 cities, 20 stations. A greater number of stations and employees was covered in large than in small cities.

The principal business of a filling station is the selling of gasoline and lubricating oil. Tire service, the washing and greasing of cars, the sale of accessories and supplies, and the minor adjustment or repair of cars are generally incidental. In selecting stations for inclusion in the study the effort was made to include only typical filling stations in each city. Some of the 736 stations included were privately owned and operated; some belonged to small companies with a group of stations in one city; and others were those of large refining companies operating stations in practically all the large cities in the United States. The stations of 239 different companies are represented.

TABLE 1.—AVERAGE HOURS AND EARNINGS OF GASOLINE FILLING-STATION EMPLOYEES IN 1931, BY OCCUPATION

Occupation	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
All occupations.....	60.0	59.5	99.2	\$0.393	\$23.58	\$23.39
Car washers.....	66.9	61.9	92.5	.248	16.59	15.36
Greasers.....	59.9	59.6	99.5	.393	23.54	23.41
Managers.....	57.3	57.2	99.8	.631	36.16	36.09
Operators.....	61.0	61.3	100.5	.441	26.90	27.01
Operators' helpers.....	57.7	57.2	99.1	.362	20.89	20.71
Porters.....	65.1	65.7	100.9	.193	12.56	12.65
Relief men.....	48.3	46.6	96.5	.409	19.75	19.07
Tire men.....	67.9	67.8	99.9	.300	20.37	20.36
Other employees.....	60.0	58.5	97.5	.404	24.24	23.65

Table 2 shows, for each of 43 cities, the average hours and earnings of the 2,960 male employees included in the study. The number of stations covered ranged from 9 in Burlington, Vt., to 20 each in Philadelphia, Baltimore, Boston, Chicago, Cleveland, Detroit, St. Louis, and New York. The number of employees ranged from 23 in Burlington to 151 in Chicago.

TABLE 2.—AVERAGE HOURS AND EARNINGS OF FILLING-STATION EMPLOYEES IN 1931, BY CITY

City	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
All cities.....	60.0	59.5	99.2	\$0.393	\$23.58	\$23.39
Altoona, Pa.....	53.7	53.5	99.6	.388	20.84	20.74
Atlanta, Ga.....	64.6	60.7	94.0	.285	18.41	17.30
Austin, Tex.....	62.3	62.7	100.6	.335	20.87	21.02
Baltimore, Md.....	56.4	56.4	100.0	.438	24.70	24.70
Birmingham, Ala.....	64.4	64.4	100.0	.284	18.29	18.29
Boston, Mass.....	55.3	55.2	99.8	.491	27.15	27.11
Burlington, Vt.....	65.1	64.9	99.7	.315	20.51	20.45
Charleston, S. C.....	62.4	62.4	100.0	.354	22.09	22.09
Charlotte, N. C.....	68.4	67.5	98.7	.296	20.25	20.01
Chicago, Ill.....	54.6	51.3	94.0	.603	32.92	30.94
Cleveland, Ohio.....	57.9	57.2	98.8	.470	27.21	26.91
Danville, Ill.....	63.7	63.2	99.2	.392	24.97	24.75
Des Moines, Iowa.....	63.2	63.3	100.2	.371	23.45	23.47
Detroit, Mich.....	57.8	57.7	99.8	.469	27.11	27.07
Hamilton, Ohio.....	56.6	56.6	100.0	.413	23.38	23.38
Hartford, Conn.....	53.0	53.1	100.2	.494	26.18	26.25
Holyoke, Mass.....	59.9	60.8	101.5	.457	27.37	27.77
Houston, Tex.....	57.3	57.3	100.0	.351	20.11	20.11
Huntington, W. Va.....	64.2	63.7	99.2	.319	20.48	20.30
Indianapolis, Ind.....	60.2	60.7	100.8	.412	24.80	25.01
Jacksonville, Fla.....	72.7	72.7	100.0	.254	18.47	18.47
Joplin, Mo.....	64.1	64.4	100.5	.303	19.42	19.54
Kansas City, Kans.....	60.5	60.0	99.2	.371	22.45	22.26
Lincoln, Neb.....	64.0	65.2	101.9	.329	21.06	21.48
Little Rock, Ark.....	61.7	62.1	100.6	.337	20.79	20.92
Louisville, Ky.....	57.0	56.4	98.9	.332	18.92	18.75
Manchester, N. H.....	56.7	56.3	99.3	.405	22.96	22.80
Memphis, Tenn.....	67.0	66.8	99.7	.304	20.37	20.32
Meridian, Miss.....	70.0	70.0	100.0	.226	15.82	15.82
Milwaukee, Wis.....	61.1	60.7	99.3	.399	24.38	24.20
Minneapolis, Minn.....	58.8	58.5	101.2	.380	22.34	22.63
New Orleans, La.....	60.9	60.9	100.0	.348	21.19	21.19
New York, N. Y.....	59.9	59.8	99.8	.503	30.13	30.05
Oklahoma City, Okla.....	65.7	65.8	100.2	.352	23.13	23.19
Philadelphia, Pa.....	53.9	53.2	98.7	.418	22.53	22.27
Portland, Maine.....	58.4	58.7	100.5	.432	25.23	25.35
Providence, R. I.....	54.3	54.4	100.2	.443	24.05	24.08
Richmond, Va.....	62.8	62.5	99.5	.354	22.23	22.15
Rochester, N. Y.....	52.0	52.3	100.6	.484	25.17	25.31
St. Louis, Mo.....	62.5	62.3	99.7	.396	24.75	24.65
Superior, Wis.....	68.0	66.6	97.9	.365	24.82	24.31
Trenton, N. J.....	51.8	52.8	101.9	.439	22.74	23.19
Washington, D. C.....	60.6	57.8	95.4	.449	27.21	25.94

Glass Industry—Hours and Earnings, 1932

LATE IN 1932 the Bureau of Labor Statistics made a study of wages and hours of labor in the glass industry in the United States, covering four distinct departments of the industry—pressed and blown ware (not including plants the principal product of which was tubing), bottles and food containers, plate glass, and window glass. A summary of the results of the study is here presented, by principal occupations (table 1) and by States (table 2), for each department of

the industry and for all departments combined. More detailed data were published in the Monthly Labor Review for October 1933 (p. 917).

The data collected covered 120 representative plants in 10 States and 26,971 wage earners and were for a representative pay-roll period in 1932. Of these workers, 49 percent were employed in the pressed and blown-ware department, 32 percent in bottles and food-container department, 11 percent in the plate-glass department, and 8 percent in the window-glass department.

Table 1 shows average hours and earnings and the percent of full time worked in 1 week in each department, for each of the principal occupations and also for a group of "Other employees."

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE GLASS INDUSTRY, 1932, BY KIND OF GLASS MANUFACTURED, AND BY OCCUPATION AND SEX OF WORKERS

Kind of glass manufactured, and occupation and sex of workers	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
All employees, all departments:						
Males.....	50.3	37.3	74.2	\$0.490	\$24.65	\$18.30
Females.....	49.9	37.9	76.0	.249	12.43	9.45
Males and females.....	50.2	37.4	74.5	.454	22.79	17.01
<i>Pressed and blown ware</i>						
All occupations:						
Males.....	49.3	34.8	70.6	.497	24.50	17.30
Females.....	49.7	38.8	78.1	.247	12.28	9.60
Males and females.....	49.4	35.6	72.1	.443	21.88	15.80
Mold makers, male.....	49.0	45.2	92.2	.731	35.82	33.03
Mold makers' helpers, male.....	50.1	42.6	85.0	.402	20.14	17.09
Mold finishers, bench, male.....	48.3	44.6	92.3	.743	35.89	33.12
Mold cleaners and polishers, hand, male.....	51.5	48.1	93.4	.395	20.34	18.99
Mold cleaners and polishers, hand, female.....	50.4	44.7	88.7	.212	10.68	9.48
Mold polishers, machine, male.....	50.7	48.2	95.1	.424	21.50	20.41
Gas makers, male.....	59.4	54.8	92.3	.437	25.95	23.96
Batch mixers, male.....	53.4	48.1	90.1	.439	23.44	21.12
Furnace or tank tenders, male.....	62.2	57.9	93.1	.449	27.93	26.03
Furnace or tank tenders' helpers, male.....	56.3	48.6	85.6	.397	22.55	19.31
Gatherers, male.....	48.3	28.0	60.5	.719	33.29	20.13
Bit gatherers, male.....	47.4	31.8	67.1	.349	16.54	11.09
Pressers, hand, male.....	46.5	30.2	64.9	.916	42.59	27.66
Pressers, automatic, male.....	51.9	45.1	86.9	.538	27.92	24.24
Pressers, semiautomatic, male.....	49.8	36.0	72.3	.958	47.71	34.51
Ball boys.....	46.4	25.6	55.2	.389	17.12	9.46
Blockers, male.....	45.4	21.2	46.7	1.160	52.66	24.55
Blowers, hand, male.....	45.8	28.4	62.0	.896	41.04	25.49
Blowing-machine tenders, automatic, male.....	54.2	39.7	73.2	.685	37.13	27.19
Mold boys.....	46.4	27.5	59.3	.338	15.68	9.28
Take-out boys.....	48.4	30.6	68.2	.372	18.00	11.38
Warming-in boys.....	47.2	26.7	56.6	.331	15.62	8.84
Finishers, male.....	46.5	31.0	66.7	.592	27.53	18.35
Foot casters and finishers, male.....	46.6	29.6	63.5	.854	39.80	25.25
Breakers-off, male.....	47.2	26.5	56.1	.311	14.68	8.24
Carriers-in, male.....	48.0	26.2	54.6	.300	14.40	7.86
Leer tenders.....	50.5	43.5	86.1	.389	19.64	16.89
Leer takers-off, male.....	52.1	36.3	69.7	.338	17.61	12.24
Leer takers-off, female.....	48.0	41.6	86.7	.233	11.18	9.69
Carton assemblers, male.....	51.9	41.0	79.0	.363	18.84	14.87
Carton assemblers, female.....	50.5	37.3	73.9	.317	16.01	11.85
Selectors, male.....	50.5	38.3	75.8	.412	20.81	15.78
Selectors, female.....	49.3	39.2	79.5	.247	12.18	9.68
Inspectors, male.....	55.6	47.0	84.5	.440	24.46	20.69
Inspectors, female.....	52.3	40.5	77.4	.259	13.55	10.47
Crackers-off, male.....	53.9	35.5	65.9	.458	24.69	16.28
Crackers-off, female.....	50.1	34.2	68.3	.249	12.47	8.51
Grinders, male.....	50.1	38.9	77.6	.440	22.04	17.14
Grinders, female.....	49.6	38.2	77.0	.263	13.04	10.06
Washers, male.....	48.1	33.7	70.1	.348	16.74	11.72
Washers, female.....	49.5	38.9	78.6	.201	9.95	7.80
Glazers, male.....	50.5	35.0	69.3	.365	18.43	12.77

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE GLASS INDUSTRY, 1932, BY KIND OF GLASS MANUFACTURED, AND BY OCCUPATION AND SEX OF WORKERS—Con.

Kind of glass manufactured, and occupation and sex of workers	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>Pressed and blown ware—Continued</i>						
Glazers, female.....	49.6	31.5	63.5	\$0.220	\$10.91	\$6.91
Glazers' helpers, male.....	53.1	34.6	65.2	.302	16.04	10.47
Glazers' helpers, female.....	48.2	41.5	86.1	.211	10.17	8.74
Polishers, male.....	48.8	35.1	71.9	.493	24.06	17.32
Polishers, female.....	46.3	33.4	72.1	.205	9.49	6.86
Printers, male.....	50.4	35.3	70.0	.424	21.37	14.97
Printers, female.....	49.8	29.1	58.4	.237	11.80	6.90
Ware decorators:						
Transferrers, female.....	50.1	34.3	68.5	.221	11.07	7.59
Hand brush, male.....	52.1	40.7	78.1	.449	23.39	18.25
Hand brush, female.....	50.7	42.8	84.4	.293	14.86	12.52
Decorating leer tenders, male.....	55.0	44.5	80.9	.425	23.38	18.91
Cutters (decorative), male.....	49.4	37.8	76.5	.619	30.58	23.43
Cutters (decorative), female.....	53.1	35.7	67.2	.333	17.68	11.99
Packers and shippers, male.....	51.9	41.5	80.0	.426	22.11	17.64
Packers and shippers, female.....	49.8	38.8	77.9	.263	13.10	10.20
Machinists, male.....	51.9	48.9	94.2	.675	35.03	32.99
Machinists' helpers, male.....	51.9	53.7	103.5	.455	23.61	24.43
Truckers, hand, male.....	52.0	41.7	80.2	.374	19.45	15.59
Truckers, electric, male.....	52.1	41.0	78.7	.415	21.62	17.01
Laborers, male.....	52.2	40.1	76.8	.355	18.48	14.22
Other employees, male.....	51.1	45.3	88.6	.496	25.35	22.46
Other employees, female.....	49.0	40.0	81.6	.234	11.47	9.37
<i>Bottles and food containers</i>						
All occupations:						
Males.....	50.6	41.3	81.6	.469	23.73	19.38
Females.....	50.4	36.4	72.2	.254	12.80	9.24
Males and females.....	50.6	40.5	80.0	.440	22.26	17.83
Mold makers, male.....	47.1	42.5	90.2	.684	32.22	29.08
Mold makers' helpers, male.....	48.3	42.8	88.6	.412	19.90	17.63
Mold finishers, bench, male.....	47.1	41.2	87.5	.691	32.55	28.45
Mold cleaners and polishers, hand, male.....	48.5	43.2	89.1	.357	17.31	15.44
Mold cleaners and polishers, hand, female.....	50.3	37.1	73.8	.215	10.81	7.98
Mold polishers, machine, male.....	48.2	43.9	91.1	.416	20.05	18.27
Gas makers, male.....	56.2	45.6	81.1	.442	24.84	20.16
Batch mixers, male.....	54.1	50.5	93.3	.441	23.86	22.24
Tank tenders, male.....	56.1	48.7	86.8	.461	25.86	22.45
Tank tenders' helpers, male.....	54.8	39.0	71.2	.363	19.89	14.16
Blowing-machine tenders, automatic, male.....	51.2	40.2	78.5	.620	31.74	24.92
Carriers-in, male.....	51.3	34.8	67.8	.352	18.06	12.24
Carriers-in, female.....	51.0	37.0	72.5	.250	12.75	9.26
Leer tenders, male.....	54.1	51.4	95.0	.445	24.07	22.90
Carton assemblers, male.....	50.0	34.5	69.0	.342	17.10	11.81
Carton assemblers, female.....	48.5	38.1	78.6	.265	12.85	10.11
Selectors, male.....	50.3	39.1	77.7	.418	21.03	16.34
Selectors, female.....	51.3	36.2	70.6	.256	13.13	9.28
Inspectors, male.....	51.4	47.0	91.4	.459	23.59	21.57
Inspectors, female.....	48.9	43.4	88.8	.285	13.94	12.36
Packers and shippers, male.....	50.5	41.1	81.4	.386	19.49	15.87
Packers and shippers, female.....	49.9	36.8	73.7	.256	12.77	9.42
Machinists, male.....	48.2	45.4	94.2	.647	31.19	29.38
Machinists' helpers, male.....	48.6	43.7	89.9	.462	22.45	20.20
Truckers, hand, male.....	53.1	40.0	75.3	.329	17.47	13.15
Truckers, electric, male.....	51.0	38.4	75.3	.374	19.07	14.39
Laborers, male.....	51.0	40.7	79.8	.352	17.95	14.34
Other employees, male.....	50.2	43.5	86.7	.514	25.80	22.36
Other employees, female.....	48.6	33.2	68.3	.221	10.74	7.33
<i>Plate glass</i>						
All occupations:						
Males.....	51.1	32.5	63.6	.485	24.78	15.72
Females.....	48.0	25.0	52.1	.262	12.58	6.64
Males and females.....	51.1	32.4	63.4	.482	24.63	15.61
Batch mixers, male.....	51.5	30.0	58.3	.478	24.62	14.31
Mud-up men.....	50.7	26.0	51.3	.442	22.41	11.47
Furnace or tank tenders, male.....	56.0	48.3	86.3	.558	31.25	26.99
Furnace or tank tenders' helpers, male.....	54.8	25.4	46.4	.455	24.93	11.54
Skimmers, male.....	54.9	49.7	90.5	.433	23.77	21.65
Pot-wagon men.....	51.0	23.3	45.7	.506	26.81	11.81

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE GLASS INDUSTRY, 1932, BY KIND OF GLASS MANUFACTURED, AND BY OCCUPATION AND SEX OF WORKERS—Con.

Kind of glass manufactured, and occupation and sex of workers	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>Plate glass—Continued</i>						
Teemers, male.....	54.0	21.5	39.8	\$0.589	\$31.81	\$12.69
Casters, male.....	52.8	19.9	37.7	.487	25.71	9.68
Roll tenders, male.....	53.3	31.3	58.7	.510	27.18	15.97
Leer tenders, male.....	54.3	36.6	67.4	.518	28.13	18.97
Examiners, rough plate, male.....	52.5	25.0	47.6	.518	27.20	12.96
Cutters, rough, male.....	52.3	24.4	46.7	.559	29.24	13.66
Trimmers, male.....	52.0	46.3	89.0	.328	17.06	15.18
Rough plate carriers, male.....	52.5	28.0	53.3	.465	23.89	12.76
Crane operators, male.....	50.3	35.0	69.6	.495	24.90	17.30
Plaster mixers, male.....	53.4	30.5	57.1	.466	24.88	14.20
Layer men.....	52.5	37.0	70.5	.521	27.35	19.27
Stop drivers, male.....	53.0	34.4	64.9	.465	24.65	15.98
Sand graders, male.....	52.7	38.0	72.1	.584	30.78	22.22
Controller operators, male.....	52.0	35.6	68.5	.480	24.96	17.10
Grinder operators, male.....	52.4	38.1	72.7	.486	25.47	18.50
Jointers, male.....	52.2	37.6	72.0	.536	27.98	20.14
Polisher operators, male.....	54.0	30.5	56.5	.491	26.51	14.96
Transfer-car operators, male.....	53.2	36.6	68.8	.491	26.12	17.95
Strippers, male.....	54.4	33.4	61.4	.502	27.31	16.76
Runner repairmen.....	51.6	22.6	43.8	.537	27.71	12.14
Block felters, male.....	54.6	59.6	72.5	.442	24.13	17.51
Block scrapers, male.....	56.0	20.5	36.6	.451	25.26	9.26
Washers, hand, male.....	54.3	27.3	50.3	.419	22.75	11.43
Washers, hand, female.....	48.0	17.9	37.3	.244	11.71	4.37
Washer operators, male.....	52.2	52.1	99.8	.435	22.71	22.66
Examiners, finish (inspectors), male.....	48.0	35.0	72.9	.532	25.94	18.61
Cutters, finish, male.....	48.0	35.2	52.5	.530	25.44	13.35
Cutters, finish, female.....	48.0	39.2	81.7	.278	13.34	10.90
Cutters', finish, helpers, male.....	48.0	22.7	47.3	.413	19.82	9.36
Examiners, final (stock), male.....	48.0	24.8	51.7	.563	27.02	13.99
Repolishers, hand, male.....	48.0	27.8	57.9	.498	23.90	13.86
Repolishers, machine, male.....	48.0	20.3	41.0	.436	20.93	12.77
Packers and shippers, male.....	48.0	34.0	60.0	.444	21.31	10.66
Carloaders, male.....	51.8	33.8	65.3	.410	21.24	13.84
Machinists, male.....	48.1	41.4	86.1	.558	28.84	23.10
Machinists' helpers, male.....	48.0	45.6	95.0	.448	21.50	20.42
Truckers, hand, male.....	48.0	23.2	48.3	.385	18.48	8.94
Truckers, electric, male.....	49.5	31.7	64.0	.436	21.58	13.85
Laborers, male.....	49.9	32.0	64.1	.364	18.16	11.62
Other employees, male.....	51.7	36.5	70.6	.506	26.16	18.49
<i>Window glass</i>						
All occupations, male.....	52.5	43.2	82.3	.540	28.35	23.35
Batch mixers, male.....	58.6	52.7	89.9	.358	20.98	18.88
Teasers or tank tenders, male.....	62.3	60.5	97.1	.517	32.21	31.32
Teasers or tank tenders' helpers, male.....	56.0	47.6	85.0	.353	19.77	16.78
Skimmers, male.....	63.4	60.1	94.8	.280	17.55	16.85
Machine operators, male.....	56.0	45.5	81.3	.475	26.60	21.60
Machine operators' helpers, male.....	56.0	42.5	75.9	.397	22.23	16.89
Peepers or watchers, male.....	56.0	47.8	85.4	.355	19.88	16.96
Platform men.....	55.1	44.6	80.9	.410	22.59	18.30
Cutters, finish, male.....	45.9	36.2	78.9	.968	44.43	35.07
Cutters, rough, male.....	56.0	43.4	77.5	.429	24.02	18.60
Breakers, male.....	56.0	44.6	79.6	.383	21.45	17.09
Labelers, male.....	51.4	38.7	75.3	.257	13.21	9.95
Inspectors, male.....	51.5	45.1	87.6	.732	37.70	33.05
Packers, male.....	51.9	44.1	85.0	.454	23.56	20.02
Snappers, male.....	52.1	42.5	81.6	.362	18.86	15.41
Stackers, male.....	54.1	51.0	94.3	.387	20.94	19.74
Loaders, male.....	53.2	49.3	92.7	.356	18.94	17.55
Machinists, male.....	61.6	61.9	100.5	.509	31.35	31.47
Truckers, hand, male.....	50.8	46.2	90.9	.363	18.44	16.78
Truckers, electric, male.....	56.3	41.2	73.2	.404	22.75	16.63
Laborers, male.....	55.3	41.0	74.1	.291	16.09	11.92
Other employees, male.....	56.1	50.2	89.5	.423	23.73	21.20

Table 2 shows average hours and earnings, and the percent of full time worked in 1 week, by sex and State, for the wage earners covered in each department of the industry in 1932 and for all departments combined.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE GLASS INDUSTRY, 1932, BY KIND OF GLASS MANUFACTURED, SEX OF WORKERS, AND STATE

Kind of glass manufactured, sex of workers, and State	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>All departments</i>						
Males:						
California.....	47.4	42.7	90.1	\$0.567	\$26.88	\$24.20
Illinois.....	50.8	41.1	80.9	.463	23.52	19.05
Indiana.....	51.5	37.2	72.2	.435	22.40	16.20
Maryland.....	48.9	41.8	85.5	.483	23.62	20.20
New Jersey.....	47.7	35.6	74.6	.455	21.70	16.21
New York.....	48.4	38.5	79.5	.543	26.28	20.90
Ohio.....	51.5	38.3	74.4	.469	24.15	17.99
Oklahoma.....	50.5	41.0	81.2	.486	24.54	19.90
Pennsylvania.....	50.9	36.3	71.3	.496	25.25	18.02
West Virginia.....	49.6	35.3	71.2	.511	25.35	18.04
Total males.....	50.3	37.3	74.2	.490	24.65	18.30
Females:						
California.....	47.2	41.3	87.5	.361	17.04	14.91
Illinois.....	54.4	36.9	67.8	.257	13.98	9.50
Indiana.....	50.9	39.7	78.0	.210	10.69	8.35
Maryland.....	48.1	34.0	70.7	.202	9.72	6.87
New Jersey.....	47.4	35.7	75.3	.258	12.23	9.22
New York.....	48.0	41.5	86.5	.257	12.34	10.68
Ohio.....	49.5	38.8	78.4	.285	14.11	11.06
Oklahoma.....	50.4	34.2	67.9	.237	11.94	8.10
Pennsylvania.....	48.5	39.9	82.3	.229	11.11	9.15
West Virginia.....	51.2	34.6	67.6	.240	12.29	8.31
Total females.....	49.9	37.9	76.0	.249	12.43	9.45
Males and females:						
California.....	47.4	42.6	89.9	.555	26.31	23.67
Illinois.....	51.4	40.5	78.8	.432	22.20	17.49
Indiana.....	51.4	37.6	73.2	.399	20.51	15.01
Maryland.....	48.8	40.8	83.6	.452	22.06	18.44
New Jersey.....	47.7	35.7	74.8	.419	19.99	14.98
New York.....	48.4	38.9	80.4	.501	24.25	19.49
Ohio.....	51.2	38.4	75.0	.435	22.27	16.72
Oklahoma.....	50.5	40.4	80.0	.469	23.68	18.96
Pennsylvania.....	50.6	36.8	72.7	.459	23.23	16.87
West Virginia.....	49.8	35.2	70.7	.472	23.51	16.64
Total males and females.....	50.2	37.4	74.5	.454	22.79	17.01
<i>Pressed and blown ware</i>						
Males:						
California.....	45.3	27.3	60.3	.614	27.81	16.75
Indiana.....	49.9	35.4	70.9	.466	23.25	16.50
New Jersey.....	47.2	32.1	68.0	.498	23.51	16.01
New York.....	48.2	37.5	77.8	.549	26.46	20.55
Ohio.....	51.6	39.0	75.6	.471	24.30	18.33
Oklahoma.....	46.3	34.5	74.5	.436	20.19	15.04
Pennsylvania.....	49.5	33.4	67.5	.512	25.34	17.13
West Virginia.....	48.1	31.8	66.1	.503	24.19	15.98
Total males.....	49.3	34.8	70.6	.497	24.50	17.30
Females:						
California.....	44.0	36.9	83.9	.320	14.08	11.79
Indiana.....	53.0	46.1	87.0	.194	10.28	8.93
New Jersey.....	47.3	41.9	88.6	.255	12.06	10.68
New York.....	48.0	41.0	85.4	.265	12.72	10.86
Ohio.....	49.5	38.8	78.4	.285	14.11	11.06
Oklahoma.....	51.7	35.5	68.7	.202	10.44	7.19
Pennsylvania.....	49.6	39.8	80.2	.210	10.42	8.35
West Virginia.....	50.0	34.7	69.4	.240	12.00	8.33
Total females.....	49.7	38.8	78.1	.247	12.28	9.60

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE GLASS INDUSTRY, 1932, BY KIND OF GLASS MANUFACTURED, SEX OF WORKERS, AND STATE—Continued

Kind of glass manufactured, sex of workers, and State	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>Pressed and blown ware—Continued</i>						
Males and females:						
California.....	45.2	28.0	61.9	\$0.586	\$26.49	\$16.39
Indiana.....	50.4	37.1	73.6	.411	20.71	15.28
New Jersey.....	47.2	34.4	72.9	.430	20.30	14.79
New York.....	48.2	38.1	79.0	.405	23.86	18.86
Ohio.....	51.1	38.9	76.1	.426	21.77	16.56
Oklahoma.....	47.1	34.6	73.5	.401	18.89	13.88
Pennsylvania.....	49.5	34.7	70.1	.441	21.83	15.33
West Virginia.....	48.4	32.3	66.7	.457	22.12	14.75
Total males and females.....	49.4	35.6	72.1	.443	21.88	15.80
<i>Bottles and food containers</i>						
Males:						
California.....	47.8	45.8	95.8	.561	26.82	25.69
Illinois.....	50.8	41.1	80.9	.465	23.52	19.05
Indiana.....	52.8	38.6	73.1	.413	21.81	15.97
Maryland.....	48.9	41.8	85.5	.483	23.62	20.20
New Jersey.....	47.9	37.2	77.7	.438	20.98	16.30
New York.....	48.9	40.5	82.8	.532	26.06	21.59
Ohio.....	54.4	48.0	88.2	.477	25.95	22.89
Oklahoma.....	50.9	46.4	91.2	.426	21.68	19.76
Pennsylvania.....	51.0	44.4	87.1	.483	24.63	21.45
West Virginia.....	51.9	39.4	75.9	.453	23.51	17.86
Total males.....	50.6	41.3	81.6	.469	23.73	19.38
Females:						
California.....	48.0	42.5	88.5	.371	17.81	15.74
Illinois.....	54.4	36.9	67.8	.257	13.98	9.50
Indiana.....	49.1	34.0	69.2	.230	11.29	7.83
Maryland.....	48.1	34.0	70.7	.202	9.72	6.87
New Jersey.....	47.5	31.4	66.1	.261	12.40	8.19
New York.....	48.0	44.9	93.5	.212	10.18	9.53
Oklahoma.....	48.0	31.7	66.0	.312	14.98	9.88
Pennsylvania.....	46.0	42.2	91.7	.271	12.47	11.46
West Virginia.....	53.3	34.4	64.5	.241	12.85	8.28
Total females.....	50.4	36.4	72.2	.254	12.80	9.24
Males and females:						
California.....	47.8	45.6	95.4	.551	26.34	25.14
Illinois.....	51.4	40.5	78.8	.432	22.20	17.49
Indiana.....	52.3	38.0	72.7	.390	20.40	14.80
Maryland.....	48.8	40.8	83.6	.452	22.06	18.44
New Jersey.....	47.9	36.3	75.8	.413	19.78	15.00
New York.....	48.9	40.7	83.2	.512	25.04	20.87
Ohio.....	54.4	48.0	88.2	.477	25.95	22.89
Oklahoma.....	50.5	44.5	88.1	.415	20.96	18.48
Pennsylvania.....	50.2	44.1	87.8	.449	22.54	19.78
West Virginia.....	52.3	38.2	73.0	.408	21.34	15.57
Total males and females.....	50.6	40.5	80.0	.440	22.26	17.83
<i>Plate glass</i>						
Males: Ohio, Pennsylvania, and West Virginia.....	51.1	32.5	63.6	.485	24.78	15.72
Females: Ohio, Pennsylvania, and West Virginia.....	48.0	25.0	52.1	.262	12.58	6.54
Total males and females.....	51.1	32.4	63.4	.482	24.63	15.61
<i>Window glass</i>						
Males:						
Oklahoma.....	53.3	43.3	81.2	.541	28.84	23.41
Pennsylvania.....	55.8	50.0	89.6	.469	26.17	23.47
West Virginia.....	50.9	40.4	79.4	.576	29.32	23.28
Total males.....	52.5	43.2	82.3	.540	28.35	23.35

Hosiery and Underwear Industries—Hours and Earnings, 1930 and 1932 }

THIS article presents briefly the results of a study of wages and hours of labor of wage earners in the hosiery and underwear industries in the United States, made by the Bureau of Labor Statistics in 1932, and also comparative figures for certain specified years from 1926 to 1932 in which studies have been made by the Bureau. The 1932 figures cover 33,227 wage earners in 123 representative hosiery mills in 18 States, and 11,738 wage earners in 76 representative underwear mills in 16 States. The results of the 1932 study are published in greater detail in Bulletin No. 591 of the Bureau.

Table 1 shows average hours and earnings of wage earners in all occupations in the two industries for each even year from 1926 to 1932.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1926-32, BY SEX AND YEAR

Hosiery industry

Sex and year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Per cent of full time			
Males:						
1926.....	52.6	50.5	96.0	\$0.675	\$35.51	\$34.13
1928.....	52.4	50.1	95.6	.724	37.94	36.28
1930.....	52.4	45.0	85.9	.707	37.05	31.85
1932.....	52.2	44.1	84.5	.494	25.79	21.80
Females:						
1926.....	51.5	45.6	88.5	.358	18.44	16.32
1928.....	51.9	45.7	88.1	.360	18.68	16.46
1930.....	52.1	40.1	77.0	.366	19.07	14.66
1932.....	51.7	39.6	76.6	.292	15.10	11.54
Males and females:						
1926.....	51.9	47.2	90.9	.472	24.50	22.30
1928.....	52.1	47.1	90.4	.488	25.42	23.01
1930.....	52.2	41.9	80.3	.497	25.94	20.83
1932.....	51.9	41.3	79.6	.376	19.51	15.53

Underwear industry

Males:						
1926.....	51.0	49.4	96.9	\$0.477	\$24.33	\$23.56
1928.....	50.6	48.0	94.9	.453	22.92	21.76
1930.....	50.9	45.1	88.6	.458	23.31	20.65
1932.....	51.1	43.4	84.9	.408	20.85	17.72
Females:						
1926.....	50.1	42.7	85.2	.352	17.64	15.01
1928.....	49.8	42.3	84.9	.329	16.38	13.89
1930.....	50.2	39.5	78.7	.330	16.57	13.04
1932.....	50.6	36.8	72.7	.260	13.16	9.56
Males and females:						
1926.....	50.3	44.0	87.5	.378	19.01	16.63
1928.....	50.0	43.4	86.8	.354	17.70	15.36
1930.....	50.3	40.6	80.7	.317	17.96	14.50
1932.....	50.7	38.0	75.0	.292	14.80	11.08

Table 2 shows, for 1930 and 1932, average hours and earnings in each of the important occupations in the hosiery industry and in the underwear industry, and for a group in each industry designated in the table as "Other employees."

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY OCCUPATION AND SEX

Hosiery industry

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All occupations:												
Males.....	52.4	52.2	45.0	44.1	85.9	84.5	\$0.707	\$0.494	\$37.05	\$25.79	\$31.85	\$21.80
Females.....	52.1	51.7	40.1	39.6	77.0	77.0	.76.6	.292	19.07	15.10	14.66	11.54
Males and females.....	52.2	51.9	41.9	41.3	80.3	79.6	.497	.376	25.94	19.51	20.83	15.53
Boarders, male.....	53.7	53.3	40.2	38.8	74.9	72.8	.488	.380	26.21	20.25	19.60	14.73
Boarders, female.....	49.9	49.7	36.5	33.1	73.1	66.6	.498	.416	24.85	20.68	18.17	13.76
Folders, female.....	52.3	52.0	40.3	41.0	77.1	78.8	.356	.278	18.62	14.46	14.36	11.38
Inspectors, female.....	52.8	52.3	41.2	40.8	78.0	78.0	.307	.257	16.21	13.44	12.66	10.48
Knitters, full-fashioned, male:												
Footers.....	50.7	50.6	43.7	42.3	86.2	83.6	1.451	.763	73.57	38.61	63.44	32.29
Leggers.....	50.6	51.3	44.7	44.2	88.3	86.2	1.212	.638	61.33	32.73	54.12	28.16
Total knitters, full-fashioned.....	50.7	51.1	44.4	43.7	87.6	85.5	1.277	.669	64.74	34.19	56.71	29.22
Knitters, seamless:												
Automatic, male....	55.5	54.6	47.5	44.8	85.6	82.1	.392	.306	21.76	16.71	18.63	13.71
Automatic, female....	52.8	51.7	46.2	37.0	87.5	71.6	.312	.257	16.47	13.29	14.40	9.51
Rib, male.....	53.7	54.5	48.7	44.0	90.7	80.7	.399	.340	21.43	18.53	19.44	14.94
Rib, female.....	52.3	52.1	40.6	41.1	77.6	78.9	.325	.235	17.00	12.24	13.22	9.63
Transfer, male.....	54.8	54.0	44.4	42.5	81.0	78.7	.292	.196	16.00	10.58	12.97	8.32
Transfer, female.....	53.7	53.7	40.0	41.4	74.5	77.1	.273	.205	14.66	11.01	10.93	8.48
Total knitters, seamless:												
Males.....	55.0	54.4	46.9	44.1	85.3	81.1	.369	.287	20.30	15.61	17.31	12.69
Females.....	53.5	53.4	41.3	40.7	77.2	76.2	.283	.213	15.14	11.37	11.67	8.65
Knitters' helpers, full-fashioned, male.....	51.8	51.9	43.3	43.0	83.6	82.9	.340	.259	17.61	13.44	14.70	11.16
Loopers, female.....	53.0	52.6	37.6	36.6	70.9	69.6	.386	.289	20.46	15.20	14.49	10.58
Machine fixers, male.....	53.6	53.3	50.6	49.2	94.4	92.3	.775	.656	41.54	34.96	39.25	32.32
Menders, female.....	51.7	51.3	41.0	42.9	79.3	83.6	.362	.301	18.72	15.44	14.84	12.89
Pairs or maters, female.....	52.1	51.7	41.4	38.6	79.5	74.7	.363	.299	18.91	15.46	15.02	11.56
Seamers, full-fashioned, female.....	50.2	50.8	40.0	40.0	79.7	78.7	.497	.347	24.95	17.63	19.87	13.87
Seamers, mock, female.....	53.8	53.8	34.5	37.1	64.1	69.0	.277	.224	14.90	12.05	9.57	8.31
Toppers, full-fashioned, male.....	51.4	51.4	42.5	47.9	82.7	93.2	.484	.322	24.88	16.55	20.59	15.42
Toppers, full-fashioned, female.....	50.6	50.1	42.2	40.1	83.6	80.0	.546	.369	27.63	18.49	23.02	14.79
Welters, female.....	53.7	53.3	38.0	38.9	70.8	73.0	.270	.224	14.50	11.94	10.25	8.73
Winders, male.....	52.6	52.1	43.3	45.4	82.3	89.1	.269	.288	14.15	15.00	11.65	13.36
Winders, female.....	51.0	50.8	40.2	39.5	78.8	77.8	.323	.303	16.47	15.39	12.98	11.97
Other employees, male.....	53.3	53.0	47.3	46.5	88.7	87.7	.393	.379	21.00	20.09	18.56	17.66
Other employees, female.....	52.0	51.9	40.6	41.2	78.1	79.4	.280	.233	14.56	12.09	11.39	9.60

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Underwear industry

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All occupations:												
Males.....	50.9	51.1	45.1	43.4	88.6	84.9	\$0.458	\$0.408	\$23.31	\$20.85	\$20.65	\$17.72
Females.....	50.2	50.6	39.5	36.8	78.7	72.7	.330	.260	16.57	13.16	13.04	9.56
Males and females..	50.3	50.7	40.6	38.0	80.7	75.0	.357	.292	17.96	14.80	14.50	11.08
Buttonhole makers, female.....	50.3	50.9	38.1	34.6	75.7	68.0	.330	.258	16.60	13.13	12.55	8.93
Button sewers, female.....	50.5	51.2	37.9	35.3	75.0	68.9	.306	.230	15.45	11.78	11.59	8.11
Cutters, hand, layers-up and markers, male.....	50.9	51.0	41.0	40.2	80.6	78.8	.452	.385	23.01	19.64	18.53	15.46
Cutters, hand, layers-up and markers, female.....	50.4	50.2	40.2	37.8	79.8	75.3	.364	.286	18.35	14.36	14.66	10.82
Cutters, power, male.....	50.9	51.0	45.1	42.5	88.6	83.3	.531	.424	27.03	21.62	23.92	17.99
Cutters, power, female.....	50.9	48.9	46.2	36.4	90.8	74.4	.393	.326	20.00	15.94	18.15	11.85
Finishers, female:												
Edge.....	50.6	50.8	40.0	36.7	79.1	72.2	.339	.253	17.15	12.85	13.55	9.29
Face.....	50.3	50.9	39.1	34.5	77.7	67.8	.353	.252	17.25	12.83	13.40	8.70
Neck.....	50.6	51.2	40.7	37.5	80.4	73.2	.357	.279	18.06	14.28	14.54	10.44
Miscellaneous.....	50.5	50.4	38.2	38.0	75.6	75.4	.331	.262	16.72	13.20	12.65	9.96
Total, finishers.....	50.5	50.8	39.4	36.9	78.0	72.6	.341	.262	17.22	13.31	13.41	9.67
Folders, female.....	50.3	50.9	41.3	36.7	82.1	72.1	.322	.269	16.20	13.69	13.27	9.89
Hemmers, female.....	49.4	50.3	40.7	36.6	82.4	72.8	.343	.266	16.94	13.38	13.96	9.71
Inspectors, female.....	49.9	50.4	39.4	38.0	79.0	75.4	.270	.219	13.47	11.04	10.65	8.29
Knitters, cuff and ankle, male.....	50.4	51.5	42.4	40.4	84.1	78.4	.536	.428	27.01	22.04	22.75	17.30
Knitters, cuff and ankle, female.....	50.7	50.0	45.4	38.8	89.5	77.6	.455	.367	23.07	18.35	20.65	14.24
Knitters, web or tube, male.....	51.9	52.3	42.8	43.1	82.5	82.4	.515	.390	26.73	20.40	22.01	16.80
Knitters, web or tube, female.....	49.5	50.2	42.9	42.1	86.7	83.9	.406	.322	20.10	16.16	17.42	13.55
Machine fixers, male.....	50.7	50.6	47.9	43.8	84.5	86.4	.704	.620	35.69	31.37	33.74	30.23
Menders, female.....	50.4	51.1	42.3	40.7	83.9	79.6	.305	.240	15.37	12.26	12.88	9.76
Pressers, male.....	50.9	50.6	45.1	40.5	88.6	80.0	.436	.364	22.96	18.42	19.66	14.74
Pressers, female.....	50.3	50.7	39.0	36.5	76.8	72.0	.357	.257	18.14	13.03	13.92	9.40
Press hands, male.....	49.5	50.8	33.8	49.6	68.3	97.6	.431	.401	21.33	20.37	14.54	19.89
Press hands, female.....	48.6	48.7	42.2	38.1	86.8	85.0	.348	.286	16.91	13.95	14.70	9.48
Seamers, female.....	50.0	50.6	38.3	35.4	76.6	70.0	.354	.274	17.71	13.86	13.58	9.71
Winders, male.....	50.3	52.2	39.2	47.3	77.9	90.6	.424	.332	21.33	17.33	16.62	15.69
Winders, female.....	48.8	49.4	39.8	34.7	81.6	70.2	.357	.300	17.42	14.82	14.22	10.43
Other employees, male.....	50.6	50.9	46.6	43.4	92.1	85.3	.400	.381	20.24	19.39	18.61	16.55
Other employees, female.....	50.5	50.5	40.2	37.9	79.6	75.0	.287	.245	14.49	12.37	11.54	9.30

Table 3 shows average hours and earnings and the percent of full time worked by wage earners in each of the two industries covered in 1930 and 1932, by sex and State.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE

Hosiery industry

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Males</i>												
Alabama and Louisiana	55.6	55.4	50.0	40.8	89.9	73.6	\$0.339	\$0.209	\$18.85	\$11.58	\$16.97	\$8.52
Georgia	54.3	55.4	46.5	47.0	85.6	84.8	.369	.301	20.04	16.68	17.15	14.14
Illinois	55.0	51.8	46.6	39.5	84.7	76.3	.422	.427	23.21	22.12	19.67	16.85
Indiana	49.5	49.4	45.6	42.7	92.1	86.4	.950	.644	47.03	31.81	43.37	27.50
Maryland and West Virginia ¹	55.1	55.4	44.2	43.7	80.2	78.9	.351	.341	19.34	18.89	15.52	14.90
Massachusetts	49.0	48.6	39.2	44.5	80.0	91.6	.852	.643	41.75	31.25	33.40	28.61
Michigan	51.1	51.1	48.7	42.4	95.3	83.0	.656	.536	33.52	27.39	31.99	22.69
Minnesota and Wisconsin ¹	49.7	50.2	47.1	42.7	94.8	85.1	.793	.518	39.41	26.00	37.38	22.09
New Hampshire	51.6	51.3	44.1	41.9	85.5	81.7	.466	.404	24.05	23.80	20.56	19.41
New Jersey	47.7	47.7	48.2	44.3	101.0	92.9	1.217	.654	58.05	31.20	53.09	29.00
North Carolina	49.7	48.3	41.9	44.3	84.3	81.7	1.116	.707	55.47	37.05	46.83	33.96
Philadelphia, Pa.	55.8	55.2	46.1	44.3	82.6	80.4	.450	.375	25.11	20.83	20.75	16.75
Eastern Pennsylvania ²	48.6	54.2	43.0	42.0	88.5	87.1	1.066	.621	51.51	29.93	45.79	26.09
Do ¹	53.8	54.2	44.2	43.4	82.2	80.1	.710	.486	38.20	26.34	31.40	21.09
Tennessee	51.9	52.1	43.7	42.9	84.2	82.3	.841	.533	43.65	27.77	36.77	22.86
Vermont	55.1	54.0	47.5	48.7	86.2	90.2	.419	.380	23.09	20.52	19.90	18.48
Virginia	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Total males	52.4	52.2	45.0	44.1	85.9	84.5	.707	.494	37.05	25.79	31.85	21.80
<i>Females</i>												
Alabama and Louisiana	55.1	54.6	47.5	42.5	86.2	77.8	.194	.138	10.69	7.53	9.20	5.87
Georgia	54.6	55.4	41.7	40.8	76.4	73.6	.205	.181	11.19	10.03	8.52	7.38
Illinois	54.8	50.7	40.5	33.5	73.9	66.1	.246	.259	13.48	13.13	9.67	8.66
Indiana	49.7	49.7	45.5	40.4	92.2	81.3	.452	.379	22.46	18.84	20.98	15.31
Maryland and West Virginia ¹	55.0	54.5	37.4	40.0	68.0	73.4	.286	.237	15.73	12.92	10.70	9.50
Massachusetts	48.0	48.0	33.4	42.2	69.6	87.9	.392	.348	18.82	16.70	13.07	14.69
Michigan	51.0	50.7	39.1	40.4	76.7	79.7	.379	.272	19.33	13.79	14.84	10.99
Minnesota and Wisconsin ¹	49.5	49.2	42.6	37.8	86.1	76.8	.411	.320	20.34	15.74	17.53	12.10
New Hampshire	49.5	49.5	38.4	39.3	77.6	79.4	.330	.268	16.34	13.27	12.68	10.55
New Jersey	47.8	47.7	41.5	39.3	86.8	82.4	.530	.380	25.33	18.13	21.99	14.94
New York	49.7	48.1	35.8	36.9	72.0	76.7	.516	.377	25.65	18.13	18.47	13.90
North Carolina	55.8	55.0	42.9	39.9	76.9	72.5	.295	.238	16.46	13.09	12.67	9.50
Philadelphia, Pa.	48.5	48.3	36.9	38.6	76.1	79.9	.510	.373	24.74	18.02	18.84	14.37
Eastern Pennsylvania ²	53.1	53.2	39.1	39.2	73.6	73.8	.413	.299	21.93	15.88	16.14	11.71
Do ¹	51.0	51.2	38.1	38.9	74.7	75.8	.456	.327	22.26	16.74	17.36	12.75
Tennessee	54.7	53.5	40.7	40.8	74.4	76.3	.248	.228	13.57	12.50	10.11	9.30
Vermont	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Virginia	52.1	54.1	42.2	46.4	81.0	85.8	.234	.209	12.10	11.51	9.90	9.70
Total females	52.1	51.7	40.1	39.6	77.0	76.6	.366	.292	19.07	15.10	14.66	11.54
<i>Males and females</i>												
Alabama and Louisiana ¹	55.3	54.8	48.2	42.1	87.2	76.8	.237	.155	13.11	8.49	11.42	6.54
Georgia	54.5	55.4	43.3	42.9	79.4	77.4	.265	.225	14.44	12.47	11.46	9.68
Illinois	54.9	51.0	42.0	35.2	76.5	69.0	.292	.313	16.03	15.96	12.27	11.01
Indiana	49.6	49.6	45.7	41.4	92.1	83.5	.624	.501	30.95	24.85	28.53	20.75
Maryland and West Virginia ¹	55.0	54.8	39.5	41.2	71.8	75.2	.309	.273	17.00	14.96	12.17	11.26
Massachusetts	48.4	48.2	35.7	43.1	73.8	89.4	.594	.476	28.75	22.94	21.23	20.55
Michigan	51.0	50.8	40.8	41.0	80.0	80.7	.439	.361	22.99	18.34	17.90	14.82
Minnesota and Wisconsin ¹	49.6	49.6	40.4	39.7	88.7	80.0	.542	.402	26.88	19.94	23.85	15.96
New Hampshire	50.1	50.0	39.0	40.0	79.6	80.0	.369	.326	18.40	15.30	14.75	13.04
New Jersey	47.8	47.7	44.2	41.2	89.2	86.4	.831	.468	36.72	25.52	36.76	20.32
New York	49.7	48.1	38.0	39.2	73.6	81.7	.748	.517	37.18	24.92	28.38	20.33
North Carolina	55.8	55.0	42.2	41.7	79.2	75.8	.359	.267	20.03	16.34	15.85	12.38
Philadelphia, Pa.	48.5	48.2	30.1	30.9	80.6	82.8	.729	.476	35.36	22.94	28.49	19.01
Eastern Pennsylvania ²	53.4	53.6	41.3	41.0	77.3	76.5	.552	.385	29.48	20.64	22.80	15.78
Do ¹	51.3	51.6	40.4	40.6	78.8	78.7	.624	.419	32.01	21.62	25.20	17.00
Tennessee	54.8	53.6	42.6	43.6	77.7	81.3	.302	.287	16.55	15.38	12.87	12.50
Vermont	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Virginia	52.2	54.6	44.0	48.5	84.3	90.7	.264	.259	13.78	14.14	11.63	12.79
Total males and females	52.2	51.9	41.9	41.3	80.3	79.6	.497	.376	25.94	19.51	20.83	15.53

¹ Shown together to avoid presenting data for 1 mill in any State. ² Excluding Philadelphia.
³ Including Philadelphia. ⁴ Data included in total. ⁵ None reported in 1932.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE—Continued

Underwear industry

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Males</i>												
Connecticut.....	50.8	50.1	50.5	35.1	99.4	70.1	\$0.519	\$0.500	\$26.37	\$25.05	\$26.19	\$17.52
Georgia.....	(⁶) 56.2	(⁶) 55.9	(⁶) 45.8	(⁶) 53.3	(⁶) 95.2	(⁶) 94.8	(⁶) .615	(⁶) .199	(⁶) 29.58	(⁶) 11.18	(⁶) 28.14	(⁶) 10.62
Illinois.....	48.1	(⁴) 45.8	(⁴) 45.8	(⁴) 40.1	(⁴) 92.9	(⁴) 82.3	.604	.464	28.99	22.60	26.92	18.59
Indiana.....	48.0	48.7	44.6	40.1	92.9	82.3	.604	.464	28.99	22.60	26.92	18.59
Massachusetts.....	48.2	48.6	42.7	42.4	88.6	87.2	.563	.518	27.14	25.17	24.04	21.96
Michigan.....	51.2	50.5	49.3	43.1	96.3	85.3	.511	.425	26.16	21.46	25.17	18.32
Minnesota.....	48.0	48.3	47.8	40.4	99.6	83.6	.590	.567	28.32	27.39	28.17	22.88
New Hampshire and Vermont ¹	49.6	49.9	43.8	40.3	88.3	80.8	.533	.478	26.44	23.85	23.31	19.25
New York.....	49.2	49.8	44.3	41.4	90.0	83.1	.466	.427	22.93	21.26	20.62	17.68
North Carolina.....	53.4	52.9	45.4	50.5	83.3	95.5	.326	.268	17.41	14.18	14.49	13.54
Pennsylvania.....	53.9	53.5	50.4	49.8	93.5	93.1	.456	.411	24.58	21.99	22.98	20.47
Rhode Island.....	51.2	51.6	50.6	49.7	98.8	96.3	.498	.468	25.50	24.15	25.19	23.29
Tennessee.....	55.1	54.9	44.1	39.4	80.0	71.8	.352	.287	19.40	15.76	15.53	11.33
Virginia.....	52.1	50.0	44.7	47.0	85.8	94.0	.464	.366	24.17	18.30	20.73	17.20
Wisconsin.....	49.8	50.0	43.4	45.1	87.1	90.2	.537	.562	26.74	28.10	23.29	25.35
Total males.....	50.9	51.1	45.1	43.4	88.6	84.9	.458	.408	23.31	20.85	20.65	17.72
<i>Females</i>												
Connecticut.....	50.5	50.0	44.9	31.7	88.9	63.4	.372	.345	18.79	17.25	16.72	10.91
Georgia.....	(⁶) 56.9	(⁶) 55.9	(⁶) 45.8	(⁶) 52.3	(⁶) 95.2	(⁶) 93.6	(⁶) .615	(⁶) .199	(⁶) 29.58	(⁶) 11.18	(⁶) 28.14	(⁶) 10.62
Illinois.....	47.4	(⁴) 45.8	(⁴) 45.8	(⁴) 40.1	(⁴) 92.9	(⁴) 82.3	(⁴) .604	(⁴) .464	(⁴) 28.99	(⁴) 22.60	(⁴) 26.92	(⁴) 18.59
Indiana.....	46.7	47.8	35.8	29.2	76.7	61.1	.406	.266	18.96	12.71	14.54	7.78
Massachusetts.....	48.0	48.0	40.0	32.2	83.3	67.1	.379	.329	18.19	15.79	15.15	10.58
Michigan.....	51.9	52.1	43.8	42.3	84.4	81.2	.292	.237	15.15	12.35	12.80	10.03
Minnesota.....	48.0	48.0	41.6	34.5	86.7	71.9	.431	.380	20.69	18.24	17.91	13.09
New Hampshire and Vermont ¹	49.4	49.5	45.1	32.6	91.3	65.9	.383	.253	18.92	12.52	17.25	8.24
New York.....	48.6	49.1	35.9	34.6	73.9	70.5	.305	.257	14.82	12.62	10.95	8.89
North Carolina.....	53.4	53.4	46.3	44.4	86.7	83.1	.241	.181	12.87	9.67	11.14	8.04
Pennsylvania.....	52.7	52.4	40.6	40.8	77.0	77.9	.333	.269	17.55	14.10	13.52	10.96
Rhode Island.....	51.1	51.0	45.4	43.0	88.8	84.3	.345	.270	17.63	13.77	15.66	11.62
Tennessee.....	54.9	54.8	38.0	32.0	69.2	58.4	.274	.201	15.04	11.01	10.41	6.43
Virginia.....	52.4	49.6	44.0	35.9	84.0	72.4	.262	.207	13.73	10.27	11.52	7.44
Wisconsin.....	49.6	49.9	39.7	38.9	80.0	78.0	.382	.272	18.95	13.57	15.19	10.61
Total females.....	50.2	50.6	39.5	36.8	78.7	72.7	.330	.260	16.57	13.16	13.04	9.56
<i>Males and females</i>												
Connecticut.....	50.5	50.0	46.1	32.4	91.3	64.8	.406	.382	20.50	19.10	18.73	12.38
Georgia.....	(⁶) 56.0	(⁶) 56.0	(⁶) 52.5	(⁶) 52.5	(⁶) 93.8	(⁶) 93.8	(⁶) .488	(⁶) .174	(⁶) 23.18	(⁶) 9.74	(⁶) 17.03	(⁶) 9.14
Illinois.....	47.5	(⁴) 45.8	(⁴) 45.8	(⁴) 40.1	(⁴) 73.5	(⁴) 73.5	(⁴) .433	(⁴) .311	(⁴) 20.31	(⁴) 14.93	(⁴) 15.95	(⁴) 9.68
Indiana.....	46.9	48.0	36.8	31.1	78.5	64.8	.433	.311	20.31	14.93	15.95	9.68
Massachusetts.....	48.0	48.1	40.4	33.6	84.2	69.9	.404	.363	19.39	17.46	16.32	12.21
Michigan.....	51.9	51.9	42.4	42.4	85.4	81.7	.313	.255	16.24	13.23	13.85	10.80
Minnesota.....	48.0	48.0	41.8	35.1	87.1	73.1	.439	.402	21.07	19.30	18.38	14.11
New Hampshire and Vermont ¹	49.4	49.6	44.8	34.2	90.7	69.0	.417	.309	20.60	15.33	18.67	10.58
New York.....	48.7	49.2	37.9	36.2	77.8	73.6	.351	.301	17.09	14.81	13.31	10.90
North Carolina.....	53.4	53.3	45.7	45.9	85.6	86.1	.264	.205	14.10	10.93	12.09	9.39
Pennsylvania.....	52.9	52.6	42.2	42.1	79.8	80.0	.357	.294	18.89	15.46	15.06	12.39
Rhode Island.....	51.1	51.1	45.9	43.9	89.8	85.9	.364	.300	18.60	15.33	16.71	13.19
Tennessee.....	55.0	54.8	39.5	33.7	71.8	61.5	.294	.224	16.17	12.28	11.61	7.54
Virginia.....	52.4	49.7	44.1	38.3	84.2	77.1	.288	.250	15.09	12.43	12.68	9.59
Wisconsin.....	49.6	49.9	40.0	39.7	80.6	79.6	.392	.316	19.44	15.77	15.68	12.55
Total males and females.....	50.3	50.7	40.6	38.0	80.7	75.0	.357	.292	17.96	14.80	14.50	11.08

¹ Shown together to avoid presenting data for 1 mill in any State.⁴ Data included in total.⁶ None reported in 1930.

Hosiery Industry—Hours and Earnings in the Manufacture of Boys' Golf Hose, 1934

A STUDY of the wages and hours of labor in the manufacture of boys' golf hose was made by the Bureau of Labor Statistics at the request of the Atlanta Regional Labor Board. Data were obtained for a pay period ending in August 1934, for eight establishments in Tennessee, North Carolina, and Virginia.

The 1,128 employees of these establishments had average earnings of \$10.09 for an average work week of 29.6 hours; this was an average of 34 cents per hour. In the various occupations the earnings ranged from 30.2 cents per hour for transfer knitters (women) to 55.9 cents for machine fixers (men).

Of the 716 pieceworkers, 42.4 percent earned less than the minimum allowable under the hosiery code for the Southern States—30 cents per hour. For these workers, therefore, the companies had to make supplementary payments to bring the pay up to the required minimum.

Iron and Steel Industry—Hours and Earnings, 1933

A SUMMARY of the results of the 1933 survey of hours and earnings in the 10 major departments of the iron and steel industry, together with comparative figures taken from former studies made by the Bureau of Labor Statistics for certain years between 1913 and 1933, is given in this article. The pay-roll period selected for the 1933 study covered the last half of March. It covered 53,365 wage earners in 200 plants located in various sections of the country as far west as Colorado. The number of wage earners covered equals 19.2 percent of all blast-furnace, steel-works, and rolling-mill employees shown by the 1931 Census of Manufactures and, it is estimated, nearly 30 percent of all employees working in the 10 departments at the time of the study. More detailed figures of the results of the study were published in the Monthly Labor Review for September 1933 (p. 651).

Table 1 shows average earnings per hour and average full-time hours and earnings per week, with index numbers for the industry as a whole and for each department, for the years covered by the Bureau's studies. In one instance, puddling mills, the index number starts with 1914, as no figures for this department are available for 1913. In 1913 data were collected for the principal occupations only, but since 1913 data have been collected for all occupations in the years appearing in the table.

WAGES AND HOURS OF LABOR

TABLE 1.—AVERAGE HOURS AND EARNINGS AND INDEX NUMBERS THEREOF FOR 10 MAJOR DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1913-33, BY YEAR

Department and year	Average full-time hours per week	Average earnings per hour	Average full-time weekly earnings	Index numbers (1913=100) †		
				Full-time hours per week	Earnings per hour	Full-time weekly earnings
All departments:						
1913.....	66.1	\$0.301	\$18.99	100.0	100.0	100.0
1914.....	64.9	.301	18.60	98.2	100.0	98.5
1915.....	65.5	.297	18.65	99.1	98.7	98.7
1920.....	63.1	.745	45.65	95.5	247.5	241.7
1922.....	63.2	.513	31.67	95.6	170.4	167.7
1924.....	55.2	.644	35.22	83.5	214.0	186.4
1926.....	54.4	.637	34.41	82.3	211.6	182.2
1929.....	54.6	.674	36.48	82.6	223.9	193.1
1931.....	52.4	.663	34.58	79.3	220.3	183.1
1933.....	51.5	.485	24.98	77.9	161.1	132.2
Blast furnaces:						
1913.....	76.9	.205	15.76	100.0	100.0	100.0
1914.....	74.8	.206	15.41	97.3	100.5	97.8
1915.....	74.9	.207	15.50	97.4	101.0	98.4
1920.....	72.1	.571	41.17	93.8	278.5	261.2
1922.....	72.3	.398	28.78	94.0	194.1	182.6
1924.....	59.7	.520	31.04	77.6	253.7	197.0
1926.....	59.8	.517	30.92	77.8	252.2	196.2
1929.....	60.7	.528	32.05	78.9	257.6	203.4
1931.....	57.2	.551	31.52	74.4	268.8	200.0
1933.....	55.1	.444	24.46	71.7	216.6	155.2
Steel-works division:						
Bessemer converters:						
1913.....	70.0	.284	19.88	100.0	100.0	100.0
1914.....	68.4	.255	17.44	97.7	89.8	87.7
1915.....	68.7	.264	18.14	98.1	93.0	91.2
1920.....	70.3	.677	47.59	100.4	238.4	239.4
1922.....	68.7	.470	32.29	98.1	165.5	162.4
1924.....	52.3	.624	32.64	74.7	219.7	164.2
1926.....	52.6	.641	33.72	75.1	225.7	169.6
1929.....	53.7	.643	34.53	76.7	226.4	173.7
1931.....	53.3	.664	35.39	76.1	233.8	178.0
1933.....	52.7	.490	25.82	75.3	172.5	129.9
Open-hearth furnaces:						
1913.....	76.7	.237	18.18	100.0	100.0	100.0
1914.....	74.5	.237	17.66	97.1	100.0	97.1
1915.....	74.4	.246	18.30	97.0	103.8	100.7
1920.....	68.7	.671	46.10	89.6	283.1	253.6
1922.....	70.8	.480	33.98	92.3	202.5	186.9
1924.....	58.0	.635	36.83	75.6	267.9	202.6
1926.....	57.1	.677	38.06	74.4	285.7	212.7
1929.....	57.7	.714	41.20	75.2	301.3	226.6
1931.....	53.8	.703	37.82	70.1	296.6	208.0
1933.....	53.3	.513	27.34	69.5	216.5	150.4
Rolling-mills division:						
Puddling mills:						
1914.....	53.2	.328	17.45	100.0	100.0	100.0
1915.....	52.2	.315	16.44	98.1	96.0	94.2
1920.....	53.9	.885	47.70	101.3	269.8	273.4
1922.....	52.1	.496	25.84	97.9	151.2	148.1
1924.....	55.7	.721	40.16	104.7	219.8	230.1
1926.....	52.1	.657	34.23	97.9	200.3	196.2
1929.....	50.3	.686	34.51	94.5	209.1	197.8
1931.....	53.0	.692	31.38	99.6	180.5	179.8
1933.....	52.8	.474	25.03	99.2	144.5	143.4
Blooming mills:						
1913.....	73.0	.265	19.35	100.0	100.0	100.0
1914.....	70.5	.269	18.96	96.6	101.5	98.0
1915.....	71.0	.268	19.03	97.3	101.1	98.3
1920.....	67.5	.659	44.48	92.5	248.7	229.9
1922.....	68.0	.472	32.10	93.2	178.1	165.9
1924.....	54.6	.613	38.47	74.8	231.3	178.0
1926.....	54.2	.627	38.98	74.2	236.6	175.6
1929.....	55.0	.666	36.63	75.3	251.3	189.3
1931.....	52.6	.664	34.93	72.1	250.6	180.5
1933.....	52.5	.488	25.62	71.9	184.2	132.4
Plate mills:						
1913.....	69.9	.255	17.82	100.0	100.0	100.0
1914.....	69.0	.258	17.80	98.7	101.2	99.9
1915.....	69.8	.270	18.63	99.9	105.9	104.3
1920.....	68.8	.671	46.16	98.4	263.1	259.0

† Except for puddling mills for which 1914=100.

TABLE 1.—AVERAGE HOURS AND EARNINGS AND INDEX NUMBERS THEREOF FOR 10 MAJOR DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1913-33, BY YEAR—Continued

Department and year	Average full-time hours per week	Average earnings per hour	Average full-time weekly earnings	Index numbers (1913=100)		
				Full-time hours per week	Earnings per hour	Full-time weekly earnings
Rolling-mills division—Continued.						
Plate mills—Continued.						
1922.....	66.2	\$0.476	\$31.51	94.7	186.7	176.8
1924.....	57.2	.562	32.15	81.8	220.4	180.4
1926.....	55.8	.606	33.81	79.8	237.6	189.7
1929.....	58.0	.639	37.06	83.0	250.6	206.0
1931.....	56.7	.627	35.55	81.1	245.9	199.5
1933.....	53.5	.440	24.02	76.5	176.1	134.8
Standard rail mills:						
1913.....	70.9	.254	18.01	100.0	100.0	100.0
1914.....	70.1	.252	17.67	98.9	99.2	98.1
1915.....	70.9	.246	17.44	100.0	96.9	96.8
1920.....	61.2	.632	38.68	86.3	248.8	214.8
1922.....	61.5	.470	28.91	86.7	185.0	160.5
1924.....	57.4	.573	32.89	81.0	225.6	182.6
1926.....	55.5	.595	33.02	78.3	234.3	183.3
1929.....	56.0	.628	35.17	79.0	247.2	195.3
1931.....	54.9	.613	33.65	77.4	241.3	186.8
1933.....	53.2	.523	27.82	75.0	205.9	154.5
Bar mills:						
1913.....	61.5	.288	17.71	100.0	100.0	100.0
1914.....	61.7	.278	17.15	100.3	96.5	96.8
1915.....	61.4	.266	16.33	99.8	92.4	92.2
1920.....	61.8	.713	44.06	100.5	247.6	248.8
1922.....	61.2	.486	29.74	99.5	168.8	167.9
1924.....	55.6	.585	32.53	90.4	203.1	183.7
1926.....	54.7	.591	32.33	88.9	205.2	182.6
1929.....	55.6	.625	34.75	90.4	217.0	196.2
1931.....	55.0	.588	32.34	89.4	204.2	182.6
1933.....	54.1	.425	22.99	88.0	147.6	129.8
Sheet mills:						
1913.....	52.3	.483	25.26	100.0	100.0	100.0
1914.....	52.3	.488	25.52	100.0	101.0	101.0
1915.....	52.5	.450	23.63	100.4	93.2	93.5
1920.....	50.3	1.039	52.26	96.2	215.1	206.9
1922.....	51.1	.694	35.46	97.7	143.7	140.4
1924.....	50.2	.809	40.61	96.0	167.5	160.8
1926.....	48.9	.759	37.12	93.5	157.1	147.0
1929.....	48.9	.793	38.78	93.5	164.2	153.5
1931.....	47.8	.747	35.71	91.4	154.7	141.4
1933.....	46.9	.473	22.18	89.7	97.9	87.8
Tin-plate mills:						
1913.....	46.1	.417	19.22	100.0	100.0	100.0
1914.....	46.0	.425	19.55	99.8	101.9	101.7
1915.....	50.4	.428	21.57	100.3	102.6	112.2
1920.....	50.6	.949	48.02	109.8	227.6	249.8
1922.....	49.9	.650	32.44	108.2	155.9	168.8
1924.....	48.8	.795	38.80	105.9	190.6	201.9
1926.....	48.1	.704	33.86	104.3	168.8	176.2
1929.....	47.4	.732	34.70	102.8	175.5	180.5
1931.....	47.0	.714	33.56	102.0	171.2	174.6
1933.....	46.9	.517	24.25	101.7	124.0	126.2

Table 2 shows average hours and earnings in 10 major departments in 1933, by department and geographic district, as well as for all departments and districts combined.

Operations in the steel industry were very low during the early part of 1933. As companies were endeavoring to provide some work for all of their employees, the number of hours available to each worker was limited. This is shown by the fact that, for all departments combined, the average actual hours worked per employee in 1 week were 24.2 as compared with normal full time of 51.5 hours.

In making comparisons of average hourly earnings it must be borne in mind that neither the eastern nor the southern district is repre-

sented by the higher-wage departments such as Bessemer converters, sheet and tin-plate mills, and also that there is no information covering standard rail mills in the southern district. This report of the Bureau for 1923 is the first in which employees in sheet mills whose product is mechanically produced have been included.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN 10 MAJOR DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1933, BY DISTRICT

Department and district	Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
All departments.....	51.5	24.2	\$0.485	\$11.71
Eastern district.....	56.5	25.1	.430	10.77
Pittsburgh district.....	49.0	25.0	.501	12.55
Great Lakes and Middle West district.....	52.6	21.2	.499	10.60
Southern district.....	56.4	33.1	.398	13.19
Blast furnaces.....	55.1	28.7	.444	12.77
Eastern district.....	55.6	29.1	.403	11.75
Pittsburgh district.....	54.0	24.8	.471	11.66
Great Lakes and Middle West district.....	55.2	28.1	.481	13.50
Southern district.....	57.3	38.5	.371	14.41
Steel-works division:				
Bessemer converters.....	52.7	22.0	.490	10.79
Pittsburgh district.....	51.3	19.9	.473	9.40
Great Lakes and Middle West district.....	53.7	23.6	.502	11.84
Open-hearth furnaces.....	53.3	22.2	.513	11.39
Eastern district.....	55.2	22.7	.475	10.74
Pittsburgh district.....	50.2	20.9	.509	10.62
Great Lakes and Middle West district.....	55.8	21.1	.543	11.48
Southern district.....	56.0	36.6	.476	17.67
Rolling-mills division:				
Puddling mills ¹	52.8	30.5	.474	14.46
Blooming mills.....	52.5	22.7	.488	11.09
Eastern district.....	54.5	25.3	.379	9.56
Pittsburgh district.....	49.3	21.8	.506	11.03
Great Lakes and Middle West district.....	54.6	20.9	.505	10.55
Southern district.....	56.8	35.3	.455	16.18
Plate mills.....	53.5	15.3	.449	6.88
Eastern district.....	60.5	25.3	.385	9.74
Pittsburgh district.....	50.7	11.1	.502	5.61
Great Lakes and Middle West district.....	51.8	13.0	.487	6.32
Standard rail mills ¹	53.2	16.3	.523	8.47
Bar mills.....	54.1	17.0	.425	7.22
Eastern district.....	55.7	20.1	.404	8.14
Pittsburgh district.....	52.4	14.0	.475	6.69
Great Lakes and Middle West district.....	53.7	15.5	.467	7.23
Southern district.....	57.0	24.2	.316	7.64
Sheet mills.....	46.9	23.7	.473	11.22
Pittsburgh district.....	45.2	25.5	.468	11.94
Great Lakes and Middle West district.....	48.9	21.5	.480	10.33
Tin-plate mills ¹	46.9	34.4	.517	17.84

¹ Not reported by district but included in district totals for all departments.

Table 3 presents average hours and earnings of employees in the principal occupations in the iron and steel industry, 1931 and 1933, by department. In the iron and steel industry many employees may work at operations other than their regular occupations during a given pay period. For example, a keeper may also have worked part time as a keeper's first helper and also as a cinderman. In order to meet this condition, data for the various occupations were tabulated so as to show the average hours and earnings (1) in the primary occupation only and (2) in all jobs at which the employee worked during the pay period studied.

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENT OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION

Blast furnaces

Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Ore bridge operators.....	1933	54.9	25.4	\$0.539	\$29.59	\$13.67	25.9	\$0.538	\$13.93
Stockers.....	1931	57.2	37.8	.485	27.74	18.34	39.7	.483	19.20
	1933	55.4	19.6	.374	20.72	7.34	20.4	.373	7.63
Larrymen.....	1931	55.3	36.5	.563	31.13	20.56	38.3	.560	21.43
	1933	54.5	22.9	.430	23.44	9.84	24.5	.425	10.42
Larrymen's helpers.....	1931	54.9	35.5	.482	26.46	17.12	39.1	.485	18.99
	1933	55.3	18.5	.355	19.63	6.57	20.4	.357	7.29
Skip operators.....	1931	56.2	41.7	.532	29.90	22.18	43.0	.532	22.88
	1933	55.6	29.4	.417	23.19	12.26	31.5	.413	13.00
Blowers.....	1931	55.8	48.4	.929	51.84	44.93	50.6	.922	46.66
	1933	54.8	42.3	.727	39.84	30.73	44.3	.719	31.81
Stove tenders.....	1931	55.0	40.2	.560	30.80	22.52	42.7	.558	23.86
	1933	54.4	28.7	.441	23.99	12.63	30.8	.438	13.51
Blowing engineers.....	1931	55.7	45.4	.706	39.32	32.08	47.3	.704	33.31
	1933	54.2	32.9	.563	30.51	18.50	34.2	.560	19.16
Blowing engineers' assistants.....	1931	54.2	35.5	.626	33.93	22.21	38.3	.623	23.84
	1933	53.0	26.6	.482	25.55	12.82	27.4	.482	13.22
Keepers.....	1931	55.2	39.3	.573	31.63	22.50	40.2	.572	23.00
	1933	54.2	24.0	.439	23.79	10.52	26.0	.433	11.26
Keepers' helpers.....	1931	56.2	36.7	.492	27.65	18.05	38.7	.492	19.06
	1933	53.9	21.2	.382	20.59	8.09	22.7	.382	8.66
Iron handlers and loaders.....	1931	59.5	33.9	.360	21.12	12.18	37.6	.363	13.64
	1933	59.1	22.7	.289	17.08	6.56	22.7	.289	6.56
Pig-machine men.....	1931	57.1	40.6	.486	27.75	19.73	42.4	.487	20.64
	1933	54.5	29.9	.384	20.93	11.49	31.6	.386	12.17
Cindermen (at dump).....	1931	57.6	44.6	.483	27.82	21.51	46.4	.484	22.44
	1933	55.7	24.9	.359	20.00	8.97	25.2	.359	9.06
Laborers.....	1931	59.5	33.6	.384	22.85	12.87	35.7	.388	13.84
	1933	57.2	20.3	.289	16.53	5.86	21.5	.294	6.33

Bessemer converters

Stockers.....	1931	50.5	26.7	\$0.622	\$31.41	\$16.61	29.9	\$0.612	\$18.30
	1933	49.5	17.6	.436	21.58	7.70	18.8	.433	8.22
Iron pourers (troughmen).....	1933	49.7	20.1	.501	24.90	10.09	22.3	.490	10.94
Blowers.....	1931	50.5	46.4	1.291	65.20	59.90	46.7	1.289	60.23
	1933	49.1	24.5	.986	48.41	24.12	27.2	.930	25.25
Regulators, first.....	1931	51.5	34.4	.966	49.75	33.18	38.7	.948	36.65
	1933	50.3	27.6	.639	32.14	17.60	33.4	.628	21.01
Regulators, second.....	1931	49.3	33.1	.902	44.47	29.87	36.9	.869	32.02
	1933	51.1	16.5	.683	34.90	11.31	19.8	.656	12.97
Blowing engineers.....	1933	49.3	27.6	.547	26.97	15.11	28.8	.543	15.67
Vesselmen.....	1931	51.1	33.5	1.126	57.54	37.72	35.2	1.101	38.74
	1933	50.7	18.1	.822	41.68	14.89	21.0	.775	16.28
Vesselmen's helpers.....	1931	51.0	36.0	.857	43.71	30.86	37.9	.844	31.99
	1933	51.2	17.8	.631	32.31	11.22	20.6	.620	12.79
Cinder pitmen.....	1931	51.5	30.3	.566	29.15	17.15	33.3	.563	18.76
	1933	51.2	16.3	.434	22.22	7.08	18.5	.430	7.95
Bottom makers.....	1931	52.8	31.4	.825	43.56	25.88	34.5	.805	27.74
	1933	53.3	19.6	.579	30.86	11.36	21.1	.562	11.86
Bottom makers' helpers.....	1931	54.5	32.6	.636	34.66	20.72	35.5	.623	22.15
	1933	54.6	22.4	.443	24.19	9.93	24.0	.438	10.54
Ladle liners.....	1931	51.5	36.5	.901	46.40	32.87	37.3	.891	33.29
	1933	51.7	18.1	.618	31.95	11.16	21.2	.593	12.55
Ladle liners' helpers.....	1931	50.7	32.8	.664	33.66	21.77	36.3	.651	23.67
	1933	51.2	16.5	.452	23.14	7.49	20.4	.461	9.39
Stopper makers.....	1931	56.4	35.0	.569	32.09	19.91	36.4	.565	20.53
	1933	55.2	28.0	.400	22.08	11.23	31.8	.404	11.86
Stopper setters.....	1931	50.5	28.3	.998	50.40	28.23	31.0	.967	29.97
	1933	50.8	16.3	.709	36.02	11.55	19.9	.643	12.78
Steel pourers.....	1931	50.1	27.9	1.135	56.86	31.65	29.9	1.099	32.81
	1933	50.7	17.5	.785	39.80	13.76	20.2	.728	14.71
Mold cappers.....	1931	49.8	31.6	.752	37.45	23.80	35.3	.747	26.38
	1933	49.2	17.9	.532	26.17	9.51	20.8	.507	10.55
Ingot strippers.....	1931	50.6	33.8	.809	40.94	27.33	35.8	.796	28.49
	1933	49.9	24.5	.538	26.85	13.20	25.3	.536	13.55
Laborers.....	1931	57.9	30.2	.452	26.17	13.66	34.5	.464	16.01
	1933	58.1	19.1	.335	19.46	6.40	22.2	.350	7.78

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION—Contd.

Open-hearth furnaces

Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Stockers.....	1931	54.5	39.1	\$0.527	\$28.72	\$20.60	39.8	\$0.526	\$20.95
	1933	54.3	22.3	.376	20.42	8.37	22.9	.409	8.85
Stock cranimen.....	1931	54.2	38.2	.663	35.93	25.36	39.6	.660	26.18
	1933	53.1	21.6	.467	24.80	10.10	22.3	.466	10.38
Charging-machine operators.....	1931	53.2	37.6	.879	45.76	33.04	38.3	.877	33.60
	1933	52.4	22.9	.629	32.96	14.44	23.8	.624	14.86
Door operators.....	1931	53.3	35.1	.436	23.24	15.30	37.1	.442	16.38
	1933	51.6	15.9	.356	18.37	5.67	16.3	.357	5.93
Charging-floor cranimen.....	1931	53.0	34.7	.760	40.28	26.33	37.1	.758	28.14
	1933	53.2	19.6	.537	28.57	10.52	21.3	.538	11.44
Melters' helpers, first.....	1931	53.1	35.5	1.239	65.79	43.97	36.4	1.233	44.84
	1933	52.4	19.7	.867	45.43	17.04	20.6	.854	17.56
Melters' helpers, second.....	1931	53.1	34.6	.877	46.57	30.30	35.9	.875	31.99
	1933	52.2	18.8	.624	32.57	11.72	19.5	.619	12.07
Melters' helpers, third.....	1931	52.9	34.1	.668	35.34	22.81	36.3	.666	24.20
	1933	52.1	16.9	.462	24.07	7.82	17.6	.464	8.14
Stopper setters.....	1931	53.0	33.5	.798	42.29	26.70	38.7	.786	30.41
	1933	52.3	22.8	.560	29.29	12.76	24.9	.553	13.90
Steel pourers.....	1931	53.5	38.1	.851	45.53	32.39	40.9	.843	34.44
	1933	53.1	24.6	.575	30.53	14.13	26.1	.576	15.03
Ladle cranimen.....	1931	53.2	37.7	.846	45.01	31.92	39.0	.842	32.58
	1933	52.4	20.5	.566	29.66	11.62	21.3	.563	11.97
Ingot strippers.....	1931	54.5	37.5	.747	40.71	28.02	39.3	.741	29.14
	1933	52.6	24.5	.507	26.67	12.43	25.0	.508	12.69
Engineers, locomotive.....	1931	53.3	30.9	.943	44.93	26.04	31.5	.939	26.45
	1933	52.5	20.5	.622	32.36	10.27	20.9	.600	10.45
Switchmen.....	1931	53.4	37.1	.606	32.36	22.50	33.1	.607	23.12
	1933	52.4	21.6	.426	22.32	9.22	22.2	.426	9.46
Laborers.....	1931	57.5	31.7	.436	25.07	13.80	33.5	.441	14.78
	1933	54.9	15.7	.330	18.12	5.19	16.3	.334	5.43

Puddling mills

Stockers.....	1931	51.4	26.4	\$0.547	\$28.12	\$14.47	27.0	\$0.544	\$14.68
	1933	55.9	29.2	.403	22.53	11.75	29.9	.401	12.01
Puddlers.....	1931	54.3	37.5	.793	43.06	29.72	38.4	.790	30.35
	1933	52.6	30.4	.634	33.35	19.30	31.7	.629	19.04
Puddlers, level-handed.....	1931	49.2	23.4	.691	34.00	16.16	24.7	.692	17.96
	1933	52.4	33.7	.543	28.45	18.30	34.9	.542	18.91
Puddlers' helpers.....	1931	54.3	35.4	.540	29.32	19.11	36.2	.542	19.62
	1933	52.7	29.1	.423	22.29	12.31	29.6	.424	12.54
Bloom boys.....	1931	50.7	23.9	.439	22.26	10.50	24.9	.475	11.82
	1933	53.7	17.6	.336	18.04	5.91	17.9	.345	6.17
Roll engineers.....	1931	65.6	51.6	.469	30.77	24.22	51.6	.469	24.22
	1933	60.1	40.0	.399	23.98	15.98	40.0	.399	15.98
Rollers.....	1931	50.5	33.6	.956	48.28	32.16	33.6	.956	32.16
	1933	50.2	30.1	.836	41.97	25.12	30.1	.836	25.12
Roughers.....	1931	51.1	33.7	.615	31.43	20.71	33.7	.615	20.71
	1933	48.7	25.8	.461	21.96	11.66	25.8	.451	11.66
Catchers.....	1931	51.4	33.5	.604	31.05	20.21	33.5	.604	20.21
	1933	52.1	30.7	.550	28.66	16.90	33.7	.532	17.91
Hook-ups.....	1931	51.0	34.6	.484	24.68	16.74	35.0	.496	17.38
	1933	52.9	29.8	.388	20.53	11.56	31.2	.396	12.35
Hotbed men.....	1931	50.9	29.5	.459	23.36	13.52	29.5	.459	13.52
	1933	50.3	34.1	.400	20.12	13.64	34.4	.399	13.73
Shearmen.....	1931	52.9	35.9	.603	31.90	21.64	36.7	.597	21.92
	1933	53.5	28.9	.391	20.92	11.31	28.9	.391	11.31
Shearmen's helpers.....	1931	51.0	27.5	.511	26.06	14.04	27.5	.511	14.05
	1933	53.2	28.0	.332	17.66	9.30	30.1	.327	9.85
Laborers.....	1931	54.3	26.2	.386	20.96	10.12	26.8	.389	10.44
	1933	53.5	27.1	.286	15.30	7.74	28.1	.289	8.13

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION—Contd.

Blooming mills

Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Pit cranimen.....	1931	52.2	35.1	\$0.845	\$44.11	\$29.64	35.6	\$0.840	\$29.94
	1933	52.1	26.2	.576	30.01	15.12	26.8	.571	15.32
Heaters.....	1931	52.5	39.1	1.234	64.79	48.28	39.8	1.228	48.84
	1933	52.2	28.9	.802	41.86	23.21	29.3	.800	23.42
Heaters' helpers.....	1931	54.7	36.6	.783	42.83	28.61	39.8	.780	31.09
	1933	51.4	29.8	.628	32.28	18.73	31.9	.631	20.13
Bottom makers.....	1931	51.3	32.8	.855	43.86	28.05	35.7	.843	30.07
	1933	51.0	22.0	.625	31.88	13.73	23.1	.618	14.26
Bottom makers' helpers.....	1931	52.8	32.0	.625	33.00	20.02	35.0	.623	21.83
	1933	52.6	21.7	.454	23.88	9.87	23.1	.452	10.43
Roll engineers.....	1931	53.7	32.4	.952	51.12	30.80	33.6	.954	32.07
	1933	52.8	24.2	.702	37.07	16.98	25.0	.697	17.40
Rollers.....	1931	52.4	35.0	1.438	75.35	50.29	35.8	1.421	50.92
	1933	52.3	25.2	.993	51.93	24.96	26.9	.992	25.90
Manipulators.....	1931	52.5	29.9	1.028	53.97	30.72	31.9	1.019	32.52
	1933	52.4	22.1	.673	35.27	14.87	23.1	.631	15.76
Table men.....	1931	51.4	27.7	.745	38.29	20.62	30.9	.746	23.07
	1933	50.4	24.5	.444	22.38	10.36	25.6	.438	11.24
Shearmen.....	1931	51.6	30.9	.826	42.31	25.34	32.5	.807	26.23
	1933	51.5	20.7	.532	27.40	11.00	21.6	.531	11.50
Shearmen's helpers.....	1931	52.1	28.9	.594	30.95	17.16	30.6	.590	18.99
	1933	51.7	19.5	.394	20.37	7.66	20.2	.396	7.98
Laborers.....	1931	55.6	31.6	.460	25.98	14.54	34.6	.467	16.14
	1933	53.8	16.4	.343	18.45	5.62	17.3	.344	5.95

Plate mills

Charging-crane and charging-machine operators.....	1931	56.9	35.4	\$0.722	\$41.08	\$25.56	36.4	\$0.717	\$26.07
	1933	54.0	16.4	.509	27.49	8.34	17.0	.503	8.57
Heaters.....	1931	55.8	37.8	1.140	63.61	43.13	38.2	1.135	43.40
	1933	52.7	15.6	.751	39.53	11.74	15.9	.744	11.87
Heaters' helpers.....	1931	61.8	35.5	.629	38.87	22.32	36.4	.624	22.70
	1933	57.9	16.4	.406	23.51	6.65	16.8	.405	6.82
Roll engineers.....	1931	62.5	35.3	.864	41.50	23.45	35.1	.847	24.64
	1933	59.2	20.3	.465	27.53	9.44	20.3	.465	9.44
Rollers, sheared plate mills.....	1931	57.4	41.6	1.554	89.20	64.71	41.9	1.548	64.91
	1933	54.6	16.7	.960	52.42	16.00	19.4	.890	17.29
Screw men, sheared plate mills.....	1931	57.8	36.5	1.025	59.25	37.43	38.2	1.027	39.26
	1933	53.7	16.6	.633	33.99	10.53	17.2	.628	10.83
Table operators, sheared plate mills.....	1931	57.4	34.4	.788	45.23	27.09	36.0	.790	28.40
	1933	55.3	12.6	.552	30.53	6.95	13.0	.556	7.21
Hook men, sheared plate mills.....	1931	56.4	35.6	.755	42.58	26.83	37.0	.754	27.88
	1933	53.4	13.0	.478	25.53	6.23	13.4	.478	6.39
Roll hands, other, sheared plate mills.....	1931	60.5	31.3	.737	44.59	23.05	34.0	.748	25.44
	1933	56.2	14.1	.424	23.83	5.98	15.6	.418	6.51
Rollers, universal mills.....	1931	58.8	41.3	1.174	69.03	48.46	41.3	1.174	48.46
	1933	55.0	19.6	.832	45.76	16.27	20.1	.816	16.41
Screw men, main rolls, universal mills.....	1931	58.8	39.9	.834	49.04	33.29	40.2	.836	33.60
	1933	55.8	17.1	.623	34.76	10.67	19.2	.594	11.38
Screw men, side rolls, universal mills.....	1931	63.2	28.5	.639	40.38	18.20	32.4	.647	20.94
	1933	64.0	24.1	.410	26.61	9.86	25.0	.410	10.27
Roll hands, other, universal mills.....	1931	60.2	36.9	.531	31.97	19.61	37.8	.534	20.19
	1933	55.0	18.0	.444	24.42	7.97	18.3	.442	8.08
Shearmen.....	1931	57.2	37.3	.822	47.02	30.64	37.9	.821	31.10
	1933	53.4	14.6	.533	28.46	7.77	15.2	.527	7.98
Shearmen's helpers.....	1931	58.3	33.1	.577	33.64	19.09	34.0	.575	19.54
	1933	55.0	13.7	.398	21.89	5.45	13.8	.398	5.51
Laborers.....	1931	55.5	25.3	.433	24.03	10.96	26.8	.438	11.73
	1933	54.8	12.0	.312	17.10	3.74	12.5	.318	3.98

WAGES AND HOURS OF LABOR

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION—Contd.

<i>Rail mills</i>									
Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Charging-machine operators.....	1931	54.6	37.8	\$0.637	\$34.78	\$24.08	39.4	\$0.627	\$24.63
	1933	51.0	19.2	.534	27.23	10.23	19.7	.530	10.41
Reheaters.....	1931	50.5	37.5	1.117	56.41	41.83	37.7	1.113	41.93
	1933	49.5	20.4	.949	46.98	19.37	20.6	.948	19.57
Reheaters' helpers.....	1931	52.9	29.5	.633	33.49	18.66	31.7	.645	20.45
	1933	50.6	18.1	.556	28.13	10.06	19.1	.553	10.58
Roll engineers.....	1931	51.1	32.7	.922	47.11	30.13	33.9	.915	31.01
	1933	48.0	15.0	.684	32.83	10.27	15.0	.684	10.27
Rollers.....	1931	63.7	43.2	1.596	85.71	68.89	43.2	1.596	68.89
	1933	60.4	24.6	1.355	68.29	33.27	25.6	1.321	33.80
Assistant rollers.....	1931	55.6	45.9	.954	53.04	43.77	55.4	.936	51.85
	1933	53.5	15.0	.732	39.16	10.96	17.4	.719	12.47
Table levermen.....	1931	52.2	34.4	.816	42.60	28.06	36.0	.809	29.16
	1933	50.4	17.1	.696	35.08	11.93	17.5	.693	12.11
Guide setters.....	1931	55.5	40.6	.816	45.29	33.11	42.5	.811	34.48
	1933	53.4	15.1	.760	40.58	11.48	16.2	.751	12.13
Hotsaw men.....	1931	54.0	36.9	.653	35.26	24.08	37.8	.652	24.66
	1933	51.9	18.7	.581	30.15	10.88	18.8	.580	10.90
Hotsaw men's helpers.....	1931	53.1	29.8	.496	26.34	14.77	34.7	.491	17.04
	1933	50.4	12.7	.420	21.17	5.34	15.0	.431	6.48
Hotbed levermen.....	1931	54.0	36.1	.565	30.51	20.42	38.9	.561	21.86
	1933	52.6	14.8	.438	23.04	6.48	15.3	.436	6.65
Hotbed men.....	1931	52.1	31.5	.525	27.35	16.55	33.7	.524	17.64
	1933	51.6	12.8	.395	20.38	5.06	13.6	.392	5.34
Straighteners, gag press.....	1931	52.7	32.0	1.131	59.60	36.19	32.8	1.122	36.76
	1933	52.3	13.4	.931	48.69	12.47	15.0	.876	13.11
Straighteners' helpers.....	1931	53.5	33.3	.625	33.44	20.80	35.3	.625	22.05
	1933	52.4	12.0	.538	28.19	6.44	12.9	.528	6.79
Chippers.....	1931	54.3	35.8	.655	35.57	23.49	38.5	.650	25.03
	1933	53.4	10.4	.585	31.24	6.10	11.4	.575	6.54
Drillers and punchers.....	1931	55.1	34.5	.649	35.76	22.40	36.1	.645	23.30
	1933	53.9	12.5	.589	31.75	7.35	13.2	.579	7.66
Cold-saw men.....	1931	57.1	38.2	.489	27.92	18.68	44.0	.484	21.28
	1933	53.9	15.4	.376	20.27	5.79	17.6	.379	6.68
Cold-saw helpers.....	1931	53.4	24.5	.472	25.20	11.56	28.5	.476	13.59
	1933	49.4	10.1	.372	18.38	3.74	11.4	.375	4.28
Inspectors.....	1931	55.7	42.1	.597	32.70	24.71	44.2	.581	25.70
	1933	54.6	14.7	.462	25.23	6.78	15.5	.458	7.11
Laborers.....	1931	58.0	31.8	.406	23.55	12.90	35.7	.416	14.85
	1933	57.9	12.3	.324	18.76	3.97	13.2	.336	4.45

<i>Bar mills</i>									
Stockers.....	1931	54.2	31.7	\$0.455	\$24.66	\$14.44	32.9	\$0.455	\$14.95
	1933	52.2	15.8	.326	17.02	5.16	16.0	.326	5.20
Heaters.....	1931	57.4	33.4	.902	51.77	30.18	33.7	.901	30.39
	1933	55.6	17.7	.650	36.14	11.52	18.4	.639	11.77
Heaters' helpers.....	1931	56.5	31.4	.621	35.09	19.51	33.0	.618	20.42
	1933	55.3	15.7	.402	22.23	6.33	17.0	.404	6.87
Chargers and helpers.....	1931	54.5	31.4	.567	30.90	17.81	32.6	.564	18.34
	1933	54.2	15.9	.357	19.35	5.69	16.9	.357	6.02
Drag downs.....	1931	56.5	26.0	.548	30.96	14.26	26.8	.543	14.59
	1933	56.8	15.2	.406	23.06	6.16	15.9	.404	6.43
Roll engineers.....	1931	59.3	35.3	.534	31.67	18.85	36.3	.535	19.42
	1933	57.6	19.8	.401	23.10	7.96	20.3	.403	8.16
Rollers.....	1931	55.4	37.8	1.542	85.43	58.27	38.2	1.533	58.61
	1933	54.5	23.8	.965	52.59	23.02	24.4	.956	23.31
Roughers.....	1931	56.7	32.8	.791	44.85	25.92	33.7	.787	26.56
	1933	55.8	17.9	.536	29.91	9.59	18.4	.535	9.86
Catchers.....	1931	56.1	30.9	.781	43.81	24.15	32.0	.775	24.77
	1933	55.2	18.0	.532	29.37	9.58	18.6	.527	9.83
Stranders.....	1931	55.8	32.4	.701	39.12	22.68	34.1	.693	23.65
	1933	54.8	16.9	.453	25.10	7.73	17.8	.459	8.15
Finishers.....	1931	54.4	31.6	.864	47.00	27.24	34.0	.842	28.66
	1933	55.0	17.7	.500	27.50	8.85	19.3	.497	9.61

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION—Contd.

Bar mills

Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours worked per week	Average hours actually worked in 1 week	Average earnings per week	Average full-time earnings per week	Average actual earnings in 1 week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Hook-ups.....	1931	55.2	25.3	\$0.645	\$35.60	\$16.35	26.5	\$0.640	\$16.95
	1933	56.1	14.1	.381	21.37	5.35	14.8	.386	5.73
Roll hands, other.....	1931	55.1	31.0	.712	39.23	22.07	32.5	.708	23.01
	1933	54.9	16.7	.471	25.86	7.85	17.2	.469	8.06
Hotbed men.....	1931	54.1	27.9	.578	31.27	16.14	29.9	.572	17.11
	1933	55.5	15.2	.349	19.37	5.30	16.3	.346	5.64
Shearmen.....	1931	53.5	31.5	.594	31.78	18.71	33.7	.582	19.59
	1933	54.3	16.0	.412	22.37	6.60	17.1	.409	7.00
Shearmen's helpers.....	1931	54.3	26.1	.529	28.72	13.82	28.1	.525	14.76
	1933	54.1	12.3	.348	18.83	4.27	13.0	.346	4.50
Bundlers.....	1931	54.3	30.4	.513	27.86	15.67	32.6	.509	16.60
	1933	53.1	14.5	.347	18.43	5.03	15.4	.349	5.38
Laborers.....	1931	54.2	28.1	.394	21.35	11.06	30.2	.399	12.05
	1933	53.7	14.6	.305	16.38	4.47	15.3	.304	4.67

Sheet mills

Pair heaters.....	1931	43.5	23.8	\$0.870	\$37.85	\$20.75	24.4	\$0.866	\$21.11
	1933	42.4	15.6	.626	26.54	9.77	17.0	.608	10.32
Rollers, hand mills.....	1931	43.5	24.1	1.811	78.78	43.68	24.7	1.790	44.20
	1933	42.3	18.1	1.209	51.14	21.82	19.1	1.174	22.44
Rollers, level handed, hand mills.....	1931	42.8	30.9	.971	41.56	29.97	32.3	.969	31.32
	1933	41.6	18.4	.962	40.02	17.71	22.1	1.053	23.24
Rollers' helpers and finishers, hand mills.....	1931	43.2	25.0	.773	33.39	19.32	25.8	.779	20.07
	1933	42.4	16.2	.583	24.72	9.45	17.6	.576	10.17
Rollers, mechanical mills.....	1933	41.5	25.4	1.016	42.16	25.75	26.4	.998	26.35
Assistant rollers, mechanical mills.....	1933	40.9	25.8	.651	26.63	16.83	29.2	.641	18.72
Spannermen.....	1933	39.6	11.9	.647	25.62	7.66	13.1	.647	8.49
Roughers.....	1931	43.6	23.5	.952	41.51	22.37	24.3	.933	23.18
	1933	40.5	16.0	.744	30.13	11.88	17.7	.723	12.77
Catchers.....	1931	43.5	24.2	.915	39.80	22.18	25.4	.907	23.01
	1933	40.5	15.0	.665	26.93	10.01	16.3	.649	10.60
Matchers.....	1931	43.5	22.9	.772	33.58	17.67	24.0	.770	18.44
	1933	40.7	15.1	.526	21.41	7.92	16.2	.519	8.38
Doublers.....	1931	43.6	22.8	.764	33.31	17.39	24.2	.763	18.48
	1933	41.7	17.1	.516	21.52	8.81	15.1	.513	9.30
Sheet heaters.....	1931	43.5	24.6	1.287	55.98	31.64	25.0	1.279	31.96
	1933	43.4	15.9	.828	35.94	14.02	18.0	.809	14.58
Sheet heaters, level handed.....	1931	43.5	23.3	.822	35.76	19.15	25.0	.830	20.73
	1933	43.4	17.0	.601	26.08	10.23	20.6	.634	13.08
Sheet heaters' helpers.....	1931	43.1	24.7	.758	32.67	18.70	25.5	.765	19.49
	1933	43.3	15.5	.527	22.82	8.17	16.8	.521	8.77
Chargers, pack furnaces (mechanical).....	1933	37.6	19.4	.392	14.74	7.60	20.5	.393	8.05
Shearmen.....	1931	43.5	26.3	1.052	45.76	27.61	27.5	1.032	28.39
	1933	41.9	20.8	.702	29.41	14.57	21.6	.692	14.93
Shearmen's helpers.....	1931	43.7	25.6	.627	27.40	16.07	26.9	.629	16.88
	1933	41.9	20.1	.429	17.98	8.63	21.2	.433	9.16
Openers.....	1931	43.8	20.0	.659	28.86	13.20	20.8	.658	13.69
	1933	38.4	16.2	.442	16.97	7.17	16.8	.443	7.47
Openers, level handed.....	1931	43.3	23.2	.544	23.56	12.61	25.8	.548	14.13
	1933	43.5	21.1	.418	18.18	8.84	21.9	.417	9.13
Picklers.....	1931	50.6	31.9	.712	36.03	22.71	33.5	.701	23.50
	1933	48.4	30.5	.384	18.59	11.69	33.2	.387	12.83
Feeders.....	1931	46.4	34.8	.750	34.80	26.13	36.6	.739	27.06
	1933	48.6	24.1	.410	19.93	9.90	26.3	.407	10.71
Cold-roll rollers.....	1931	53.3	33.8	.759	40.45	25.62	35.7	.747	26.65
	1933	51.3	29.3	.463	23.75	13.58	31.7	.457	14.47
Cold-roll catchers.....	1931	53.0	31.1	.663	35.14	20.60	33.0	.659	21.76
	1933	51.5	25.8	.399	20.55	10.31	28.6	.397	11.35
Laborers.....	1931	57.7	31.0	.428	24.70	13.25	33.3	.437	14.53
	1933	54.2	23.8	.330	17.89	7.87	26.2	.339	8.89

TABLE 3.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN 10 DEPARTMENTS OF THE IRON AND STEEL INDUSTRY, 1931 AND 1933, BY OCCUPATION—Contd.

Tin-plate mills

Primary occupation	Year	Primary occupation only					All occupations (including primary)		
		Average full-time hours per week	Average hours actually worked in 1 week	Average earnings per week	Average full-time earnings per week	Average actual earnings per week	Average hours worked in 1 week	Average earnings per hour	Average actual earnings in 1 week
Heaters.....	1931	42.7	32.3	\$1.102	\$47.06	\$35.63	36.0	\$1.064	\$38.34
	1933	42.6	27.1	.771	32.84	20.88	30.3	.738	22.36
Heaters, level handed.....	1931	42.7	35.4	.942	40.22	33.37	36.6	.936	34.25
	1933	42.6	30.9	.721	30.71	22.25	34.5	.698	24.06
Heaters' helpers.....	1931	42.7	32.7	.798	34.07	26.10	35.2	.788	27.74
	1933	42.6	26.0	.657	23.73	14.49	29.4	.542	15.95
Pair heaters.....	1931	42.7	34.4	.744	31.77	25.59	37.1	.721	26.76
	1933	42.6	28.3	.533	22.71	15.09	31.9	.504	16.09
Rollers.....	1931	42.7	34.4	1.737	74.17	59.71	36.5	1.639	61.63
	1933	42.6	28.6	1.250	53.25	35.78	31.0	1.205	37.36
Rollers, level handed.....	1931	42.7	28.6	.930	39.71	26.19	35.8	1.033	38.96
	1933	42.7	26.7	.679	28.99	18.15	30.8	.744	22.83
Roughers.....	1931	42.7	32.4	.989	42.23	31.99	36.7	.956	35.05
	1933	42.6	28.8	.709	30.20	20.41	32.1	.680	21.80
Catchers.....	1931	42.7	31.6	.902	38.52	28.52	35.8	.854	30.62
	1933	42.6	27.0	.654	27.86	17.63	30.7	.615	18.92
Screw boys.....	1931	42.7	31.0	.682	29.12	21.16	34.1	.650	22.47
	1933	42.6	27.1	.489	20.83	13.23	30.0	.470	14.10
Single boys.....	1931	42.7	33.8	.737	31.47	24.86	38.3	.698	26.76
	1933	42.6	27.0	.531	22.62	14.36	30.8	.502	15.46
Doublers, hand.....	1931	42.7	23.4	.883	37.70	20.70	24.3	.871	21.13
	1933	42.6	30.2	.776	33.06	23.40	32.6	.758	24.69
Doublers, mechanical.....	1931	42.7	34.7	.749	31.98	25.99	38.2	.717	27.42
	1933	42.6	27.2	.544	23.17	14.79	30.3	.518	15.68
Doublers, level handed, hand.....	1931	42.7	16.4	.760	32.45	12.44	16.6	.756	12.52
	1933	42.7	37.8	.684	29.21	25.32	39.1	.677	26.45
Doublers' helpers, hand.....	1931	42.7	38.9	.622	26.56	24.20	40.3	.624	25.14
	1933	42.7	35.4	.507	21.65	17.98	36.4	.503	18.29
Shearmen.....	1931	43.6	32.1	.983	42.86	31.55	32.9	.974	32.01
	1933	43.6	28.8	.528	23.02	15.20	28.8	.528	15.20
Shearmen's helpers.....	1931	46.1	34.3	.551	25.40	18.90	35.7	.558	19.92
	1933	45.8	25.8	.430	19.69	11.10	25.8	.430	11.10
Openers.....	1931	47.5	36.0	.748	35.53	26.94	37.5	.737	27.59
	1933	51.7	21.0	.516	26.68	10.82	22.1	.509	11.25
Tinners, hand.....	1931	42.7	33.9	.899	38.39	30.50	34.3	.899	30.84
	1933	43.8	34.1	.654	28.65	22.81	34.8	.648	22.56
Tinners, machine.....	1931	42.7	31.9	.834	35.61	26.67	33.3	.821	27.34
	1933	42.9	29.5	.587	25.18	17.32	30.8	.578	17.81
Branners.....	1931	44.7	35.7	.677	25.79	20.58	37.3	.676	21.51
	1933	45.3	36.6	.415	18.80	15.21	38.2	.415	15.85
Assorters, female.....	1931	45.5	38.1	.380	17.29	14.47	38.1	.380	14.49
	1933	45.2	38.9	.295	13.33	11.46	39.0	.295	11.50
Laborers.....	1931	55.4	40.2	.419	23.21	16.82	42.9	.425	18.25
	1933	55.4	34.0	.332	18.39	11.29	35.1	.335	11.73

Leather Industry—Hours and Earnings, 1932

THE Bureau of Labor Statistics made a study of hours of labor and earnings of workers in the leather industry in the United States in 1932. The study was limited to tanneries engaged primarily in the manufacture of one or more of such leathers as sole, belting, side upper, kid, patent, or upholstery leather, made from cattle hides and calf, sheep, and goat skins.

Data were collected from 114 representative tanneries in 15 States and covered 21,399 wage earners, or approximately 43 percent of the total number of wage earners engaged in the manufacture of all kinds of leather in the United States, as shown by the 1929 Census of Manufactures. Except for a few tanneries the wage figures were collected for a pay period in March, April, or May. More detailed data were published in Bulletin No. 589 of the Bureau.

Table 1 shows average hours and earnings in 1932 for the industry as a whole and for the wage earners in each of the important occupations in the hide house, beam house, tan house, finishing, sorting, shipping, and maintenance departments, and also for a group of "other employees" in each department.

Hides are received at tanneries in various conditions, known in the industry as "market", i. e., tanned without previous cure; "green salted", preserved by piling down in salt; "dry salted", salted and then allowed to dry; and "flint hides", dried without previous salting. The hides are classified according to weight (as heavy, medium, or light) and are graded by sorters and counters according to number and size of scores and cuts made in skinning or dressing animals, holes made by grubs, etc.

Wage earners in the finishing department represented about 65 percent of those covered by the study. They are divided into three groups—those working on patent leather, those working on sole and belting, and those working on other kinds of leather.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE LEATHER INDUSTRY, 1932, BY DEPARTMENT, OCCUPATION, AND SEX

Department, occupation, and sex	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
All departments, all occupations:						
Males.....	50.4	42.1	83.5	\$0.493	\$24.85	\$20.78
Females.....	50.0	40.9	81.8	.308	15.15	12.41
Males and females.....	50.4	42.0	83.3	.471	23.74	19.74
<i>Hide house</i>						
Sorters and counters, male.....	50.0	43.8	87.6	.473	23.65	20.70
Laborers and truckers, male.....	50.1	44.1	88.0	.410	20.54	18.07
Other hide house employees, male.....	50.2	46.3	92.2	.597	29.97	27.63
<i>Beam house</i>						
Haulers, male.....	50.9	42.8	84.1	.461	23.46	19.72
Spitting-machine operators, male.....	49.7	42.0	84.5	.597	29.67	25.09
Unshairing-machine operators, male.....	51.1	43.0	84.1	.490	25.04	21.07
Fleshing-machine operators, male.....	50.8	42.5	83.7	.492	24.99	20.90
Beamsters or scudders, hand, male.....	51.0	39.5	77.5	.492	25.09	19.46
Beamsters or scudders, machine, male.....	50.5	40.1	79.4	.534	26.97	21.40
Trimmers, male.....	50.6	42.1	83.2	.449	22.72	18.90
Machine helpers, male.....	49.6	41.3	83.3	.431	21.33	17.81
Laborers and truckers, male.....	50.8	42.4	83.5	.424	21.54	17.98
Other beam-house employees, male.....	50.2	47.2	94.0	.564	28.31	26.59
<i>Tan house</i>						
Liquor men.....	50.7	45.9	90.5	.462	23.42	21.24
Haulers, male.....	50.8	40.7	80.1	.436	22.15	17.76
Laborers and truckers, male.....	51.4	39.5	76.8	.382	19.63	15.11
Laborers and truckers, female.....	52.5	49.5	94.3	.326	17.12	16.13
Other tan house employees, male.....	50.6	44.5	87.9	.577	29.20	25.68
<i>Finishing department</i>						
Sole and belting:						
Bleachers, male.....	52.7	39.5	75.0	.398	20.97	15.71
Extractors, temperers, and oilers, male.....	52.5	39.9	76.0	.419	22.00	16.73
Wringing and setting-out machine operators, male.....	51.5	38.8	75.3	.432	22.25	16.73
Dry-loft men.....	52.0	39.2	75.4	.391	20.33	15.31
Spongers and stuffers, male.....	51.3	39.2	76.4	.390	20.01	15.28
Rolling-machine operators, male.....	51.3	40.8	79.5	.474	24.32	19.37
Patent leather:						
Buffing-wheel operators, male.....	49.8	31.8	63.9	.638	31.77	20.31
Togglers and tackers, male.....	49.1	35.4	72.1	.572	28.09	20.23
Oil and dope mixers, male.....	49.1	43.3	88.2	.526	25.83	22.78
Daubers, male.....	47.2	40.9	86.7	.653	30.82	26.74
Daubers, female.....	50.5	49.9	98.8	.273	13.79	13.60
Pumicers, male.....	47.7	43.8	91.8	.663	31.63	29.06
Pumicers, female.....	48.0	49.5	103.1	.258	12.38	12.78
Trimmers, male.....	49.7	41.5	83.5	.490	24.35	20.32

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE LEATHER INDUSTRY, 1932, BY DEPARTMENT, OCCUPATION, AND SEX—Continued

Department, occupation, and sex	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>Finishing department—Continued</i>						
Other than sole or patent leather:						
Setters-out, machine, male.....	50.2	41.3	82.3	\$0.449	\$22.54	\$18.55
Setters-out, machine, female.....	50.6	33.4	66.0	.232	11.74	7.75
Setters-out, hand, male.....	50.4	38.5	76.4	.456	22.98	17.56
Driers, male.....	50.4	44.1	87.5	.378	19.05	16.67
Driers, female.....	49.4	43.2	87.4	.268	13.14	11.47
Splitting-machine operators, male.....	51.0	39.6	77.6	.669	34.12	26.51
Sorters, blue and crust, male.....	50.2	45.7	91.0	.508	25.50	23.23
Sorters, blue and crust, female.....	49.7	48.3	97.2	.248	12.33	11.96
Shaving-machine operators, male.....	50.0	38.9	77.8	.623	31.15	24.20
Color, fat liquor, and seasoning mixers, male.....	50.2	49.5	98.6	.495	24.85	24.47
Colorers and fat liquorers, male.....	49.7	43.2	86.9	.474	23.56	20.48
Colorers and fat liquorers, female.....	49.6	38.7	78.0	.327	16.22	12.65
Oiling-off machine operators, male.....	50.4	41.0	81.3	.419	21.12	17.16
Oiling-off machine operators, female.....	49.8	36.3	72.9	.288	14.34	10.44
Dampeners or sawdusters, male.....	50.6	45.4	89.7	.372	18.82	16.88
Dampeners or sawdusters, female.....	49.3	44.4	90.1	.257	12.67	11.40
Stakers, machine, male.....	49.8	41.4	83.1	.560	27.89	23.14
Stakers, machine, female.....	48.5	36.4	75.1	.305	14.79	11.09
Stakers, hand, male.....	49.1	36.3	73.9	.606	29.75	22.01
Tackers, togglers, and pasters, male.....	49.9	38.2	76.6	.551	27.49	21.05
Tackers, togglers, and pasters, female.....	48.1	34.1	70.9	.341	16.40	11.62
Rolling-machine operators, male.....	49.2	37.6	76.4	.442	21.75	16.61
Rolling-machine operators, female.....	49.0	41.4	84.5	.322	15.78	13.34
Buffing-wheel operators, male.....	50.4	41.3	81.9	.473	27.37	22.43
Buffing-wheel operators, female.....	50.7	42.7	84.2	.235	11.91	10.04
Brushing-machine operators, male.....	50.3	44.2	87.9	.381	19.16	16.84
Brushing-machine operators, female.....	49.1	41.9	85.3	.272	13.36	11.39
Trimmers, male.....	49.5	39.8	80.4	.443	21.93	17.61
Trimmers, female.....	50.1	40.1	80.0	.290	14.53	11.61
Finishers or seasoners, machine, male.....	49.8	43.9	88.2	.421	20.97	18.46
Finishers or seasoners, machine, female.....	49.4	40.8	82.6	.291	14.38	11.89
Finishers or seasoners, hand, male.....	50.3	43.0	85.5	.500	25.15	21.51
Finishers or seasoners, hand, female.....	50.2	42.8	85.3	.306	15.36	13.09
Glazing-machine operators, male.....	49.7	40.4	81.3	.603	29.97	24.39
Glazing-machine operators, female.....	50.6	38.1	75.3	.372	18.82	14.16
Boards or grainers, hand, male.....	50.7	39.5	77.9	.517	26.21	20.41
Boards or grainers, hand, female.....	50.0	50.0	100.0	.311	15.54	15.54
Boards or grainers, machine, male.....	48.3	42.0	87.0	.530	25.60	22.27
Embossing or plating-press operators, male.....	50.2	43.6	86.9	.496	24.90	21.63
Embossing or plating-press operators, female.....	49.4	40.2	81.4	.275	13.59	11.05
Ironers, hand or machine, male.....	49.3	40.5	82.2	.465	22.92	18.81
Ironers, hand or machine, female.....	49.8	42.3	84.9	.286	14.24	12.12
Machine helpers, male.....	50.9	41.2	80.9	.421	21.43	17.35
Machine helpers, female.....	50.0	40.9	81.8	.261	13.05	10.65
All leather:						
Laborers and truckers, male.....	50.6	43.9	86.8	.378	19.13	16.63
Laborers and truckers, female.....	50.9	45.5	89.4	.279	14.20	12.69
Other finishing-department employees, male.....	50.6	43.8	86.6	.541	27.37	23.68
Other finishing-department employees, female.....	50.4	39.2	77.8	.287	14.46	11.25
<i>Sorting and shipping department</i>						
Measuring-machine operators, male.....	50.0	44.5	89.0	.440	22.00	19.58
Measuring-machine operators, female.....	49.6	41.9	84.5	.301	14.93	12.63
Measuring-machine operators' helpers, male.....	48.7	44.3	91.0	.351	17.09	15.53
Measuring-machine operators' helpers, female.....	49.8	44.1	88.6	.274	13.65	12.10
Sorters, male.....	49.9	44.6	89.4	.577	28.79	25.73
Sorters, female.....	49.9	45.4	91.0	.305	15.22	13.84
Packers and shippers, male.....	50.4	44.8	88.9	.427	21.52	19.12
Packers and shippers, female.....	49.7	44.3	89.1	.284	14.11	12.60
Laborers and truckers, male.....	50.3	42.0	83.5	.382	19.21	16.03
Laborers and truckers, female.....	50.0	36.2	72.4	.390	19.50	14.11
Other sorting and shipping department employees, male.....	50.2	47.0	93.6	.556	27.91	26.15
Other sorting and shipping department employees, female.....	49.4	41.8	84.6	.323	15.96	13.51
<i>Maintenance department</i>						
Machine fixers, male.....	52.3	46.7	89.3	.576	30.12	26.93
Laborers and truckers, male.....	51.4	42.0	81.7	.357	18.35	14.98
Other maintenance-department employees, male.....	50.6	47.2	93.3	.525	26.57	24.78

Table 2 shows, for males and females separately and for both sexes combined, in each State or group of States in 1932, average hours and earnings and the percent of full time actually worked in 1 week.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE LEATHER INDUSTRY, 1932, BY SEX AND STATE

Sex and State	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full-time			
<i>Males</i>						
Delaware.....	50.4	39.7	78.8	\$0.467	\$23.54	\$18.57
Illinois and Missouri ¹	49.9	40.2	80.6	.499	24.90	20.07
Kentucky and Tennessee ¹	49.6	41.4	83.5	.382	18.95	15.80
Massachusetts and New Hampshire ¹	48.6	43.0	88.5	.553	26.38	23.77
Michigan.....	54.0	45.1	83.5	.369	19.93	16.65
New Jersey.....	50.5	44.5	88.1	.559	28.23	24.88
New York.....	49.8	42.5	85.3	.533	26.54	22.65
North Carolina.....	54.1	29.0	53.6	.309	16.72	8.97
Ohio.....	50.8	45.0	88.6	.501	25.45	22.52
Pennsylvania.....	51.0	44.9	88.0	.478	24.38	21.45
West Virginia.....	50.9	33.1	65.0	.372	18.93	12.29
Wisconsin.....	52.1	39.9	76.6	.425	22.14	16.96
Total males.....	50.4	42.1	83.5	.493	24.85	20.78
<i>Females</i>						
Delaware.....	51.1	39.9	78.1	.280	14.31	11.19
Illinois and Missouri ¹	49.3	37.5	76.1	.278	13.71	10.42
Massachusetts and New Hampshire ¹	48.0	41.6	86.7	.319	15.31	13.28
Michigan.....	54.0	43.8	81.1	.250	13.50	10.92
New Jersey.....	51.7	43.7	84.5	.330	17.06	14.41
New York.....	48.0	44.1	91.9	.342	16.42	15.08
Ohio.....	50.0	45.9	91.8	.305	15.25	14.01
Pennsylvania.....	49.9	41.1	82.4	.342	17.07	14.06
Wisconsin.....	50.8	41.1	80.9	.289	14.68	11.88
Total females.....	50.0	40.9	81.8	.303	15.15	12.41
<i>Males and females</i>						
Delaware.....	50.7	39.8	78.5	.401	20.33	15.94
Illinois and Missouri ¹	49.8	39.7	79.7	.464	23.11	18.45
Kentucky and Tennessee ¹	49.6	41.4	83.5	.382	18.95	15.80
Massachusetts and New Hampshire ¹	48.6	42.8	88.1	.523	25.42	22.38
Michigan.....	54.0	45.0	83.3	.359	19.39	16.16
New Jersey.....	50.7	44.4	87.6	.524	26.57	23.25
New York.....	49.8	42.5	85.3	.529	26.34	22.48
North Carolina.....	54.1	29.0	53.6	.309	16.72	8.97
Ohio.....	50.7	45.1	89.0	.477	24.18	21.51
Pennsylvania.....	50.9	44.6	87.6	.468	23.82	20.89
West Virginia.....	50.9	33.1	65.0	.372	18.93	12.29
Wisconsin.....	51.9	40.0	77.1	.411	21.33	16.45
Total males and females.....	50.4	42.0	83.3	.471	23.74	19.74

¹ Shown together to avoid presenting data for 1 tannery in any State.

Men's Clothing Industry—Hours and Earnings, 1932

THIS article presents the results of a study of wages and hours of labor in the men's clothing industry in the United States, made by the Bureau of Labor Statistics in 1932, and also comparative figures for the years from 1911 to 1932 in which studies were made by the Bureau. The 1932 data are published in greater detail in Bulletin No. 594 of the Bureau.

The 1932 data cover a representative weekly pay-roll period in one of the months from July to November, and were obtained from 243 representative establishments in 12 large cities and in two groups of small cities, one group in northeastern New Jersey outside Newark and the other in eastern Pennsylvania outside Philadelphia. The 33,051 wage earners covered represent 22.1 percent of the total number in the industry in the United States in 1929.

A summary of the 1932 average hours and earnings, with index numbers thereof, is shown in table 1 in comparison with like figures for specified years from 1911 to 1930.

TABLE 1.—AVERAGE HOURS AND EARNINGS, IN THE MEN'S CLOTHING INDUSTRY AND INDEX NUMBERS THEREOF, 1911 TO 1932, BY YEAR

Year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1913=100)		
		Average number	Percent of full-time				Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations, males and females:									
1911.....	54.4	(1)	(1)	\$0.229	\$12.30	(1)	104.6	86.7	90.2
1912.....	54.7	(1)	(1)	.231	12.49	(1)	105.2	87.5	91.6
1913.....	52.0	(1)	(1)	.264	13.63	(1)	100.0	100.0	100.0
1914 ²	51.6	(1)	(1)	.263	13.47	(1)	99.2	99.6	98.8
All occupations, males and females:									
1914 ²	51.3	(1)	(1)	.256	13.06	(1)	-----	-----	-----
1919.....	47.9	(1)	(1)	.446	21.08	(1)	92.7	173.5	159.5
1922.....	44.1	(1)	(1)	.728	31.91	(1)	85.3	283.2	241.4
1924.....	44.1	(1)	(1)	.760	33.52	(1)	85.3	295.7	253.6
1926.....	44.3	(1)	(1)	.750	33.23	(1)	85.7	291.8	251.4
1928.....	44.0	40.6	92.0	.731	32.16	\$29.64	85.1	284.4	243.2
1930.....	44.3	37.8	85.3	.701	31.05	26.48	85.7	272.7	234.8
1932.....	44.4	37.3	84.0	.506	22.47	18.87	85.8	196.9	170.0

¹ No data available.

² 2 sets of averages are shown for 1914 for the industry, 1 for selected occupations and the other for all occupations in the industry. The averages for 1911 to 1914 for selected occupations are comparable one year with another, as are those for all occupations one year with another from 1914 to 1932.

Average hours and earnings and the percent of full time worked in 1 week for each occupation and for all occupations combined are shown in table 2 for 1930 and 1932.

TABLE 2.—AVERAGE HOURS AND EARNINGS AND PERCENT OF FULL TIME WORKED IN 1 WEEK IN THE MEN'S CLOTHING INDUSTRY, 1930 AND 1932, BY OCCUPATION AND SEX

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All occupations:												
Males.....	44.3	44.3	39.4	38.6	38.9	87.1	\$0.835	\$0.641	\$39.21	\$28.40	\$34.84	\$24.75
Females.....	44.2	44.5	36.2	36.0	31.9	80.9	.504	.361	22.28	16.06	18.24	13.01
Males and females..	44.3	44.4	37.8	37.3	35.3	84.0	.701	.566	31.05	22.47	26.48	19.87
Basters, coat, male.....	44.3	44.2	39.8	39.1	39.8	88.5	.834	.561	36.95	24.80	33.20	21.95
Basters, coat, female.....	44.5	44.5	38.7	37.7	37.0	84.7	.522	.357	23.23	15.89	20.21	13.48
Basters, pants, female.....	44.1	44.5	27.7	22.4	62.8	50.3	.590	.322	26.02	14.33	16.34	7.20
Basters, vest, female.....	43.9	44.0	34.8	33.3	79.3	75.7	.621	.425	27.26	18.70	21.61	14.15
Total basters, female.....	44.4	44.5	37.8	36.9	35.1	82.9	.534	.362	23.71	16.11	20.19	13.35
Busblers and tailors, male.....	44.2	44.3	40.6	37.8	91.9	85.3	.824	.627	36.42	27.78	33.50	23.70
Busblers and tailors, female.....	44.8	44.3	42.5	37.3	94.9	84.2	.553	.454	25.00	20.11	23.73	16.94
Cutters, cloth, hand and machine, male.....	44.0	44.2	38.5	36.3	37.5	82.1	1.139	.920	50.12	40.66	43.88	33.45
Cutters, lining and trimming, male.....	(1)	44.2	(1)	38.7	(1)	87.6	(1)	.779	(1)	34.43	(1)	30.19
Examiners, garments (shop and stockroom), male.....	44.4	44.5	42.2	42.0	95.0	94.4	.795	.646	35.30	28.75	33.60	27.17
Examiners, garments (shop and stockroom), female.....	44.0	44.5	39.7	40.1	90.2	90.1	.397	.333	17.47	14.82	15.78	13.37
Fitters or trimmers, coat, male.....	44.4	44.2	40.5	39.5	91.2	89.4	.988	.808	43.87	35.71	40.01	31.95
Fitters or trimmers, coat, female.....	43.4	44.2	34.1	35.9	78.6	81.2	.407	.365	17.66	16.13	13.87	13.12
Hand sewers, coat, male.....	44.1	44.1	39.4	42.7	89.3	96.8	.888	.591	39.16	26.06	34.95	25.22
Hand sewers, coat, female.....	44.2	44.4	37.6	37.1	85.1	83.6	.496	.345	21.92	15.32	18.63	12.80
Hand sewers, pants, female.....	44.4	44.4	33.2	31.0	74.8	69.8	.452	.300	20.07	13.32	15.00	9.29
Hand sewers, vest, female.....	44.2	44.5	35.8	35.2	81.0	79.1	.494	.337	21.83	15.00	17.67	11.85
Total hand sewers, female.....	44.2	44.4	36.7	36.2	83.0	81.5	.490	.340	21.66	15.10	17.97	12.32
Operators, coat, male.....	44.3	44.2	40.3	40.4	91.0	91.4	.958	.687	42.44	30.37	38.61	27.73
Operators, coat, female.....	43.8	44.5	35.2	37.3	80.4	83.8	.570	.407	24.97	18.11	20.06	15.18
Operators, pants, male.....	44.4	44.2	38.4	39.2	86.5	88.7	.859	.594	38.14	26.25	32.99	23.28
Operators, pants, female.....	44.7	44.9	34.3	32.6	76.7	72.6	.529	.396	23.65	17.78	18.16	12.88
Operators, vest, male.....	44.1	44.4	36.5	37.3	82.8	84.0	.965	.691	42.56	30.68	35.21	25.78
Operators, vest, female.....	43.8	44.6	33.9	33.7	77.4	75.6	.585	.396	25.62	17.66	19.81	13.35
Total operators, male.....	44.3	44.2	39.3	39.7	88.7	89.8	.930	.662	41.20	29.26	36.55	26.27
Total operators, female.....	44.1	44.7	34.6	35.0	78.5	78.3	.568	.401	24.61	17.92	19.31	14.03
Pressers, coat, male.....	44.2	44.3	39.1	37.8	88.5	85.3	.867	.608	38.32	26.93	33.93	22.07
Pressers, coat, female.....	44.1	44.1	40.4	43.3	91.6	98.2	.486	.325	21.43	14.33	19.64	14.08
Pressers, pants, male.....	44.7	44.6	36.2	34.9	81.0	78.3	.805	.554	35.98	24.71	29.17	19.30
Pressers, pants, female.....	44.0	44.0	35.9	38.8	81.6	88.2	.534	.436	23.50	19.18	19.17	16.94
Pressers, vest, male.....	44.1	44.6	36.5	34.4	82.8	77.1	.889	.585	39.20	26.09	32.46	20.13
Pressers, vest, female.....	44.0	44.0	35.6	37.1	80.9	84.3	.522	.390	22.97	17.16	18.61	14.47
Total pressers, male.....	44.3	44.4	38.4	37.0	86.7	83.3	.859	.598	38.05	26.55	33.00	22.13
Total pressers, female.....	44.0	44.0	38.4	40.7	87.3	92.5	.503	.362	22.13	15.93	19.28	14.75
Shapers, coat, male.....	44.0	44.2	38.4	39.1	87.3	88.5	1.012	.684	44.53	30.23	38.88	26.70
Shapers, coat, female.....	44.6	44.4	37.4	44.9	83.9	101.1	.455	.314	20.29	13.94	17.03	14.10
Other employees, male.....	44.5	44.5	41.1	39.9	92.4	89.7	.715	.513	31.82	22.83	29.35	20.50
Other employees, female.....	44.4	44.6	37.3	37.0	84.0	83.0	.408	.300	18.12	13.38	15.18	11.12

¹Included with "Other employees" in 1930.

Table 3 shows, for males and females separately and for both sexes combined, in each city or district in 1930 and 1932, average hours and earnings and the percent of full time worked.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE MEN'S CLOTHING INDUSTRY, 1930 AND 1932, BY SEX AND CITY OR DISTRICT

Sex and city or district	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
<i>Males</i>												
Baltimore.....	44.3	44.0	38.4	37.7	86.7	85.7	\$0.681	\$0.461	\$30.17	\$20.28	\$26.12	\$17.38
Boston.....	44.0	44.0	39.5	39.4	89.8	89.5	.868	.615	38.19	27.10	34.29	24.31
Buffalo.....	44.0	44.3	40.8	40.2	92.7	90.7	.801	.507	35.24	22.40	32.72	20.36
Chicago.....	44.0	44.0	37.1	32.8	84.3	74.5	1.029	.758	45.28	33.35	38.16	24.82
Cincinnati.....	42.1	44.1	25.5	33.7	60.6	76.4	.910	.641	38.31	28.27	23.19	21.61
Cleveland.....	44.0	44.2	35.0	36.1	79.5	81.7	.734	.616	32.30	22.81	25.66	18.63
Milwaukee.....	45.1	45.0	40.6	35.7	90.0	79.3	.761	.615	34.32	23.18	30.93	18.37
Newark.....	44.0	44.2	44.8	41.4	101.8	93.7	.934	.679	41.10	25.59	41.88	23.96
Northeastern New Jersey ¹	46.4	44.5	45.5	43.9	98.1	98.7	.861	.540	30.67	24.03	30.07	23.72
New York.....	44.3	44.2	41.6	43.5	93.9	98.4	.926	.670	41.02	29.61	38.55	29.17
Philadelphia.....	44.2	44.1	41.7	40.4	94.3	91.6	.792	.602	35.01	26.55	33.04	24.34
Eastern Pennsylvania ²	51.8	52.0	50.6	41.0	97.7	78.8	.432	.293	22.38	15.24	21.83	12.03
Rochester.....	44.0	44.0	33.3	24.4	75.7	55.5	.915	.713	40.26	31.37	30.46	17.38
St. Louis.....	44.3	44.3	38.3	42.7	86.5	96.4	.676	.486	29.95	21.53	25.88	20.75
Total males.....	44.3	44.3	39.4	38.6	88.9	87.1	.885	.641	39.21	28.40	34.84	24.75
<i>Females</i>												
Baltimore.....	44.3	44.3	39.7	41.6	89.6	93.9	.362	.248	16.04	10.99	14.38	10.32
Boston.....	44.0	44.1	37.7	38.4	85.7	87.1	.486	.320	21.38	14.11	18.33	12.28
Buffalo.....	44.0	44.1	40.0	37.4	90.9	84.8	.531	.314	23.36	13.85	21.26	11.75
Chicago.....	44.0	44.0	33.7	31.2	76.6	70.9	.736	.631	32.38	23.36	24.79	16.60
Cincinnati.....	39.5	44.0	21.3	30.7	53.9	69.8	.588	.397	23.23	17.47	12.54	12.19
Cleveland.....	44.0	44.0	32.0	36.1	72.7	82.0	.523	.377	23.01	16.59	16.71	13.65
Milwaukee.....	45.2	46.0	37.6	34.1	83.2	74.1	.532	.357	24.05	16.42	19.99	12.20
Newark.....	44.0	44.2	43.4	41.1	98.6	93.0	.521	.343	22.92	15.16	22.61	14.10
Northeastern New Jersey ¹	47.0	44.6	44.5	41.4	94.7	92.8	.345	.302	16.22	13.47	15.36	12.49
New York.....	44.6	44.6	41.0	42.6	91.9	95.5	.485	.356	21.63	15.88	19.36	15.18
Philadelphia.....	44.1	44.0	40.1	39.3	90.9	89.3	.434	.346	19.14	15.22	17.44	13.60
Eastern Pennsylvania ²	50.7	51.6	46.8	37.6	92.3	72.9	.275	.165	13.94	8.51	12.88	6.20
Rochester.....	44.0	44.0	31.3	25.1	71.1	57.0	.580	.431	25.52	18.96	18.13	10.81
St. Louis.....	44.3	44.1	36.2	43.1	81.7	97.7	.419	.303	18.56	13.36	15.17	13.05
Total females.....	44.2	44.5	36.2	36.0	81.9	80.9	.504	.361	22.28	16.06	18.24	13.01
<i>Males and females</i>												
Baltimore.....	44.3	44.2	39.3	40.7	88.7	92.1	.454	.295	20.11	13.04	17.82	11.99
Boston.....	44.0	44.1	38.7	38.9	88.0	88.2	.695	.480	30.58	21.17	28.91	18.67
Buffalo.....	44.0	44.1	40.3	38.3	91.6	86.8	.612	.378	26.93	16.67	24.64	14.49
Chicago.....	44.0	44.0	35.5	32.0	80.7	72.7	.900	.649	39.60	28.66	31.93	20.76
Cincinnati.....	40.4	44.0	22.8	31.8	56.4	72.3	.712	.486	28.76	21.38	18.21	15.44
Cleveland.....	44.0	44.1	32.7	36.1	74.3	81.9	.575	.410	25.30	18.08	18.79	14.82
Milwaukee.....	45.2	45.7	38.6	34.6	85.4	75.7	.607	.406	27.44	18.55	23.41	14.05
Newark.....	44.0	44.2	44.3	41.3	100.7	93.4	.786	.483	34.58	21.57	34.83	20.13
Northeastern New Jersey ¹	46.8	44.6	44.9	42.5	95.9	95.3	.484	.411	22.65	18.33	21.77	17.50
New York.....	44.4	44.3	41.4	43.3	93.2	97.7	.799	.583	35.48	25.83	33.08	25.26
Philadelphia.....	44.1	44.0	41.0	39.9	93.0	90.7	.632	.490	27.87	21.56	25.89	19.58
Eastern Pennsylvania ²	51.0	51.7	48.0	38.8	94.1	75.0	.327	.210	16.68	10.86	15.68	8.14
Rochester.....	44.0	44.0	32.0	24.8	72.7	56.4	.711	.545	31.28	24.02	22.79	13.53
St. Louis.....	44.3	44.1	36.8	43.0	83.1	97.5	.495	.349	21.93	15.39	18.19	15.03
Total males and females.....	44.3	44.4	37.8	37.3	85.3	84.0	.701	.506	31.05	22.47	26.48	18.87

¹ Excluding Newark.

² Excluding Philadelphia.

Metalliferous Mining—Hours and Earnings, 1931

THIS article is a summary of the results of studies by the Bureau of Labor Statistics of wages and hours of labor in the metalliferous-mining industry in the United States in 1924 and 1931. A more detailed report of the 1931 survey was published in Bulletin No. 573 of the Bureau. The 1924 study covered 137 mines and 38,196 wage earners and the 1931 study 139 mines and 32,195 wage earners. The 137 mines covered in the 1924 survey included 117 underground and 20 open-pit mines; the same number of underground mines were studied in 1931, but 2 open-pit mines were added. The basic wage data used in compiling this article were, except for a few mines, for a representative pay period in August, September, or October 1924, and June, July, August, September, or October 1931. The mines studied produced copper, gold, iron, lead, silver, zinc, and minor metals.

Table 1 shows average hours and earnings in 1924 and 1931, in the mixed-ore mines of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, South Dakota, and Utah; the Michigan copper mines; the northern (Michigan and Minnesota) iron mines; the Alabama iron mines; and the Tri-State (Kansas, Missouri, and Oklahoma) lead and zinc mines; and also for all these districts combined. These averages are for males only; females were not employed in any of the mines.

TABLE 1.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN METALLIFEROUS MINES, 1924 AND 1931, BY KIND OF MINE AND DISTRICT OR STATE

Kind of mine and district or State	Average full-time hours per week		Hours actually worked in 1 week		Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week, 1931
	1924	1931	Average number, 1931	Per cent of full time, 1931	1924	1931	1924	1931	
All districts.....	53.0	51.6	41.6	80.6	\$0.559	\$0.559	\$29.63	\$28.84	\$23.25
Western mixed ores:									
Arizona.....	52.4	48.8	43.8	89.8	.595	.679	31.18	33.14	29.76
California.....	51.7	50.2	48.4	96.4	.594	.593	30.71	29.77	28.74
Colorado.....	52.8	51.7	48.4	93.6	.592	.597	31.26	30.86	28.86
Idaho.....	54.4	47.5	44.0	92.6	.693	.581	37.70	27.60	25.59
Montana.....	52.7	48.2	46.0	95.4	.666	.681	35.10	32.82	31.33
Nevada.....	56.5	55.6	49.9	89.7	.636	.625	35.93	34.75	31.18
New Mexico.....	54.2	53.9	50.8	94.2	.459	.459	24.88	24.74	23.35
South Dakota.....	(1)	56.0	46.9	83.8	(1)	.674	(1)	37.74	31.60
Utah.....	56.0	52.5	47.8	91.0	.560	.515	31.36	27.04	24.60
Total.....	53.8	50.7	46.6	91.9	.599	.608	32.23	30.83	28.38
Michigan copper.....	49.6	49.4	33.7	68.2	.498	.443	24.70	21.88	14.94
Northern iron:									
Michigan.....	50.3	50.8	28.3	55.7	.566	.602	28.47	30.58	17.04
Minnesota.....	55.5	56.0	39.6	70.7	.570	.545	31.64	30.52	21.57
Total.....	52.8	54.3	35.9	66.1	.568	.560	29.99	30.41	20.08
Alabama iron.....	60.6	58.4	32.0	54.8	.393	.372	23.82	21.72	11.92
Tri-State lead and zinc.....	48.6	48.2	43.3	89.9	.532	.477	26.83	22.99	20.25

¹ State not included in 1924 survey.

Table 2 shows the average hours and earnings of surface workers, underground workers, and those doing both underground and surface work.

For the underground mines data are shown for 22 important occupations in underground work; 11 occupations in surface work; and 12 other occupations the workers in which worked underground in some mines, on the surface in other mines, and in still other mines spent part of their working time underground and part on the surface. For the open-pit mines data are shown for each of 28 occupations.

TABLE 2.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN METALLIFEROUS MINING, 1924 AND 1931, BY KIND OF WORK AND OCCUPATION

Kind of work and occupation	Average full-time hours per week		Hours actually worked in 1 week		Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week, 1931
	1924	1931	Average number, 1931	Per cent of full time, 1931	1924	1931	1924	1931	
All employees.....	53.0	51.6	41.6	80.6	\$0.559	\$0.559	\$29.63	\$28.84	\$23.25
<i>Underground mines</i>									
Underground work:									
Cagers.....	51.6	50.1	45.7	91.2	.627	.570	32.35	28.56	26.05
Chute loaders.....	49.1	50.5	38.5	76.2	.538	.563	26.42	28.43	21.69
Drilling-machine operators, company.....	51.4	49.5	44.5	89.9	.594	.646	30.53	31.98	28.76
Drilling-machine operators, contract.....	48.6	49.1	34.2	69.7	.729	.694	35.43	34.08	23.75
Drilling-machine operators' helpers.....	52.1	51.2	34.4	67.2	.447	.403	23.29	20.63	13.87
Drivers, mule.....	51.5	48.4	43.7	90.3	.474	.500	24.41	24.20	21.89
Hoistmen.....	53.7	51.0	43.3	84.9	.593	.538	31.84	27.44	23.29
Loading-machine operators.....	51.4	50.6	40.4	79.8	.588	.616	30.22	31.17	24.87
Motormen.....	50.9	49.6	40.2	81.0	.575	.574	29.27	28.47	23.06
Muckers.....	52.7	50.2	40.6	80.9	.554	.505	29.20	25.35	20.51
Nippers.....	51.9	48.8	43.1	88.3	.496	.537	25.74	26.21	23.14
Powdermen.....	52.1	50.1	42.4	84.6	.573	.510	29.85	25.55	21.65
Pumpmen.....	56.5	52.8	46.8	88.6	.526	.530	29.72	27.98	24.79
Roof trimmers.....	52.3	48.2	37.8	78.4	.553	.470	28.92	22.65	17.78
Skipppers.....	50.8	49.3	41.1	82.5	.572	.563	29.06	28.04	23.15
Stationmen.....	51.1	52.5	37.5	71.4	.569	.566	29.08	29.72	21.25
Timbermen.....	51.5	48.7	37.6	77.2	.604	.602	31.11	29.32	22.64
Timbermen's helpers.....	52.8	50.6	39.8	78.7	.551	.512	29.09	25.91	20.34
Trackmen.....	49.4	49.1	40.5	82.5	.542	.529	26.77	25.97	21.42
Trackmen's helpers.....	55.3	56.5	30.9	54.7	.420	.410	23.23	23.17	12.69
Trammers.....	50.9	48.9	45.7	93.5	.550	.524	28.00	25.62	23.96
Trip riders.....	50.8	49.9	39.7	79.6	.517	.537	26.26	26.80	21.30
Surface work:									
Drivers.....	57.3	57.2	39.5	69.1	.406	.369	23.26	21.11	14.56
Dryhousemen.....	58.9	55.2	44.1	79.9	.410	.404	24.15	22.30	17.83
Dumpers.....	55.5	55.3	34.2	61.8	.508	.458	28.19	25.33	15.65
Engineers, stationary.....	57.5	53.2	43.6	82.0	.515	.579	29.61	30.80	25.23
Firemen, stationary.....	60.5	50.6	38.1	75.3	.455	.441	27.53	22.31	16.82
Hoistmen.....	56.4	53.4	48.3	90.4	.560	.586	31.53	31.29	28.28
Timber framers.....	55.6	54.4	40.3	74.1	.536	.532	29.80	28.94	21.45
Tool dressers.....	53.8	51.8	41.7	80.5	.584	.553	31.42	28.65	23.08
Topmen.....	55.3	54.9	40.2	73.2	.428	.400	23.67	21.96	16.09
Truck operators.....	55.1	54.5	46.1	84.6	.514	.484	28.32	26.38	22.30
Watchmen.....	64.8	58.2	50.8	87.3	.452	.464	29.29	27.00	23.60
Surface and underground work:									
Blacksmiths.....	54.4	53.8	43.1	80.1	.593	.563	32.26	30.29	24.26
Blacksmiths' helpers.....	54.5	53.3	41.7	78.2	.462	.463	25.18	24.68	19.30
Carpenters.....	54.9	54.2	41.7	76.9	.571	.557	31.35	30.19	23.19
Carpenters' helpers.....	56.4	56.6	31.2	55.1	.426	.430	24.03	24.34	13.42
Compressormen.....	59.9	52.9	44.5	84.1	.556	.527	33.30	27.88	23.46
Electricians.....	54.7	53.1	45.2	85.1	.622	.629	34.02	33.40	28.44
Electricians' helpers.....	53.5	53.8	43.4	80.7	.521	.512	27.87	27.55	22.18
Machinists.....	54.2	52.4	45.4	86.6	.600	.604	32.52	31.65	27.42
Machinists' helpers.....	54.1	53.5	44.4	83.0	.479	.493	25.91	26.38	21.91
Oilers.....	54.7	52.6	40.8	77.6	.445	.443	24.34	23.30	18.05
Ore sorters.....	52.7	49.2	43.1	87.6	.528	.482	27.83	23.71	20.76
Pipemen.....	52.0	51.7	42.9	83.0	.562	.559	29.22	28.90	23.99
Other employees.....	53.1	51.5	42.8	83.1	.590	.587	31.33	30.23	25.14

TABLE 2.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN METALLIFEROUS MINING, 1924 AND 1931, BY KIND OF WORK AND OCCUPATION—Continued

Kind of work and occupation	Average full-time hours per week		Hours actually worked in 1 week		Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week, 1931
	1924	1931	Average number, 1931	Per cent of full time, 1931	1924	1931	1924	1931	
<i>Open-pit mines</i>									
Blacksmiths.....	57.7	58.5	45.9	78.5	\$0.619	\$0.603	\$35.72	\$35.28	\$27.70
Blacksmiths' helpers.....	57.4	57.1	49.7	87.0	.498	.475	28.59	27.12	23.57
Carpenters.....	58.7	58.5	49.8	85.1	.570	.587	33.46	34.34	29.23
Carpenters' helpers.....	57.8	56.4	50.9	90.2	.470	.547	27.17	30.85	27.87
Drillers, hand.....	(1)	60.0	54.4	90.7	(1)	.464	(1)	27.84	25.26
Drilling-machine operators.....	58.5	58.3	52.2	89.5	.544	.526	31.82	30.67	27.47
Drilling-machine operators' helpers.....	58.0	57.3	47.9	83.6	.508	.507	29.46	29.05	24.26
Dumpers.....	58.2	59.8	47.0	78.6	.385	.400	22.41	23.92	18.81
Electricians.....	(1)	58.2	50.0	85.9	(1)	.641	(1)	37.31	32.06
Laborers.....	58.1	57.4	46.0	80.1	.352	.379	20.45	21.75	17.43
Locomotive engineers.....	58.3	58.7	52.2	88.9	.675	.671	39.35	39.39	35.04
Locomotive firemen.....	58.7	57.8	47.8	82.7	.515	.488	30.23	28.21	23.34
Machinists.....	57.7	58.1	45.7	78.7	.604	.628	34.85	36.49	28.71
Machinists' helpers.....	57.7	57.1	48.9	85.6	.499	.511	28.79	29.18	24.96
Oilers.....	(1)	60.3	48.0	79.6	(1)	.478	(1)	28.82	22.92
Pipemen.....	(1)	57.7	53.5	92.7	(1)	.539	(1)	31.10	28.83
Pitmen.....	58.4	53.7	46.5	79.2	.426	.425	24.88	24.95	19.76
Pumpmen.....	(1)	59.2	52.5	88.7	(1)	.536	(1)	31.73	28.16
Repairmen.....	(1)	57.7	43.7	75.7	(1)	.507	(1)	29.25	22.15
Shot firers.....	59.7	57.8	53.5	92.6	.475	.507	28.36	29.30	27.11
Shovel cranemen.....	58.0	58.1	49.8	85.7	.666	.680	38.63	39.51	33.86
Shovel engineers.....	58.2	59.0	51.2	86.8	.917	.945	53.37	55.76	48.38
Shovel firemen.....	60.2	62.2	46.6	74.9	.504	.464	30.34	28.86	21.63
Switchmen.....	57.6	56.7	47.4	83.6	.446	.452	25.69	25.63	21.46
Trackmen.....	57.9	58.4	45.4	77.7	.393	.397	22.75	23.18	18.05
Trip riders.....	58.2	53.5	48.4	82.7	.510	.509	29.68	29.78	24.64
Truck operators.....	(1)	{57.7	48.6	84.2	(1)	.479	(1)	27.64	23.28
Watchmen.....	63.7	64.3	53.1	82.6	.451	.444	28.73	28.55	23.58
Other employees.....	58.9	58.5	51.1	87.4	.514	.550	30.27	32.18	28.07

¹ Included in "Other employees" in this year.

Motor Bus and Truck Transportation (Intercity) Industries—Hours and Earnings, July 1933

DATA on hours and earnings in the intercity motor-bus and motor-truck transportation industries in July 1933 were obtained in a study by the Bureau of Labor Statistics in cooperation with the Federal Coordinator of Transportation. The information was secured from 223 bus firms operating 957 local offices and branches in 612 cities and towns and employing 9,417 wage earners, and from 312 truck firms operating 664 local offices and branches in 342 cities and towns and employing 7,129 wage earners. The data reflect conditions in the two industries before the N. R. A. went into operation. More detailed data than appears in this article are given in the Monthly Labor Review for June 1934 (p. 1415).

As the number of companies and employees covered in the various States did not in all cases represent the correct proportion of the State's business to that for the entire country, the figures used in obtaining averages for each occupation and for the industry as a whole have been weighted to give each State its correct representation.

Table 1 shows summary wage and hours figures for motor-bus employees by occupation. Information is not shown in the table for porters traveling on the busses, "red-cap" porters at the bus stations,

and a few scattered female employees. The average time en route shown for crew members includes all stops en route of less than 1 hour, as well as any delays on the road due to mechanical trouble or breakdown.

TABLE 1.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN THE INTERCITY MOTOR-BUS TRANSPORTATION INDUSTRY, JULY 1933, BY OCCUPATION

Occupation	Average full-time hours per week	Average number of hours—		Average earnings per hour on duty	Average actual earnings in 1 week
		On duty in 1 week	En route in 1 week		
All crew members, male.....	-----	47.7	41.4	\$0.583	\$27.82
All station and office employees, male.....	53.9	53.6	-----	.506	27.09
All station and office employees, female.....	45.4	45.4	-----	.379	17.20
All maintenance employees, male.....	54.5	54.1	-----	.483	26.13
All employees, male.....	¹ 54.3	50.4	-----	.541	27.25
All employees, female.....	45.4	45.4	-----	.379	17.20
All employees, male and female.....	¹ 53.3	50.1	-----	.533	26.72
Bus crews:					
Drivers, regular, male.....	-----	51.1	44.4	.584	29.82
Drivers, relief, male.....	-----	44.9	38.1	.595	26.67
Drivers, extra, male.....	-----	30.4	26.4	.569	17.34
Bus station and office employees:					
Agents, male.....	55.3	55.2	-----	.515	28.46
Agents, female.....	56.9	56.9	-----	.245	13.96
Baggage-room attendants, male.....	58.6	58.6	-----	.334	19.60
Bookkeepers, male.....	44.1	42.6	-----	.572	24.33
Bookkeepers, female.....	43.4	43.2	-----	.415	17.91
Clerks, male.....	45.9	45.7	-----	.476	21.75
Clerks, female.....	42.6	42.3	-----	.402	16.99
Dispatchers, male.....	58.2	58.1	-----	.519	30.18
Janitors, male.....	51.8	51.6	-----	.264	13.61
Solicitors, male.....	49.7	49.7	-----	.634	31.50
Superintendents, male.....	59.5	59.3	-----	.689	40.87
Ticket sellers, male.....	57.8	57.2	-----	.404	23.13
Ticket sellers, female.....	48.7	48.9	-----	.339	16.55
Other employees, male.....	49.5	49.5	-----	.614	30.39
Other employees, female.....	45.9	45.9	-----	.385	17.67
Bus maintenance employees:					
Auto mechanics, general, male.....	54.5	54.9	-----	.528	28.97
Mechanics, specialized, ² male.....	51.4	50.9	-----	.611	31.06
Body workers and upholsterers, male.....	52.0	51.6	-----	.537	27.73
Car washers and cleaners, male.....	55.4	54.9	-----	.325	17.84
Foremen.....	55.8	55.5	-----	.697	38.67
Greasers and service men.....	58.2	56.8	-----	.340	19.31
Helpers, mechanics', male.....	54.0	51.7	-----	.364	18.83
Painters, male.....	51.7	50.5	-----	.530	26.74
Porters and janitors, male.....	56.2	55.1	-----	.303	16.68
Stock clerks and stock keepers, male.....	52.9	52.4	-----	.468	24.53
Other employees, male.....	57.3	55.4	-----	.462	25.63

¹ Average is for station, office, and maintenance employees, or all except "crew members."

² Includes brakemen, carburetor men, ignition men, battery men, radiator men, blacksmiths, machinists, and welders.

Table 2 shows average hours and earnings in the intercity motor-truck transportation industry. The average time en route shown for crew members includes all time from the beginning to the termination of a run, except scheduled stops or layovers of 1 hour or more. A large number of intercity drivers and helpers also do work other than driving, which accounts for the wide variation between hours on duty and en route.

TABLE 2.—AVERAGE HOURS AND EARNINGS OF EMPLOYEES IN THE INTERCITY MOTOR-TRUCK TRANSPORTATION INDUSTRY IN JULY 1933, BY OCCUPATION

Occupation	Average full-time hours per week	Average number of hours—		Average earnings per hour on duty	Average actual earnings in 1 week
		On duty in 1 week	En route in 1 week		
All crew members, male.....	-----	50.7	1 37.1	\$0.447	\$22.65
All terminal and office employees, male.....	51.8	49.9	-----	.467	23.28
All terminal and office employees, female.....	45.0	44.8	-----	.367	16.48
All maintenance employees, male.....	53.1	53.3	-----	.485	25.84
All employees, male.....	2 52.1	50.7	-----	.457	23.16
All employees, female.....	45.0	44.8	-----	.367	16.48
All employees, male and female.....	2 51.2	50.4	-----	.452	22.78
Truck crews:					
Intercity drivers, regular, male.....	-----	52.3	38.6	.472	24.68
Intercity drivers, extra, male.....	-----	40.9	29.2	.450	18.47
Drivers, local cartage, male.....	-----	51.1	-----	.480	24.56
Drivers, local pick-up-and-delivery, male.....	-----	51.6	-----	.391	20.15
Helpers, drivers', male.....	-----	44.0	3 29.0	.364	16.03
Truck terminal and office employees:					
Agents and cashiers, male.....	53.3	53.3	-----	.545	29.04
Agents and cashiers, female.....	45.8	45.9	-----	.379	17.39
Bookkeepers, male.....	48.6	48.3	-----	.439	21.22
Bookkeepers, female.....	44.2	44.1	-----	.390	17.21
Clerks, male.....	49.2	49.3	-----	.433	21.34
Clerks, female.....	45.0	44.4	-----	.318	14.09
Foremen.....	55.1	55.0	-----	.496	27.29
Freight handlers, male.....	53.1	47.6	-----	.362	17.21
Solicitors, male.....	49.2	49.2	-----	.642	31.63
Other employees, male.....	53.2	52.6	-----	.531	27.94
Other employees, female.....	45.7	45.7	-----	.369	16.88
Truck maintenance employees:					
Auto mechanics, general, male.....	52.5	52.6	-----	.529	27.77
Mechanics, specialized, ⁴ male.....	54.0	56.4	-----	.492	27.71
Car washers and service men.....	52.8	52.6	-----	.360	18.94
Foremen.....	55.6	55.3	-----	.602	36.62
Helpers, mechanics', male.....	52.3	54.5	-----	.360	19.59
Other employees, male.....	54.7	54.0	-----	.408	22.03

¹ Average is for intercity drivers and helpers, or all except those who worked locally.

² Average is for terminal and office, and maintenance employees, or all except "crew members."

³ Average is for intercity helpers, or all except those who worked locally.

⁴ Includes ignition men, blacksmiths, machinists, welders, body workers, upholsterers, and painters.

Motor-Vehicle Industry—Hours and Earnings, 1932

Hours and earnings in 1932 in the motor-vehicle industry in the United States are shown in table 1. The basic data therefor were collected by the Bureau of Labor Statistics and are mainly for a representative pay period in June, July, August, or September. Index numbers, with the 1925 average as the base or 100, are also given in the table.

The 93 establishments covered in the study are in 8 States which, according to the 1929 United States Census of Manufactures, account for approximately 89 percent of the wage earners in the industry, and the study covers 28.8 percent of the wage earners in those States. The data do not include officials, executives, office force, superintendents and nonworking foremen, power-house employees, watchmen and guards, drivers delivering cars to agencies, chauffeurs operating between plant and freight depots, building-construction gangs, nor employees in engineering, drafting, or experimental departments. Pay rolls of more than a week's duration were so taken as to show data for 1 week. More detailed data are given in Bulletin No. 578 of the Bureau.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE MOTOR-VEHICLE INDUSTRY, AND INDEX NUMBERS THEREOF, 1922-32, BY YEAR

Year	Hours actually worked in 1 week			Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1925=100.0)		
	Average full-time hours per week	Average number	Percent of full time				Full-time hours per week	Earnings per hour	Full-time earnings per week
1922.....	50.1	(¹)	(¹)	\$0.657	\$32.92	(¹)	99.6	90.9	90.5
1925.....	50.3	(¹)	(¹)	.723	36.37	(¹)	100.0	100.0	100.0
1928.....	49.4	(¹)	(¹)	.750	37.05	(¹)	98.2	103.7	101.9
1930.....	48.8	34.5	70.7	.724	35.33	25.01	97.0	100.1	97.1
1932.....	48.4	31.9	65.9	.628	30.40	20.00	96.2	86.9	83.6

¹ Data not available.

Table 2 shows, for 1930 and 1932, hours and earnings for the wage earners of each sex found in each of 56 important occupations in the industry, for those in the groups designated as "Other skilled occupations" and "Other employees", and also for the wage earners in all occupations combined. Males only were found in 25 and both sexes in 31 of the important occupations and in the two specified groups of employees.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE MOTOR-VEHICLE INDUSTRY, 1930 AND 1932, BY OCCUPATION AND SEX

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932
All occupations:												
Males.....	48.7	48.3	34.6	31.9	71.0	66.0	\$0.733	\$0.638	\$35.70	\$30.82	\$25.40	\$20.36
Females.....	50.6	50.5	31.8	30.7	62.8	60.8	.436	.361	22.06	18.23	13.86	11.09
Males and females.....	48.8	48.4	34.5	31.9	70.7	65.9	.724	.628	35.33	30.40	25.01	20.00
Apprentices, male.....	46.2	43.5	35.8	36.6	77.5	84.1	.571	.565	26.38	24.58	20.41	20.65
Assemblers, axle, male.....	50.1	49.0	34.5	23.3	68.9	47.6	.717	.602	35.92	29.50	24.75	14.03
Assemblers, axle, female.....	44.1	50.0	24.2	21.7	54.9	43.4	.353	.412	14.69	20.60	8.07	8.92
Assemblers, body frame, male.....	50.0	49.5	33.6	30.8	67.2	62.2	.707	.594	35.35	29.40	23.74	18.29
Assemblers, body frame, female.....	(¹)	53.8	(¹)	22.6	(¹)	42.0	(¹)	.361	(¹)	19.42	(¹)	8.17
Assemblers, chassis and final, male.....	48.0	49.0	32.6	26.9	67.9	54.9	.681	.570	32.69	27.93	22.19	15.31
Assemblers, chassis and final, female.....	49.4	49.1	28.6	20.9	57.9	42.6	.456	.349	22.53	17.14	13.06	7.30
Assemblers, chassis frame, male.....	48.7	48.2	28.1	25.4	57.7	52.7	.708	.574	34.48	27.67	19.94	14.58
Assemblers, motor, male.....	48.8	48.4	31.8	29.3	65.2	60.5	.725	.632	35.38	30.59	23.05	18.50
Assemblers, motor, female.....	50.0	49.2	25.7	23.1	51.4	47.0	.478	.425	23.90	20.91	14.27	9.79
Automatic operators, lathe and screw machine, male.....	47.8	47.5	35.1	31.0	73.4	65.3	.764	.651	36.52	30.92	26.78	20.20
Automatic operators, lathe and screw machine, female.....	44.4	49.1	27.3	10.9	61.5	22.2	.356	.355	15.81	17.43	9.74	3.86
Balancers, male.....	50.4	48.0	33.3	27.9	66.1	58.1	.767	.674	38.66	32.35	25.53	18.78
Bench hands, machine shop, male.....	49.8	48.7	34.7	29.8	69.7	61.2	.686	.661	34.16	32.19	23.85	19.70
Bench hands, machine shop, female.....	49.3	50.0	33.5	13.6	68.0	27.2	.410	.348	20.21	17.40	13.72	4.73

¹ None reported in 1930.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE MOTOR-VEHICLE INDUSTRY, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
Boring - mill operators, male.....	46.3	45.5	31.2	34.4	67.4	75.6	\$0.806	\$0.714	\$37.32	\$32.49	\$25.16	\$24.54
Boring - mill operators, female.....	(1)	44.0	(1)	40.0	(1)	90.9	(1)	.303	(1)	13.33	(1)	12.13
Bumpers, male.....	49.0	50.6	30.4	25.0	62.0	49.4	.910	.729	44.59	36.89	27.63	18.23
Bumpers, female.....	(1)	42.5	(1)	14.4	(1)	33.9	(1)	.275	(1)	11.66	(1)	3.97
Crane operators, male.....	49.2	47.0	38.3	35.6	77.8	75.7	.673	.658	33.11	30.93	25.77	23.46
Cutters, cloth and leather, male.....	51.6	51.3	34.2	38.9	66.3	75.8	.798	.709	41.18	36.37	27.27	27.60
Cutters, cloth and leather, female.....	(1)	50.0	(1)	22.9	(1)	45.8	(1)	.500	(1)	25.00	(1)	11.45
Die setters, male.....	46.0	44.9	35.4	38.5	77.0	85.7	.819	.741	37.67	33.27	28.96	28.53
Ding men, male.....	49.7	49.6	34.7	36.2	69.8	73.0	.975	.813	48.46	40.32	33.80	29.48
Door hangers, male.....	49.9	49.7	31.8	35.7	63.7	71.8	.718	.585	35.83	29.07	22.83	20.88
Drill - press operators, male.....	48.6	48.6	33.6	29.2	69.1	60.1	.696	.625	33.83	30.35	23.35	18.24
Drill - press operators, female.....	49.5	50.4	34.0	17.5	68.7	34.7	.407	.347	20.15	17.49	13.82	6.07
Forge shop:												
Hammermen, male.....	47.7	47.8	28.6	26.0	60.0	54.4	1.005	.800	47.94	38.24	28.77	20.80
Other forge-shop employees, male.....	48.6	49.3	27.5	25.6	56.6	51.9	.782	.679	38.01	33.47	21.50	17.35
Gear - cutter operators, male.....	48.3	48.7	34.8	36.0	72.0	73.9	.740	.623	35.74	30.34	25.77	22.42
Grinding-machine operators, male.....	47.6	47.7	33.3	31.7	70.0	66.5	.780	.669	37.13	31.91	25.95	21.19
Grinding-machine operators, female.....	50.0	47.0	36.5	19.2	73.0	40.9	.428	.317	21.40	14.90	15.60	6.08
Hardeners and annealers, male.....	52.9	50.5	37.3	36.9	70.5	73.1	.720	.618	38.09	31.21	26.87	22.80
Helpers (except forge shop), male.....	48.4	48.0	33.8	35.6	69.8	74.2	.632	.560	30.59	26.88	21.34	19.91
Helpers (except forge shop), female.....	(1)	52.7	(1)	36.8	(1)	69.8	(1)	.324	(1)	17.07	(1)	11.90
Inspectors, male.....	48.3	47.7	34.9	33.3	72.3	69.8	.749	.664	36.18	31.67	26.12	22.12
Inspectors, female.....	49.6	49.7	32.8	25.0	66.1	50.3	.373	.361	18.50	17.94	12.25	9.04
Laborers, male.....	48.4	46.9	35.9	34.5	74.2	73.6	.589	.575	28.51	26.97	21.17	19.81
Laborers, female.....	51.2	50.5	29.9	31.2	58.4	61.8	.382	.364	19.56	18.38	11.42	11.36
Laquer rubbers, male.....	48.7	48.3	32.3	29.4	66.3	60.9	.746	.603	36.33	29.12	24.07	17.70
Laquer rubbers, female.....	50.1	50.5	35.7	17.4	71.3	34.5	.340	.378	17.03	19.09	12.13	6.55
Lathe operators (non-automatic), male.....	47.9	48.9	33.6	27.7	70.1	56.6	.756	.636	36.21	31.10	25.40	17.61
Lathe operators (non-automatic), female.....	50.8	48.8	36.3	28.3	71.5	58.0	.449	.278	22.81	18.57	16.26	7.87
Letterers, strippers, and final touchers up, hand, male.....	49.8	49.2	36.4	34.4	73.1	69.9	.878	.662	43.72	32.57	31.98	22.80
Letterers, strippers, and final touchers up, hand, female.....	50.0	49.9	36.2	25.7	72.4	51.5	.517	.366	25.85	18.26	18.71	9.41
Machinists, male.....	46.9	47.9	36.6	38.3	78.0	80.0	.851	.703	39.91	33.67	31.17	26.92
Metal finishers, male.....	50.4	50.1	33.8	30.5	67.1	60.9	.738	.633	37.20	31.71	24.90	19.30
Metal panelers, male.....	49.6	50.2	32.2	31.9	64.9	63.5	.721	.580	35.76	29.12	23.23	18.51
Milling-machine operators, male.....	48.7	48.2	33.9	29.3	69.6	60.8	.722	.639	35.16	30.80	24.51	18.76
Milling-machine operators, female.....	50.5	48.6	34.6	9.9	68.5	20.4	.353	.337	17.83	16.38	12.23	3.35
Millwrights, male.....	49.1	47.7	40.5	40.1	82.8	85.7	.753	.688	36.82	32.20	30.48	27.61
Molders, belt, drip, etc., male.....	49.7	51.0	29.7	36.6	59.8	71.8	.704	.490	34.99	24.99	20.92	17.95
Painters, general, male.....	49.5	48.4	35.8	32.5	72.3	67.1	.694	.561	34.35	27.15	24.82	18.25
Painters, general, female.....	51.0	50.9	39.2	34.4	76.9	67.6	.385	.384	19.64	19.55	15.07	13.19
Paint sprayers, male.....	49.1	48.9	35.3	30.5	71.9	62.4	.733	.615	35.99	30.07	25.85	18.76
Paint sprayers, female.....	49.9	43.0	31.1	15.2	62.3	35.3	.457	.260	22.80	11.18	14.18	3.94
Pattern makers, male.....	50.9	46.7	45.1	43.0	88.6	92.1	.887	.860	45.15	40.16	40.03	36.96
Planer and shaper operators, male.....	46.4	46.9	36.3	37.0	78.2	78.9	.822	.702	38.14	32.92	29.87	25.94
Platers, male.....	49.1	47.7	34.9	30.8	71.1	64.6	.724	.657	35.55	31.34	25.26	20.21
Polishers and buffers, male.....	48.0	48.2	31.7	25.9	66.0	53.7	.851	.722	40.85	34.80	26.98	18.72
Punch and press operators, male.....	48.0	47.6	33.2	30.8	69.2	64.7	.717	.646	34.42	30.75	23.77	19.89

¹ None reported in 1930.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE MOTOR-VEHICLE INDUSTRY, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
Punch and press operators, female.....	54.0	52.4	32.3	32.3	59.8	61.6	\$0.401	\$0.332	\$21.65	\$17.40	\$12.92	\$10.75
Sand blasters, male.....	49.8	48.0	35.3	28.4	70.9	59.2	.628	.610	31.27	29.28	22.18	17.35
Sand blasters, female.....	48.3	(¹)	14.9	(¹)	30.8	(¹)	.343	(¹)	16.57	(¹)	5.10	(¹)
Sanders and rough-stuff rubbers, male.....	49.3	48.8	32.2	28.2	65.3	57.8	.702	.591	34.61	28.84	22.59	16.69
Sanders and rough-stuff rubbers, female.....	48.8	50.0	37.5	22.6	76.8	45.2	.434	.413	21.18	20.65	16.28	9.32
Sewing-machine operators, male.....	47.1	49.8	33.9	31.9	72.0	64.1	.664	.443	31.27	22.06	22.50	14.15
Sewing-machine operators, female.....	51.2	51.3	31.2	34.4	60.9	67.1	.461	.366	23.60	18.78	14.40	12.60
Sheet-metal workers, male.....	50.0	49.3	33.1	27.7	66.2	56.2	.711	.574	35.55	28.30	23.50	15.91
Sheet-metal workers, female.....	51.9	46.1	28.5	16.8	54.9	36.4	.423	.317	21.95	14.61	12.04	5.33
Straighteners, male.....	48.7	48.7	32.8	28.0	67.4	57.5	.763	.636	37.16	30.97	24.98	17.81
Stripers, mechanical, male.....	49.3	50.8	35.6	27.3	72.2	53.7	.771	.627	38.01	31.85	27.45	17.13
Stripers, mechanical, female.....	49.5	50.1	29.8	24.8	60.2	49.5	.522	.422	25.84	21.14	15.56	10.47
Testers, final, male.....	50.3	48.9	37.4	36.6	74.4	74.8	.686	.604	34.51	29.54	25.66	22.10
Testers, motor and transmission, male.....	49.9	49.9	36.2	29.5	72.5	59.1	.727	.612	36.28	30.54	26.31	18.08
Tool and die makers, male.....	49.9	47.0	42.9	39.4	86.0	83.8	.887	.785	44.26	36.90	38.03	30.92
Top builders and trimmers, male.....	50.0	49.0	31.8	33.0	63.6	67.3	.751	.603	37.55	29.55	23.85	19.88
Top builders and trimmers, female.....	50.7	49.7	36.3	28.4	71.6	57.1	.416	.361	21.09	17.94	15.11	10.25
Trim bench hands, male.....	47.6	51.0	29.5	35.7	62.0	70.0	.751	.518	35.75	26.42	22.13	18.52
Trim bench hands, female.....	50.2	50.8	32.0	34.1	63.7	67.1	.451	.354	22.64	17.98	14.41	12.08
Varnish rubbers, male.....	50.0	49.9	28.0	52.7	56.0	105.6	.754	.471	37.70	23.50	21.09	24.80
Varnish rubbers, female.....	(¹)	49.5	(¹)	30.3	(¹)	61.2	(¹)	.443	(¹)	21.93	(¹)	13.39
Welders and braziers, hand, male.....	49.9	48.5	35.5	30.1	71.1	62.1	.757	.659	37.77	31.96	26.91	19.82
Welders and braziers, hand, female.....	(¹)	52.7	(¹)	23.4	(¹)	44.4	(¹)	.382	(¹)	20.13	(¹)	8.96
Welders, machine, male.....	49.0	48.6	30.4	30.2	62.0	62.1	.735	.622	36.02	30.23	22.33	18.78
Welders, machine, female.....	53.8	51.8	17.8	27.9	33.1	53.9	.421	.314	22.65	16.27	7.51	8.77
Woodworking-machine operators, male.....	50.0	49.7	35.4	30.4	70.8	61.2	.691	.589	34.55	29.27	24.43	17.90
Other skilled occupations, male.....	48.7	47.9	41.0	37.5	84.2	78.3	.793	.704	38.62	33.72	32.49	26.41
Other skilled occupations, female.....	51.0	50.0	33.9	26.2	66.5	52.4	.487	.295	24.84	14.75	16.50	7.74
Other employees, male.....	48.0	48.2	38.1	36.0	79.4	74.7	.743	.668	35.66	32.20	28.30	24.04
Other employees, female.....	51.4	50.6	32.6	54.5	63.4	68.2	.447	.364	22.98	18.42	14.56	12.55

¹ None reported in 1930.² Data included in total.

Table 3 shows for males and for females separately, and for both sexes combined, in each State in 1930 and 1932, average hours and earnings and the percent of full time actually worked in the week.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN THE MOTOR-VEHICLE INDUSTRY, 1930 AND 1932, BY SEX AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932
<i>Males</i>												
Illinois.....	46.6	43.4	28.1	22.9	60.3	52.8	\$0.740	\$0.663	\$34.48	\$28.71	\$20.82	\$15.22
Indiana.....	50.4	51.0	36.7	32.7	72.8	64.1	.614	.493	30.95	25.14	22.54	16.12
Michigan.....	48.0	47.7	34.2	32.1	71.3	67.3	.777	.684	37.30	32.63	26.55	21.96
New Jersey.....	44.3	43.2	29.5	31.6	66.6	73.1	.824	.678	36.50	29.29	24.26	21.41
New York.....	50.9	47.3	43.9	31.1	86.2	65.8	.693	.591	35.27	27.95	30.41	18.38
Ohio.....	48.5	49.4	35.5	34.3	73.2	69.4	.701	.575	34.00	28.41	24.87	19.71
Pennsylvania.....	53.2	52.5	34.4	33.4	64.7	63.6	.624	.484	33.20	25.41	21.44	16.18
Wisconsin.....	50.8	50.5	30.6	27.5	60.2	54.5	.629	.557	31.95	28.13	19.26	15.31
Total males.....	48.7	48.3	34.6	31.9	71.0	66.0	.733	.638	35.70	30.82	25.40	20.36
<i>Females</i>												
Illinois.....	54.6	44.0	26.0	25.0	47.6	56.8	.378	.320	20.64	14.08	9.84	8.00
Indiana.....	50.4	50.9	30.8	31.3	61.1	61.5	.412	.276	20.76	14.05	12.69	8.63
Michigan.....	51.3	51.0	33.1	31.2	64.5	61.2	.437	.366	22.42	18.67	14.47	11.43
New Jersey.....	45.0	50.0	28.0	32.5	62.2	65.0	.443	.320	19.94	16.00	12.41	10.41
New York.....	51.0	47.3	40.6	26.7	79.6	56.4	.451	.388	23.00	18.35	18.31	10.34
Ohio.....	47.6	48.6	26.4	28.5	55.5	58.6	.447	.410	21.28	19.93	11.80	11.68
Pennsylvania.....	52.8	51.8	24.6	29.2	46.6	56.4	.471	.317	24.87	16.42	11.60	9.26
Wisconsin.....	49.1	50.0	26.5	30.2	54.0	60.4	.414	.324	20.33	16.20	10.97	9.79
Total females.....	50.6	50.5	31.8	30.7	62.8	60.8	.436	.361	22.06	18.23	13.86	11.09
<i>Males and females</i>												
Illinois.....	46.7	43.4	28.1	23.0	60.2	53.0	.737	.659	34.42	28.60	20.74	15.14
Indiana.....	50.4	51.0	36.5	32.7	72.4	64.1	.608	.485	30.64	24.74	22.17	15.84
Michigan.....	48.1	47.8	34.1	32.1	70.9	67.2	.765	.670	36.80	32.03	26.13	21.50
New Jersey.....	44.3	43.2	29.5	31.6	66.6	73.1	.823	.677	36.46	29.25	24.24	21.39
New York.....	50.9	47.3	43.7	31.0	85.9	65.5	.686	.585	34.92	27.67	30.02	18.13
Ohio.....	48.4	49.3	35.1	34.0	72.5	69.0	.693	.569	33.54	28.05	24.30	19.38
Pennsylvania.....	53.1	52.5	34.3	33.4	64.6	63.6	.623	.482	33.08	25.31	21.36	16.09
Wisconsin.....	50.7	50.5	30.5	27.6	60.2	54.7	.624	.550	31.64	27.78	19.02	15.16
Total males and females.....	48.8	48.4	34.5	31.9	70.7	65.9	.724	.628	35.33	30.40	25.01	20.00

Motor-Vehicle Repair Garages—Hours and Earnings, 1931

THIS article is a summary of the results of a study by the Bureau of Labor Statistics in 1931 of hours and earnings of 6,059 employees of 344 garages in 43 representative cities in 34 States and in the District of Columbia. The study included employees of 8 garages in 2 cities in each of 8 States and in 1 city in each of 26 States and in the District of Columbia. The basic wage figures were collected for a pay period in April, May, June, or July.

The principal business of the garages covered is the general repair of motor vehicles. In a considerable number of garages, washing, greasing, and storing of cars and the sale of gasoline, oil, and auto supplies are also carried on, but this is incidental to the main business. The results of the study are shown in more detail in Bulletin No. 578 of the Bureau.

Table 1 shows average hours and earnings for each of the important occupations found in the garages studied and for the group of "Other employees." Averages are shown for each of two or more occupations separately, and also for a combination of such occupations. Thus, averages are shown for "batterymen" and for "radiatormen" separately, and also for both combined. Six garages employed both batterymen and radiatormen.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN MOTOR-VEHICLE REPAIR GARAGES, 1931, BY OCCUPATION

Occupation	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
All occupations.....	53.4	51.0	95.5	\$0.579	\$30.92	\$29.56
Auto mechanics, general.....	52.9	49.2	93.0	.638	33.75	31.35
Auto mechanics, specialized ¹	52.7	48.8	92.6	.685	36.10	33.46
Batterymen.....	55.7	55.1	98.9	.531	29.58	29.25
Radiatormen.....	53.4	48.2	90.3	.567	30.28	27.29
Battery and radiatormen.....	55.3	53.9	97.5	.536	29.64	28.90
Blacksmiths.....	50.6	45.7	90.3	.867	43.87	39.60
Machinists.....	49.8	47.5	95.4	.788	39.24	37.46
Welders.....	52.4	48.9	93.3	.793	41.55	38.77
Blacksmiths, machinists, and welders.....	50.3	47.1	93.6	.811	40.79	38.22
Body workers, metal.....	51.9	48.2	92.9	.763	39.60	36.79
Body workers, wood.....	51.3	43.0	83.8	.789	40.48	33.90
Body workers, metal and wood.....	52.7	48.8	92.6	.665	35.05	32.44
Upholsterers.....	50.8	44.2	87.0	.786	39.93	34.73
Body workers and upholsterers.....	51.7	46.6	90.1	.755	39.03	35.17
Car washers.....	54.8	53.3	97.3	.381	20.88	20.32
Polishers.....	51.6	48.7	94.4	.452	23.32	22.05
Car washers and polishers.....	54.4	52.7	96.9	.390	21.22	20.54
Chasers.....	54.8	55.6	101.5	.373	20.44	20.72
Foremen, working.....	53.2	53.6	100.8	.798	42.45	42.81
Greasers.....	53.3	50.9	95.5	.440	23.45	22.41
Helpers, mechanics.....	53.2	50.8	95.5	.347	18.46	17.63
Inspectors.....	52.3	53.4	102.1	.737	38.55	39.35
Diagnosticians.....	53.4	52.7	98.7	.852	45.50	44.93
Inspectors and diagnosticians.....	52.6	53.2	101.1	.768	40.40	40.84
Painters.....	¹ 52.1	48.4	¹ 93.3	.682	¹ 35.53	33.05
Porters.....	54.4	53.8	98.9	.363	19.75	19.54
Janitors.....	57.1	57.7	101.1	.390	22.27	22.49
Porters and janitors.....	55.1	54.9	99.6	.371	20.44	20.36
Service men.....	55.4	54.3	98.0	.660	36.56	35.86
Stock clerks.....	52.3	52.6	100.6	.458	23.95	24.13
Stock keepers.....	53.5	53.3	99.6	.658	35.20	35.08
Other employees.....	58.5	58.8	100.5	.434	25.39	25.53

¹ Not including 1 employee whose full-time hours were not reported.

² Includes brakemen, carburetor men, ignition men, and trouble shooters.

Table 2 shows average hours and earnings in 1 week for the employees covered in each of the 43 cities. The same number (8) of garages were covered in each city, but the number of employees ranged from 38 in Danville, Ill., to 430 in Boston, Mass.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN MOTOR-VEHICLE REPAIR GARAGES, 1931, BY CITY

City	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average hours	Percent of full-time			
All cities.....	53.4	51.0	95.5	\$0.579	\$30.92	\$29.56
Altoona, Pa.....	53.5	52.9	98.9	.552	29.53	29.18
Atlanta, Ga.....	51.1	50.2	98.2	.551	28.16	27.65
Austin, Tex.....	54.0	53.1	98.3	.510	27.54	27.05
Baltimore, Md.....	54.0	52.9	98.0	.546	29.48	28.86
Birmingham, Ala.....	57.2	55.2	96.5	.482	27.57	26.58
Boston, Mass.....	51.2	48.4	94.5	.607	31.08	29.39
Burlington, Vt.....	54.1	53.1	98.2	.544	29.43	28.87
Charlotte, S. C.....	53.8	53.1	98.7	.485	25.02	24.71
Charlotte, N. C.....	57.0	55.7	97.7	.485	27.65	27.05
Chicago, Ill.....	52.4	48.3	92.2	.732	33.36	35.35
Cleveland, Ohio.....	52.9	45.4	85.8	.648	34.28	28.43
Danville, Ill.....	55.9	52.4	93.7	.540	30.19	28.30
Des Moines, Iowa.....	57.7	52.2	90.5	.570	32.89	29.77
Detroit, Mich.....	54.2	49.9	92.1	.681	36.91	33.94
Hamilton, Ohio.....	56.0	54.0	96.4	.555	31.08	29.98
Hartford, Conn.....	52.4	51.3	97.9	.646	33.85	33.10
Holyoke, Mass.....	52.4	49.9	99.0	.581	29.28	29.02
Houston, Tex.....	50.8	49.6	97.6	.552	28.04	27.39
Huntington, W. Va.....	57.5	56.8	98.8	.482	27.72	27.34
Indianapolis, Ind.....	53.7	48.5	90.3	.552	29.64	26.79
Jacksonville, Fla.....	54.2	53.0	97.8	.508	27.53	26.92
Joplin, Mo.....	61.2	56.4	92.2	.428	26.19	24.17
Kansas City, Kans.....	57.1	55.3	96.8	.493	28.15	27.26
Lincoln, Nebr.....	54.8	53.3	97.3	.507	27.78	27.01
Little Rock, Ark.....	53.9	52.1	96.7	.476	25.66	24.79
Louisville, Ky.....	56.7	52.4	92.4	.483	27.39	25.35
Manchester, N. H.....	53.5	53.6	100.2	.531	28.41	28.48
Memphis, Tenn.....	54.1	46.4	85.8	.520	28.13	24.13
Meridian, Miss.....	59.3	57.3	96.6	.327	19.39	18.72
Milwaukee, Wis.....	54.3	48.7	89.7	.604	32.80	29.41
Minneapolis, Minn.....	55.1	50.5	91.7	.631	34.77	31.85
New Orleans, La.....	49.5	48.0	97.0	.497	24.60	23.85
New York, N. Y.....	49.7	50.2	101.0	.697	34.64	34.97
Oklahoma City, Okla.....	54.5	50.4	92.5	.593	32.59	30.19
Philadelphia, Pa.....	50.8	50.8	100.0	.618	31.39	31.39
Portland, Maine.....	54.7	52.7	96.3	.535	29.26	28.20
Providence, R. I.....	52.3	51.1	97.7	.599	31.33	30.61
Richmond, Va.....	53.3	53.3	100.0	.575	30.65	30.65
Rochester, N. Y.....	51.0	49.8	97.6	.663	33.81	33.02
St. Louis, Mo.....	49.9	48.3	97.2	.659	32.88	31.85
Superior, Wis.....	56.1	54.4	97.0	.570	31.98	31.03
Trenton, N. J.....	53.6	51.9	96.8	.584	31.30	30.33
Washington, D. C.....	54.3	51.1	94.1	.593	32.20	30.32

¹ Not including 1 employee whose full-time hours were not reported.

Newspapers—Salaries and Working Time of Editorial Employees, 1934⁷

NEWSPAPER editorial employees, along with workers in nearly all other occupations, have felt the pressure of hard times during the past few years. In the early fall of 1934 nearly 17 percent of the editorial workers employed by a typical group of daily newspapers were earning less than \$20 a week and 28 percent were earning \$50 or more. By contrast, in April 1930 the weekly salaries of only 13 percent of the editorial employees of the same newspapers were less than \$20, while 41 percent received salaries of \$50 or more. Only 3.4 percent of the total number of employees in the fall of 1934 received salaries of \$100 a week or more, as against 5.7 percent in April 1930.

These statistics are based on a survey made by the Bureau of Labor Statistics at the request of the National Recovery Administration, covering 31 daily newspapers in 20 cities and 18 States. The States

⁷ Summary of article published in Monthly Labor Review, May 1935 (p. 1137).

from which the sample was drawn were Alabama, Arkansas, California, Colorado, Connecticut, Kansas, Louisiana, Maine, Massachusetts, Missouri, Montana, New Hampshire, Ohio, Oklahoma, Pennsylvania, Tennessee, Texas, and Wyoming.

Of the 31 newspapers, 6 were in cities with a population of 750,000 or more, 11 were in cities with a population of 250,000 and less than 500,000, 8 were in cities having a population of 50,000 and less than 250,000, and 6 were in cities with a population of less than 50,000. All except 3 of the newspapers included had a circulation of 10,000 or over.

Four pay periods—April 1930, April 1933, April 1934, and September–October 1934—were covered by the survey. The number of editorial workers employed in these periods by the 31 newspapers canvassed ranged from 1,348 in April 1933 to 1,506 in April 1930. The average for all 4 of the periods covered was approximately 1,450. This number excludes part-time employees and space writers, whose earnings cannot be compared with those of full-time workers. In the four pay periods covered, the number of part-time employees and space writers employed by the newspapers that made up the sample ranged from 49 in April 1930 to 95 in September–October 1934. The average weekly earnings of the part-time workers and space writers ranged from \$11.55 in April 1930 to \$16.03 in April 1934.

Average Weekly Salaries

FOR ALL of the daily newspaper editorial workers covered in the survey, including those in executive positions, the average weekly salary in September–October 1934 was \$41.81. Compared with the average salary earned in April 1933—\$40.85—this represented an increase of slightly more than 2 percent, but was 12 percent less than April 1930. Earnings in the early fall of 1934 were also somewhat less than in April 1934, when the average was \$42.01. The decrease, however, was not evenly distributed and some workers were much more seriously affected than others. These differences are brought out clearly in table 1.

TABLE 1.—AVERAGE WEEKLY SALARIES OF EDITORIAL EMPLOYEES OF 31 DAILY NEWSPAPERS, 1930–34

Occupational class	Weekly salaries				Percent of change			
	April 1930	April 1933	April 1934	September–October 1934	April 1930 to April 1933	April 1933 to April 1934	April 1930 to September–October 1934	April 1934 to September–October 1934
Average, all employees.....	\$47.53	\$40.85	\$42.01	\$41.81	-14.1	+2.8	-12.0	-0.5
Executives ¹	100.06	90.05	90.26	89.98	-10.0	+2	-10.1	-3
Deskmen ²	59.34	49.81	50.66	51.32	-16.1	+1.7	-13.5	+1.3
Reporters ³	43.58	37.14	38.93	38.26	-14.8	+4.8	-12.2	-1.7
Photographers.....	40.03	33.78	35.14	34.79	-15.6	+4.0	-13.1	-1.0
Artists.....	51.76	45.55	47.80	47.80	-12.0	+4.9	-7.7	(⁴)
Copy, office, and errand boys.....	11.57	10.48	12.67	13.23	-9.4	+20.9	+14.3	+4.4
Clerks and stenographers.....	31.32	28.53	28.01	27.88	-8.9	-1.8	-11.0	-5

¹ Includes chief editors, chief editorial writers, city editors, editors, managing editors, general news editors, and night city editors.

² Includes art critics, assistants to chief editorial writers, assistant city editors, assistant editorial writers, assistant managing editors, associate editors, book reviewers, copy readers, children's page editors, columnists, copy deskmen, dramatic editors, fashion editors, financial editors, food editors, make-up editors, news editors, rotogravure editors, society editors, sports editors, State editors, Sunday editors, telegraph editors, women's page editors, editorial writers, movie editors, music editors, promotion managers, rewrite men, rim men, slot men, subeditors, and weekly editors.

³ Includes apprentices, assistant dramatic editors, assistant society editors, bureau correspondents, business editors, church editors, civil court reporters, contributors, correspondents, county editors, criminal courts reporters, cub reporters, farm editors, marine editors, mining editors, oil editors, political editors, radio editors, feature writers, financial writers, police reporters, political editors, special writers, and sports writers.

⁴ No change.

Not only did the salaries of newspaper editorial employees vary widely between occupational groups, but there were also sharp differences in the earnings of workers within the same occupational group. In September-October 1934, for example, the average earnings of all the desk workers covered in the survey was \$51.32 per week, but 2.3 percent of the employees in this group were earning less than \$20 and 14.5 percent received less than \$32 a week. Indeed, it was the earnings of less than half of the desk workers (46.1 percent) that lifted the average above the \$50 a week mark. In table 2, variations almost as pronounced are shown for several of the other occupations.

TABLE 2.—PERCENTAGE DISTRIBUTION OF EDITORIAL EMPLOYEES OF 31 DAILY NEWSPAPERS, BY CLASSIFIED WEEKLY SALARIES AND OCCUPATIONS, SEPTEMBER-OCTOBER 1934

Classified weekly salary	Percent receiving classified weekly salary						
	Execu- tives	Desk- men	Report- ers	Photog- raphers	Artists	Copy, office, and errand boys	Clerks
Under \$10.....		0.3	0.5	5.3		7.0	
\$10 and under \$12.....		.3	.5		1.4	33.9	
\$12 and under \$14.....		.3	.9			7.8	
\$14 and under \$16.....		.3	5.0	1.8		31.3	9.3
\$16 and under \$18.....		.7	1.8	1.8	1.4	14.8	6.5
\$18 and under \$20.....		.4	4.7	1.8	1.5	1.7	11.1
Total.....		2.3	13.4	10.7	4.3	96.5	26.9
\$20 and under \$24.....		5.0	10.5	8.8	4.3	3.5	13.9
\$24 and under \$28.....		3.6	10.1	5.4	11.7		22.1
\$28 and under \$32.....		3.6	6.9	5.4	1.4		13.0
Total.....		12.2	27.5	19.6	17.4	3.5	49.0
\$32 and under \$36.....	4.2	9.6	14.5	21.4	20.3		7.4
\$36 and under \$40.....		5.4	5.3	16.1	4.3		.9
\$40 and under \$45.....	8.5	11.7	8.7	16.1	11.7		2.8
\$45 and under \$50.....	8.4	12.7	10.1	5.4	7.2		3.7
Total.....	21.1	39.4	38.6	59.0	43.5		14.8
\$50 and under \$60.....	16.9	18.1	7.9	5.4	13.1		4.6
\$60 and under \$75.....	15.5	15.0	6.9	5.3	10.2		4.7
\$75 and under \$100.....	22.5	9.6	3.7		4.3		
\$100 and over.....	24.0	3.4	2.0		7.2		
Total.....	78.9	46.1	20.5	10.7	34.8		9.3
Grand total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Working Time

TABLE 3 shows the working time of employees in the editorial departments of the 31 newspapers included in the survey, in each of the pay periods covered. In April 1930, the working time of 51.4 percent of the employees for which information was available was from 45.1 to 50 hours a week, 18.7 percent worked from 40.1 to 45 hours, and 13.8 percent not over 40 hours a week. Only 10.5 percent of the employees worked more than 50 hours a week. Between April 1930 and April 1933, there was no material change in working time. During the following year, however, hours were scaled down sharply, and by September-October 1934 the working time of more than two-thirds of the employees did not exceed 40 hours a week, while only 4.6 percent of the employees worked more than 50 hours.

TABLE 3.—DISTRIBUTION OF EDITORIAL EMPLOYEES OF 31 DAILY NEWSPAPERS BY CLASSIFIED WEEKLY HOURS, 1930-34

Classified weekly hours	Number of employees				Percent of total			
	April 1930	April 1933	April 1934	September-October 1934	April 1930	April 1933	April 1934	September-October 1934
35 hours and under.....	8	5	14	13	0.5	0.4	1.0	0.9
35.1 to 40 hours.....	200	174	898	971	13.3	12.9	61.4	66.4
40.1 to 45 hours.....	281	261	131	88	18.7	19.4	9.0	6.0
45.1 to 50 hours.....	774	705	286	277	51.4	52.3	19.6	19.0
50.1 to 60 hours.....	156	116	81	65	10.4	8.6	5.6	4.5
Over 60 hours.....	2	2	1	1	.1	.1	.1	.1
Not reported.....	85	85	48	45	5.6	6.3	3.3	3.1
Total.....	1,506	1,348	1,459	1,460	100.0	100.0	100.0	100.0

Office Workers—Earnings in New York State Factories, October 1934

ANNUAL surveys of the earnings of workers in factory offices in New York State have been made by the department of labor of that State in October of each year since 1914. The workers covered include such employees as office clerks, stenographers, bookkeepers, accountants, cashiers, stock clerks, office managers, and superintendents. The establishments represented are the manufacturing plants which submit regular monthly reports for the labor-market analysis of the New York Department of Labor.

The earnings of the workers covered by the survey in October 1934 averaged \$32.45, a decrease of 13.4 percent from the peak reached in October 1930, when the average was \$37.48. Earnings were lower in 1934 than in 1933 in a number of industry groups, but the decreases were more than offset by gains in other groups. Table 1, taken from the report of the 1934 survey published in the Industrial Bulletin of the New York Department of Labor for November 1934, shows the average weekly earnings in October of each year from 1925 to 1934. The labor department cautions the reader against comparing average wage levels in one industry group with those in another, because of the uneven distribution of the higher-salaried supervisory and technical staff and the lower-paid clerical force in different industries.

TABLE 1.—AVERAGE WEEKLY EARNINGS OF OFFICE EMPLOYEES IN REPRESENTATIVE NEW YORK STATE FACTORIES IN OCTOBER OF EACH YEAR, 1925-34

Industry group	Average weekly earnings in October—									
	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
All industries.....	\$34.49	\$35.38	\$35.88	\$36.37	\$36.94	\$37.48	\$35.49	\$31.86	\$31.85	\$32.45
Stone, clay, and glass.....	32.78	34.06	34.40	35.10	34.70	35.52	34.35	31.48	28.83	27.74
Metals and machinery.....	35.75	36.31	36.88	37.63	37.72	38.29	35.06	31.27	32.59	34.29
Wood manufactures.....	36.94	39.19	39.52	37.22	37.56	36.74	38.07	32.04	30.31	30.59
Furs, leather and rubber goods.....	28.75	29.64	29.62	29.82	29.34	30.58	28.75	24.73	24.72	23.72
Chemicals, oils, paints, etc.....	29.45	31.10	32.64	33.38	34.07	34.74	32.87	29.93	30.64	31.00
Pulp and paper.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Printing and paper goods.....	38.90	39.91	40.49	41.37	42.68	43.94	41.85	37.25	36.44	36.71
Textiles.....	29.36	29.95	29.85	30.81	30.87	33.47	33.46	29.35	31.76	29.07
Clothing and millinery.....	30.92	31.41	31.45	31.82	33.30	32.60	31.27	27.63	26.24	25.38
Food and tobacco.....	34.86	35.86	35.86	35.03	36.04	36.49	35.10	33.10	31.00	31.86
Water, light, and power.....	32.78	32.53	31.79	31.60	30.77	33.01	30.64	31.59	30.24	34.10

¹ Separate earnings not computed because of small number of employees.

A comparison of the earnings of men and women in factory offices in New York State in October 1934 is given in table 2. The figures in this table are not based on a fixed list of concerns as are those in table 1, as separate data for men and women are not obtainable from all the firms or from identical firms each year.

TABLE 2.—AVERAGE WEEKLY EARNINGS OF MEN AND WOMEN IN FACTORY OFFICES IN NEW YORK STATE, OCTOBER 1934

Industry group	Average weekly earnings of—					
	Men			Women		
	Total State	New York City	Up-State	Total State	New York City	Up-State
All industries.....	\$42.71	\$44.03	\$41.80	\$21.15	\$22.76	\$19.92
Stone, clay, and glass.....	(1)	(1)	(1)	(1)	(1)	(1)
Metals and machinery.....	41.76	38.53	42.82	20.39	22.29	19.77
Wood manufactures.....	40.27	35.47	42.28	19.06	21.14	18.44
Furs, leather and rubber goods.....	32.72	34.45	31.28	19.89	22.57	17.41
Chemicals, oils, paints, etc.....	43.42	35.17	46.95	19.67	20.53	19.35
Pulp and paper.....	(1)	(1)	(1)	(1)	(1)	(1)
Printing and paper goods.....	49.04	53.41	39.03	22.38	23.68	19.70
Textiles.....	40.48	38.43	41.02	21.60	22.03	21.43
Clothing and millinery.....	38.84	40.95	32.82	21.18	22.17	18.23
Food and tobacco.....	39.90	43.26	35.62	22.32	23.32	21.56
Water, light, and power.....	(1)	(1)	(1)	(1)	(1)	(1)

¹ Separate earnings not computed because of small number of employees.

Table 3 shows the number of employees and the total amount of pay roll in the different industry groups in October 1934, with the percent of change from October 1933.

TABLE 3.—EMPLOYMENT AND PAY ROLLS IN FACTORY OFFICES IN NEW YORK STATE, OCTOBER 1934 COMPARED WITH OCTOBER 1933

Industry group	Employment		Pay roll	
	Number of employees, October 1934	Percent of change, October 1933 to October 1934	Amount, October 1934	Percent of change, October 1933 to October 1934
All industries.....	37,182	+5.3	\$1,206,406	+7.3
Stone, clay, and glass.....	655	+7.0	18,169	+3.0
Metals and machinery.....	11,669	+7.7	400,096	+14.0
Wood manufactures.....	1,137	-1.6	34,785	- .6
Furs, leather and rubber goods.....	2,285	+1.5	54,210	-2.6
Chemicals, oils, paints, etc.....	3,637	+12.4	112,739	+13.7
Pulp and paper.....	276	-9.8	9,548	-12.0
Printing and paper goods.....	7,855	+2.1	288,341	+2.9
Textiles.....	2,066	+9.9	61,912	+8.7
Clothing and millinery.....	2,919	-1.2	74,096	-4.4
Food and tobacco.....	3,204	+5.3	102,075	+5.2
Water, light, and power.....	1,479	+9.7	50,435	+23.7

New York is the only State for which the United States Bureau of Labor Statistics has data on office workers' earnings over a long period.

Office Workers—Salaries in Various Industries in New York State, 1935

AVERAGE weekly salaries paid to clerical workers in 13 occupation groups, by 98 companies in various industries in New York State, in July 1935, ranged from a low of \$21.63 for typists to a high of \$52.10 for accountants, according to a survey made by the Industrial Bureau of the Merchants' Association of New York. The salaries paid in the occupations and industries covered are shown in table 1, compiled from a statement issued by the Industrial Bureau in November 1935.

TABLE 1.—AVERAGE WEEKLY SALARIES PAID CLERICAL WORKERS, BY 98 COMPANIES, IN SPECIFIED INDUSTRIES IN NEW YORK STATE, JULY 1935

Occupation	All industries	Railroads and railroads	Food products	Banking	Textiles, dry goods, apparel, and allied lines	Chemicals, drugs, soaps, cleaners, etc.	Insurance, advertising, and professional	Printing and publishing	Miscellaneous
Accountants.....	\$52.10	\$44.15	\$49.42	\$44.69	\$66.20	\$61.19	\$60.83	\$56.18	\$62.22
Auditors.....	48.53	44.08	38.97	45.37	50.47	50.00	45.41	57.00	58.60
Bookkeepers (machine operators).....	24.03	-----	24.18	24.14	21.84	29.74	23.93	26.04	24.58
Bookkeepers (nonmachine operators).....	30.76	33.34	32.08	29.90	33.96	26.58	31.05	24.25	30.66
Stenographers and secretaries, male.....	34.56	29.51	33.09	37.57	34.08	39.00	-----	39.37	36.84
Stenographers and secretaries, female.....	28.49	23.53	29.98	28.06	25.36	30.28	30.14	28.87	29.37
Typists.....	21.63	23.10	20.96	22.21	18.22	22.17	24.79	17.96	21.28
Dictaphone operators.....	23.32	27.66	21.55	25.09	23.17	24.05	20.94	21.60	25.27
Telephone operators.....	22.52	22.16	23.13	24.88	23.15	21.33	23.21	20.54	21.39
Office-machine operators.....	23.47	27.52	21.55	22.99	21.39	27.78	23.33	22.79	24.13
Chief and supervisory clerks.....	48.44	42.97	40.47	52.48	48.10	32.13	41.45	60.19	50.10
File clerks.....	21.75	27.48	21.04	22.47	17.78	21.12	17.61	19.14	24.91
All other clerical occupations.....	26.39	29.98	23.02	31.85	19.99	25.70	20.04	21.08	27.60

A comparison of the lowest, highest, and average weekly salaries paid to clerical workers in New York State by identical firms in 1932 and 1935, with the percent of increase or decrease between the two dates, is given in table 2, compiled from figures published by the Merchants' Association of New York.⁸ It will be noted that only four groups—accountants, auditors, file clerks, and a miscellaneous group—showed increases in rates paid, these increases ranging from 0.68 to 9.94 percent; the other groups showed decreases ranging from 1.41 to 5.86 percent. The rates shown in table 2 differ from those for the same occupations in table 1, because of the fact that the figures in table 1 show averages for 98 firms and those in table 2 for only the 92 firms that furnished information for both 1932 and 1935.

⁸ Greater New York (New York City) Oct. 31, 1935 (p. 4): Comparison of Clerical Salaries Paid in 1932 and 1935.

TABLE 2.—COMPARISON OF WEEKLY SALARIES PAID CLERICAL WORKERS BY 92 IDENTICAL COMPANIES IN VARIOUS INDUSTRIES IN NEW YORK STATE, 1932 AND 1935

Occupation	Number of companies reporting	1932						1935						Percent of increase (+) or decrease (-), 1932 to 1935
		Number of employees	Weekly salary			Number of employees	Weekly salary							
			Low	High	Average		Low	High	Average					
Accountants.....	54	286	\$25.00	\$144.00	\$52.75	300	\$20.00	\$144.00	\$53.11	+0.68				
Auditors.....	30	173	14.00	115.63	42.94	203	16.15	125.00	47.68	+9.94				
Bookkeepers (machine operators).....	45	246	16.15	37.00	24.79	277	15.00	40.50	23.44	-5.44				
Bookkeepers (nonmachine operators).....	59	354	16.00	58.00	32.57	355	15.00	88.00	30.66	-5.86				
Stenographers and secretaries, male.....	26	78	15.30	97.77	33.95	88	15.68	100.00	33.47	-1.41				
Stenographers and secretaries, female.....	87	1,470	8.00	86.53	29.72	1,451	15.00	86.53	28.53	-4.00				
Typists.....	57	702	9.00	29.50	21.47	677	11.54	39.00	20.82	-3.02				
Dictaphone operators.....	26	144	9.92	36.00	23.17	153	13.85	35.00	22.46	-3.06				
Telephone operators.....	74	268	12.74	46.61	23.07	319	15.00	48.65	22.36	-3.07				
Office-machine operators.....	48	445	10.00	38.00	23.63	463	13.85	38.00	22.89	-3.13				
Chief and supervisory clerks.....	64	725	18.00	125.00	47.65	842	17.00	154.00	46.93	-1.51				
File clerks.....	65	378	11.53	55.30	21.13	374	13.53	51.92	21.42	+1.35				
All other clerical positions.....	69	3,540	6.00	77.00	25.78	3,647	9.23	87.00	27.28	+5.59				

Paper Mills—Wages and Hours in Michigan, 1934

A SURVEY of hourly wage rates, average hours per week, and average weekly earnings in the paper mills of Michigan, was made by the department of labor of that State as of the pay-roll period ending nearest to September 15, 1934. The results for the State as a whole are shown, by occupations, in the following table.

The average hourly rate for all occupations was 48 cents, the highest rate—77.2 cents per hour—being for the occupation of machine tender, and the lowest—35.2 cents—being for sorters and counters. Average hours per week averaged 37.4, the occupational range being from 24 to 41.2.

AVERAGE RATES PER HOUR, HOURS PER WEEK, AND WEEKLY EARNINGS OF PAPER-MILL WORKERS IN MICHIGAN, SEPTEMBER 1934

Occupation	Average hourly rates	Average hours per week	Average weekly earnings	Occupation	Average hourly rates	Average hours per week	Average weekly earnings
Average for industry.....	Cents 48.0	37.4	\$17.95	Machine tenders.....	Cents 77.2	33.4	\$25.78
Acid makers.....	54.1	36.2	19.58	Machinists.....	61.3	39.4	24.15
Acid makers' helpers.....	48.3	39.7	19.17	Millwrights.....	62.1	39.1	24.28
Assistant cooks.....	51.0	32.9	16.78	Paper testers.....	47.2	38.4	18.12
Beatermen.....	48.2	34.0	16.39	Painters.....	53.8	40.0	21.52
Bleach makers.....	71.4	37.1	26.49	Packers.....	43.0	36.0	15.48
Bleachersmen.....	59.1	39.7	23.46	Rag-room helpers.....	38.0	24.0	9.12
Blowpit men.....	51.9	39.8	20.66	Repairmen.....	50.4	40.9	20.61
Boiler repairmen.....	56.3	39.6	22.29	Rewindermen.....	49.5	38.3	18.96
Back tenders.....	57.0	34.7	19.78	Sawmill hands.....	50.3	39.1	19.67
Coal passers.....	45.3	40.3	18.25	Screen men.....	45.8	36.2	16.58
Cooks.....	59.7	34.7	20.71	Second beater helpers.....	43.9	36.0	15.80
Cuttermen.....	45.6	36.4	16.60	Supercalender runners.....	46.0	32.0	14.72
Digestermen.....	41.0	38.0	15.58	Supercalender helpers.....	38.0	24.0	9.12
Embossing-machine operators.....	46.0	32.0	14.72	Sorters and counters.....	35.2	26.0	9.15
Firemen.....	54.9	39.1	21.46	Store clerks.....	51.3	39.4	20.21
First beater helpers.....	49.2	33.7	16.58	Storekeepers.....	43.6	39.5	17.22
Fourth hands.....	44.9	34.6	15.53	Steamfitters.....	58.7	40.0	23.48
General mill oilers.....	49.5	39.0	19.30	Stock lifters.....	44.8	32.7	14.65
Fourth beater helpers.....	38.0	24.0	9.12	Third hands.....	51.0	34.6	17.65
Handymen.....	48.3	40.2	19.42	Third beater helpers.....	39.0	24.0	9.36
Janitors.....	45.4	40.0	18.16	Trimmermen.....	53.5	39.0	20.86
Laborers.....	41.8	39.6	16.55	Truckers.....	59.7	40.2	24.00
Loaders.....	44.8	39.1	17.52	Washermen.....	42.5	30.9	13.13
Log handlers.....	48.6	39.2	19.05	Watchmen.....	43.0	41.2	17.72
				Wet-machine runners.....	46.5	39.7	18.46
				Yard men.....	44.7	37.5	16.76

Petroleum Industry—Wages and Hours, 1933-34

A COMPREHENSIVE survey of the petroleum industry in 1933 and 1934 was made by the Bureau of Labor Statistics for the Petroleum Labor Policy Board at the request of the Petroleum Administration, with the object of determining the changes in the industry after the adoption of the petroleum code in August 1933. In order to compare conditions prior and subsequent to the adoption of the code, data were secured for May 1929, May and November 1933, and May and July 1934. The survey covered both clerical and other employees, except clerical forces in central offices, professional employees, and executives and supervisors receiving more than \$35 per week. Data were obtained from practically every large and medium-size plant and from a representative sample of small plants. Detailed data obtained in the survey were published in the July, September, October, and November 1935 issues of the Monthly Labor Review.

Changes in Total Man-Hours and in Average Weekly Hours

Employees other than clerical.—Between May 1933 and November 1933 the total man-hours worked by employees other than clerical workers increased 3.5 percent in drilling and production and decreased 7.5 percent on pipe lines and 1.8 percent in refining. The average hours per employee per week declined 27.2 percent in drilling and production, 28.9 percent on pipe lines, and 15.8 percent in refining, due largely to the labor provisions in the code, which limited the normal hours of work per week.

Between November 1933 and July 1934 there were increases in total man-hours and in average weekly hours. During July 1934 weekly hours averaged 34 in drilling and production and 35 on both pipe lines and refining, being very close to the 36-hour average maximum under the code. Between May 1929 and July 1934 there was a reduction in total man-hours and average weekly hours, respectively, of 45.5 and 33.5 percent in drilling and production, 44.7 and 30.2 percent on pipe lines, and 36.9 and 28.1 percent in refining.

Clerical employees.—The total man-hours worked by clerical employees decreased in each of the three branches of the industry between May 1929 and May 1933—in drilling and production, 37.2 percent, on pipe lines 24.8 percent, and in refining 22.6 percent. During the remainder of 1933 and also in the two periods of 1934, man-hours showed a continual increase in each of the branches. These increases were not sufficient to overcome the reductions between May 1929 and May 1933, and as a result the total man-hours in drilling and production in July 1934 were 26.4 percent below what they were in May 1929, on pipe lines 6.3 percent below, and in refining 12.5 percent below.

Average hours worked per week declined in each industry branch during the first two periods reported. From November 1933 to July 1934 the working time per week was 39 hours on pipe lines and 38 hours in refining. After a rise of 3.8 percent in drilling and production in May 1934, weekly hours declined to 40 in July 1934, the same as in November 1933.

Total man-hours and average weekly hours in the selected periods, for clerical and for other workers, are presented in table 1.

TABLE 1.—CHANGES IN EMPLOYMENT AND HOURS WORKED IN THE PETROLEUM INDUSTRY, IN SELECTED PERIODS

[Percentages of change from period to period computed from reports of identical plants for which man-hour data were available]

Employees other than clerical

Branch of industry and period	Employment			Man-hours worked			Hours per week		
	Number of employees ¹	Percent of change from preceding period	Index numbers	Total per week ¹	Percent of change from preceding period	Index numbers	Average number ¹	Percent of change from preceding period	Index numbers
Drilling and production:									
May 1929.....	81,000	-----	100.0	4,146,000	-----	100.0	51.0	-----	100.0
May 1933.....	41,000	-49.2	50.8	1,849,000	-55.4	44.6	45.0	-12.4	87.6
November 1933.....	59,000	+42.1	72.2	1,911,000	+3.5	46.1	33.0	-27.2	63.8
May 1934.....	63,000	+8.2	78.1	2,102,000	+9.8	50.7	33.0	+1.5	64.8
July 1934.....	66,000	+4.6	81.8	2,250,000	+7.5	54.5	34.0	+2.7	66.5
Pipe lines:									
May 1929.....	25,000	-----	100.0	1,237,000	-----	100.0	50.0	-----	100.0
May 1933.....	15,000	-41.0	59.0	657,000	-46.9	53.1	45.0	-10.0	90.0
November 1933.....	19,000	+20.8	76.6	608,000	-7.5	49.1	32.0	-28.9	64.0
May 1934.....	18,000	-2.3	74.8	615,000	+1.2	49.7	33.0	+3.7	66.4
July 1934.....	20,000	+5.6	79.0	684,000	+11.2	55.3	35.0	+5.1	69.8
Refining:									
May 1929.....	87,000	-----	100.0	4,265,000	-----	100.0	49.0	-----	100.0
May 1933.....	62,000	-28.1	71.9	2,567,000	-39.8	60.2	41.0	-16.4	83.6
November 1933.....	73,000	+16.6	83.8	2,520,000	-1.8	59.1	35.0	-15.8	70.4
May 1934.....	75,000	+2.7	86.1	2,595,000	+3.0	60.9	35.0	+3	70.7
July 1934.....	76,000	+2.2	88.0	2,691,000	+3.7	63.1	35.0	+1.7	71.9

Clerical employees

Drilling and production:									
May 1929.....	2,700	-----	100.0	128,000	-----	100.0	48.0	-----	100.0
May 1933.....	1,800	-33.3	66.7	80,000	-37.2	62.8	45.0	-5.8	94.2
November 1933.....	2,100	+16.5	77.7	83,000	+3.1	64.8	40.0	-11.4	83.4
May 1934.....	2,200	+7.6	83.6	93,000	+11.7	72.4	41.0	+3.8	86.6
July 1934.....	2,400	+5.4	88.1	94,000	+1.6	73.6	40.0	-3.6	83.5
Pipe lines:									
May 1929.....	750	-----	100.0	35,000	-----	100.0	48.0	-----	100.0
May 1933.....	600	-14.4	85.6	26,000	-24.8	75.2	42.0	-12.2	87.8
November 1933.....	750	+22.9	105.2	30,000	+13.2	85.2	39.0	-8.6	80.3
May 1934.....	800	+3.8	109.2	31,000	+4.1	88.7	39.0	+5	80.7
July 1934.....	850	+4.9	114.6	33,000	+5.7	93.7	39.0	+5	81.1
Refining:									
May 1929.....	4,100	-----	100.0	180,000	-----	100.0	44.0	-----	100.0
May 1933.....	3,500	-15.5	84.5	140,000	-22.6	77.4	40.0	-8.3	91.7
November 1933.....	3,800	+9.2	92.3	145,000	+3.5	80.2	38.0	-5.3	86.8
May 1934.....	4,000	+3.4	95.4	150,000	+4.0	83.4	38.0	+5	87.3
July 1934.....	4,100	+4.3	99.5	158,000	+4.9	87.5	38.0	+5	87.7

¹ The number of employees in the 2 months of 1934 are the actual figures rounded off to the nearest thousand, as reported by 552 identical establishments in drilling and production, 65 on pipe lines, and 212 in refining. The figures for the three previous periods, however, are the number of employees these same firms would presumably have employed had their employment followed the trend as revealed by the index numbers. The man-hours worked and hours per week were similarly computed.

Changes in Per-Capita Weekly Earnings and Average Hourly Earnings

Employees other than clerical.—Compared to May 1929, the per-capita weekly earnings in July 1934 of employees other than clerical workers showed a reduction of 21.1 percent in drilling and production, a gain of 1 percent on pipe lines, and a decrease of 15.2 percent in refining. During approximately the same period (June 1929 to June 1934) the cost of living declined 20 percent. This would indicate an increase in purchasing power between 1929 and 1934 of about 26 and 6 percent, respectively, for the average workers employed on pipe lines and in refining, but a decrease of approximately 1.4 percent for employees in drilling and production.

Increases in average hourly earnings of employees other than clerical workers in July 1934 as compared with May 1929 amounted to 18.3 percent in drilling and production and in refining, and 44.1 percent on pipe lines.

Clerical employees.—From May 1929 to July 1934 clerical workers were not subject to fluctuations in wages to the same extent as the other workers. In the drilling and production branches of the industry there were three small reductions between May 1929 and May 1934 which amounted to 6.3 percent. An increase of 6.7 percent between May 1934 and July 1934 raised the per-capita weekly earnings to the same level as in May 1929. On pipe lines per-capita earnings dropped 10.9 percent between May 1929 and November 1933. By July 1934 they had recovered somewhat, being 6.7 below their May 1929 average. In refining, per-capita weekly earnings followed the same general trend as on pipe lines, and the July average was 3.9 percent under that of May 1929.

Average hourly earnings of clerical employees increased materially from 1929 to 1934. In July 1934 the hourly earnings of drilling and production clerical employees were 19.8 percent above the May 1929 level, and those of pipe-line and refining employees were 13.4 and 9.4 percent, respectively, above that level.

The changes in per-capita weekly earnings and in hourly earnings for employees other than clerical workers and for clerical employees are shown in table 2.

TABLE 2.—CHANGES IN AMOUNT OF PAY ROLLS AND IN EARNINGS IN THE PETROLEUM INDUSTRY, IN SELECTED PERIODS

[Percentages of change from period to period computed from reports of identical plants for which man-hour data were available]

Employees other than clerical

Branch of industry, and period	Pay rolls			Per capita weekly earnings			Earnings per hour		
	Amount per week ¹	Per cent of change from preceding period	Index numbers	Amount ¹	Per cent of change from preceding period	Index numbers	Average ¹	Per cent of change from preceding period	Index numbers
Drilling and production:									
May 1929.....	\$2,753,000	-----	100.0	\$34.00	-----	100.0	\$0.660	-----	100.0
May 1933.....	1,032,000	-62.5	37.5	25.00	-26.2	73.8	.560	-16.0	84.0
November 1933.....	1,407,000	+36.2	51.1	24.00	-4.2	70.7	.740	+31.6	110.6
May 1934.....	1,614,000	+14.7	58.6	25.00	+6.1	75.0	.770	+4.5	115.6
July 1934.....	1,776,000	+10.0	64.5	27.00	+5.1	78.9	.790	+2.3	118.3
Pipe lines:									
May 1929.....	669,000	-----	100.0	27.00	-----	100.0	.540	-----	100.0
May 1933.....	362,000	-45.9	54.1	25.00	-8.2	91.8	.550	+2.0	102.0
November 1933.....	449,000	+23.9	67.1	24.00	-4.5	87.6	.740	+33.9	136.5
May 1934.....	460,000	+2.5	68.7	25.00	+4.9	91.9	.750	+1.2	138.2
July 1934.....	534,000	+16.1	79.8	27.00	+9.9	101.0	.780	+4.3	144.1
Refining:									
May 1929.....	2,711,000	-----	100.0	31.00	-----	100.0	.640	-----	100.0
May 1933.....	1,540,000	-43.2	56.8	25.00	-21.0	79.0	.600	-5.7	94.3
November 1933.....	1,773,000	+15.2	65.4	24.00	-1.2	78.0	.700	+17.3	110.6
May 1934.....	1,909,000	+7.7	70.4	26.00	+4.8	81.8	.740	+4.5	115.7
July 1934.....	2,022,000	+5.9	74.6	27.00	+3.7	84.8	.750	+2.3	118.3

Clerical employees

Drilling and production:									
May 1929.....	\$88,000	-----	100.0	\$33.00	-----	100.0	\$0.690	-----	100.0
May 1933.....	57,000	-35.6	64.4	32.00	-3.4	96.6	.710	+2.5	102.5
November 1933.....	64,000	+13.5	73.1	31.00	-2.5	94.1	.780	+10.1	112.8
May 1934.....	69,000	+7.2	78.4	31.00	-4	93.7	.750	-4.1	108.2
July 1934.....	78,000	+12.4	88.1	33.00	+6.7	100.0	.830	+10.7	119.8
Pipe lines:									
May 1929.....	26,000	-----	100.0	35.00	-----	100.0	.740	-----	100.0
May 1933.....	20,000	-22.5	77.5	32.00	-9.5	90.5	.760	+3.1	103.1
November 1933.....	24,000	+21.1	93.8	31.00	-1.5	89.1	.810	+6.8	110.1
May 1934.....	25,000	+3.9	97.4	32.00	+6	89.7	.810	-2	109.8
July 1934.....	27,000	+9.2	109.4	33.00	+4.1	93.3	.840	+3.2	113.4
Refining:									
May 1929.....	138,000	-----	100.0	33.00	-----	100.0	.760	-----	100.0
May 1933.....	105,000	-23.6	76.4	30.00	-9.6	90.4	.750	-1.3	98.7
November 1933.....	114,000	+8.1	82.6	30.00	-1.0	89.5	.790	+4.5	103.1
May 1934.....	119,000	+4.8	86.6	30.00	+1.4	90.8	.790	+8	103.9
July 1934.....	132,000	+10.3	95.6	32.00	+5.8	96.1	.840	+5.2	109.4

¹ Computed by method described in table 1.**Police Departments in Principal Cities—Salaries and Hours, 1934**

BECAUSE of the growing importance of law administration as a gainful occupation, the Bureau of Labor Statistics has in recent years made occasional surveys of the salaries of police-department employees in the principal cities. The 1934 survey was more comprehensive than the preceding studies,⁹ all cities with a population of 25,000 or over being canvassed. Reports were received from 377 cities, and the number of employees covered totaled 88,985. A summary of the survey is printed in the October 1935 issue of the Monthly Labor Review (p. 857).

The following table gives the average annual salaries and daily hours on duty of police-department employees, classified by size of cities.

⁹ For results of previous studies see Monthly Labor Review, October 1919 (p. 147), October 1924 (pp. 68-77), January 1930 (pp. 118-138), and May 1933 (pp. 1116-1150).

AVERAGE ANNUAL SALARIES AND DAILY HOURS ON DUTY OF POLICE-DEPARTMENT EMPLOYEES IN 1934, BY SIZE OF CITIES

Rank or occupation	All cities		Cities of 1,000,000 or more		Cities of 500,000 and under 1,000,000	
	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day
Chiefs or superintendents of police.....	\$3,107	19.4	\$7,563	18.0	\$5,788	18.0
Assistant or deputy chiefs.....	2,991	18.6	5,707	18.0	4,255	8.0
Chiefs of detectives.....	2,558	18.7	5,273	18.0	3,877	18.0
Inspectors.....	3,027	18.2	4,370	18.0	2,718	18.0
Captains of detectives.....	2,591	18.8	3,611	18.0	2,931	8.0
Captains of police.....	2,806	18.4	3,849	18.0	3,132	18.0
Lieutenants of detectives.....	2,603	18.3	2,973	18.0	2,664	9.0
Lieutenants of police.....	2,729	18.1	3,441	8.0	2,433	8.0
Sergeants of detectives.....	2,192	18.2	2,688	8.0	2,391	8.3
Sergeants of police.....	2,393	18.1	2,851	8.0	2,337	8.0
Detectives.....	2,256	18.4	3,005	18.0	2,152	8.5
Patrolmen.....	2,175	18.1	2,509	8.0	2,045	8.0
Policewomen.....	2,113	18.0	2,481	8.0	1,829	8.0
Matrons.....	1,293	18.6	1,721	18.0	1,353	8.3
Identification chiefs.....	2,136	18.4	3,859	8.0	2,754	8.0
Identification clerks.....	1,637	8.0	2,700	8.0	1,938	8.0
Fingerprint operators.....	1,832	18.5	1,946	8.0	2,525	8.0
Superintendents of telephone or radio.....	2,041	18.6	4,680	8.0	2,535	8.0
Electricians or linemen.....	1,505	8.0	1,603	8.0	1,962	8.0
Telephone operators.....	1,988	8.0	2,331	8.0	1,431	8.0
Machinists or mechanics.....	1,902	18.1	3,286	8.0	3,380	8.0
Secretaries.....	2,284	7.9	2,400	8.0	2,265	8.0
Assistant secretaries.....	1,991	8.1	2,803	7.3	2,876	8.0
Clerical (stenographers, typists, bookkeepers, etc.).....	1,673	17.9	1,840	7.9	1,687	8.0

Rank or occupation	Cities of 250,000 and under 500,000		Cities of 100,000 and under 250,000		Cities of 50,000 and under 100,000		Cities of 25,000 and under 50,000	
	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day	Average annual salary	Average hours on duty per day
Chiefs or superintendents of police.....	\$4,598	18.4	\$3,653	18.4	\$3,082	19.5	\$2,521	19.9
Assistant or deputy chiefs.....	3,693	18.1	3,019	18.0	2,409	18.4	1,949	19.5
Chiefs of detectives.....	3,300	8.2	2,586	18.3	2,099	18.5	1,884	19.8
Inspectors.....	3,144	18.1	2,448	8.0	2,168	8.6	1,973	8.7
Captains of detectives.....	2,630	8.2	2,449	8.6	2,243	10.2	2,220	9.0
Captains of police.....	2,835	18.2	2,440	8.2	2,264	8.6	1,973	9.1
Lieutenants of detectives.....	2,387	8.5	2,181	8.1	2,345	18.4	2,268	19.1
Lieutenants of police.....	2,633	18.2	2,318	8.1	2,174	8.4	2,081	18.3
Sergeants of detectives.....	2,067	8.1	2,040	8.1	2,109	18.6	1,945	18.8
Sergeants of police.....	2,195	18.2	2,049	8.1	2,010	8.2	1,806	18.6
Detectives.....	2,146	18.2	1,872	18.6	1,792	18.7	1,676	19.0
Patrolmen.....	1,989	18.1	1,829	8.0	1,775	8.2	1,702	8.6
Policewomen.....	2,011	8.0	1,604	7.9	1,683	8.0	1,418	18.0
Matrons.....	1,422	8.1	1,191	18.2	1,106	10.7	973	17.7
Identification chiefs.....	2,588	18.4	2,003	8.0	2,042	8.6	1,814	8.9
Identification clerks.....	1,576	8.0	1,619	8.1	1,661	7.9	1,617	8.0
Fingerprint operators.....	1,867	18.4	2,098	8.0	1,803	8.5	1,552	18.9
Superintendents of telephone or radio.....	2,307	18.4	1,927	8.0	1,764	9.3	1,581	19.4
Electricians or linemen.....	2,193	18.0	2,005	8.0	1,789	8.2	1,757	8.5
Telephone operators.....	1,649	8.0	1,333	7.7	1,541	8.0	1,460	8.1
Machinists or mechanics.....	1,785	8.1	1,735	8.1	2,056	8.3	1,561	8.7
Secretaries.....	2,391	8.0	1,825	18.0	1,602	8.2	1,449	8.2
Assistant secretaries.....	2,263	7.3						
Chief clerks.....	2,605	8.2	2,095	7.8	1,684	8.2	1,613	8.2
Clerical (stenographers, typists, bookkeepers, etc.).....	1,598	8.0	1,430	7.9	1,522	8.0	1,162	18.0

¹ For all men in this group except a very few for whom data were not reported.

For all cities the highest average number of hours and days worked per week was reported for police chiefs (or superintendents), who averaged 6.6 days and 61.9 hours per week. Assistant secretaries and clerical workers, with an average of 6, worked the least number of days per week, and assistant secretaries the lowest weekly hours (47.7).

In cities of 1,000,000 or over, the general practice was a 6-day week of 48 working hours. In only one instance was the average number of days worked per week greater than 6.3 and no occupation had more than 54.9 hours per week. As the size of the city declined, a marked increase was shown in the working time. In cities of 25,000 and under 50,000, the working time for patrolmen averaged 6.5 days (55.5 hours) per week, as compared with 6.1 days (49.1 hours) in cities of 1,000,000 or over. Chiefs or superintendents of police in cities of 25,000 and under 50,000 averaged 65.8 hours per week, as contrasted with 48 hours in cities of 1,000,000 or over.

Nearly all cities reported a policy of granting annual vacations with pay. For all cities, the longest average annual leave was 16.7 days given to lieutenants of police, and the shortest was 10.6 days, given to patrolmen. In cities of 1,000,000 or over, annual vacations of superintendents or chiefs of police ranged from 14 to 30 days, and of patrolmen from 14 to 20 days. In cities of 500,000 and under 1,000,000, superintendents or chiefs were granted annual leave ranging from 12 to 30 days.

Portland Cement Industry—Hours and Earnings, 1932

THIS article summarizes the results of a study of wages and hours of labor of wage earners in the Portland cement industry in the United States, made by the Bureau of Labor Statistics in 1932, and also comparative figures for 1929. Details of the 1932 study appear in the *Monthly Labor Review* for March 1933 (p. 595).

The 1932 data are for 103 representative Portland cement plants in 28 States and cover 13,609 males and 68 females, or a total of 13,677 wage earners in the industry. The data for 66 percent of the 103 establishments were for a pay period in August, September, or October.

Table 1 shows, for 1929 and 1932, average hours and earnings of males and females in each of the important occupations in the various departments, for a group of miscellaneous wage earners designated as "Other employees", for each department as a whole, and also for all wage earners in the plants covered.

TABLE 1.—AVERAGE HOURS AND EARNINGS AND PERCENT OF FULL TIME WORKED IN 1 WEEK, IN THE PORTLAND CEMENT INDUSTRY, 1929 AND 1932, BY DEPARTMENT, OCCUPATION, AND SEX

Department, occupation, and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1932	Average number		Percent of full time		1929	1932	1929	1932	1929	1932
			1929	1932	1929	1932						
All departments, all occupations:												
Males.....	60.8	59.1	56.7	45.8	93.3	77.5	\$0.518	\$0.401	\$31.49	\$23.70	\$29.33	\$18.39
Females.....	52.0	45.6	46.6	27.2	89.6	56.0	.389	.386	20.23	18.76	18.12	10.52
Males and females..	60.8	59.0	56.6	45.7	93.1	77.5	.517	.401	31.43	23.66	29.25	18.35
<i>Quarry</i>												
Drillers, male.....	56.9	55.3	54.0	43.8	94.9	79.2	.525	.396	29.87	21.90	28.38	17.36
Blasters, male.....	55.9	54.6	54.2	44.2	89.1	81.0	.534	.431	29.85	23.53	28.97	19.06
Shovel operators, male.....	57.5	56.3	55.8	45.2	97.0	80.3	.730	.551	41.98	31.02	40.74	24.91
Shovel cranemen, male.....	57.1	55.6	54.5	43.5	95.4	78.2	.595	.432	33.97	24.02	32.41	18.78
Shovel firemen, male.....	58.7	58.9	59.4	45.6	101.2	77.4	.461	.361	27.06	21.26	27.42	16.44
Locomotive operators, male.....	57.3	55.8	56.3	43.8	98.3	78.5	.532	.411	30.48	22.93	29.96	17.99
Locomotive firemen, male.....	57.5	55.5	56.4	44.4	98.1	75.9	.471	.365	27.08	21.35	26.57	16.21
Laborers, male.....	57.4	55.9	51.1	41.6	89.0	74.4	.395	.291	22.67	16.27	20.17	12.09
Other employees, male.....	58.2	56.5	55.7	42.2	95.7	74.7	.499	.398	29.04	22.49	27.81	16.81
Total, quarry.....	57.6	56.0	54.2	43.0	94.1	76.8	.492	.389	28.34	21.78	26.67	16.74
<i>Raw</i>												
Unloaders, mechanical, male.....	61.7	56.2	60.4	46.8	97.9	83.3	.506	.394	31.22	22.14	30.59	18.46
Crusher operators, male.....	56.9	58.6	55.8	49.0	98.1	83.6	.503	.362	28.62	21.21	28.05	17.72
Conveyor men and elevator men.....	66.8	64.0	63.8	50.2	95.5	78.4	.428	.323	28.59	20.67	27.28	16.21
Raw-mixer tenders, male.....	66.1	65.1	62.3	51.5	94.3	79.1	.479	.340	31.66	22.13	29.84	17.48
Drier men.....	66.3	63.6	61.2	47.4	92.3	74.5	.454	.355	30.10	22.58	27.78	16.85
Raw millers, male:												
Primary.....	66.8	64.5	62.1	52.4	93.0	81.2	.503	.395	33.60	25.48	31.21	20.69
Secondary.....	64.9	60.9	60.0	60.0	92.4	82.1	.505	.386	32.77	23.51	30.31	19.27
Total raw millers.....	66.0	63.7	61.3	51.8	92.9	81.3	.504	.393	33.26	25.03	30.86	20.35
Oilers, male.....	63.6	63.6	63.8	51.5	93.0	81.0	.406	.348	27.85	22.13	25.90	17.94
Laborers, male.....	62.7	60.3	59.2	46.1	94.4	76.5	.405	.318	25.39	19.18	24.01	14.63
Other employees, male.....	64.6	63.7	60.4	50.1	96.5	78.6	.500	.382	32.80	24.33	30.19	19.11
Total, raw.....	64.5	62.5	60.7	49.7	94.1	79.5	.464	.360	29.93	22.60	28.17	17.90
<i>Coal mill</i>												
Conveyor men and elevator men.....	70.4	57.6	65.4	44.9	92.9	78.0	.423	.352	29.78	20.28	27.69	15.78
Drier men.....	66.5	65.9	62.9	50.5	94.6	76.6	.461	.355	30.66	23.39	29.00	17.90
Coal millers, male.....	68.3	65.8	65.7	54.2	96.2	82.4	.519	.399	35.45	26.25	34.12	21.65
Laborers, male.....	71.2	67.8	63.4	54.4	89.0	80.2	.363	.285	25.85	19.32	23.02	15.52
Other employees, male.....	67.6	61.2	63.6	46.3	94.1	75.7	.459	.379	31.03	23.19	29.21	17.56
Total, coal mill.....	68.5	64.8	64.2	51.4	93.7	79.3	.457	.366	31.30	23.72	29.35	18.82
<i>Clinker</i>												
Burners, male:												
First.....	64.2	62.1	64.0	54.3	99.7	87.4	.628	.495	40.32	30.74	40.16	26.84
Second.....	65.3	61.6	61.8	48.7	94.6	79.1	.534	.409	34.87	25.19	33.03	19.91
Total burners.....	64.6	62.1	63.1	53.4	97.7	86.0	.591	.482	38.18	29.93	37.27	25.70
Cooler tenders, male.....	69.3	68.0	65.7	55.6	94.8	81.8	.456	.347	31.00	23.60	29.95	19.27
Gypsum mixers, male.....	65.7	65.8	62.7	50.6	95.4	76.9	.456	.346	29.96	22.77	28.58	17.50
Conveyor men and elevator men.....	69.4	64.6	64.0	51.7	92.2	80.0	.437	.338	30.33	21.83	27.96	17.45
Clinker millers, male.....	63.3	66.0	61.9	53.5	93.4	81.1	.498	.380	33.02	25.08	30.82	20.34
Oilers, male.....	69.4	65.1	67.1	53.0	96.7	81.4	.449	.355	31.16	23.11	30.16	18.82
Laborers, male.....	62.2	62.9	65.8	46.8	87.1	74.4	.422	.307	28.36	19.31	24.66	14.39
Other employees, male.....	67.7	63.8	64.5	51.3	95.3	80.4	.497	.391	33.65	24.95	32.05	20.05
Total, clinker.....	67.1	64.2	63.3	52.1	94.3	81.2	.495	.389	33.21	24.97	31.32	20.27

TABLE 1.—AVERAGE HOURS AND EARNINGS AND PERCENT OF FULL TIME WORKED IN WEEK, IN THE PORTLAND CEMENT INDUSTRY, 1929 AND 1932, BY DEPARTMENT, OCCUPATION, AND SEX—Continued

Department, occupation, and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1932	Average number		Percent of full time		1929	1932	1929	1932	1929	1932
			1929	1932	1929	1932						
<i>Cement</i>												
Conveyor men and elevator men.....	57.9	55.8	54.5	44.6	94.1	79.9	\$0.437	\$.363	\$25.30	\$20.26	\$23.80	\$16.18
Packers (sackers), male.....	56.1	55.5	44.8	29.1	79.9	52.4	.370	.518	48.81	28.75	38.97	15.10
Loaders, male.....	57.2	55.3	39.2	29.3	68.5	53.0	.560	.410	32.03	22.67	21.95	12.01
Sack sorters, male.....	57.1	54.6	51.9	40.3	90.9	73.8	.411	.335	23.47	18.29	21.31	13.52
Sack sorters, female.....	53.8	48.0	46.1	21.5	85.7	44.8	.328	.411	17.65	19.73	15.12	8.85
Sack cleaners, male.....	54.7	52.9	48.4	41.0	88.5	77.5	.425	.364	23.25	19.26	20.58	14.91
Sack cleaners, female.....	51.4	(1)	44.6	(1)	86.8	(1)	.425	(1)	21.85	(1)	18.93	(1)
Sack tiers, male.....	55.2	54.3	47.1	36.1	85.3	66.5	.495	.383	27.32	20.80	23.32	13.83
Sack tiers, female.....	48.9	49.7	46.6	26.9	95.3	54.1	.493	.391	24.11	19.43	22.98	10.54
Oilers, male.....	56.9	55.1	53.4	51.1	93.8	92.7	.466	.390	26.52	21.49	24.89	19.93
Laborers, male.....	57.3	54.1	50.0	38.2	87.3	70.6	.415	.326	23.78	17.64	20.75	12.45
Other employees, male.....	57.0	55.2	54.9	43.0	96.3	77.9	.554	.408	31.58	22.52	30.43	17.54
Other employees, female.....	51.5	48.6	47.0	31.6	91.3	65.0	.401	.372	20.65	18.08	18.86	11.74
Total, cement:												
Males.....	56.6	55.1	48.6	34.8	85.9	63.2	.612	.418	34.64	23.03	29.76	14.56
Females.....	52.0	48.6	46.6	27.2	89.6	56.0	.389	.386	20.23	18.76	18.12	10.52
<i>Power</i>												
Firemen.....	61.9	61.9	59.4	49.5	96.0	80.0	.523	.404	32.37	25.01	31.05	19.96
Engineers, male.....	60.3	60.6	59.0	49.4	97.8	81.5	.589	.480	35.52	29.09	34.74	23.72
Turbine operators, male.....	64.7	64.1	64.2	57.9	99.2	90.3	.582	.476	37.66	30.51	37.37	27.55
Pumpmen.....	69.3	63.7	67.5	66.3	97.4	88.4	.450	.389	31.19	24.78	30.37	21.90
Oilers, male.....	70.5	70.9	67.3	57.1	95.5	80.5	.461	.339	32.50	24.04	31.03	19.34
Laborers, male.....	63.2	62.2	57.6	50.2	91.1	80.7	.395	.313	24.96	19.47	22.72	15.75
Other employees, male.....	67.1	62.2	62.8	50.4	93.6	81.0	.557	.431	37.37	26.81	35.03	21.69
Total, power.....	65.8	62.9	62.3	51.4	94.7	81.7	.541	.418	35.60	26.29	33.68	21.51
<i>Shops and miscellaneous</i>												
Machinists, male.....	56.0	55.9	52.3	41.7	93.4	74.6	.651	.529	36.46	29.57	34.03	22.05
Repairmen.....	61.3	58.3	50.7	48.8	97.4	83.7	.572	.444	35.06	25.89	34.17	21.70
Laborers, male.....	58.7	56.7	53.4	45.2	91.0	79.7	.371	.301	21.78	17.07	19.77	13.60
Other employees, male.....	57.4	55.8	55.0	46.5	95.8	83.3	.562	.468	32.26	26.11	30.95	21.73
Total, shops and miscellaneous.....	58.5	56.7	55.6	46.5	95.0	82.0	.531	.433	31.06	24.55	29.51	20.11

1 None reported in 1932.

Average hours and earnings and the percent of full time worked by wage earners of each sex and of both sexes combined, are shown in table 2 for each of 12 geographic districts. The districts are those shown by the Bureau of Mines in Portland Cement Industry in 1931, except that no data are shown in this table for Maine in district 2, for Louisiana in district 6, for Minnesota and South Dakota in dis-

trict 7, for Arkansas in district 8, nor for Idaho and Wyoming in district 10. The districts are as follows:

District 1.—Maryland, New Jersey, and eastern Pennsylvania.

District 2.—New York.

District 3.—Ohio, western Pennsylvania, and West Virginia.

District 4.—Michigan.

District 5.—Illinois, Indiana, Kentucky, and Wisconsin.

District 6.—Alabama, Florida, Georgia, Tennessee, and Virginia.

District 7.—Iowa and eastern Missouri.

District 8.—Kansas, western Missouri, Nebraska, and Oklahoma.

District 9.—Texas.

District 10.—Colorado, Montana, and Utah.

District 11.—California.

District 12.—Oregon and Washington.

TABLE 2.—AVERAGE HOURS AND EARNINGS AND PERCENT OF FULL TIME WORKED IN 1 WEEK IN THE PORTLAND CEMENT INDUSTRY, 1929 AND 1932, BY SEX AND DISTRICT

Sex and district	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1932	Average number		Percent of full time		1929	1932	1929	1932	1929	1932
			1929	1932	1929	1932						
Males												
District 1.....	61.2	60.3	57.3	39.4	93.6	65.3	\$0.554	\$0.416	\$33.90	\$25.08	\$31.74	\$16.39
District 2.....	60.7	58.0	55.8	41.9	91.9	72.2	.551	.415	33.45	24.07	30.71	17.39
District 3.....	61.5	58.4	58.5	45.0	95.1	77.1	.558	.412	34.32	24.06	32.64	18.54
District 4.....	63.1	67.5	56.8	59.1	91.5	87.6	.564	.369	35.02	24.90	32.00	21.82
District 5.....	60.2	54.1	55.2	43.9	91.7	81.1	.495	.408	29.80	22.07	27.30	17.93
District 6.....	64.0	63.8	55.6	52.4	86.7	82.1	.427	.314	27.33	20.03	23.73	16.43
District 7.....	61.6	69.4	59.0	58.7	95.8	84.6	.479	.355	29.51	24.64	28.22	20.83
District 8.....	60.0	57.7	57.4	49.3	95.7	85.4	.446	.358	26.76	20.66	25.60	17.66
District 9.....	67.9	61.9	62.4	50.0	91.9	80.8	.373	.348	25.33	21.54	23.31	17.39
District 10.....	56.8	54.5	54.1	53.4	95.2	98.0	.526	.466	29.88	25.40	28.45	24.86
District 11.....	55.2	54.3	54.3	49.4	98.4	91.0	.587	.491	32.40	26.66	31.88	24.23
District 12.....	53.9	51.3	50.1	44.2	92.9	86.2	.609	.566	32.83	29.04	30.54	25.03
Total males.....	60.8	59.1	56.7	45.8	93.3	77.5	.518	.401	31.49	23.70	29.33	18.39
Females												
District 1.....	53.6	(²)	41.4	(²)	77.2	(²)	.356	(²)	19.08	(²)	14.74	(²)
District 2.....	45.1	(¹)	43.6	(¹)	96.7	(¹)	.412	(¹)	18.58	(¹)	17.96	(¹)
District 3.....	50.4	(²)	39.4	(²)	78.2	(²)	.448	(²)	22.58	(²)	17.65	(²)
District 4.....	56.7	48.0	48.9	42.7	86.2	89.0	.348	.263	19.73	12.62	17.04	11.22
District 5.....	51.7	48.7	49.0	21.4	86.8	43.9	.370	.379	19.13	18.46	16.63	8.11
District 6.....	54.6	(¹)	51.2	(¹)	93.8	(¹)	.331	(¹)	18.07	(¹)	16.95	(¹)
District 7.....	57.8	48.0	53.9	16.6	93.3	34.6	.399	.335	23.06	16.08	21.54	5.55
District 8.....	(¹)	50.4	(¹)	36.2	(¹)	71.8	(¹)	.255	(¹)	12.85	(¹)	9.23
District 9.....	48.8	(¹)	42.0	(¹)	86.1	(¹)	.416	(¹)	20.30	(¹)	17.43	(¹)
District 10.....	47.8	48.0	47.8	47.9	100.0	99.8	.528	.564	25.24	27.07	25.24	27.01
District 12.....	(¹)	48.0	(¹)	32.1	(¹)	66.9	(¹)	.375	(¹)	18.00	(¹)	12.03
Total females.....	52.0	48.6	46.6	27.2	89.6	56.0	.389	.386	20.23	18.76	18.12	10.52
Males and females												
District 1.....	61.1	60.3	57.3	39.4	93.6	65.3	.553	.416	33.79	25.08	31.70	16.39
District 2.....	60.6	58.0	55.7	41.8	91.9	72.1	.550	.415	33.33	24.07	30.60	17.38
District 3.....	61.4	58.4	58.4	45.0	95.1	77.1	.558	.412	34.26	24.06	32.57	18.54
District 4.....	62.0	67.3	56.7	59.0	91.5	87.7	.562	.369	34.84	24.83	31.88	21.74
District 5.....	60.2	54.0	55.0	43.5	91.4	80.6	.494	.408	29.74	22.03	27.18	17.75
District 6.....	64.0	63.8	55.6	52.4	86.7	82.1	.427	.314	27.33	20.03	23.73	16.43
District 7.....	61.5	69.4	58.8	58.6	95.6	84.4	.476	.355	29.27	24.64	27.99	20.80
District 8.....	60.0	57.7	57.4	49.1	95.7	85.1	.446	.358	26.76	20.66	25.58	17.58
District 9.....	67.8	61.8	62.3	49.9	91.8	80.7	.373	.348	25.29	21.51	23.25	17.33
District 10.....	56.7	54.5	53.9	53.4	95.1	98.0	.525	.465	29.77	25.34	28.28	24.85
District 11.....	55.1	54.3	54.2	49.4	98.4	91.0	.586	.491	32.29	26.66	31.78	24.25
District 12.....	53.9	51.3	50.1	44.0	92.9	85.8	.608	.564	32.77	28.93	30.48	24.85
Total males and females.....	60.8	59.0	56.6	45.7	93.1	77.5	.517	.401	31.43	23.66	29.25	18.35

¹ Data included in total.

² None reported in 1932.

Table 3 shows for the wage earners of each sex and of both sexes combined in each State, or groups of two States, average hours and earnings and the percent of full time worked in 1 week in 1932.

TABLE 3.—AVERAGE HOURS AND EARNINGS OF WAGE EARNERS AND PERCENT OF FULL TIME WORKED IN 1 WEEK, IN THE PORTLAND CEMENT INDUSTRY, 1932, BY SEX AND STATE

Sex and State	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
		Average number	Percent of full time			
<i>Males</i>						
Alabama.....	66.0	51.3	77.7	\$0.344	\$22.70	\$17.61
California.....	54.3	49.4	91.0	.491	26.66	24.25
Colorado and Montana ¹	54.0	52.3	96.9	.467	25.22	24.41
Georgia and Florida ¹	65.2	61.3	94.0	.242	15.78	14.80
Illinois.....	51.4	44.4	86.4	.405	20.82	17.99
Indiana and Kentucky ¹	54.5	42.8	78.5	.411	22.40	17.60
Iowa.....	73.9	63.7	86.2	.331	24.46	21.08
Kansas.....	57.8	43.8	75.8	.350	20.23	15.32
Maryland and West Virginia ¹	57.7	38.1	66.0	.401	23.14	15.30
Michigan and Wisconsin ¹	68.3	58.3	85.4	.374	25.54	21.81
Missouri.....	66.1	57.8	87.4	.380	25.12	21.96
Nebraska.....	54.7	53.9	98.5	.335	18.32	18.07
New Jersey.....	69.9	46.8	67.0	.387	27.05	18.12
New York.....	58.0	41.9	72.2	.415	24.07	17.38
Ohio.....	53.2	45.6	85.7	.433	23.04	19.75
Oklahoma.....	52.4	46.9	89.5	.385	20.17	18.05
Oregon.....	52.6	46.8	89.0	.523	27.51	24.44
Pennsylvania.....	58.5	38.8	66.3	.423	24.75	16.41
Tennessee.....	60.0	47.4	79.0	.334	20.04	15.83
Texas.....	61.9	50.0	80.8	.348	21.54	17.39
Utah.....	55.4	55.7	100.5	.463	25.65	25.78
Virginia.....	62.4	48.0	76.9	.359	22.40	17.26
Washington.....	50.6	42.9	84.8	.591	29.90	25.35
Total males.....	59.1	45.8	77.5	.401	23.70	18.39
<i>Females</i>						
California.....	48.0	47.9	99.8	.564	27.07	27.01
Illinois.....	48.0	46.9	97.7	.342	16.42	16.01
Indiana and Kentucky ¹	48.8	15.3	31.4	.406	19.81	6.21
Iowa.....	(2)	(2)	(2)	(2)	(2)	(2)
Michigan and Wisconsin ¹	48.0	42.7	89.0	.263	12.62	11.22
New York.....	(2)	(2)	(2)	(2)	(2)	(2)
Oklahoma.....	48.0	16.6	34.6	.335	16.08	5.55
Oregon.....	48.0	25.2	52.5	.379	18.19	9.55
Texas.....	50.4	36.2	71.8	.255	12.85	9.23
Utah.....	(2)	(2)	(2)	(2)	(2)	(2)
Washington.....	48.0	37.3	77.7	.373	17.90	13.89
Total females.....	48.6	27.2	56.0	.386	18.76	10.52
<i>Males and females</i>						
Alabama.....	66.0	51.3	77.7	.344	22.70	17.61
California.....	54.3	49.4	91.0	.491	26.66	24.25
Colorado and Montana ¹	54.0	52.3	96.9	.467	25.22	24.41
Georgia and Florida ¹	65.2	61.3	94.0	.242	15.78	14.80
Illinois.....	51.3	44.4	86.5	.404	20.73	17.97
Indiana and Kentucky ¹	54.4	42.1	77.4	.411	22.36	17.31
Iowa.....	73.8	63.5	86.0	.331	24.43	21.03
Kansas.....	57.8	43.8	75.8	.350	20.23	15.32
Maryland and West Virginia ¹	57.7	38.1	66.0	.401	23.14	15.30
Michigan and Wisconsin ¹	68.2	58.2	85.3	.373	25.44	21.74
Missouri.....	66.1	57.8	87.4	.380	25.12	21.96
Nebraska.....	54.7	53.9	98.5	.335	18.32	18.07
New Jersey.....	69.9	46.8	67.0	.387	27.05	18.12
New York.....	58.0	41.8	72.1	.415	24.07	17.38
Ohio.....	53.2	45.6	85.7	.433	23.04	19.75
Oklahoma.....	52.3	46.1	88.1	.384	20.08	17.73
Oregon.....	52.5	46.4	88.4	.521	27.35	24.18
Pennsylvania.....	58.5	38.8	66.3	.423	24.75	16.41
Tennessee.....	60.0	47.4	79.0	.334	20.04	15.83
Texas.....	61.8	49.9	80.7	.348	21.51	17.33
Utah.....	55.4	55.7	100.5	.462	25.59	25.72
Virginia.....	62.4	48.0	76.9	.359	22.40	17.26
Washington.....	50.6	42.8	84.6	.589	29.80	25.21
Total males and females.....	59.0	45.7	77.5	.401	23.66	18.35

¹ Shown together to avoid presenting data for 1 establishment in any State.

² Data included in totals.

Pottery Industry—Hours and Earnings, 1932

THIS article presents the results of a study made by the Bureau of Labor Statistics of wages and hours of labor in the general-ware pottery industry in 1932, together with comparable data for 1925. The data are presented, by occupation and sex, for each of two kinds of pottery ware, semivitreous and vitreous, and for all occupations combined in each of these two divisions of the industry. The details of the 1932 study were published in the Monthly Labor Review for April 1933 (p. 853). Each study covered a representative pay period of 2 weeks in the summer and the early fall.

The Bureau collected wage figures for 6,666 males and 3,657 females from 46 representative semivitreous-ware potteries in 8 States and 1,619 males and 1,065 females in 7 vitreous-ware potteries in 4 States in 1925; and for 4,086 males and 2,381 females of 27 semivitreous-ware potteries in 9 States and 1,429 males and 990 females of 12 vitreous potteries in 4 States in 1932. Many of the semivitreous potteries that were included in 1925 were out of business or not in operation in 1932. The semivitreous-ware wage figures for 1925 are for 31 potteries in Ohio, 7 in West Virginia, 3 in New Jersey, 2 in Pennsylvania, and 1 each in Maryland, Tennessee, and Virginia; and for 1932 are for 11 in Ohio, 8 in West Virginia, 2 in New Jersey, and 1 each in Pennsylvania, Maryland Tennessee, Virginia, Illinois, and Indiana. The vitreous-ware figures in 1925 are for 3 potteries in New York, 2 in Pennsylvania, and 1 each in New Jersey and West Virginia, and in 1932 are for 4 in New York, 3 in Pennsylvania, 3 in West Virginia, and 2 in Ohio.

Table 1 shows for the wage earners covered in each of the more important occupations in semivitreous-ware and in vitreous-ware potteries in 1925 and in 1932 and also for a miscellaneous group designated as "Other employees" average hours worked in 2 weeks and per day, and average earnings in 2 weeks, per day, and per hour.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE POTTERY INDUSTRY, 1925 AND 1932, BY KIND OF WARE, OCCUPATION, AND SEX

Kind of ware, occupation, and sex	Average hours worked—				Average earnings—					
	In 2 weeks		Per day		In 2 weeks		Per day		Per hour	
	1925	1932	1925	1932	1925	1932	1925	1932	1925	1932
<i>Semivitreous</i>										
All occupations:										
Males.....	74.4	59.3	8.1	7.7	\$52.44	\$31.74	\$5.70	\$4.13	\$0.705	\$0.535
Females.....	69.0	54.6	7.8	7.7	26.54	15.95	2.99	2.25	.585	.292
Males and females.....	72.5	57.6	8.0	7.7	43.27	25.93	4.76	3.47	.696	.450
Slip makers, male.....	83.7	70.9	9.0	8.0	62.50	36.82	6.74	4.14	.746	.519
Laborers, slip house, male.....	76.9	66.6	8.6	7.9	44.22	30.42	4.96	3.61	.675	.457
Mold makers, male.....	85.8	56.9	8.2	8.3	91.28	45.79	8.75	6.66	1.004	.805
Clay carriers, male.....	75.3	69.0	8.7	8.6	46.19	29.74	5.37	3.70	.614	.431
Bakers-out, male.....	65.7	57.7	8.1	7.3	37.14	25.46	4.59	3.45	.565	.441
Cup ballers, male.....	62.8	54.7	7.7	7.4	21.35	16.51	2.62	2.24	.340	.302
Jiggermen.....	69.3	59.0	8.1	7.7	62.54	39.87	7.27	5.20	.902	.676
Mold runners, male.....	64.7	58.9	7.9	7.8	30.47	20.54	3.73	2.71	.471	.348
Finishers, male.....	65.7	57.4	7.6	7.7	35.75	22.38	4.12	2.98	.544	.390
Finishers, female.....	59.5	61.0	7.4	7.7	31.19	23.99	3.89	3.05	.524	.394
Dish makers, male.....	78.3	74.7	8.8	8.6	63.66	52.08	7.18	6.01	.813	.697
Dish makers' helpers, male.....	78.2	64.5	8.5	8.1	41.56	28.85	4.54	3.62	.532	.447
Dish makers' helpers, female.....	(1)	38.5	(1)	4.3	(1)	13.50	(1)	1.50	(1)	.351
Turners, male.....	67.0	47.8	7.9	6.5	63.10	37.44	7.48	5.06	.942	.783
Turners' spongers, male.....	69.4	41.5	8.2	6.1	24.52	11.80	2.89	1.73	.354	.284
Turners' spongers, female.....	61.4	91.1	7.9	7.6	19.44	18.43	2.49	1.54	.317	.202

See footnotes at end of table.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE POTTERY INDUSTRY, 1925 AND 1932, BY KIND OF WARE, OCCUPATION, AND SEX—Continued

Kind of ware, occupation, and sex	Average hours worked—				Average earnings—					
	In 2 weeks		Per day		In 2 weeks		Per day		Per hour	
	1925	1932	1925	1932	1925	1932	1925	1932	1925	1932
<i>Semivitreous—Continued</i>										
Handlers, male	71.3	56.7	8.2	7.3	\$68.10	\$43.22	\$7.85	\$5.60	\$0.955	\$0.763
Handle casters and finishers, male	74.4	60.4	8.2	7.4	39.27	23.66	4.35	2.88	.628	.392
Handle casters and finishers, female	68.9	96.0	8.8	8.0	25.32	28.33	3.25	2.36	.367	.295
Stickers-up, male	71.2	77.4	9.1	7.6	42.23	28.72	5.41	2.82	.593	.371
Casters, male	80.1	71.6	9.0	8.6	72.29	43.10	8.08	5.18	.903	.602
Pressers, male	81.1	50.0	8.8	8.3	52.62	61.00	5.74	10.17	.649	1.220
Laborers, sagger shop, male	81.3	61.2	8.7	7.5	44.56	19.62	4.75	2.87	.548	.383
Sagger makers' hand, male	71.0	56.1	8.3	7.4	68.27	39.70	8.01	5.23	.961	.708
Sagger makers' helpers, hand, male	67.7	43.4	8.1	6.8	55.65	23.64	6.39	3.71	.793	.545
Sagger makers' machine, male	73.9	61.4	8.5	8.0	46.49	33.36	5.38	4.34	.629	.543
Kiln placers, bisque, male	59.7	46.2	6.6	6.6	62.82	35.63	6.96	5.12	1.052	.771
Kiln placers, boss, bisque, male	62.7	53.0	6.6	6.8	79.84	49.04	8.40	6.29	1.273	.926
Firemen, bisque and glost	129.1	91.6	11.2	9.3	68.51	42.87	5.96	4.36	.531	.468
Kiln drawers, bisque and glost, male	47.2	40.3	6.0	6.6	33.89	20.61	4.29	3.39	.718	.511
Kiln drawers, boss, bisque, and glost, male	54.3	54.1	6.0	7.3	44.92	32.04	5.00	4.34	.827	.692
Laborers, kiln shed, male	92.0	76.5	9.2	8.3	46.43	29.74	4.66	3.22	.505	.389
Drawers (in warehouse), bisque and glost, male	(1)	99.5	(1)	8.3	(1)	19.42	(1)	1.62	(1)	.195
Drawers (in warehouse), bisque and glost, female	48.1	46.9	6.0	6.9	22.07	14.65	2.76	2.15	.459	.313
Brushers, male	(1)	101.5	(1)	8.5	(1)	13.96	(1)	1.16	(1)	.138
Brushers, female	66.3	54.6	7.7	7.8	21.21	13.03	2.46	1.86	.320	.239
Stampers, bisque, female	71.5	60.4	7.7	7.7	23.55	14.71	2.55	1.88	.330	.244
Glaze mixers, male	92.2	77.7	9.0	8.7	48.38	32.05	4.72	3.60	.625	.413
Glaze mixers' helpers, male	86.1	63.3	8.7	8.6	43.02	26.89	4.35	3.65	.500	.425
Ware boys	65.9	58.6	7.3	7.6	33.43	21.21	3.70	2.74	.508	.362
Dippers, male	60.8	50.9	6.6	6.7	75.02	41.36	8.20	5.43	1.233	.813
Dippers' helpers, male	74.0	66.4	7.3	7.6	27.26	16.89	2.70	1.93	.368	.254
Dippers' helpers, female	54.8	48.7	6.7	7.0	21.03	13.66	2.56	1.95	.384	.280
Kiln placers, glost, male	62.2	50.6	6.8	7.2	64.85	38.26	7.10	5.48	1.042	.756
Kiln placers, boss, glost, male	65.9	56.3	6.8	7.3	82.16	50.51	8.53	6.58	1.247	.897
Pin boys	67.3	46.9	6.9	6.4	39.51	21.47	4.08	2.94	.687	.457
Dressers (grinders), male	(1)	61.8	(1)	8.0	(1)	20.12	(1)	2.61	(1)	.325
Dressers, female	68.0	48.4	7.8	7.7	23.67	13.68	2.73	2.18	.348	.283
Dressers, forelady	80.6	58.3	8.3	8.1	39.35	25.73	4.07	3.58	.488	.441
Warehousemen	89.1	56.6	8.8	7.9	52.11	26.43	5.12	3.71	.585	.467
Selectors, male	(1)	71.6	(1)	8.5	(1)	27.48	(1)	3.26	(1)	.384
Selectors, female	(1)	48.3	(1)	8.2	(1)	11.73	(1)	1.98	(1)	.243
Ware carriers, male	87.1	59.8	8.5	8.0	28.44	20.51	2.79	2.76	.326	.343
Dusters, female	82.8	50.2	8.5	8.2	20.49	11.50	2.11	1.87	.248	.229
Stampers, gold, female	67.1	62.2	7.8	7.0	26.95	15.79	3.13	1.78	.402	.254
Gilders and liners, male	76.9	52.2	8.0	6.8	58.37	30.66	6.05	4.01	.759	.588
Gilders and liners, female	71.2	52.1	7.5	6.9	37.56	20.15	3.95	2.68	.528	.387
Cutters, decalcomania, female	84.0	63.2	8.5	8.2	29.25	19.08	2.95	2.48	.348	.302
Transferrers, decalcomania and print, female	76.4	56.6	8.2	8.0	28.63	16.35	3.09	2.33	.375	.289
Printers, male	70.4	67.1	7.8	7.4	48.20	37.93	5.36	4.16	.685	.565
Kiln placers, and drawers, decorating, male	75.6	53.9	7.9	8.0	58.37	27.32	6.08	4.05	.772	.507
Firemen, decorating	99.6	62.5	9.9	8.6	88.66	38.92	8.82	5.38	.890	.623
Burnishers, female	60.2	(2)	6.3	(2)	15.29	(1)	1.61	(2)	.264	(2)
Wrappers, female	76.7	52.1	8.4	7.2	21.59	11.30	2.36	1.57	.281	.217
Straw boys	68.3	69.2	7.5	7.9	22.17	17.95	2.45	2.04	.325	.259
Packers, male	70.4	37.8	7.2	6.8	69.95	32.76	6.17	3.87	.851	.567
Packers, strawless, male	(1)	62.9	(1)	6.1	(1)	6.76	(1)	1.30	(1)	.213
Packers, strawless, female	(1)	62.9	(1)	7.9	(1)	14.63	(1)	1.84	(1)	.283
Packers, head, male	83.5	78.6	8.0	7.5	80.25	54.33	7.67	5.22	.962	.691
Packers, head, female	(1)	71.8	(1)	7.2	(1)	20.33	(1)	2.03	(1)	.283
Other employees, male	88.7	76.8	8.8	8.5	45.05	30.62	4.45	3.52	.508	.399
Other employees, female	72.5	74.1	8.3	8.4	23.83	16.14	2.72	1.84	.329	.218
<i>Vitreous</i>										
All occupations:										
Males	83.5	45.8	8.2	7.2	53.25	25.03	5.25	3.94	.638	.546
Females	77.4	40.6	7.7	7.2	25.47	10.72	2.55	1.90	.329	.264
Males and females	81.1	43.7	8.0	7.2	42.23	19.15	4.19	3.16	.521	.438
Slip makers, male	106.1	66.4	9.2	8.1	77.16	39.65	6.71	4.81	.727	.597
Laborers, slip house, male	88.1	44.8	8.9	7.6	44.59	19.86	4.52	3.36	.506	.444
Mold makers, male	81.2	47.6	8.0	8.1	82.39	36.51	8.12	6.18	1.014	.765
Clay carriers, male	86.9	44.4	8.3	7.7	40.23	17.33	3.86	3.00	.463	.391
Batters-out, male	78.4	37.1	8.4	6.6	32.42	15.91	3.56	2.82	.414	.429
Cup ballers, male	(1)	34.8	(1)	7.2	(1)	14.06	(1)	2.90	(1)	.404

See footnotes at end of table.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE POTTERY INDUSTRY, 1925 AND 1932, BY KIND OF WARE, OCCUPATION, AND SEX—Continued

Kind of ware, occupation, and sex	Average hours worked—				Average earnings—					
	In 2 weeks		Per day		In 2 weeks		Per day		Per hour	
	1925	1932	1925	1932	1925	1932	1925	1932	1925	1932
<i>Vitreous—Continued</i>										
Jiggermen.....	82.1	38.1	8.3	7.3	\$73.70	\$27.56	\$7.41	\$5.29	\$0.898	\$0.724
Mold runners, male.....	71.2	32.6	7.7	6.6	28.31	11.90	3.08	2.38	.398	.362
Finishers, male.....	77.9	45.4	8.6	7.1	37.22	20.15	4.09	3.15	.478	.444
Finishers, female.....	77.2	39.8	7.9	7.0	30.49	12.47	3.14	2.18	.395	.313
Dish makers, male.....	80.7	39.5	8.5	7.7	73.67	37.20	6.95	6.56	.821	.943
Dish makers' helpers, male.....	(1)	14.8	(1)	(1)	(1)	7.15	(1)	1.79	(1)	.485
Dish makers' helpers, female.....	(1)	37.3	(1)	(1)	(1)	15.85	(1)	2.58	(1)	.426
Turners, male.....	77.5	44.4	8.0	6.2	66.38	31.28	6.84	5.10	.857	.705
Turners' spongers, male.....	84.4	43.4	8.3	6.8	24.60	12.84	2.41	2.01	.292	.296
Turners' spongers, female.....	63.3	27.5	7.9	7.4	17.26	6.91	2.16	1.87	.273	.251
Handlers, male.....	89.2	47.6	8.4	6.4	82.24	34.44	7.75	4.63	.922	.724
Handlers, female.....	(1)	20.5	(1)	(1)	(1)	8.80	(1)	3.34	(1)	.429
Handle casters and finishers, male.....	80.2	52.1	8.1	7.0	29.29	18.00	2.96	2.41	.365	.346
Handle casters and finishers, female.....	84.2	24.5	7.8	6.5	33.41	7.96	3.09	2.11	.397	.325
Stickers-up, male.....	(1)	10.0	(1)	(1)	(1)	3.18	(1)	1.06	(1)	.318
Casters, male.....	89.5	51.4	8.9	7.8	72.94	30.87	7.23	4.69	.815	.601
Casters, female.....	(1)	42.3	(1)	(1)	(1)	15.98	(1)	2.66	(1)	.378
Pressers, male.....	91.5	(2)	8.9	(2)	81.10	(2)	7.91	(2)	.887	(2)
Laborers, sagger shop, male.....	90.0	42.4	8.6	6.9	43.34	16.68	4.12	2.73	.481	.394
Sagger makers, hand, male.....	65.2	44.0	7.8	7.6	65.85	26.91	7.86	4.68	1.010	.612
Sagger makers' helpers, hand, male.....	89.5	20.3	9.0	7.6	60.97	9.21	6.10	3.45	.681	.453
Sagger makers, machine, male.....	83.4	45.3	7.4	6.5	77.98	25.06	6.93	3.58	.935	.553
Kiln placers, bisque, male.....	62.9	34.3	6.6	5.9	63.07	27.22	6.57	4.72	1.002	.794
Kiln placers, boss, bisque, male.....	66.5	40.6	6.4	6.1	83.05	38.02	7.97	5.72	1.249	.937
Firemen, bisque and glost.....	128.2	82.7	10.7	9.7	80.39	41.61	6.73	4.90	.627	.503
Kiln drawers, bisque and glost, male.....	72.6	29.6	6.9	6.8	49.26	15.21	4.65	3.49	.678	.513
Kiln drawers, boss, bisque and glost, male.....	65.0	40.7	6.5	6.3	52.63	21.89	5.26	3.40	.810	.538
Laborers, kiln shed, male.....	84.7	45.8	8.8	7.0	40.85	17.31	4.24	2.65	.482	.378
Drawers (in warehouse), bisque and glost, female.....	73.6	41.6	6.9	7.3	22.04	11.05	2.05	1.93	.300	.266
Ware cleaners (sand blasters and tumbler), male.....	(1)	39.4	(1)	7.3	(1)	15.38	(1)	2.85	(1)	.390
Brushers, females ¹	79.7	(2)	7.8	(2)	22.70	(2)	2.24	(2)	.285	(2)
Ware cleaners (brushers and sand- blasters), female.....	(1)	46.0	(1)	7.0	(1)	11.47	(1)	1.75	(1)	.249
Stampers, bisque, female.....	76.2	56.3	7.9	8.0	20.75	12.72	2.12	1.82	.272	.226
Glaze mixers, male.....	95.8	68.5	8.6	7.6	52.76	30.29	4.72	3.37	.551	.442
Glaze mixers' helpers, male.....	97.8	36.0	8.5	6.0	46.48	14.58 ²	4.04	2.43	.475	.405
Ware boys.....	77.6	52.8	7.8	6.6	36.64	16.98	3.66	2.13	.472	.322
Dippers, male.....	79.6	48.1	7.5	6.5	72.97	32.57	6.88	4.40	.917	.677
Dippers' helpers, male.....	75.6	53.1	7.8	7.1	27.93	14.54	2.89	1.94	.369	.274
Dippers' helpers, female.....	79.6	44.9	8.0	5.9	26.30	11.80	2.63	1.55	.330	.263
Kiln placers, glost, male.....	71.3	38.6	7.0	6.0	68.73	27.73	6.73	4.29	.964	.718
Kiln placers, boss, glost, male.....	73.1	39.6	7.3	6.2	84.18	34.12	7.86	5.31	1.078	.862
Fin boys.....	(1)	19.0	(1)	6.3	(1)	11.25	(1)	3.75	(1)	.592
Dressers, male.....	89.9	(2)	8.1	(2)	45.23	(2)	4.06	(2)	.503	(2)
Dressers (grinders), male.....	(1)	38.8	(1)	7.2	(1)	17.49	(1)	3.25	(1)	.451
Dressers, female.....	70.8	40.0	7.6	7.3	18.66	10.91	2.01	1.73	.268	.237
Dressers, forelady.....	(1)	65.0	(1)	8.7	(1)	26.95	(1)	3.59	(1)	.415
Warehousemen.....	94.7	45.0	8.7	7.4	50.30	21.22	4.62	3.47	.631	.471
Selectors, male.....	(1)	39.2	(1)	7.4	(1)	16.78	(1)	3.16	(1)	.428
Selectors, female.....	(1)	57.6	(1)	6.9	(1)	15.30	(1)	1.84	(1)	.268
Ware carriers, male.....	91.0	62.1	8.7	7.6	32.20	23.54	3.07	2.89	.354	.379
Ware cleaners (washers), male.....	(1)	51.3	(1)	7.3	(1)	17.19	(1)	2.46	(1)	.335
Ware cleaners (dusters and wash- ers), female.....	(1)	34.0	(1)	6.9	(1)	7.54	(1)	1.53	(1)	.222
Stampers, gold, female.....	74.6	56.9	7.6	7.7	17.53	14.57	1.79	1.97	.235	.256
Gilders and liners, male.....	83.1	40.9	7.8	6.4	74.25	27.55	6.94	4.32	.893	.674
Gilders and liners, female.....	71.4	48.1	7.6	7.4	45.28	16.35	4.80	2.52	.634	.340
Cutters, dealcomania, female.....	83.3	32.7	7.5	7.9	21.92	8.07	1.97	1.95	.263	.247
Transferrers, dealcomania and print, female.....	77.7	36.8	7.8	7.3	25.77	8.85	2.59	1.75	.332	.240
Printers, male.....	79.7	47.1	7.9	7.5	61.10	28.20	6.07	4.52	.766	.599
Kiln placers and drawers, deco- rating, male.....	86.4	48.3	8.1	6.5	53.52	23.45	5.03	3.17	.619	.485
Firemen, decorating.....	118.5	81.5	10.4	7.4	65.47	44.83	5.74	4.08	.553	.550
Burnishers, female.....	71.7	45.9	6.6	7.2	32.08	11.39	2.97	1.80	.448	.248
Wrappers, female.....	84.7	72.0	8.0	7.6	20.18	18.72	1.90	1.97	.238	.260
Straw boys.....	73.9	41.9	8.2	7.0	26.15	13.84	2.91	2.31	.354	.330
Packers, male.....	86.4	49.5	8.3	7.0	56.45	31.58	5.41	4.49	.654	.638
Packers, strawless, female.....	(1)	49.8	(1)	7.5	(1)	11.96	(1)	1.79	(1)	.240
Packers, head, male.....	94.4	76.4	8.2	7.6	107.99	44.88	9.39	4.49	1.144	.587
Other employees, male.....	89.0	60.4	8.7	8.1	45.98	29.14	4.50	3.91	.517	.482
Other employees, female.....	80.4	38.4	7.8	7.0	22.78	9.61	2.20	1.75	.283	.248

¹ None reported in 1925.² None reported in 1932.³ Called ware cleaners in 1932 study.

Table 2 shows average hours and earnings for the wage earners covered in semivitreous potteries in 1925 and 1932 and in vitreous potteries in 1932. The averages are for each sex separately and for both sexes combined, and are shown by groups instead of by individual States, as for many of the major industries, to avoid presenting figures for one pottery alone.

The geographical groups for semivitreous potteries are:

Group 1.—Potteries in East Liverpool, Ohio, and nearby potteries in West Virginia directly across the Ohio River from East Liverpool.

Group 2.—Potteries in Ohio outside East Liverpool, and in Pennsylvania, Illinois, and Indiana.

Group 3.—Potteries in Maryland, Tennessee, and Virginia.

Group 4.—Potteries in West Virginia other than those near East Liverpool, and those in New Jersey.

The groups for vitreous potteries are:

Group 1.—New York.

Group 2.—Pennsylvania.

Group 3.—Ohio and West Virginia.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE POTTERY INDUSTRY, 1925 AND 1932, BY KIND OF WARE, SEX, AND GEOGRAPHICAL GROUP

Kind of ware, sex, and geographical group	Average hours worked—				Average earnings—					
	In 2 weeks		Per day		In 2 weeks		Per day		Per hour	
	1925	1932	1925	1932	1925	1932	1925	1932	1925	1932
<i>Semivitreous</i>										
Males.....	74.4	59.3	8.1	7.7	\$52.44	\$31.74	\$5.70	\$4.13	\$0.705	\$0.535
Group 1.....	71.0	56.3	8.0	8.0	52.27	32.00	5.89	4.57	.736	.569
Group 2.....	76.6	53.0	8.1	6.9	53.62	27.18	5.68	3.56	.700	.513
Group 3.....	90.5	88.2	8.3	8.4	50.89	40.98	4.68	3.89	.562	.466
Group 4.....	65.1	68.4	8.1	8.1	43.36	36.71	5.40	4.37	.666	.537
Females.....	69.0	54.6	7.8	7.7	26.54	15.95	2.99	2.25	.385	.292
Group 1.....	68.5	52.3	7.8	8.1	28.31	16.30	3.24	2.52	.414	.312
Group 2.....	68.1	49.8	7.7	7.2	25.07	14.10	2.82	2.04	.368	.283
Group 3.....	83.6	78.6	8.1	7.8	25.94	19.71	2.53	1.96	.310	.251
Group 4.....	66.1	67.0	8.0	7.9	24.89	18.88	3.03	2.22	.377	.282
Males and females.....	72.5	57.6	8.0	7.7	43.27	25.93	4.76	3.47	.596	.450
Group 1.....	70.2	54.8	8.0	8.0	44.29	26.35	5.03	3.87	.631	.481
Group 2.....	73.3	51.7	8.0	7.0	42.71	21.90	4.63	2.98	.582	.423
Group 3.....	88.3	85.5	8.3	8.2	42.95	35.14	4.02	3.38	.486	.411
Group 4.....	65.5	67.9	8.1	8.1	36.95	30.51	4.57	3.62	.565	.449
<i>Vitreous</i> ¹										
Males.....	-----	45.8	-----	7.2	-----	25.03	-----	3.94	-----	.546
Group 1.....	-----	42.8	-----	7.5	-----	22.99	-----	4.04	-----	.537
Group 2.....	-----	44.3	-----	7.4	-----	24.09	-----	4.00	-----	.544
Group 3.....	-----	51.7	-----	6.8	-----	28.90	-----	3.79	-----	.559
Females.....	-----	40.6	-----	7.2	-----	10.72	-----	1.90	-----	.264
Group 1.....	-----	33.4	-----	7.0	-----	9.18	-----	1.92	-----	.275
Group 2.....	-----	39.6	-----	7.4	-----	11.00	-----	1.99	-----	.271
Group 3.....	-----	52.6	-----	7.3	-----	12.97	-----	1.79	-----	.246
Males and females.....	-----	43.7	-----	7.2	-----	19.15	-----	3.16	-----	.438
Group 1.....	-----	39.4	-----	7.4	-----	17.96	-----	3.35	-----	.456
Group 2.....	-----	41.9	-----	7.4	-----	17.16	-----	3.01	-----	.410
Group 3.....	-----	52.1	-----	7.0	-----	22.94	-----	3.07	-----	.441

¹ No 1925 averages shown for this ware because only 4 of such potteries were included in report in that year.

Public Libraries—Salaries, December 1934

SALARIES for various positions in public libraries serving populations of 200,000 or more show an upward trend, according to an article in the April 1935 number of the Bulletin of the American

Library Association. Only eight libraries in this class, however, reported general salary advances in the current fiscal year. One library in the same class reported a general salary reduction. The increases ranged from 2 to 10 percent. Many salary advances were merely restorations in whole or in part of the former compensation.

The following table, taken from a more extensive one published in the above-mentioned bulletin, shows the salaries paid in specified occupations in libraries in various cities in December 1934.

SALARIES PAID FOR SPECIFIED OCCUPATIONS IN PUBLIC LIBRARIES IN CITIES OF OVER 200,000 POPULATION, DECEMBER 1934

City	Chief librarian	Department heads			Branch and sub-branch librarians			Catalogers		
		Number	Minimum	Maximum	Number	Minimum	Maximum	Number	Minimum	Maximum
Akron, Ohio	\$4,200	5	\$2,140	\$2,244	7	\$1,275	\$1,700	2	\$1,275	\$1,615
Atlanta, Ga.	3,240	6	1,350	1,890	7	1,200	1,512	4	1,296	1,350
Baltimore, Md.	6,580	(1)	1,940	3,008	(1)	1,280	1,571	(1)	872	1,200
Birmingham, Ala. ²	3,008	11	1,023	2,256	10	694	1,354	1	977	-----
Brooklyn, N. Y.	9,140	10	2,175	3,600	33	2,000	2,640	12	1,440	2,000
Buffalo, N. Y.	5,000	11	2,100	2,900	14	1,600	1,840	11	1,260	2,210
Chicago, Ill.	-----	13	2,042	3,947	44	1,316	2,586	5	1,770	2,178
Cincinnati, Ohio ²	-----	13	1,960	3,000	28	1,000	1,830	12	900	1,800
Cleveland, Ohio	8,000	11	2,610	3,870	32	1,800	2,970	13	1,350	2,250
Dallas, Tex.	3,000	5	1,280	1,800	4	1,080	1,330	3	1,200	1,380
Dayton, Ohio	5,250	11	1,785	2,677	5	1,680	2,152	4	1,732	1,995
Denver, Colo.	6,000	13	1,560	2,500	11	1,200	1,560	4	840	1,560
Detroit, Mich.	7,457	13	1,930	3,130	18	1,826	2,191	13	1,460	1,878
Houston, Tex.	3,600	4	1,410	1,950	3	1,200	1,410	1	1,200	-----
Indianapolis, Ind.	5,378	12	1,644	2,412	19	1,116	2,352	5	852	1,644
Jersey City, N. J.	5,100	8	1,973	2,100	16	1,377	1,560	7	1,560	1,560
Los Angeles (city)	5,160	18	2,124	2,761	39	1,802	1,911	12	1,256	1,747
Los Angeles (county) ³	4,295	7	1,854	2,291	8	1,036	1,532	8	1,254	1,636
Louisville, Ky. 1	6,000	7	1,953	1,953	7	1,512	1,602	-----	-----	-----
Memphis, Tenn. ²	4,500	5	1,500	1,560	19	720	1,650	3	1,140	1,560
Milwaukee, Wis. ²	7,000	11	2,400	4,500	17	1,560	2,220	5	1,800	2,220
Minneapolis, Minn.	5,100	12	1,800	2,640	22	1,560	2,200	1	1,620	-----
New York circulation	7,340	9	2,195	4,075	49	2,080	3,965	10	1,380	2,360
Newark, N. J.	7,287	12	1,085	2,684	8	1,085	2,600	3	1,356	1,752
Oakland, Calif.	6,000	5	2,100	2,100	18	1,560	1,800	2	1,380	1,800
Omaha, Neb.	2,904	8	1,344	2,004	4	1,232	1,568	2	1,120	1,120
Philadelphia ²	-----	20	1,700	3,000	32	1,350	1,700	3	1,200	1,600
Pittsburgh, Pa. (old city)	4,500	9	2,430	3,600	13	1,458	1,944	5	1,242	1,800
Pittsburgh, Pa. (Allegheny)	3,750	5	1,600	2,200	1	1,800	-----	1	1,490	-----
Queens, Jamaica, N. Y.	10,840	8	2,140	3,360	13	2,195	2,640	5	1,980	2,025
Rochester, N. Y.	5,400	2	2,880	2,880	9 ⁶	-----	-----	5 ⁶	-----	-----
St. Louis, Mo.	8,500	16	1,674	3,240	14	1,593	1,971	14	1,026	1,890
San Antonio, Tex.	2,052	3	1,296	1,620	3	864	1,242	1	960	-----
San Francisco, Calif. ²	4,320	12	1,995	2,775	17	1,513	1,995	3	1,824	1,824
Seattle, Wash.	3,000	4	1,800	2,213	10	1,344	1,836	1 ³ / ₄	1,344	-----
Syracuse, N. Y.	4,500	10 ¹ / ₂	1,350	2,250	5	1,350	2,250	1	1,365	-----
Toledo, Ohio	5,400	5	2,160	2,430	13	1,440	1,980	7	990	1,980
Washington, D. C.	7,600	5	3,040	3,230	8	1,710	3,135	6	1,482	2,090
Youngstown, Ohio ²	6,600	3	2,500	2,820	5	1,320	2,280	1	1,500	-----
<i>Canada</i>										
Vancouver, B. C.	3,442	5	1,800	1,944	1	1,555	-----	1	1,507	-----

¹ No distribution given.

² Library also serves county.

³ As of June 20, 1934.

⁴ Plus \$2,000 as director of library school.

The article in which the above information is published gives similar data for assistant librarians, division heads, first assistants, children's librarians, and professional and nonprofessional assistants. It also includes information as to vacations, special holidays, full-time hours per week, and compensation for work on Sunday and holidays.

Rayon and Other Synthetic Yarn Manufacturing—Hours and Earnings, 1932

STUDIES by the Bureau of Labor Statistics of the rayon and other synthetic yarn industry are for a total of 32,292 wage earners of 21

RAYON AND OTHER SYNTHETIC YARN MANUFACTURING 1009

establishments in 1930 and of 25,326 wage earners of 20 establishments in 1932. These figures were computed from wage data collected by the Bureau from establishments for a representative week in February, March, April, or May 1930, and in October, November, or December 1932. The data for 1932 are summary figures from Bulletin No. 587 of the Bureau which also gives more detailed data. Table 1 shows average hours and earnings for each of the more important occupations in the industry, and for a group of miscellaneous wage earners designated "Other employees."

TABLE 1.—AVERAGE HOURS AND EARNINGS AND PERCENT OF FULL TIME WORKED IN 1 WEEK IN RAYON AND OTHER SYNTHETIC YARN MANUFACTURING, 1930 AND 1932, BY OCCUPATION AND SEX

Occupation and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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All employees:													Males.....	51.1	48.6	46.7	47.9	91.4	98.6	\$0.504	\$0.408	\$25.75	\$19.83	\$23.53	\$19.51	Females.....	49.0	47.6	42.3	44.3	86.3	93.1	.344	.283	16.86	13.47	14.55	12.55	Males and females.....	50.2	48.2	44.8	46.4	89.2	96.3	.441	.359	22.14	17.30	19.76	16.64	Chemical-building workers, male.....	53.6	50.0	48.3	50.8	90.1	101.6	.527	.406	28.25	20.30	25.48	20.58	Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57
Males.....	51.1	48.6	46.7	47.9	91.4	98.6	\$0.504	\$0.408	\$25.75	\$19.83	\$23.53	\$19.51	Females.....	49.0	47.6	42.3	44.3	86.3	93.1	.344	.283	16.86	13.47	14.55	12.55	Males and females.....	50.2	48.2	44.8	46.4	89.2	96.3	.441	.359	22.14	17.30	19.76	16.64	Chemical-building workers, male.....	53.6	50.0	48.3	50.8	90.1	101.6	.527	.406	28.25	20.30	25.48	20.58	Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57													
Females.....	49.0	47.6	42.3	44.3	86.3	93.1	.344	.283	16.86	13.47	14.55	12.55	Males and females.....	50.2	48.2	44.8	46.4	89.2	96.3	.441	.359	22.14	17.30	19.76	16.64	Chemical-building workers, male.....	53.6	50.0	48.3	50.8	90.1	101.6	.527	.406	28.25	20.30	25.48	20.58	Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																										
Males and females.....	50.2	48.2	44.8	46.4	89.2	96.3	.441	.359	22.14	17.30	19.76	16.64	Chemical-building workers, male.....	53.6	50.0	48.3	50.8	90.1	101.6	.527	.406	28.25	20.30	25.48	20.58	Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																							
Chemical-building workers, male.....	53.6	50.0	48.3	50.8	90.1	101.6	.527	.406	28.25	20.30	25.48	20.58	Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																				
Spinning-bath men, male.....	50.7	51.5	47.2	51.6	93.1	100.2	.588	.402	29.81	20.70	27.72	20.73	Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																	
Spinners, male.....	49.9	49.5	42.4	49.6	85.0	100.2	.564	.457	28.14	22.62	23.95	22.64	Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																														
Spinners, female.....	48.0	(1)	47.8	(1)	99.6	(1)	.310	(1)	14.88	(1)	14.81	(1)	Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																											
Machine cleaners, male.....	51.5	47.2	48.0	45.9	93.2	97.2	.458	.352	23.59	16.61	21.99	16.17	Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																								
Spinneret cleaners, male.....	51.4	49.6	49.6	49.9	96.5	100.6	.555	.404	28.53	20.04	27.53	20.16	Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																					
Spinneret cleaners, female.....	50.9	48.4	50.0	48.8	98.2	100.8	.298	.268	15.17	12.97	14.87	13.10	Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																		
Filter cleaners, male.....	52.9	48.5	50.1	50.6	94.7	104.3	.457	.356	24.18	17.27	22.93	18.03	Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																															
Filter cleaners, female.....	51.7	49.0	48.1	49.6	93.0	101.2	.313	.266	16.18	13.03	15.06	13.17	Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																												
Bobbin washers, male.....	50.0	51.4	49.2	48.3	98.4	94.0	.463	.336	23.15	17.27	22.77	16.24	Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																									
Cake washers, male.....	54.0	50.2	52.9	43.4	98.0	86.5	.487	.376	26.30	18.88	25.77	16.32	Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																						
Cake wringers, male.....	55.6	(1)	52.4	(1)	94.2	(1)	.449	(1)	24.96	(1)	23.53	(1)	Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																			
Bobbin driers, male.....	52.2	50.1	50.2	50.4	96.2	100.6	.452	.330	23.59	16.53	22.69	16.63	Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																
Cake driers, male.....	55.3	43.2	50.2	41.6	90.8	96.3	.490	.383	27.10	16.55	24.64	15.94	Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																													
Cake inspectors, male.....	55.3	47.0	51.8	42.8	93.7	91.1	.526	.481	29.09	22.61	27.26	20.58	Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																										
Cake inspectors, female.....	49.8	(1)	45.1	(1)	90.6	(1)	.346	(1)	17.23	(1)	15.61	(1)	Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																							
Pump testers, male.....	52.9	47.6	51.7	47.8	97.7	100.4	.501	.396	26.50	18.85	25.89	18.93	Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																				
Spoolers, male.....	(2)	46.7	(2)	44.4	(2)	95.1	(2)	.300	(2)	14.01	(2)	13.31	Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																	
Spoolers, female.....	45.6	46.2	39.2	37.4	86.0	81.0	.508	.281	23.16	12.98	19.95	10.54	Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																														
Twisters and throwers, male.....	49.7	47.7	46.1	46.4	92.8	97.3	.385	.294	19.13	14.02	17.73	13.63	Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																											
Twisters and throwers, female.....	49.7	50.8	45.5	48.6	91.5	95.7	.319	.269	15.85	13.67	14.54	13.08	Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																								
Reelers and lacers, female.....	49.5	46.9	40.2	44.9	81.2	95.7	.351	.293	17.37	13.74	14.10	13.15	Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																					
Winders, cone, quill, cop or bobbin, male.....	50.0	45.0	42.7	40.9	85.4	90.9	.354	.305	17.70	13.73	15.11	12.46	Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																																		
Winders, cone, quill, cop or bobbin, female.....	48.2	47.8	44.5	43.4	92.3	90.8	.332	.269	16.00	12.86	14.78	11.68	Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																																															
Skein washers and bleachers, male.....	51.5	47.9	46.7	48.3	90.7	100.8	.488	.406	25.13	19.45	22.79	19.62	Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																																																												
Skein driers, male.....	49.4	48.4	45.8	47.2	92.7	97.5	.453	.380	22.38	18.39	20.74	17.93	Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																																																																									
Skein driers, female.....	48.7	49.5	37.5	49.9	77.0	100.8	.359	.283	17.48	14.01	13.45	14.13	Skein inspectors, male.....	(3)	48.0	(2)	36.5	(2)	76.0	(2)	.300	(2)	14.40	(3)	10.94	Skein inspectors, female.....	48.9	46.8	41.1	43.8	84.0	93.6	.342	.300	16.72	14.04	14.06	13.15	Cone inspectors, male.....	(2)	50.0	(2)	50.4	(2)	100.8	(2)	.391	(2)	19.55	(2)	19.71	Cone inspectors, female.....	48.3	48.1	46.6	45.1	96.5	93.8	.346	.268	16.71	12.89	16.13	12.06	Wrappers and packers, male.....	50.3	47.4	47.5	44.8	94.4	94.5	.494	.383	24.85	18.15	23.44	17.14	Wrappers and packers, female.....	49.1	48.7	40.5	46.3	82.5	95.1	.338	.269	16.60	13.10	13.72	12.45	Truckers and handlers, male.....	50.5	48.3	46.3	49.3	91.7	102.1	.369	.301	18.63	14.54	17.11	14.83	Truckers and handlers, female.....	51.4	49.8	47.4	48.6	92.2	97.6	.244	.286	12.54	13.25	11.57	12.94	Laborers, male.....	51.0	48.7	43.4	46.5	93.8	95.5	.394	.307	20.33	14.95	19.10	14.27	Laborers, female.....	(2)	48.0	(3)	48.6	(2)	101.3	(2)	.232	(2)	11.14	(2)	11.26	Other employees, male.....	51.3	48.2	49.1	46.8	95.7	97.1	.550	.470	28.22	22.65	27.00	22.02	Other employees, female.....	50.0	48.2	46.3	45.9	92.6	95.2	.325	.295	16.25	14.22	15.03	13.57																																																																																																																																																																																																																																																																																																																																																																																																						
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¹ None reported in 1932.

² None reported in 1930.

Table 2 shows average hours and earnings, and the percent of full time actually worked in 1 week, for the wage earners covered in each district in 1930 and 1932. The averages are for each sex separately and for both sexes combined, and are shown by districts instead of by States so as to avoid presenting figures for 1 establishment alone. The districts are as follows:

District 1.—1 plant in Connecticut, 1 in Massachusetts, 1 in New Hampshire, and 1 in Rhode Island.

District 2.—1 plant in Delaware, 2 in New York, 2 in Ohio, and 1 in Pennsylvania.

District 3.—1 plant in Georgia, 1 in Maryland, 1 in North Carolina, 3 in Tennessee, and 4 in Virginia.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN RAYON AND OTHER SYNTHETIC YARN MANUFACTURING, 1930 AND 1932, BY SEX AND DISTRICT

Sex and district	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932	1930	1932
<i>Males</i>												
District 1.....	50.7	50.3	51.7	51.4	102.0	102.2	\$0.508	\$0.401	\$25.76	\$20.17	\$26.26	\$20.63
District 2.....	49.9	50.3	46.8	47.1	93.8	93.6	.657	.503	32.78	25.30	30.75	23.68
District 3.....	51.5	48.1	46.3	47.9	89.9	99.6	.453	.382	23.33	18.37	20.99	18.31
Total males.....	51.1	48.6	46.7	47.9	91.4	98.6	.504	.408	25.75	19.83	23.53	19.51
<i>Females</i>												
District 1.....	50.8	50.3	45.0	48.1	88.6	95.6	.357	.264	18.14	13.28	16.04	12.69
District 2.....	47.5	47.3	39.4	43.6	82.9	92.2	.447	.319	21.23	15.09	17.62	13.88
District 3.....	49.4	47.4	43.2	44.3	87.4	93.5	.307	.275	15.17	13.04	13.26	12.17
Total females.....	49.0	47.6	42.3	44.3	86.3	93.1	.344	.283	16.86	13.47	14.55	12.55
<i>Males and females</i>												
District 1.....	50.7	50.3	48.4	49.8	95.5	99.0	.439	.335	22.26	16.85	21.22	16.69
District 2.....	48.9	49.1	43.5	45.6	89.0	92.9	.573	.430	28.02	21.11	24.96	19.61
District 3.....	50.6	47.8	45.0	46.4	88.9	97.1	.396	.341	20.04	16.30	17.84	15.81
Total males and females.....	50.2	48.2	44.8	46.4	89.2	96.3	.441	.359	22.14	17.30	19.76	16.64

Retail Stores—Earnings, 1933¹⁰

RETAIL distribution was seriously curtailed by the depression. Between 1929 and 1933 thousands of stores went out of business and the volume of retail sales in the United States dropped from \$49,114,-653,000 to \$25,037,225,000, a decrease of 49 percent.

A large part of this decline was due to the general lowering of the price level. A part, however, represented the toll extracted through unemployment and the diminution in purchasing power of workers, who, although fortunate enough to retain their jobs, had their earnings drastically reduced.

Annual earnings of full-time employees, which in 1929 averaged \$1,312, were reduced after 4 years of depression to \$986 in 1933, a decrease of 25 percent.

¹⁰ Summary of article published in Monthly Labor Review, April 1935 (p. 995).

Earnings in Different Branches of the Trade

OF THE major retail groups the most drastic reduction during the 4-year interval was shown for the automotive group. In 1929 the average annual earnings of all workers employed in automotive retail establishments was \$1,461, while the average for 1933 was \$1,011, a decrease of 31 percent. Reductions amounting to more than the average for all retailing were also reported for the lumber, building, and hardware group; the furniture and household group; and the restaurants and eating places. On the other hand, the earnings of workers in the food group in 1933 were within 16 percent of the 1929 level. Earnings of workers employed by the general-merchandise group and by the farmers' supply and country general stores group were also relatively well sustained.

TABLE 1.—EARNINGS OF FULL-TIME WORKERS EMPLOYED IN RETAIL TRADE IN 1933 COMPARED WITH 1929, BY TYPE OF BUSINESS

Kind of business	Average annual earnings of full-time employees		Percent of change
	1933	1929	
United States.....	\$986	\$1,312	-25
Food group.....	1,074	1,284	-16
Grocery stores.....	1,019	1,197	-15
Combination stores.....	1,035	1,250	-17
Meat markets.....	1,133	1,440	-21
Candy and confectionery stores.....	748	895	-16
Dairy-products stores, including milk dealers.....	1,478	1,804	-18
Bottled-beer and liquor stores.....	984		
Other food stores.....	944	1,189	-21
Restaurants and eating places.....	673	909	-26
Eating places.....	669	909	-26
Drinking places.....	781		
Farmers' supplies and country general stores.....	846	1,089	-22
Country general stores.....	788	1,025	-23
Farmers' supply stores.....	978	1,235	-21
General-merchandise group.....	935	1,126	-17
Department stores, including mail order.....	990	1,243	-20
Dry-goods stores.....	883	1,078	-18
Variety stores, 5-and-10 and to-a-dollar stores.....	760	706	+8
Other general merchandise stores.....	894	1,092	-18
Apparel group.....	1,105	1,430	-25
Men's stores.....	1,291	1,769	-27
Women's ready-to-wear specialty stores.....	991	1,293	-23
Family clothing stores.....	1,141	1,450	-21
Shoe stores.....	1,188	1,595	-26
Accessories and other apparel stores.....	998	1,408	-29
Automotive group.....	1,011	1,461	-31
Motor-vehicle dealers.....	1,041	1,585	-34
Accessories, tire, battery dealers.....	1,113	1,471	-24
Filling stations.....	990	1,208	-18
Garages and repair shops.....	836	1,354	-31
Other automotive stores.....	1,070	1,408	-24
Furniture and household group.....	1,159	1,593	-27
Furniture stores.....	1,223	1,631	-25
Household and appliance stores.....	1,065	1,526	-30
Radio stores.....	1,107	1,559	-29
Other furniture and household stores.....	1,166	1,613	-28
Lumber, building, and hardware group.....	1,143	1,579	-28
Lumber dealers.....	1,196	1,623	-26
Hardware stores, including farm implements.....	1,068	1,430	-25
Heating and plumbing stores.....	1,125	1,696	-34
Other building (paint, glass, and electrical) stores.....	1,156	1,570	-26
Cigar stores.....	878	1,181	-26
Coal and wood yards.....	1,130	1,463	-23
Drug stores.....	985	1,260	-22
Jewelry stores.....	1,376	1,783	-23
Newsdealers.....	678	842	-19
Other retail stores.....	1,200	1,562	-23
Second-hand stores.....	896	1,303	-31

The lowest average earnings in 1933 were reported for workers employed in eating places, who averaged only \$669 during the year. Earnings of workers employed by newsdealers, candy and confectionery stores, drinking places, country general stores, and variety stores were also exceptionally low. The workers employed by the variety stores, however, were the only group of workers whose earnings were higher in 1933 than in 1929. In 1933 their earnings averaged \$760 as against \$706 in 1929, a gain of 8 percent.

In 1933 the highest annual earnings in the retail trade were reported for workers employed by dairy-products stores, who averaged \$1,478. The workers in this group also had the highest earnings in 1929 when they averaged \$1,804.

Earnings by States and Geographic Divisions

THE average decline of approximately 25 percent in the earnings of retail workers between 1929 and 1933 was far from uniform throughout the country. In 27 States and the District of Columbia the average earnings were reduced less than the national average, while in 3 States the reduction was the same; and in 18 States the cut in earnings was greater than 25 percent (table 2).

TABLE 2.—EARNINGS OF FULL-TIME WORKERS EMPLOYED IN RETAIL TRADE IN 1933 COMPARED WITH 1929, BY STATE AND GEOGRAPHIC DIVISION

Geographic division and State	Average annual earnings of full-time employees		Percent of change	Geographic division and State	Average annual earnings of full-time employees		Percent of change
	1933	1929			1933	1929	
United States.....	\$886	\$1,312	-25	South Atlantic—Contd.			
New England.....	1,063	1,313	-19	Georgia.....	\$778	\$1,020	-24
Connecticut.....	1,106	1,429	-23	Maryland.....	967	1,170	-17
Maine.....	963	1,174	-18	North Carolina.....	817	1,116	-27
Massachusetts.....	1,080	1,315	-18	South Carolina.....	762	1,019	-25
New Hampshire.....	982	1,177	-17	Virginia.....	901	1,136	-21
Rhode Island.....	1,028	1,281	-20	West Virginia.....	902	1,259	-28
Vermont.....	946	1,197	-21	East South Central.....	790	1,037	-26
Middle Atlantic.....	1,092	1,420	-23	Alabama.....	727	1,071	-32
New Jersey.....	1,156	1,483	-22	Kentucky.....	845	1,103	-23
New York.....	1,153	1,506	-23	Mississippi.....	722	1,017	-29
Pennsylvania.....	958	1,257	-24	Tennessee.....	823	1,078	-24
East North Central.....	1,030	1,377	-25	West South Central.....	826	1,140	-28
Illinois.....	1,009	1,438	-30	Arkansas.....	761	1,073	-24
Indiana.....	889	1,296	-26	Louisiana.....	775	1,022	-24
Michigan.....	945	1,459	-35	Oklahoma.....	831	1,212	-31
Ohio.....	974	1,341	-27	Texas.....	852	1,161	-27
Wisconsin.....	968	1,311	-26	Mountain.....	997	1,301	-23
West North Central.....	903	1,193	-24	Arizona.....	1,027	1,341	-23
Iowa.....	858	1,164	-26	Colorado.....	971	1,249	-22
Kansas.....	846	1,165	-27	Idaho.....	891	1,309	-24
Minnesota.....	953	1,228	-22	Montana.....	1,045	1,398	-25
Missouri.....	929	1,200	-23	Nevada.....	1,231	1,593	-23
Nebraska.....	883	1,193	-26	New Mexico.....	919	1,160	-21
North Dakota.....	894	1,203	-26	Utah.....	950	1,272	-25
South Dakota.....	846	1,181	-28	Wyoming.....	1,063	1,400	-24
South Atlantic.....	889	1,144	-22	Pacific.....	1,078	1,425	-24
Delaware.....	1,016	1,218	-17	California.....	1,110	1,455	-24
District of Columbia.....	1,120	1,373	-18	Oregon.....	969	1,308	-26
Florida.....	847	1,121	-24	Washington.....	1,003	1,369	-27

Earnings of Part-Time Employees

THE average annual earnings of part-time employees in the retail trade in 1933 amounted to \$337, or 34.2 percent of the average annual earnings of full-time employees. This indicates that the average

part-time employee worked about one-third of the normal working hours or days of a full-time employee. On the same basis, the average part-time employee in 1929 worked 21.6 percent of the number of hours or days of the full-time employee in that year. The increased importance of part-time employment is a new factor in the retail field.

Retail Stores—Comparative Wages in Chain and Independent Stores, 1929 and 1931

IN JULY 1933 the Federal Trade Commission sent to the United States Senate the eighteenth of its reports on the chain-store investigation which it was then conducting, and accompanied it with a letter in which some of the data concerning wages were summarized. The following data are taken from this letter. The chain-store companies, it is explained, were first asked to report the method of compensation, the number and the average weekly compensation of (a) store employees, (b) store managers, and (c) supervisors, as of the date nearest March 30, 1929, for which the information was available. In a supplementary schedule similar data were requested as of the date nearest January 10, 1931, for which information was available. Reports known to include part-time employees in either period were not used by the Commission, but the data covering all other employees, both selling and nonselling, were included for both periods.

Comparable data on chain store and "independent" dealer wages for full-time store selling employees are available for the following eight kinds of business: Grocery, grocery and meat, drug, tobacco, ready-to-wear, shoes, hardware, and combined dry goods, dry goods and apparel, and general merchandise. The weighted average weekly wage of 3,933 independent-store selling employees in these eight kinds of business for the week ending January 10, 1931, was \$28.48, as compared with \$21.61 for 107,035 chain-store selling employees. A simple average of the eight lines of business shows a narrower spread between the two figures (\$28.10 for independents and \$23.82 for chains, respectively), but leaves the same distinct conclusion, namely, that, for the period studied, the independents paid their store employees more than did the chains.

In addition, 15 independent department stores reporting accounted for 4,688 store-selling employees, or over 750 more independent-store selling employees than did all the other 1,549 independent stores combined. Because of the heavy weighting, the chain and independent department stores figures have not been included in the foregoing comparison.

When department-store selling employees are included, the weighted average wages of all independent-store employees are reduced from \$28.48 to \$23.45 while the figure for chains falls from \$21.61 to \$21.22. The simple averages, however, which, of course, do not give weight to the large number of independent department-store employees, are \$27.12 for independents and \$23.37 for chains. Even including department-store employees, the average wages of independents were higher than those of chains.

Independent-store wages in each of the eight kinds of business furnishing comparable data were higher than those reported for chains—the difference varying from \$6.92 for grocery and meat to only 65 cents for hardware. The employees of department-store chains averaged 56 cents per week higher than did those of independent department stores, both, however, being considerably below the averages of most of the other eight kinds of business.

The indicated tendency for independents to pay higher wages than chains is substantiated by information obtained in the study of the general social effect of chain stores in 30 selected smaller towns and cities with populations ranging from 1,737 to 5,106. Comparable data are available for the following 10 lines of business: Grocery, grocery and meat, drug, variety, shoe, furniture, hardware,

ready-to-wear, dry goods and apparel, and department store. No data were reported for chain general-merchandise stores. With the exception of the furniture group, independent wages were higher than those reported for chains. The number of selling employees in independent variety and chain drug stores, however, is very small, as is also the number for both independent and chain shoe, ready-to-wear, department, furniture, and hardware stores.

The full-time selling employees of both grocery and grocery and meat independents averaged higher weekly wages by slightly over \$3 than did those of the chains. The combined ready-to-wear, dry goods and apparel, department store, and general merchandise group shows the independents paying their store employees \$1.70 more per week, on the average, than did the chains.

The sex of employees seems to have a bearing upon the wage level in chain stores. The data for the week ending January 10, 1931, which covered 146,123 store people, were given by sex, and it was found that of the total men formed 44 and women 56 percent. The chains which reported relatively low weekly wages reported also a larger proportion of women among their employees than was the case with those reporting relatively high wages.

The four classes of chains reporting the lowest store employee average wages in 1931 (confectionery and the three types of variety chains), all report that more than 75 percent of their store employees are women. At the other extreme, women comprise less than 25 percent of the employees in 8 of the 10 kinds of chains reporting the highest average weekly wages.

The class of goods handled also seems to affect the wage level, the stores which handle "convenience" goods (merchandise which usually is available at convenient locations) paying on the whole lower wages than those which deal in shopping merchandise (goods which generally are available only in stores in shopping centers). The average sales per store employee have a certain relation to wages paid, but so many other factors are concerned that this relation is somewhat obscure. Geographic location and the size of the chain concerned also have a bearing upon the matter, but in the latter case the correspondence is not invariable.

Sawmills—Hours and Earnings, 1932

A STUDY of wages and hours of labor in the sawmill industry in the United States was made by the Bureau of Labor Statistics during the summer of 1932. A summary of the results of this study is shown in table 1, in comparison with like figures for each of the other years from 1910 to 1930 in which the Bureau has made studies of the industry.

Index numbers, on the 1913 base, are also shown for the purpose of making comparisons of the increases or decreases in hours and earnings from one year to another over the entire period from 1910 to 1932 for those items for which data are available over the entire period.

In making the study the Bureau collected individual wage data from 32,130 wage earners of 259 representative sawmills in 21 States for a representative pay-roll period (except for a few mills) in May, June, and July. Data were also collected for wage earners of logging camps, but figures for them are not given in this article. Detailed figures for both sawmills and logging camps are shown in Bulletin No. 586 of the Bureau.

TABLE 1.—AVERAGE HOURS AND EARNINGS, WITH INDEX NUMBERS THEREOF, IN SAWMILLS, 1910-32, BY YEAR

Year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1913=100.0)		
		Average number	Percent of full time				Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations:									
1910.....	61.3	(1)	(1)	\$0.180	\$10.90	(1)	100.3	97.3	97.6
1911.....	61.4	(1)	(1)	.176	10.76	(1)	100.5	95.1	95.6
1912.....	61.5	(1)	(1)	.178	10.89	(1)	100.7	96.2	96.7
1913.....	61.1	(1)	(1)	.185	11.26	(1)	100.0	100.0	100.0
1915.....	61.1	(1)	(1)	.169	10.30	(1)	100.0	91.4	91.5
1919.....	56.1	(1)	(1)	.360	20.13	(1)	91.8	194.6	178.8
1921 ¹	57.2	(1)	(1)	.308	17.62	(1)	93.6	166.5	156.5
All occupations:									
1921 ¹	58.0	(1)	(1)	.334	19.37	(1)	---	---	---
1923.....	58.1	(1)	(1)	.362	21.03	(1)	93.8	180.5	169.9
1925.....	58.1	(1)	(1)	.357	20.74	(1)	93.8	178.0	167.6
1928.....	56.6	51.3	91.0	.371	21.00	\$19.03	91.3	184.9	169.7
1930.....	56.5	48.6	86.0	.359	20.28	17.46	91.2	179.0	163.9
1932.....	55.8	40.1	71.9	.256	14.28	10.25	90.0	127.6	115.4

¹ No data.² Two sets of averages are shown for 1921 for the industry, one for selected occupations and the other for all occupations in the industry. The 1910 to 1921 averages for selected occupations are comparable one year with another, as are those for all occupations from 1921 to 1932.

Table 2 shows average hours and earnings and the percent of full time worked in 1930 and 1932 for the wage earners in each of the important occupations in the industry, and for a group designated in the table as "Other employees." The figures are for males only, as no females were found employed in the industry.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN SAWMILLS, 1930 AND 1932, BY OCCUPATION

Occupation	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All occupations.....	56.5	55.8	48.6	40.1	86.0	71.9	\$0.359	\$0.256	\$20.28	\$14.28	\$17.46	\$10.25
Pondmen.....	56.9	55.9	50.8	42.1	89.3	75.3	.344	.235	19.57	13.14	17.51	9.91
Yardmen, log.....	58.4	58.2	49.8	42.1	85.3	72.3	.242	.154	14.13	8.96	12.05	6.50
Sawyers, head, band.....	55.9	55.6	49.7	40.0	88.9	71.9	.886	.652	49.53	36.25	44.07	26.12
Sawyers, head, circular.....	58.0	58.5	51.0	45.6	87.9	77.9	.666	.430	38.63	25.16	33.96	19.62
Doggers.....	57.9	56.9	48.2	39.3	83.2	69.1	.306	.212	17.72	12.06	14.77	8.32
Setters.....	56.5	55.8	48.8	40.5	86.4	72.6	.451	.319	25.48	17.80	22.03	12.92
Saw tailors on head saws.....	56.2	55.7	49.2	39.9	87.5	71.6	.336	.231	18.88	12.87	16.54	9.21
Sawyers, gang.....	56.4	54.7	52.6	41.6	93.3	76.1	.506	.369	28.54	20.38	26.64	15.33
Sawyers, resaw.....	55.7	53.8	50.7	40.9	91.0	76.0	.460	.341	25.62	18.35	23.36	13.94
Edgermen.....	56.4	55.7	49.4	40.9	87.6	73.4	.461	.324	26.00	18.05	22.78	13.24
Edger fallers.....	56.5	55.9	48.2	39.3	85.3	70.3	.301	.202	17.01	11.29	14.52	7.92
Transfermen.....	55.2	54.9	49.7	39.9	90.0	72.7	.344	.217	18.99	11.91	17.09	8.66
Trimmer loaders.....	55.8	54.3	48.1	39.2	86.2	72.2	.366	.266	20.42	14.44	17.53	10.43
Trimmer operators.....	55.8	55.1	50.1	40.1	89.8	72.8	.398	.283	22.21	15.59	19.93	11.36
Off bearers, gang or resaw.....	55.8	54.8	48.1	40.2	86.2	73.4	.315	.224	17.58	12.28	15.18	9.01
Graders.....	55.2	54.7	49.7	40.0	90.0	73.1	.474	.331	26.16	18.11	23.56	13.27
Sorters.....	55.3	54.7	47.3	38.7	85.5	70.7	.344	.242	19.02	13.24	16.29	9.38
Truckers, hand.....	56.8	58.3	49.2	41.7	86.6	71.5	.307	.178	17.44	10.38	15.13	7.44
Truckers, power ¹	(2)	53.1	(2)	39.9	(2)	75.1	(2)	.308	(2)	16.35	(2)	12.28
Stackers, hand.....	57.2	56.8	47.2	40.0	82.5	70.4	.364	.233	20.82	13.23	17.18	9.33
Machine feeders, planing mill.....	55.8	55.4	58.1	39.9	86.7	72.0	.365	.254	20.26	14.07	17.54	10.13
Sawyers, small saws.....	55.8	56.6	47.9	38.5	84.3	68.0	.314	.211	17.84	11.94	15.06	8.14
Tallymen.....	55.0	54.3	51.3	43.2	93.3	79.6	.447	.315	24.59	17.10	22.95	13.60
Millwrights.....	55.6	54.6	56.5	51.0	101.6	93.4	.593	.425	32.97	23.21	33.55	21.67
Laborers.....	56.6	56.0	46.8	38.0	82.7	67.9	.291	.205	16.47	11.48	13.63	7.78
Other employees.....	57.0	56.2	52.0	44.5	91.2	79.2	.418	.325	23.83	18.27	21.72	14.46

¹ 1930 figures include "Truckers, power."² Included in "Truckers, hand", in 1930.

Table 3 shows average hours and earnings for the wage earners covered in each State in 1930 and 1932. Except in one State, average hours actually worked in 1 week were less in 1932 than in 1930, and average earnings per hour and actual earnings in 1 week for each State were less in 1932 than in 1930.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN SAWMILLS, 1930 AND 1932, BY STATE

State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1930	1932	Average number		Percent of full time		1930	1932	1930	1932	1930	1932
			1930	1932	1930	1932						
All States.....	56.5	55.8	48.6	40.1	86.0	71.9	\$0.359	\$0.256	\$20.28	\$14.28	\$17.46	\$10.25
Alabama.....	60.8	60.3	48.5	47.7	79.8	79.1	.218	.136	13.25	8.20	10.56	6.49
Arkansas.....	58.5	59.3	51.6	37.7	88.2	63.6	.301	.193	17.61	11.44	15.51	7.26
California.....	53.7	52.2	51.1	39.7	95.2	76.1	.542	.410	29.11	21.40	27.68	16.29
Florida.....	61.3	59.8	50.9	41.4	83.0	69.2	.236	.174	14.47	10.41	12.02	7.22
Georgia.....	58.0	58.9	49.2	42.5	84.8	72.2	.218	.134	12.64	7.89	10.75	5.67
Idaho.....	48.1	49.0	45.6	38.7	94.8	79.0	.575	.427	27.66	20.92	26.21	16.54
Kentucky.....	57.3	58.1	48.7	41.5	85.0	71.4	.341	.268	19.54	15.57	16.57	11.15
Louisiana.....	60.0	59.4	50.4	36.6	84.0	61.6	.287	.197	17.22	11.70	14.44	7.20
Maine.....	59.2	59.0	54.4	49.5	91.9	83.9	.352	.272	20.84	16.05	19.18	13.47
Michigan.....	58.3	57.8	51.2	37.2	87.8	64.4	.380	.296	22.15	17.11	19.46	10.99
Mississippi.....	59.7	59.2	45.2	45.9	75.7	77.5	.282	.152	16.84	9.00	12.75	6.99
Montana.....	52.0	51.9	47.6	31.4	91.5	60.5	.504	.444	26.21	23.04	23.98	13.97
North Carolina.....	59.0	58.6	51.2	42.5	86.8	72.5	.222	.160	13.10	9.38	11.38	6.81
Oregon.....	48.6	48.0	44.8	39.9	92.2	83.1	.573	.412	27.85	19.78	25.69	16.40
South Carolina.....	60.1	60.0	50.7	46.7	84.4	77.8	.225	.133	13.52	7.98	11.42	6.21
Tennessee.....	56.8	58.5	44.5	38.8	78.3	66.3	.315	.217	17.89	12.69	14.04	8.42
Texas.....	58.7	59.8	44.5	36.4	75.8	60.9	.296	.221	17.38	13.22	13.16	8.03
Virginia.....	59.9	59.4	50.0	43.1	83.5	72.6	.259	.167	15.51	9.92	12.96	7.18
Washington.....	48.1	48.0	45.3	35.0	94.2	72.9	.549	.376	26.41	18.05	24.89	13.14
West Virginia.....	59.0	59.4	50.3	43.1	85.3	72.6	.430	.325	25.37	19.31	21.63	13.99
Wisconsin.....	59.1	58.5	53.0	40.3	89.7	68.9	.362	.300	21.39	17.55	19.18	12.08

Seamen—Wages, 1934

INFORMATION regarding the wages paid on American merchant ships is published annually by the Bureau of Navigation and Steamboat Inspection of the United States Department of Commerce in its Merchant Marine Statistics. Table 1, compiled from that publication, gives average monthly wages of seamen on American steam and motor cargo vessels of 5,000 gross tons and over, on January 1 of 1929, 1931, 1932, 1933, and 1934. The figures represent averages taken from reports of the shipping commissioners.

TABLE 1.—AVERAGE MONTHLY WAGES OF SEAMEN ON AMERICAN STEAM AND MOTOR CARGO VESSELS OF 5,000 GROSS TONS AND OVER ON JANUARY 1, 1929, 1931, 1932, 1933, 1934

Position	Private					United States Shipping Board				
	1929	1931	1932	1933	1934	1929	1931	1932	1933	1934
Deck department:										
First mates.....	\$182	\$180	\$174	\$164	\$163	\$185	\$185	\$185	\$172	\$169
Second mates.....	160	158	150	144	143	165	165	162	154	151
Third mates.....	143	143	134	127	128	150	150	147	140	137
Fourth mates.....	121	120	110	98	96	128	127	128	105	105
Boatswains.....	74	74	69	64	65	75	74	74	68	67
Carpenters.....	68	77	73	66	69	80	79	76	72	73
Seamen, able.....	64	60	56	52	52	62	63	61	58	56
Seamen, ordinary.....	45	45	41	38	38	47	47	46	43	42
Engineer department:										
Chief engineers.....	280	280	262	256	251	261	277	261	250	246
First assistant engineers.....	183	183	175	165	165	187	188	185	173	170
Second assistant engineers.....	161	161	151	144	144	168	168	164	155	151
Third assistant engineers.....	145	145	137	128	129	152	154	149	140	137
Firemen.....	63	63	59	54	55	65	66	65	60	57
Oilers.....	71	70	67	61	61	72	72	72	67	62
Water tenders.....	71	71	66	59	61	72	72	72	65	62
Coal passers or wipers.....	55	53	49	45	45	58	59	55	53	50
Radio operators (class I):										
Grade I.....		100	96	91	89		105	103	94	90
Steward department:										
Chief stewards.....	122	120	116	111	112	121	120	120	116	118
Second stewards.....	103	97	94	86	90	100	95	97	88	
Cooks.....	100	99	95	92	93	100	95	99	111	90
Second cooks.....	81	77	72	69	69	80	80	79	73	76
Mess stewards.....	49	48	43	40	40	51	47	46	43	42
Mess boys.....	42	43	39	36	35	43	43	41	39	38

Average monthly wages paid on American merchant vessels of 500 gross tons and over in 1934 are shown in table 2, by destination of vessel.

TABLE 2.—AVERAGE MONTHLY WAGES PAID ON AMERICAN MERCHANT VESSELS OF 500 GROSS TONS AND OVER IN 1934, BY DESTINATION OF VESSEL

Occupation	Destination of vessel								
	Great Britain	Continental Europe	South America	West Indies, Mexico, and Central America	Atlantic and Gulf coasting trade	Asia and Australia	Pacific coasting trade	Africa	Atlantic to Pacific ports and vice versa
Steam vessels:									
Able seamen.....	\$54	\$55	\$51	\$51	\$52	\$50	\$56	\$45	\$49
Boatswains.....	66	64	63	63	63	64	67	55	61
Carpenters.....	70	73	76	76	69	67	72	60	63
First mates.....	165	168	164	164	162	166	152	150	157
Second mates.....	148	147	142	122	142	143	130	128	137
Firemen.....	57	56	52	53	54	51	54	45	50
Trimmers.....	50	47	43	46	44	46	48	40	44
Chief engineers.....	230	236	235	235	222	257	208	234	230
First assistant engineers.....	161	153	163	161	157	167	150	150	155
Chief radio operators.....	91	87	90	90	88	91	87	85	86
Second radio operators.....	80	60	75	80	73	80	72	75	77
Sailing vessels:									
Able seamen.....	30	30	30	30	31		68		
Boatswains.....			40	55					
First mates.....			60	60			130		
Second mates.....	60	72	60	60	60		98		

Shirt Industry—Hours and Earnings, 1933

IN JUNE 1933 the United States Department of Labor,¹¹ actively assisted by the State departments of labor in the States visited, made a field survey of the shirt industry,¹² covering approximately 20,000 workers in 129 establishments in 9 of the principal shirt-manufacturing States (Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Indiana, and Missouri). Twenty-one percent of the shirt factories in these States, constituting 17 percent of those in the entire industry, were visited. These employed 43 percent of the wage earners in the shirt industry in these States and 34 percent of the 58,000 wage earners in the entire industry, according to the 1931 Census of Manufactures.

A summary of the results of the survey is presented in this article. A more detailed report is given in the Monthly Labor Review for September 1933 (p. 499).

Hours and Hourly Earnings of Female Wage Earners

WHAT were reported to be the regular hours of work in the plants included in the survey ranged from 40 to 55 per week. Over half the plants, employing about 14,000 women, or 77 percent of the total number, operated 48 hours or more a week. The majority in New York and Massachusetts ran 48 hours; in New Jersey and Connecticut most of the plants ran 48 to 50 hours; in Pennsylvania schedules in all but three plants were 50 hours or longer. Information as to actual hours worked by each employee during the pay-roll period studied was obtained for workers in only 31 plants—about one-fourth of those visited—in seven States. The number of female wage earners employed in the 31 establishments are shown in table 1:

TABLE 1.—NUMBER OF FEMALE WAGE EARNERS EMPLOYED IN 31 SHIRT FACTORIES REPORTING ACTUAL WEEKLY HOURS OF WORK IN 7 STATES

Stage	Female wage earners having actual weekly hours of work of—											Total reported	Hours not reported	Grand total
	Under 40		40 and under 44		44 and under 48		48 and under 50		50 and over					
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent				
Total 7 States.....	1,369	19	1,121	16	2,097	29	1,441	20	1,179	16	7,207	422	7,629	
Massachusetts.....	171	28	78	13	148	25	203	34	2	(1)	602	2	604	
Connecticut.....	107	13	112	13	325	38	256	30	51	6	851	9	860	
New York.....	595	28	464	22	813	38	242	11	1	(1)	2,115	355	2,470	
New Jersey.....	48	9	46	9	38	7	337	64	56	11	525	1	526	
Pennsylvania.....	97	19	88	17	97	19	53	10	188	36	523	22	545	
Indiana.....	188	11	190	11	373	22	103	6	881	51	1,733	3	1,736	
Missouri.....	165	19	143	17	303	35	247	29	-----	-----	858	30	888	

¹Less than 1 percent.

¹¹The following bureaus of the Department cooperated in the survey: Children's Bureau, Bureau of Labor Statistics, Women's Bureau, and the Conciliation Service.

¹²The study covered plants in which shirts had comprised 50 percent or more of the output during the year.

The extent to which broken time and undertime exist in the shirt industry is indicated by a comparison of the regular scheduled hours and the actual hours worked by 7,207 women in these 31 plants. None of the scheduled hours in these plants fell below 44 a week, yet 35 percent of the women worked less than these hours, and 19 percent worked less than 40 hours. Sixty percent were employed in plants whose scheduled hours were 48 but less than 50, yet only 20 percent actually worked this amount of time. Twenty-one percent of the woman workers were in establishments scheduled to work 50 hours a week or over, but the actual hours worked came up to this schedule for only 16 percent of the female employees.

Hourly earnings have been computed for the woman workers for whom actual hours in the pay-roll period were reported. For all these workers median hourly earnings were 19 cents. New York had the highest median earnings, 23 cents an hour, and Pennsylvania the lowest, 15 cents. The median earnings in the various States and the number and percent of the female wage earners receiving specified amounts per hour are shown in table 2.

TABLE 2.—MEDIAN HOURLY EARNINGS OF FEMALE WAGE EARNERS AND NUMBER RECEIVING SPECIFIED AMOUNTS PER HOUR IN 31 SHIRT FACTORIES IN 7 STATES

State	Median hourly earnings	Female wage earners receiving specified amounts per hour ¹									
		Under 5 cents		5 and under 10 cents		10 and under 15 cents		15 and under 20 cents		20 and under 25 cents	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, 7 States.....	\$0. 19	36	(²)	452	6	1, 747	24	1, 909	26	1, 490	21
Massachusetts.....	. 20	1	(²)	5	1	86	14	221	37	172	29
Connecticut.....	. 17	5	1	51	6	271	32	265	31	151	18
New York.....	. 23	-----	-----	63	3	253	12	423	20	503	24
New Jersey.....	. 19	-----	-----	11	2	129	25	143	27	137	26
Pennsylvania.....	. 15	6	1	67	13	188	36	132	25	31	15
Indiana.....	. 16	16	1	190	11	577	33	494	29	258	15
Missouri.....	. 17	8	1	65	8	243	28	231	27	188	22

State	Female wage earners receiving specified amounts per hour ¹							Total reported	Amount not reported	Grand total
	25 and under 30 cents		30 and under 35 cents		35 cents and over					
	Number	Percent	Number	Percent	Number	Percent				
Total, 7 States.....	950	13	398	6	225	3	7, 207	422	7, 629	
Massachusetts.....	69	11	35	6	13	2	602	2	604	
Connecticut.....	72	8	28	3	8	1	851	9	860	
New York.....	467	22	239	11	167	8	2, 115	355	2, 470	
New Jersey.....	71	14	22	4	12	2	525	1	526	
Pennsylvania.....	31	6	13	2	5	1	523	22	545	
Indiana.....	150	9	43	2	5	(²)	1, 733	3	1, 736	
Missouri.....	90	10	18	2	15	2	858	30	888	

¹ Hourly earnings for each worker were obtained by dividing the total amount received for the pay period by the actual number of hours worked.

² Less than 1 percent.

About 7 percent of the woman workers for whom hour records were obtained earned below 10 cents an hour, 31 percent less than 15 cents,

and 57 percent less than 20 cents. The earnings of almost four-fifths fell below 25 cents an hour. In Pennsylvania 50 percent and in Connecticut 39 percent earned less than 15 cents an hour, compared to 15 percent in both New York and Massachusetts. The proportion earning 35 cents and over was small in every State, varying from 8 percent in New York to less than half of 1 percent in Indiana.

Weekly Earnings

IN TABLE 3 the median weekly earnings of the women in all the shirt factories studied and the percent receiving each classified weekly earnings are set forth. Half of the 18,378 women earned less than \$7.30 in the week for which pay rolls were copied. In general the medians for female workers were about 10 cents lower than the medians for all workers. The highest median earnings (\$8.70) were found in New York, and the lowest, \$5.40, in Delaware. Fourteen percent of all the women received less than \$4 a week; 35 percent less than \$6, and 77 percent less than \$10. The proportion receiving less than \$4 a week varied from 6 percent in Massachusetts to 29 percent in Maryland; the proportion receiving less than \$10 varied from 94 percent in Delaware to 64 percent in New York. Only in New York did as many as 5 percent earn \$15 or more.

Although New York shows both the highest median earnings and the largest proportions in the higher wage groups, the earnings disclosed by this survey are lower than they were almost 50 years ago. In 1886, when a strike and lockout tied up 10,000 workers in the shirt and collar factories of Troy, N. Y., the State board of arbitration found that wages of the women and young girls employed ranged from \$6 to \$18 a week, with an average of \$10. Even at that time the settlement called for wage increases of as high as 25 percent.

TABLE 3.—MEDIAN WEEKLY EARNINGS AND PERCENT OF FEMALE WAGE EARNERS RECEIVING CLASSIFIED WEEKLY EARNINGS IN 129 SHIRT FACTORIES IN 9 STATES

State	Median weekly earnings	Percent of female wage earners receiving weekly earnings of—							
		Under \$2	\$2 and under \$4	\$4 and under \$6	\$6 and under \$8	\$8 and under \$10	\$10 and under \$12	\$12 and under \$15	\$15 or more
Total, 9 States.....	\$7.30	4	10	21	24	18	13	8	3
Massachusetts.....	7.90	1	5	17	28	24	16	7	2
Connecticut.....	7.70	3	6	19	26	20	13	9	4
New York.....	8.70	2	6	13	21	22	17	13	5
New Jersey.....	7.70	2	9	19	23	21	14	9	4
Pennsylvania.....	6.00	8	16	26	25	15	6	3	1
Delaware.....	5.40	9	19	30	23	13	4	2	-----
Maryland.....	5.50	7	22	28	22	11	6	3	1
Indiana.....	7.10	3	10	23	25	20	14	5	-----
Missouri.....	6.40	5	13	26	24	17	9	4	1

Rural and urban shirt factories.—In general, weekly earnings varied directly with the size of the community in which the factories were located. In 7 of the 9 States the factory with the lowest median earnings was located either in a rural district or in a community with a population of less than 10,000.

In shirt factories in rural communities, that is, towns of less than 2,500 population and country districts, half of the women earned less

than \$4.30 a week; in those in communities with a population between 2,500 and 10,000 the median was slightly higher—\$5.60; in towns and cities with a population between 10,000 and 50,000 the median was \$7.50; and in cities of 50,000 or more the median—\$8.20—was almost twice what it was in the rural factories.

While many rural factories were small, some employed several hundred workers; the automobile has made it possible for the rural factory to tap the labor supply of remote farms and villages.

Contracting and manufacturing establishments.—Weekly earnings of female shirt workers were found to be higher in manufacturing than in contracting establishments. Half the female workers in all contract establishments combined earned less than \$6.40 a week. In all manufacturing establishments combined the median for woman and girl workers was \$7.60. Thirteen firms in four States did both contracting and direct manufacturing, and the median for these establishments was \$7.40. In each State in which both types of manufacture were found¹³ median weekly earnings were higher in the manufacturing establishments, the difference varying from 40 cents in New Jersey to more than a dollar in several States.

Silk and Rayon Industry—Wages and Earnings, 1933 and 1934¹⁴

AVERAGE hourly earnings of all types of labor in the silk and rayon goods industry increased sharply under the President's Reemployment Agreement and somewhat more under the silk code. In August 1933 the median earnings for the workers covered in the industry were 37½ cents an hour, and by August 1934 had increased to 40½ cents an hour. The arithmetic average for the coverage was 41.5 cents in 1933 and 44.8 cents in 1934. The greatest hourly wage increases were made to workers in the lower-paid occupations. The earnings of the lowest-paid quarter of the workers advanced 74 percent from April 1933 to August 1934. A fourth of all workers in the industry received more than 38½ cents an hour in April 1933 and 59 or more cents in August 1934, an increase of 53 percent. Moreover, full-time weekly earnings of workers in all of the leading occupations for the industry as a whole were greater in August 1934 than they had been for the longer maximum workweek prevailing in April 1933. The smallest increase in average full-time weekly earnings was 12 percent, in the case of loom fixers, the most highly skilled group of workers. The least skilled occupations, separately analyzed, showed an increase in full-time weekly earnings of approximately 40 percent.

These are a few of the outstanding findings of the investigation of wages and hours of labor in silk and rayon goods industry by the Bureau of Labor Statistics at the order of the President.¹⁵

Extent of Survey

This report is based on two studies of the silk and rayon industry. The data presented cover three pay-roll periods—April 1933, prior to the National Recovery Administration; August 1933, when the

¹³ No contractors were visited in Massachusetts or Missouri.

¹⁴ Summary of article published in the *Monthly Labor Review*, June 1935 (p. 1432).

¹⁵ Executive Order No. 6858 (Sept. 26, 1934), creating the Textile Labor Relations Board. Sec. 8 of this order reads: "The Bureau of Labor Statistics shall prepare a comprehensive report on the actual hours of employment, earnings, and working conditions in the textile industry. The Bureau shall also make an investigation upon and a report of the different types of work performed by the various types of labor in such industries, the actual wage rates paid for various classifications of work, and the extent to which differential wage rates apply to the different skills."

industry operated under the President's Reemployment Agreement; and August 1934, when the industry was operating under National Recovery Administration codes.

In the first half of 1933 the Bureau of Labor Statistics made a survey of wages and earnings in 291 establishments with 41,713 wage earners. The average earnings figures shown may be accepted as representative of conditions in April and May 1933.

The second study of the industry was undertaken in October 1934. It covered wages, hours, and weekly earnings in two periods: (1) A week in the middle of August 1933 and (2) a week in the middle of August 1934. For August 1934 the sample included 141 mills and 28,959 workers. The sample for August 1933 is smaller, covering 96 mills with 23,723 workers.

Average Hourly Earnings

UNDER the President's Reemployment Agreement and the silk code, adopted in October 1933, minimum wages of 30 cents an hour in the South and 32½ cents an hour in the North were provided. A further condition of the President's Reemployment Agreement was that weekly wages should be as great for a workweek of 40 hours as they had been for the longer week prevailing prior to the code. In the silk code as it was finally adopted, this provision was changed so as to require the maintenance of wage differentials between occupations. If the minimum-wage requirement of the code necessitated the raising of wages for certain low-paid groups, the differential provision required an equal increase in the weekly earnings of the more skilled occupations. These provisions required a marked increase in the average hourly earnings of workers in the silk and rayon industry.

Table 1 shows the distribution of the workers covered, on the basis of average hourly earnings, in April 1933, prior to the National Recovery Act; in August 1933, when the industry was operating under the President's Reemployment Agreement; and in August 1934, when the industry was operating under the codes.

TABLE 1.—CUMULATIVE PERCENTAGE DISTRIBUTION OF WORKERS, WITH CLASSIFIED HOURLY EARNINGS, IN THE SILK AND RAYON INDUSTRY, 1933 AND 1934

Hourly earnings	Cumulative percentage distribution of workers in classified earnings groups									
	Males			Females			Total			
	April 1933	August 1933	August 1934	April 1933	August 1933	August 1934	April 1933	August 1933	August 1934	
Less than 12½ cents.....	2.5	4.8	0.3	5.5	27.1	0.2	4.1	19.6	4.8	0.3
Less than 17½ cents.....	11.0			54.8			40.8			
Less than 22½ cents.....	24.8			79.4	8.4	1.2	62.8	7.8	1.5	
Less than 27½ cents.....	43.9	7.1	1.8	84.8	9.5	1.5	68.9	8.9	1.8	
Less than 30 cents.....	50.8	8.2	2.2	89.7	13.4	6.0	75.5	12.8	5.6	
Less than 32½ cents.....	58.9	12.1	5.2	92.6	52.8	42.6	80.0	40.7	30.8	
Less than 35 cents.....	65.7	26.0	17.2	96.1	73.1	66.2	86.6	57.5	49.3	
Less than 40 cents.....	75.6	38.5	29.6	98.0	83.3	79.2	91.2	69.8	62.7	
Less than 45 cents.....	83.6	53.2	43.6	99.0	90.0	87.2	94.1	78.6	73.4	
Less than 50 cents.....	88.5	64.7	57.5	99.6	96.7	95.2	97.4	89.6	85.5	
Less than 60 cents.....	94.8	80.8	74.3	99.8	99.1	98.7	98.8	95.4	92.8	
Less than 70 cents.....	97.7	90.8	86.1							

There can be no question that the provisions of the silk code increased the hourly earnings of workers in the industry materially. It is noteworthy, however, that the silk code operated, as did the cotton code, to bring about a congestion of wages around the minimum provided in the code. This is not to say that for the industry as a whole the minimum wage became the maximum. Indeed, three-fourths of the workers received more than the minimum. The whole frequency distribution of earnings was pushed up, but wages in the lower brackets were advanced more rapidly than wages in the upper brackets. Thus from April 1933 to August 1933 the hourly wages of the lowest-paid quarter of the workers were advanced 68 percent. The average or median hourly wage advanced 53 percent, while the wage for the upper fourth of the workers was advanced by only 43 percent. This congestion around the minimum continued to exist in August 1934, by which time the earnings of the lowest-paid quarter of the workers had advanced 74 percent over April 1933 and the wages of the highest-paid quarter of the workers had advanced by 53 percent. During the year from August 1933 to August 1934 this concentration of earnings in the lower brackets was somewhat reduced. The hourly wage for the lowest quarter of the workers advanced only from 32½ cents to 33½ cents an hour, whereas the level for the highest-paid quarter of the workers advanced from 55 cents to 59 cents.

Average hourly earnings in nine occupations in the industry, for the United States as a whole, are given in table 2. These nine occupations in August 1934 employed 19,700 of the 29,000 workers in the sample covered.

TABLE 2.—NUMBER OF EMPLOYEES AND AVERAGE HOURLY EARNINGS IN SPECIFIED OCCUPATIONS IN THE SILK AND RAYON INDUSTRY, 1933 AND 1934

Occupation and sex	Hourly earnings			Per-centage increase, April 1933 to August 1934	Number of employees		
	April 1933	August 1933	August 1934		April 1933	August 1933	August 1934
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>				
Loom fixers, male.....	53.4	72.4	76.5	43	1,236	760	995
Warpers, male.....	39.6	51.4	62.0	56	844	303	410
Warpers, female.....	32.1	47.4	49.9	55	1,343	869	949
Weavers, male.....	28.7	44.7	48.2	68	3,604	4,421	5,393
Weavers, female.....	25.4	41.0	43.3	70	3,329	2,981	3,468
Spinners, male.....	25.1	44.2	45.6	81	2,074	828	1,008
Spinners, female.....	21.1	35.1	35.6	69	2,208	1,138	1,526
Winders, female.....	20.6	34.4	35.6	73	5,816	2,237	2,794
Quillers, female.....	19.2	35.3	35.7	86	1,608	872	1,316
Pickers, female.....	19.4	35.7	34.6	78	725	382	574
Redrawers, female.....	17.7	33.9	35.3	99	2,499	674	955
Bobbin boys.....	17.8	28.8	33.7	89	760	389	530

Regional comparison.—In the study of regional differentials four regions were distinguished: The South; the Middle Atlantic region, excepting Paterson and New York City; Paterson; and New England, including New York City. It was believed that each region was more or less homogeneous as regarded wage conditions but that the separate regions were distinctive. The basic data for two pay-roll periods, August 1933 and August 1934, are shown in table 3.

TABLE 3.—NUMBER OF WORKERS RECEIVING CLASSIFIED HOURLY EARNINGS IN THE SILK AND RAYON INDUSTRY, BY REGIONS, 1933 AND 1934

Hourly earnings	Number of workers in classified earnings group in—							
	August 1933							
	South		Middle Atlantic		Paterson		New England	
	Males	Fe- males	Males	Fe- males	Males	Fe- males	Males	Fe- males
All workers.....	1, 512	1, 170	5, 123	6, 671	1, 030	986	3, 015	4, 211
Less than 22½ cents.....	100	141	333	336	28	40	51	107
22½ and less than 27½ cents.....	46	85	132	269	25	33	46	81
27½ and less than 30 cents.....	31	34	59	65	6	7	21	44
30 and less than 32½ cents.....	239	296	128	131	18	20	35	52
32½ and less than 35 cents.....	98	143	891	3, 424	78	466	417	1, 108
35 and less than 40 cents.....	184	216	602	1, 338	113	158	438	936
40 and less than 45 cents.....	232	127	883	522	115	96	339	585
45 and less than 50 cents.....	187	70	501	225	188	60	345	515
50 and less than 60 cents.....	214	48	766	230	199	76	545	528
60 and less than 70 cents.....	137	9	469	100	95	23	365	179
70 cents and over.....	44	1	364	31	165	7	413	76
	August 1934							
All workers.....	1, 551	1, 285	7, 158	9, 404	1, 082	970	3, 646	3, 863
Less than 22½ cents.....	6	2	32	20	2	8	4	3
22½ and less than 27½ cents.....	21	25	147	86	13	21	22	23
27½ and less than 30 cents.....	37	7	30	26	5	5	5	11
30 and less than 32½ cents.....	299	599	41	58	16	20	17	20
32½ and less than 35 cents.....	65	132	1, 084	4, 385	70	267	391	891
35 and less than 40 cents.....	226	169	848	2, 236	91	272	519	995
40 and less than 45 cents.....	224	149	1, 055	1, 088	134	114	459	660
45 and less than 50 cents.....	198	67	1, 071	645	173	88	429	444
50 and less than 60 cents.....	247	101	1, 143	534	233	122	622	481
60 and less than 70 cents.....	162	29	800	238	124	34	501	241
70 cents and over.....	66	5	907	88	221	19	677	94

Average Weekly Earnings

FULL-TIME earnings—the amounts a man might have earned had he been able to work full time—are shown in table 4 for 9 occupations in April 1933 and August 1934.

TABLE 4.—AVERAGE FULL-TIME WEEKLY EARNINGS IN THE SILK AND RAYON INDUSTRY, BY OCCUPATIONS, APRIL 1933 AND AUGUST 1934

Occupation and sex	April 1933	August 1934	Increase	
			Amount	Percent
Loom fixers, male.....	\$27.34	\$30.60	\$3.26	12
Warpers, male.....	20.47	24.80	4.33	21
Warpers, female.....	16.21	19.06	3.75	23
Weavers, male.....	14.55	19.28	3.73	32
Weavers, female.....	12.60	17.32	4.72	37
Spinners, male.....	13.96	18.24	4.28	31
Spinners, female.....	10.55	14.24	3.69	35
Winders, female.....	10.38	14.24	3.86	37
Quillers, female.....	9.70	14.28	4.58	47
Pickers, female.....	9.80	13.84	4.04	41
Redrawers, female.....	8.96	14.12	5.16	58
Bobbin boys.....	9.20	13.48	4.28	47

The amounts actually received per week are of greater significance than changes in hypothetical full-time earnings. Despite the shortening of hours under the National Recovery Administration, the average actual weekly earnings for the silk and rayon workers of the country in each of the occupations shown above were greater both in August 1933 and August 1934 than they were in April 1933.

TABLE 5.—AVERAGE ACTUAL WEEKLY EARNINGS IN THE SILK AND RAYON INDUSTRY, BY OCCUPATIONS, 1933 AND 1934

Occupation and sex	April 1933	August 1933	August 1934
Loom fixers, male.....	\$26. 63	\$28. 15	\$28. 17
Warpers, male.....	17. 66	18. 53	21. 23
Warpers, female.....	12. 94	16. 63	14. 85
Weavers, male.....	13. 34	16. 70	16. 74
Weavers, female.....	11. 39	15. 23	15. 31
Spinners, male.....	12. 06	13. 45	14. 99
Spinners, female.....	9. 01	12. 09	11. 25
Winders, female.....	8. 25	11. 89	10. 73
Quillers, female.....	8. 16	12. 45	11. 89
Pickers, female.....	7. 78	13. 40	11. 25
Redrawers, female.....	7. 39	11. 32	10. 49
Bobbin boys.....	8. 09	10. 72	11. 69

Silk and Rayon Weavers—Rates of Pay, April 1934

THIS article shows average rates of pay in the silk and rayon goods industry obtained by the Bureau of Labor Statistics in response to a request in March 1934 by the Industrial Relations Board of Paterson, N. J. The Bureau's survey covered the rates of pay of weavers in silk and rayon mills in Connecticut, Massachusetts, New Jersey, Pennsylvania, and Rhode Island. According to the 1931 Census of Manufactures, about 80 percent of the wage earners in the industry in the United States are employed in these States.

The survey was limited to mills manufacturing broad silk and broad rayon goods, in which all or part of the looms were operated on the basis of 4 looms per weaver on standards of weave known to the industry as "silk 50/64", "silk 55/72", "rayon 90/52", and to mills in which the largest group of 4-loom weavers worked on some other standard. Mills in which no looms were operated on the 4-loom basis and those producing other than broad goods were not included.

The rates of pay in mills visited by representatives of the Bureau covered the pay-roll period nearest to April 30, 1934. Satisfactory data were obtained for 6,416 looms in 60 mills. Rates were also secured by questionnaire for 3,040 looms in 29 mills not visited by agents of the Bureau. The prevailing rate of pay was the rate per 100,000 picks; the unit of pay per yard reported for a few mills has been converted to the rate per 100,000 picks.

The following table presents rates of pay of silk or rayon weavers working on a basis of 4 looms per weaver, in April 1934, by cities or groups of cities.

RATES OF PAY OF WEAVERS OF BROAD SILK AND BROAD RAYON GOODS
OPERATING ON A BASIS OF 4 LOOMS PER WEAVER, APRIL 1934, BY CITIES OR
GROUPS OF CITIES

City and State	Average rate per 100,000 picks for standard of—				
	Silk 50/64	Silk 55/72	Rayon 90/52	Other ¹	Total
All mills covered					
All cities covered.....	\$1.873	\$1.834	\$2.093	\$1.907	\$1.898
New England:					
Willimantic and Mystic, Conn.....	1.850	1.850	-----	1.900	1.883
Fall River, Mass.....	(?)	-----	-----	(?)	(?)
New Bedford, Mass.....	(?)	-----	-----	(?)	(?)
Westerly, R. I.....	-----	-----	-----	(?)	(?)
Central Falls, R. I.....	1.900	-----	2.250	1.906	1.954
Pawtucket, R. I.....	1.900	1.900	-----	1.967	1.938
Total.....	1.853	1.882	2.250	1.890	1.891
Allentown, Pa.....	1.831	1.817	2.000	1.929	1.916
Easton, Pa.....	1.519	1.350	-----	1.764	1.692
East Stroudsburg, Pa.....	1.750	1.750	-----	1.872	1.806
Bethlehem, Pa.....	(?)	-----	-----	(?)	(?)
Phillipsburg, N. J.....	(?)	(?)	-----	(?)	(?)
Total.....	1.762	1.726	2.000	1.898	1.868
All cities except Paterson, N. J.....	1.808	1.808	2.131	1.894	1.878
Paterson, N. J.....	1.952	1.940	2.040	1.964	1.961
Mills visited by agents only					
All cities.....	\$1.854	\$1.888	\$2.000	\$1.901	\$1.897
New England:					
Willimantic, Conn., Fall River, Mass., New Bedford, Mass., and Westerly, R. I.....	1.700	-----	-----	1.816	1.808
Central Falls, R. I.....	1.900	-----	-----	1.906	1.906
Pawtucket, R. I.....	1.900	1.900	-----	1.958	1.948
Total.....	1.757	1.900	-----	1.866	1.860
Allentown, Pa.....	1.845	-----	2.000	-----	1.912
Easton, Pa.....	1.519	-----	-----	1.764	1.724
East Stroudsburg, Pa.....	-----	-----	-----	1.894	1.894
Bethlehem, Pa., and Phillipsburg, N. J.....	1.700	1.700	-----	1.903	1.843
Total.....	1.711	1.700	2.000	1.895	1.881
All cities except Paterson, N. J.....	1.728	1.821	2.000	1.883	1.873
Paterson, N. J.....	1.967	1.940	-----	2.017	1.994
Mills covered by questionnaire only					
All cities.....	\$1.886	\$1.814	\$2.129	\$1.932	\$1.901
New England:					
Pawtucket, R. I.....	1.900	1.900	-----	1.982	1.931
Other New England cities.....	1.859	1.850	2.250	2.000	1.956
Total.....	1.883	1.878	2.250	1.991	1.943
Allentown, Pa.....	1.825	1.817	-----	2.056	1.934
Phillipsburg, N. J., and cities in Pennsylvania (except Allentown).....	1.750	1.692	-----	1.562	1.674
Total.....	1.801	1.730	-----	1.922	1.823
All cities except Paterson, N. J.....	1.848	1.806	2.250	1.962	1.901
Paterson, N. J.....	1.940	1.940	2.040	1.878	1.922

¹ This includes only those standards where more looms were operated than on any of the 3 selected standards.

² Data included in the total but not shown separately to avoid identification.

Slaughtering and Meat-Packing Industry—Hours and Earnings, 1931

LATE in 1931 the Bureau of Labor Statistics made a study of earnings and hours of labor of wage earners in the slaughtering and meat-packing industry in the United States, summary data for which are here given. More detailed information was published in Bulletin No. 576 of the Bureau. Wage figures covering 53,555 wage earners of 90 representative meat-packing establishments in 26 States were collected by the Bureau for a weekly pay period in October, November, or December. Averages are presented in table 1, together with averages for 1917 and each odd year from 1921 to 1931, for the wage earners of each sex separately and for both sexes combined, in 13 of the more important departments in the industry, i. e., cattle killing, hog killing, sheep and calf killing, ofal (other than hides and casings), hide, casing, fresh-beef cutting, fresh-pork cutting, lard and oleo-oil, sausage, cured-meat, canning, and maintenance and repair departments. The number of wage earners covered in 1931 is 43.7 percent of the 122,505 reported in the industry in the United States by the Census of Manufactures in 1929.

TABLE 1.—AVERAGE HOURS AND EARNINGS, IN THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, WITH INDEX NUMBERS THEREOF, 1917 TO 1931, BY SEX AND YEAR

Sex and year	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week	Index numbers (1921=100.0)		
		Average	Percent of full time				Full-time hours per week time	Average earnings per hour	Average full-time earnings per week
All occupations, male:									
1917.....	(1)	54.3	(1)	\$0.271	(1)	\$14.73	-----	53.0	-----
1921.....	48.4	43.2	89.3	.511	\$24.73	22.10	100.0	100.0	100.0
1923.....	52.2	49.1	94.1	.499	26.05	24.55	107.9	97.7	105.3
1925.....	50.2	48.2	96.0	.507	25.45	24.45	103.7	95.2	102.9
1927.....	49.5	47.7	96.4	.517	25.59	24.68	102.3	101.2	103.5
1929.....	49.3	48.5	98.4	.525	25.88	25.45	101.9	102.7	104.7
1931.....	49.2	45.9	93.3	.470	23.12	21.57	101.7	92.0	93.5
All occupations, female:									
1917.....	(1)	53.4	(1)	.178	(1)	8.60	-----	48.8	-----
1921.....	48.3	44.3	91.7	.365	17.63	15.57	100.0	100.0	100.0
1923.....	52.8	45.1	85.4	.361	19.06	16.28	109.3	98.9	108.1
1925.....	49.4	44.7	90.5	.359	17.73	16.04	102.3	98.4	100.6
1927.....	49.1	44.5	90.6	.363	17.82	16.16	101.7	99.5	101.1
1929.....	48.9	44.9	91.8	.369	18.04	16.54	101.2	101.1	102.3
1931.....	48.9	42.4	86.7	.321	15.70	13.61	101.2	87.9	89.1
All occupations, male and female:									
1917.....	(1)	44.2	(1)	.262	(1)	14.07	-----	52.7	-----
1921.....	48.4	43.1	89.0	.497	24.05	21.45	100.0	100.0	100.0
1923.....	52.3	48.7	93.1	.484	25.31	23.55	108.1	97.4	105.2
1925.....	50.1	47.8	95.4	.492	24.65	23.52	103.5	99.0	102.5
1927.....	49.4	47.3	95.7	.499	24.65	23.62	102.1	100.4	102.5
1929.....	49.2	48.0	97.6	.504	24.80	24.18	101.7	101.4	103.1
1931.....	49.2	45.4	92.3	.449	22.09	20.38	101.7	90.3	91.9

¹ Data not available.

Table 2 shows average hours and earnings and percent of full time worked in 1 week, in 1929 and 1931, by department and sex, for the wage earners in all occupations combined (except a few in each of the 13 major departments of the industry), for the miscellaneous group of "Other employees, all departments", and for the industry as a whole so far as covered in this report.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE SLAUGHTERING AND MEAT PACKING INDUSTRY, 1929 AND 1931, BY DEPARTMENT AND SEX

Department and sex	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
All departments:												
Males.....	49.3	49.2	48.5	45.9	98.4	93.3	\$0.525	\$0.470	\$25.88	\$23.12	\$25.45	\$21.57
Females.....	48.9	48.9	44.9	42.4	91.8	86.7	.369	.321	18.04	15.70	16.14	13.61
Males and females...	49.2	49.2	48.0	45.4	97.6	92.3	.504	.449	24.80	22.09	24.58	20.38
Cattle-killing department:												
Males.....	48.8	48.9	44.1	41.8	90.4	85.5	.599	.532	29.23	26.01	26.38	22.24
Females.....	50.0	48.8	42.2	29.7	84.4	60.9	.406	.283	20.30	13.81	17.12	8.42
Males and females...	48.8	48.9	44.0	41.8	90.2	85.5	.598	.531	29.18	25.97	26.33	22.17
Hog-killing department:												
Males.....	49.9	50.0	46.7	44.9	93.6	89.8	.529	.478	26.40	23.90	24.71	21.46
Females.....	49.5	48.6	43.6	43.2	88.1	88.9	.357	.296	17.67	14.39	15.56	12.78
Males and females...	49.9	50.0	46.7	44.9	93.6	89.8	.527	.475	26.30	23.75	24.59	21.33
Sheep and calf-killing department: Males...	48.4	48.7	43.4	43.2	89.7	88.7	.580	.489	28.07	23.81	25.14	21.13
Offal department (other than hides and casings):												
Males.....	49.2	49.3	46.5	44.9	94.5	91.1	.510	.452	25.09	22.28	23.73	20.29
Females.....	49.2	49.0	41.8	41.0	85.0	83.7	.363	.314	17.86	15.39	15.16	12.87
Males and females...	49.2	49.3	45.9	44.4	93.3	90.1	.491	.436	24.16	21.49	22.51	19.39
Hide department: Males.	48.4	48.7	42.4	38.9	87.6	79.9	.502	.433	24.30	21.09	21.29	16.84
Casing department:												
Males.....	49.1	49.3	46.8	45.3	95.3	91.9	.524	.464	25.73	22.88	24.51	21.02
Females.....	48.7	48.7	45.6	43.4	93.6	89.1	.386	.309	18.80	15.05	17.59	13.43
Males and females...	49.0	49.2	46.5	44.9	94.9	91.3	.496	.435	24.30	21.40	23.07	19.53
Cutting or fresh beef department:												
Males.....	48.9	49.0	50.1	46.5	102.5	94.9	.537	.473	26.26	23.18	26.88	22.00
Females.....	47.2	48.4	41.2	39.0	87.3	80.6	.328	.295	15.48	14.28	13.52	11.50
Males and females...	48.9	49.0	50.0	46.5	102.2	94.9	.535	.472	26.16	23.13	26.75	21.93
Cutting or fresh pork department:												
Males.....	49.8	49.5	47.6	46.7	95.6	94.3	.514	.466	25.60	23.07	24.47	21.76
Females.....	49.3	48.9	42.5	40.1	86.2	82.0	.395	.349	19.47	17.07	16.78	14.02
Males and females...	49.7	49.4	46.6	45.5	93.8	92.1	.494	.447	24.55	22.08	23.02	20.33
Lard and oleo-oil department:												
Males.....	49.2	49.4	51.0	48.8	103.7	98.8	.486	.442	23.91	21.83	24.79	21.54
Females.....	49.4	49.3	45.4	44.6	91.9	90.5	.345	.295	17.04	14.54	15.68	13.16
Males and females...	49.2	49.4	50.4	48.2	102.4	97.6	.474	.423	23.32	20.90	23.88	20.38
Sausage department:												
Males.....	49.5	49.7	52.2	47.8	105.5	96.2	.507	.458	25.10	22.76	26.47	21.90
Females.....	48.8	49.0	46.0	43.4	94.3	88.6	.366	.319	17.86	15.63	16.83	13.83
Males and females...	49.2	49.4	49.3	45.7	100.2	92.5	.446	.395	21.94	19.51	21.98	18.06
Cured-meat department:												
Males.....	49.9	49.5	49.9	47.5	100.0	96.0	.477	.432	23.81	21.38	23.81	20.52
Females.....	49.4	49.0	46.1	42.2	93.3	86.1	.352	.304	17.39	14.90	16.23	12.84
Males and females...	49.9	49.5	49.6	47.1	99.4	95.2	.468	.424	23.35	20.99	23.23	19.97
Canning department:												
Males.....	48.3	48.9	49.6	47.0	102.7	96.1	.478	.433	23.09	21.17	23.68	20.32
Females.....	48.4	48.9	45.0	42.5	93.0	86.9	.360	.322	17.42	15.75	16.21	13.67
Males and females...	48.4	48.9	46.8	43.8	96.7	89.6	.409	.358	19.80	17.51	19.12	15.69
Maintenance and repair department: Males...	49.0	48.7	49.0	45.4	100.0	93.2	.583	.535	28.59	26.05	28.59	24.29
Other employees, all departments:												
Males.....	49.4	49.2	52.1	48.8	105.5	99.2	.471	.412	23.27	20.27	24.50	20.11
Females.....	51.2	48.9	45.2	42.5	88.3	86.9	.378	.318	19.35	15.55	17.07	13.51
Males and females...	49.4	49.1	51.9	48.3	105.1	98.4	.469	.405	23.17	19.89	24.33	19.55

Average hours and earnings in 1929 and 1931 and the percent that average hours actually worked in 1 week was of average full-time hours per week are shown in table 3 for each of the various occupations in the cattle-killing, hog-killing, casing, sausage, and canning departments of the industry.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN FIVE DEPARTMENTS OF THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, 1929 AND 1931, BY SEX AND OCCUPATION

Cattle-killing department

Sex and occupation	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
<i>Males</i>												
Drivers and penners.....	49.5	49.0	47.8	49.5	96.6	101.0	\$0.528	\$0.465	\$26.14	\$22.79	\$25.26	\$23.01
Knockers.....	49.0	48.9	45.0	43.6	91.8	89.2	.568	.496	27.83	24.25	25.57	21.63
Shacklers or slingers.....	48.4	49.1	43.3	39.4	89.5	80.2	.557	.479	26.96	23.52	24.14	18.90
Headholders.....	49.3	49.3	35.7	35.3	72.4	71.6	.753	.601	37.12	29.63	26.87	21.21
Stickers.....	48.8	49.4	43.7	43.9	89.5	88.9	.670	.542	32.70	26.77	29.28	23.80
Headers.....	48.8	49.1	44.8	41.9	91.8	85.3	.644	.592	31.43	29.07	28.89	24.83
Droppers and pritchers-up.....	48.4	48.7	42.4	39.5	87.6	81.1	.532	.461	25.75	22.45	22.57	18.24
Foot skinners.....	48.4	48.6	44.6	40.4	92.1	83.1	.568	.479	27.49	23.28	25.32	19.34
Leg breakers.....	48.7	48.7	43.1	40.7	88.5	83.6	.580	.512	28.25	24.93	24.96	20.85
Rippers-open.....	49.9	48.9	48.3	46.2	96.8	94.5	.582	.533	29.04	26.06	28.14	24.65
Gullet raisers.....	48.5	49.3	44.1	39.7	90.9	80.5	.506	.412	24.54	20.31	22.32	16.38
Caul pullers.....	48.9	48.6	42.3	43.9	86.5	90.3	.574	.470	28.07	22.84	24.26	20.60
Floormen or siders.....	48.7	48.9	44.1	41.2	90.6	84.3	.882	.800	42.95	39.12	38.87	32.98
Breast or brisket breakers and sawyers.....	49.2	48.9	46.4	39.0	94.3	79.8	.544	.499	26.76	24.40	25.27	19.47
Crotch breakers.....	48.1	48.2	41.3	41.7	85.9	86.5	.536	.488	25.78	23.62	22.15	20.34
Hoisters.....	48.8	49.2	41.6	40.0	85.2	81.3	.538	.450	26.25	22.14	22.40	17.99
Tail rippers and pullers.....	49.1	48.9	43.7	37.1	89.0	75.9	.553	.494	27.15	24.16	24.15	18.30
Rumpers.....	49.1	49.1	44.9	41.8	91.4	85.1	.755	.684	37.07	33.58	33.87	28.58
Fell cutters.....	48.1	48.8	43.2	41.5	89.8	85.0	.690	.593	33.19	28.99	29.84	24.61
Fell pullers and beaters.....	48.6	48.9	42.3	41.5	87.0	84.9	.526	.469	25.56	22.93	22.26	19.45
Backers.....	48.7	48.9	43.1	40.7	88.5	83.2	.789	.710	38.42	34.72	34.03	28.88
Gutters and bung droppers.....	48.9	49.1	44.6	41.4	91.2	84.3	.598	.517	29.24	25.38	26.72	21.40
Shank skinners.....	49.2	49.0	44.6	39.3	90.7	80.2	.595	.516	29.27	25.28	26.56	20.24
Hide droppers.....	48.9	48.9	43.4	41.2	88.8	84.3	.708	.617	34.62	30.17	30.71	25.43
Tail sawyers.....	49.0	48.5	43.6	41.9	89.0	86.4	.595	.533	29.16	25.85	25.97	22.31
Splitters.....	48.7	48.9	45.8	42.1	94.0	86.1	.879	.780	42.81	38.14	40.25	32.85
Chuck splitters.....	49.0	48.4	46.8	42.9	95.5	88.6	.626	.571	30.67	27.64	29.25	24.50
Scribers.....	48.5	49.5	44.6	42.4	92.0	85.7	.555	.451	26.92	22.32	24.76	19.15
Trimmers of bruises, rounds, necks, skirts, and tails.....	48.3	48.6	43.6	42.0	90.3	86.4	.537	.452	25.94	21.97	23.40	19.02
Utilitymen ¹	49.7	48.6	47.4	43.5	95.4	89.5	.693	.634	34.44	30.81	32.84	27.60
Washers and wipers.....	48.8	48.6	43.8	41.0	89.8	84.4	.476	.408	23.23	19.83	20.81	16.73
Butchers, general ²	(?)	50.4	(?)	47.3	(?)	93.8	(?)	.678	(?)	34.07	(?)	32.02
Tonguers.....	49.3	48.3	46.5	40.3	94.3	83.4	.552	.440	27.21	21.25	25.70	17.74
Laborers ³	48.6	49.0	42.9	42.3	88.3	86.3	.466	.408	22.65	19.99	20.00	17.24
Truckers.....	49.5	49.6	43.2	42.2	87.3	85.1	.483	.417	23.91	20.68	20.86	17.58
<i>Females</i>												
Carcase wipers, brute and tail trimmers, neck rag inserters, and laborers.....	50.0	48.8	42.2	29.7	84.4	60.9	.406	.283	20.30	13.81	17.12	8.42

Hog-killing department

<i>Males</i>												
Laborers ⁴	49.8	49.6	46.4	44.8	93.2	90.3	\$0.443	\$0.400	\$22.06	\$19.84	\$20.56	\$17.90
Shacklers.....	49.7	50.7	44.9	46.3	90.3	91.3	.571	.493	28.38	25.00	25.62	22.82
Stickers.....	50.0	50.0	48.2	44.8	96.4	89.6	.645	.565	32.25	28.25	31.08	25.31
Scalders ⁵	50.2	50.4	47.7	46.4	95.0	92.1	.516	.475	25.90	23.94	24.63	22.07
Hookers-on ⁶	50.2	50.0	46.1	43.7	91.8	87.4	.500	.444	25.10	22.20	23.08	19.38
Shavers and scrapers.....	49.9	50.1	45.2	43.1	90.6	86.0	.528	.480	26.35	24.05	23.89	20.68
Headers.....	49.8	50.1	46.3	45.8	93.0	91.4	.598	.538	29.78	26.95	27.69	24.62
Gutters, bung droppers and rippers-open.....	50.0	50.3	47.7	45.6	95.4	90.7	.602	.527	30.10	26.51	28.71	24.03
Ham facers.....	49.9	50.1	45.6	44.7	91.4	89.2	.580	.533	28.94	26.70	26.43	23.81

¹ Included general butchers in 1929.

² Included as utility men in 1929.

³ Includes floor cleaners, mark heads, spread cattle, tie guts, laundry men, taggers, etc.

⁴ Includes drivers, penners, steamers, singers, washers, aitchbone breakers, and toe pullers.

⁵ Includes tubmen, droppers, gamb cutters, polemen, and duckers.

⁶ Includes hookers-off, hangers-off, straighteners, and chain feeders.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN FIVE DEPARTMENTS OF THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, 1929 AND 1931, BY SEX AND OCCUPATION—Continued

Hog-killing department—Continued

Sex and occupation	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931
<i>Males—Continued</i>												
Splitters.....	49.9	49.8	50.1	46.5	100.4	93.4	\$0.654	\$0.583	\$32.63	\$29.03	\$32.75	\$27.10
Leaf-lard pullers.....	49.7	50.0	45.4	45.6	91.3	91.2	.525	.470	26.09	23.50	23.83	21.47
Leaf-lard scrapers.....	49.6	49.7	44.3	41.6	89.3	83.7	.468	.412	23.21	20.48	20.73	17.14
Brulise trimmers, head removers, and kidney pullers.....	50.4	50.5	46.2	44.4	91.7	87.9	.521	.472	26.26	23.84	24.06	20.95
Utility men.....	49.8	49.2	49.4	47.2	99.2	95.9	.615	.557	30.63	27.40	30.38	26.28
Truckers.....	51.0	50.4	47.4	45.9	92.9	91.1	.453	.399	23.10	20.11	21.46	18.31
<i>Females</i>												
Kidney pullers, shavers, singers, neck brushers, and spreaders.....	49.5	48.6	43.6	43.2	88.1	88.9	.357	.296	17.67	14.39	15.56	12.78

Casing department

<i>Males</i>												
Casing pullers or runners.....	49.2	49.6	46.8	44.5	95.1	89.7	\$0.532	\$0.476	\$26.17	\$23.61	\$24.89	\$21.16
Strippers.....	49.3	49.1	47.3	45.7	95.9	93.1	.498	.429	24.55	21.06	23.56	19.58
Fatters and slimers.....	48.9	49.1	46.0	44.3	94.1	90.2	.548	.486	26.80	23.86	25.25	21.53
Turners.....	48.5	48.8	45.4	43.5	93.6	89.1	.518	.441	25.12	21.52	23.53	19.19
Blowers, graders, and inspectors.....	48.9	49.3	46.9	46.1	95.9	93.5	.517	.463	25.28	22.83	24.26	21.36
Measurers and bunchers.....	48.8	50.2	47.9	47.5	98.2	94.6	.512	.440	24.99	22.09	24.48	20.92
Salters and packers.....	48.8	48.9	48.7	49.1	99.8	100.4	.529	.474	25.82	23.18	25.74	23.24
Trimmers of casings.....	49.6	49.0	46.7	44.9	94.2	91.6	.538	.469	26.68	22.98	25.11	21.04
Blowers and tiers of bladders and weasands.....	48.3	48.4	48.3	44.8	100.0	92.6	.537	.456	25.97	22.07	25.97	20.41
General workers.....	49.3	49.2	50.5	50.9	102.4	103.5	.597	.568	29.43	27.95	30.13	28.92
Laborers ⁷	49.1	49.3	46.0	43.3	93.7	87.8	.442	.394	21.70	19.42	20.30	17.09
Cleaners and washers of bladders, weasands, and chitterlings.....	49.5	49.7	45.7	45.2	92.3	90.9	.492	.412	24.35	20.48	22.51	18.61
Truckers.....	49.0	50.4	43.1	46.5	88.0	92.3	.446	.404	21.85	20.36	19.20	18.78
<i>Females</i>												
Casing pullers or runners.....	50.0	48.6	43.9	39.7	87.8	81.7	.397	.312	19.85	15.16	17.43	12.37
Strippers.....	48.8	49.1	48.0	42.1	98.4	85.7	.412	.303	20.11	14.88	19.74	12.75
Turners.....	48.2	48.2	43.6	43.7	90.5	90.7	.347	.311	16.73	14.99	15.13	13.58
Blowers, graders, and inspectors.....	48.6	48.7	45.9	44.9	94.4	92.2	.384	.318	18.66	15.49	17.62	14.27
Measurers and bunchers.....	48.5	48.4	48.3	46.3	99.6	95.7	.394	.320	19.11	15.49	19.01	14.84
Salters and packers.....	48.6	47.7	48.0	45.0	98.8	94.3	.410	.289	19.93	14.26	19.70	13.45
Trimmers of casings.....	48.4	48.6	46.0	43.0	96.3	88.5	.419	.296	20.28	14.39	19.54	12.74
Blowers and tiers of bladders and weasands.....	48.0	49.5	47.6	49.5	99.2	100.0	.412	.332	19.78	16.43	19.60	16.43
General workers ⁸	48.3	48.7	45.6	40.8	94.4	83.8	.411	.276	19.85	13.44	18.70	11.25
Cleaners and washers of bladders, weasands, and chitterlings.....	48.9	48.7	44.0	37.8	90.0	77.6	.357	.285	17.46	13.88	15.70	10.78

Sausage department

<i>Males</i>												
Truckers and forkers.....	49.2	49.6	50.2	46.1	102.0	92.9	\$0.452	\$0.416	\$22.24	\$20.63	\$22.72	\$19.19
Machine tenders ⁹	50.0	49.4	52.9	47.8	105.8	96.8	.531	.476	26.55	23.51	28.05	22.77
Casing workers ¹⁰	49.6	49.2	52.1	45.3	105.0	92.1	.475	.421	23.56	20.71	24.72	19.08
Stuffers.....	49.8	49.6	52.0	46.1	104.4	92.9	.578	.522	28.78	25.89	30.03	24.02
Linkers, twisters, tiers, and hangers.....	48.8	49.1	48.7	45.7	99.8	93.1	.500	.447	24.40	21.95	24.38	20.44

⁷ Includes carriers, roustabouts, passers to fatters, barrel rollers, etc.⁸ Includes fatters, slimers, and laborers.⁹ Includes cutters, choppers, grinders, mixers, curers, feeders, splacers, and rockers.¹⁰ Includes washers, turners, re-turners, measurers, cutters, tiers, and fatters.

TABLE 3.—AVERAGE HOURS AND EARNINGS IN FIVE DEPARTMENTS OF THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, 1929 AND 1931, BY SEX AND OCCUPATION—Continued

Sausage department—Continued

Sex and occupation	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
<i>Males—Continued</i>												
Ropers (wrappers and tiers).....	51.3	50.0	56.8	47.6	110.7	95.2	\$0.602	\$0.472	\$30.88	\$23.60	\$34.16	\$22.44
Laborers ¹¹	49.2	49.7	51.3	47.0	104.3	94.6	.456	.400	22.44	19.88	23.42	18.77
Cooks.....	49.6	49.8	55.5	51.1	111.9	102.6	.515	.468	25.54	23.31	28.59	23.91
Smokers.....	50.1	52.2	57.5	52.5	114.8	100.6	.540	.493	27.05	25.73	31.02	25.89
Inspectors, packers, sealers, shippers, nailers, and box makers.....	49.0	49.3	51.9	47.9	105.9	97.2	.485	.441	23.77	21.74	25.16	21.11
Utility men, assistant foremen, straw bosses, subforemen, handy men, small-order men, and all-around men.....	50.2	49.9	52.9	50.5	105.4	101.2	.603	.542	30.27	27.05	31.85	27.39
<i>Females</i>												
Machine tenders ⁹	48.6	47.9	47.8	44.3	98.4	92.5	.354	.306	17.20	14.66	16.91	13.58
Casing workers ¹⁰	48.7	49.1	45.5	42.3	93.4	86.2	.372	.320	18.12	15.71	16.92	13.53
Stuffers.....	48.7	50.7	45.5	41.0	93.4	80.9	.378	.361	18.41	18.30	17.24	14.81
Linkers, twistlers, tiers, and hangers.....	49.0	49.0	46.6	42.8	95.1	87.3	.377	.327	18.47	16.02	17.56	14.00
Ropers (wrappers and tiers).....	48.6	49.5	46.2	41.8	95.1	84.4	.383	.343	18.61	16.98	17.73	14.34
Cooks.....	49.0	50.1	45.1	42.0	92.0	83.8	.345	.281	16.91	14.08	15.67	11.80
Packers ¹²	48.8	48.8	45.6	45.8	93.4	93.9	.342	.299	16.69	14.59	15.60	13.71
General workers ¹³	48.3	48.4	44.9	44.1	93.0	91.1	.351	.296	16.95	14.33	15.78	13.03

Canning department

<i>Males</i>												
Cooks.....	48.4	47.8	57.4	44.3	118.6	92.7	\$0.512	\$0.461	\$24.78	\$22.04	\$29.40	\$20.41
Steam tenders, process men and retort men.....	48.4	48.7	52.0	50.1	107.4	102.9	.479	.455	23.18	22.16	24.95	22.80
Passers and pilers, cans. Trimmers, meat (by hand).....	48.4	48.6	47.3	48.6	97.7	100.0	.471	.425	22.80	20.64	22.27	20.64
Machine tenders (preparing and stuffing meat into cans).....	49.7	49.0	56.4	27.7	113.5	56.5	.500	.452	24.85	22.15	28.20	12.53
Stuffers (meat into cans by hand).....	49.0	49.6	51.0	49.7	104.1	100.2	.502	.430	24.60	21.33	25.61	21.37
Packers and nailers.....	51.0	49.9	51.3	45.7	100.6	91.6	.450	.449	22.95	22.41	23.11	20.51
Cappers.....	48.8	49.4	48.6	46.4	99.6	93.9	.461	.426	22.50	21.04	22.42	19.75
Machine tenders, washing and painting.....	49.0	49.1	50.6	41.3	103.3	84.1	.484	.444	23.72	21.80	24.50	18.35
General workers.....	46.5	46.3	42.3	46.6	91.0	100.7	.456	.423	21.20	19.58	19.28	19.72
Inspectors.....	46.8	48.8	51.2	51.0	109.4	104.5	.522	.502	24.43	24.50	26.74	25.58
Truckers and forkers.....	49.1	47.9	53.7	47.4	109.4	99.0	.500	.477	24.55	22.85	26.86	22.61
Laborers ¹⁴	48.2	47.6	45.5	46.0	94.4	96.6	.465	.410	22.41	19.52	21.14	18.89
	48.1	49.1	49.6	48.5	103.1	98.8	.453	.398	21.79	19.54	22.48	19.29
<i>Females</i>												
Passers and pilers, cans. Trimmers, meat (by hand).....	48.4	46.9	44.0	33.5	90.9	71.4	.363	.329	17.57	15.43	16.00	11.01
Machine tenders (preparing and stuffing meat into cans).....	47.2	49.4	45.2	41.6	95.8	84.1	.392	.306	18.50	15.12	17.71	12.74
Stuffers (meat into cans by hand).....	49.0	47.5	46.2	39.8	94.3	83.8	.360	.325	17.64	15.44	16.63	12.92
Packers (sliced bacon and chipped dried beef in cans, glass jars, or cartons, by hand).....	47.3	49.2	44.8	39.4	94.7	80.1	.375	.316	17.74	15.55	16.80	12.45
Weighers (filled cans).....	48.8	48.9	44.8	48.1	91.8	88.1	.354	.325	17.28	15.89	15.87	13.98
Wipers (filled cans).....	48.9	49.2	46.4	43.3	94.9	88.0	.358	.314	17.51	15.45	16.60	13.58
Cappers.....	49.5	49.1	39.6	35.1	80.0	71.5	.349	.362	17.28	17.77	13.81	12.71
Labelers and wrappers.....	48.0	49.5	44.3	45.6	92.3	92.1	.325	.339	15.60	16.78	14.42	15.45
General workers ¹⁴	48.0	48.5	45.1	41.3	94.0	85.2	.381	.309	18.29	14.99	17.21	12.76
	47.1	48.9	45.1	43.8	95.8	89.6	.374	.342	17.62	16.72	16.84	14.98

⁹ Includes cutters, choppers, grinders, mixers, curers, feeders, spicers, and rockers.

¹⁰ Includes washers, turners, re-turners, measurers, cutters, tiers, and fatters.

¹¹ Includes roustabouts, ham cylinder washers, cleaners-up, ham pressers, hangers, cook's helpers, smokers' helpers, truckers of cages or bikes, etc.

¹² Includes wrappers, inspectors, taggers, tiers, and packers' helpers.

¹³ Includes labelers, laborers, box makers, sorters, and utility women.

¹⁴ Includes roustabouts, clean-up men, cooler men, cooks' helpers, shovers, and washing machine helpers.

¹⁵ Includes cooks, inspectors, and laborers.

Table 4 shows, for the wage earners of each sex and of both sexes combined, in each State or group of two States, average hours and earnings, and the percent of full time worked in 1 week in 1929 and 1931.

TABLE 4.—AVERAGE HOURS AND EARNINGS IN THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, 1929 AND 1931, BY SEX AND STATE

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
	1929	1931	Average number		Percent of full time		1929	1931	1929	1931	1929	1931
			1929	1931	1929	1931						
<i>Males</i>												
California.....	47.9	47.8	47.0	50.3	98.1	105.2	\$0.553	\$0.498	\$26.49	\$23.80	\$25.99	\$25.06
Colorado.....	51.5	48.3	52.1	49.6	101.2	102.7	.527	.525	27.66	25.36	28.02	26.05
Connecticut and Massachusetts ¹	52.5	54.0	51.6	47.2	98.3	87.4	.535	.496	28.09	26.78	27.62	23.44
Florida and Georgia ¹	55.4	55.5	48.3	43.9	87.2	79.1	.325	.286	18.01	15.87	15.72	12.56
Illinois.....	48.0	48.8	49.3	47.5	102.7	97.3	.553	.488	26.54	23.81	27.27	23.19
Indiana.....	48.0	47.8	46.3	39.5	96.5	82.6	.459	.392	22.03	18.74	21.24	15.50
Iowa.....	52.0	49.1	47.3	45.7	91.0	93.1	.463	.438	24.08	21.51	21.94	20.01
Kansas.....	48.0	48.1	47.3	44.3	98.5	92.1	.518	.448	24.86	21.55	24.54	19.82
Maryland.....	54.6	53.8	55.9	52.9	102.4	98.3	.478	.489	26.10	26.31	26.72	25.90
Michigan.....	60.0	58.0	55.1	47.6	91.8	82.1	.537	.465	32.22	26.97	29.61	22.15
Minnesota and South Dakota ¹	48.0	49.8	46.9	46.2	97.7	92.8	.517	.475	24.82	23.66	24.26	21.98
Missouri.....	48.1	49.0	47.7	47.2	99.2	96.3	.517	.471	24.87	23.08	24.64	22.19
Nebraska.....	48.0	48.0	46.0	42.1	95.8	87.7	.533	.456	25.88	21.89	24.55	19.22
New Jersey and New York ¹	49.4	52.3	46.3	43.8	93.7	83.7	.588	.519	29.05	27.14	27.20	22.72
Ohio and West Virginia ¹	53.9	51.2	50.6	49.3	93.9	96.3	.509	.494	27.44	25.29	25.75	24.34
Oklahoma.....	48.1	46.2	47.9	42.0	99.6	90.9	.479	.416	23.04	19.22	22.93	17.48
Oregon and Washington ¹	49.1	48.9	49.6	47.0	101.0	96.1	.583	.498	28.63	24.35	28.94	23.41
Pennsylvania.....	54.1	52.3	53.2	53.7	98.3	102.7	.556	.473	30.08	24.74	29.58	25.36
Texas.....	49.1	48.1	48.6	41.9	99.0	87.1	.481	.444	23.62	21.36	23.39	18.63
Wisconsin.....	51.6	48.1	53.7	49.7	104.1	103.3	.566	.498	29.21	23.95	30.39	24.71
Total males.....	49.3	49.2	48.5	45.9	98.4	93.3	.525	.470	25.88	23.12	25.47	21.57
<i>Females</i>												
California.....	47.8	47.7	45.1	46.2	94.4	96.9	.373	.372	17.83	17.74	16.82	17.16
Colorado.....	48.1	48.0	43.4	39.9	90.2	83.1	.328	.332	15.78	15.94	14.22	13.25
Connecticut and Massachusetts ¹	49.2	49.1	41.3	40.5	83.9	82.5	.339	.319	16.68	15.66	14.01	12.93
Florida and Georgia ¹	55.8	55.9	42.7	43.4	76.5	77.6	.214	.161	11.94	9.00	9.14	6.99
Illinois.....	47.7	48.9	46.3	43.4	97.1	88.8	.405	.359	19.32	17.56	18.73	15.60
Indiana.....	48.0	47.9	43.6	36.7	90.8	76.6	.275	.257	13.20	12.31	12.00	9.44
Iowa.....	52.6	49.7	45.4	44.5	86.3	89.5	.319	.293	16.73	14.56	14.51	13.05
Kansas.....	48.0	48.0	44.1	41.7	91.9	86.9	.395	.318	18.96	15.26	17.40	13.24
Maryland.....	55.0	47.8	52.9	49.9	96.2	104.4	.290	.286	15.95	13.67	15.34	14.30
Michigan.....	54.3	54.0	44.0	44.7	81.0	82.8	.329	.293	17.86	15.82	14.49	13.11
Minnesota and South Dakota ¹	48.0	49.4	44.3	40.8	92.3	82.6	.365	.307	17.52	15.17	16.18	12.54
Missouri.....	48.0	49.2	44.8	42.8	93.3	87.0	.395	.331	18.96	16.29	17.67	14.18
Nebraska.....	48.0	48.0	43.5	39.1	90.6	81.5	.374	.314	17.95	15.07	16.28	12.28
New Jersey and New York ¹	47.7	50.3	41.7	40.3	87.4	80.1	.375	.309	17.39	15.54	15.63	12.46
Ohio and West Virginia ¹	49.6	49.1	46.0	43.3	92.7	88.2	.338	.310	16.76	15.22	15.58	13.44
Oklahoma.....	48.0	46.3	44.3	40.1	92.3	86.6	.302	.258	14.60	11.95	13.38	10.36
Oregon and Washington ¹	47.9	46.6	43.2	39.8	90.2	85.4	.371	.335	17.77	15.61	16.04	13.34
Pennsylvania.....	51.8	50.0	42.1	46.5	81.3	93.0	.386	.292	19.99	14.60	16.24	13.56
Texas.....	48.4	48.3	44.5	40.3	91.9	83.4	.322	.277	15.53	13.38	14.32	11.18
Wisconsin.....	49.4	48.0	44.9	45.4	90.7	94.6	.404	.325	19.96	15.60	18.10	14.76
Total females.....	48.9	48.9	44.9	42.4	91.8	86.7	.369	.321	18.04	15.70	16.54	13.61
<i>Males and females</i>												
California.....	47.9	47.7	46.7	49.6	97.5	104.0	.527	.476	25.24	22.71	24.58	23.57
Colorado.....	50.9	48.2	50.8	48.0	99.8	99.6	.609	.497	25.91	23.96	26.87	23.84
Connecticut and Massachusetts ¹	52.0	53.1	49.8	46.0	95.8	86.6	.507	.467	26.36	24.80	25.27	21.50

¹ Shown together to avoid presenting data for 1 establishment in 1 State.

TABLE 4.—AVERAGE HOURS AND EARNINGS IN THE SLAUGHTERING AND MEAT-PACKING INDUSTRY, 1929 AND 1931, BY SEX AND STATE—Continued

Sex and State	Average full-time hours per week		Hours actually worked in 1 week				Average earnings per hour		Average full-time earnings per week		Average actual earnings in 1 week	
			Average number		Percent of full time							
	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931	1929	1931
<i>Males and females—Con.</i>												
Florida and Georgia ¹	55.5	55.5	47.8	43.8	86.1	78.9	\$0.316	\$0.273	\$17.54	\$15.15	\$15.10	\$11.96
Illinois.....	48.0	48.8	48.9	46.8	101.9	95.9	.532	.468	25.54	22.84	25.98	21.94
Indiana.....	48.0	47.8	45.9	39.0	95.6	81.6	.431	.370	20.69	17.69	19.77	14.46
Iowa.....	52.1	49.2	47.1	45.5	90.4	92.5	.445	.416	23.18	20.47	20.92	18.93
Kansas.....	48.0	48.1	46.9	43.9	97.7	91.3	.502	.423	24.10	20.59	23.52	18.77
Maryland.....	54.7	52.7	55.3	52.4	101.1	99.4	.447	.454	24.45	23.93	24.74	23.76
Michigan.....	58.6	57.0	52.4	46.9	89.4	82.3	.494	.425	28.95	24.23	25.87	19.94
Minnesota and South Dakota ¹	48.0	49.7	46.6	45.5	97.1	91.5	.498	.456	23.90	22.66	23.19	20.75
Missouri.....	48.1	49.0	47.4	46.8	98.5	95.5	.507	.460	24.39	22.54	24.03	21.53
Nebraska.....	48.0	48.0	45.7	41.7	95.2	86.9	.513	.439	24.62	21.07	23.47	18.32
New Jersey and New York ¹	49.2	52.1	45.7	43.4	92.0	83.3	.564	.494	27.75	25.74	25.81	21.45
Ohio and West Virginia ¹	53.2	50.9	49.9	48.3	93.8	94.9	.485	.468	25.80	23.82	24.22	22.63
Oklahoma.....	48.1	46.2	47.5	41.7	98.8	90.3	.459	.394	22.08	18.20	21.78	16.46
Oregon and Washington ¹	49.0	48.6	48.9	46.3	99.8	95.3	.561	.484	27.49	23.52	27.43	22.38
Pennsylvania.....	53.9	51.8	52.0	52.3	96.5	101.0	.541	.443	29.16	22.95	28.09	23.16
Texas.....	49.0	48.1	48.0	41.7	98.0	86.7	.459	.423	22.49	20.35	22.02	17.64
Wisconsin.....	51.2	48.1	52.2	49.1	102.0	102.1	.543	.475	27.80	22.85	28.36	23.33
Total males and females.....	49.2	49.2	48.0	45.4	97.6	92.3	.504	.449	24.80	22.09	24.18	20.38

¹ Shown together to avoid presenting data for 1 establishment in 1 State.

Steam Railroad Employees—Earnings, 1931 to 1934

THE Interstate Commerce Commission at the end of each calendar year summarizes the wage statistics of class I steam railroads in the United States, including switching and terminal companies. The summary shows, by occupation, the average number of employees, the regular hours (straight time) and overtime worked, and the total compensation. The aggregate time is shown in days for a few occupations and in hours for other occupations. The great mass of the employees fall in the latter group.

The summary for 1931 covered an average of 1,278,175 employees (including switching and terminal companies); that for 1932, 1,048,568 employees; that for 1933, 986,573 employees; and that for 1934, 1,137,933 employees.¹⁶ The average time worked and average earnings for each year shown in the table following (drawn from such summaries) are obtained by dividing the total compensation for each occupation by the aggregate time worked by the employees therein, and are comparable with figures for previous years given in earlier editions of the Handbook.

¹⁶ These averages were computed from the average number of employees at the middle of each month, and consequently the average for 1934 differs from the sum of those shown in the table following, which are the average number of employees who received pay during month.

EARNINGS OF STEAM RAILROAD EMPLOYEES, 1931-34

Occupation	1934				1933	1932	1931	
	Average number of employees who received pay during month	Average time worked per employee during year		Average earnings		Average earnings per day or hour	Average earnings per day or hour	Average earnings per day or hour
		Unit	Time	Per year	Per day or hour			
All employees, including switching and terminal companies:								
Daily basis.....	90,807	Day.....	306	\$2,363	\$7.723	\$7.62	\$7.80	\$8.67
Hourly basis.....	1,047,126	Hour....	2,071	1,270	.613	.605	.611	.664
All employees, except switching and terminal companies:								
Daily basis.....	89,078	Day.....	306	2,369	7.745	7.64	7.82	8.68
Hourly basis.....	1,030,600	Hour....	2,072	1,289	.613	.605	.610	.663
<i>Executives, officials, and staff assistants</i>								
Executives, general officers, and assistants.....	5,960	Day....	307	6,460	21.07	21.06	21.72	24.26
Division officers, assistants, and staff assistants.....	6,154	---do....	315	3,738	11.86	11.65	11.82	13.12
Total.....	12,114	---do....	311	5,078	16.33	16.36	16.74	18.38
<i>Professional, clerical, and general</i>								
Professional and subprofessional assistants.....	5,938	---do....	294	2,257	7.69	7.71	8.50	9.50
Supervisory or chief clerks (major departments).....	3,681	---do....	304	2,747	9.02	8.80	8.91	9.86
Chief clerks (minor departments) and assistant chief clerks and supervising cashiers.....	9,891	---do....	300	2,119	7.07	6.93	6.99	7.74
Clerks and clerical specialists (A).....	9,606	Hour....	2,293	1,922	.838	.819	.820	.897
Clerks (B and C).....	81,201	---do....	2,223	1,434	.645	.633	.635	.691
Mechanical device operators (office).....	5,848	---do....	2,079	1,230	.692	.580	.582	.636
Stenographers and secretaries (A).....	2,935	---do....	2,362	1,798	.761	.746	.750	.828
Stenographers and typists (B).....	12,864	---do....	2,218	1,360	.613	.604	.607	.667
Storekeepers, sales agents, and buyers.....	2,081	---do....	2,434	1,957	.804	.793	.801	.878
Ticket agents and assistant ticket agents.....	1,138	---do....	2,512	1,977	.787	.769	.783	.862
Traveling auditors or accountants.....	1,288	Day....	297	2,472	8.333	8.13	8.24	9.04
Telephone switchboard operators and office assistants.....	4,182	Hour....	2,011	798	.397	.393	.398	.436
Messenger and office boys.....	4,148	Day....	271	592	2.186	2.14	2.19	2.39
Elevator operators and other office attendants.....	1,029	Hour....	2,307	866	.375	.370	.374	.414
Lieutenants and sergeants of police.....	1,870	Day....	333	1,918	5.753	5.61	5.66	6.30
Patrolmen and watchmen.....	5,961	Hour....	2,848	1,352	.475	.471	.477	.521
Traffic and various other agents, inspectors, and investigators.....	9,417	Day....	303	2,604	8.604	8.45	(1)	(1)
Claim agents or investigators.....	883	---do....	300	2,549	8.498	8.39	(1)	(1)
Freight claim agents or investigators.....	352	---do....	294	2,214	7.525	7.42	(1)	(1)
Chief claim agents or investigators.....	103	Day....	299	3,468	11.594	11.07	(1)	(1)
Miscellaneous trade workers (other than plumbers).....	526	Hour....	2,063	1,460	.708	.693	.704	.780
Motor-vehicle and motor-car operators.....	2,168	---do....	2,154	1,055	.490	.481	.493	.543
Teamsters and stablemen.....	56	---do....	1,137	564	.496	.456	.477	.557
Janitors and cleaners.....	5,412	---do....	2,169	747	.344	.338	.343	.381
Total:								
Daily basis.....	37,571	Day....	298	2,172	7.283	7.14	7.19	7.87
Hourly basis.....	135,007	Hour....	2,247	1,412	.628	.617	.620	.677
<i>Maintenance of way and structures</i>								
Roadmasters, general foremen, and assistants.....	2,732	Day....	314	2,676	8.511	8.36	8.46	9.44
Maintenance of way and scale inspectors.....	925	Hour....	2,380	1,985	.834	.843	.838	.937
Bridge and building gang foremen (skilled labor).....	3,145	---do....	2,270	1,764	.777	.768	.776	.851
Bridge and building carpenters.....	11,655	---do....	1,955	1,133	.580	.569	.577	.637

¹ Data not comparable with 1933.

EARNINGS OF STEAM RAILROAD EMPLOYEES, 1931-34—Continued

Occupation	1934				1933	1932	1931	
	Average number of employees who received pay during month	Average time worked per employee during year		Average earnings				
		Unit	Time	Per year				Per day or hour
<i>Maintenance of way and structures—Continued</i>								
Bridge and building ironworkers.....	952	Hour....	1,940	\$1,341	\$0.691	\$0.690	\$0.691	\$0.783
Bridge and building painters.....	1,462	do.....	1,779	1,054	.592	.578	.583	.646
Masons, bricklayers, plasterers, and plumbers.	1,478	do.....	2,053	1,458	.710	.702	.702	.771
Maintenance of way and structures helpers and apprentices.	7,079	do.....	1,885	875	.464	.456	.459	.507
Portable steam equipment operators.	2,374	do.....	2,112	1,340	.635	.631	.640	.711
Portable steam equipment operator helpers.	566	do.....	1,898	843	.444	.431	.444	.489
Pumping equipment operators.....	2,409	do.....	2,649	835	.315	.308	.313	.347
Gang foremen (extra gang and work-train laborers).	1,834	do.....	2,227	1,373	.616	.612	.623	.676
Gang foremen (bridge and building, signal and telegraph laborers).	337	do.....	2,377	1,776	.747	.764	.774	.859
Gang or section foremen.....	27,510	do.....	2,363	1,379	.583	.577	.579	.636
Extra gang men.....	30,707	do.....	1,518	478	.315	.298	.325	.361
Section men.....	130,693	do.....	1,711	563	.329	.322	.327	.362
Maintenance-of-way laborers (other than track and roadway) and gardeners and farmers.	7,410	do.....	1,840	645	.351	.330	.341	.378
General and assistant general foremen, and inspectors (signal, telegraph, and electrical transmission).	1,038	Day....	309	2,528	8.181	8.25	8.28	9.29
Gang foremen (signal and telegraph skilled-trades labor).	1,023	Hour....	2,324	2,106	.906	.878	.888	.987
Signalmen and signal maintainers.....	7,432	do.....	2,171	1,635	.753	.743	.749	.822
Linemen and groundmen.....	2,157	do.....	2,167	1,583	.730	.711	.715	.768
Assistant signalmen and assistant signal maintainers.	1,303	do.....	1,972	1,287	.652	.645	.651	.698
Signalmen and signal-maintainer helpers.	2,733	do.....	1,939	1,014	.523	.513	.519	.568
Total:								
Daily basis.....	3,770	Day....	313	2,635	8.422	8.34	8.42	9.40
Hourly basis.....	245,184	Hour....	1,836	790	.430	.420	.430	.469
<i>Maintenance of equipment and stores</i>								
General, assistant general, and department foremen.	7,723	Day....	323	2,788	8.621	8.37	8.62	9.70
General and assistant general foremen (stores).	307	do.....	301	2,013	6.878	6.51	6.53	7.17
Equipment, shop, electrical, material, and supplies inspectors.	1,709	do.....	285	2,038	7.157	7.01	7.16	8.07
Gang foremen and gang leaders (skilled labor).	6,063	Hour....	2,517	2,189	.870	.839	.862	.968
Blacksmiths.....	5,116	do.....	1,831	1,397	.763	.755	.761	.840
Boilermakers.....	11,542	do.....	1,854	1,451	.782	.773	.780	.862
Carmen (A and B).....	15,353	do.....	1,922	1,439	.749	.738	.746	.826
Carmen (C and D).....	47,273	do.....	1,971	1,366	.693	.684	.692	.764
Electrical workers (A).....	6,401	do.....	2,084	1,585	.760	.749	.757	.834
Electrical workers (B).....	2,423	do.....	2,074	1,460	.704	.688	.696	.762
Electrical workers (C).....	234	do.....	2,368	1,597	.674	.649	.652	.724
Machinists.....	41,541	do.....	1,919	1,469	.765	.756	.764	.843
Molders.....	662	do.....	1,521	1,177	.774	.776	.782	.848
Sheet-metal workers.....	8,179	do.....	1,902	1,457	.766	.755	.762	.842
Skilled-trades helpers (M. of E. and stores).	66,306	do.....	1,909	1,031	.540	.532	.539	.597
Helper apprentices (M. of E. and stores).	1,094	do.....	1,798	1,020	.567	.569	.577	.633
Regular apprentices (M. of E. and stores).	4,906	do.....	1,767	742	.420	.443	.452	.484
Coach cleaners.....	8,679	do.....	2,209	829	.375	.369	.370	.418
Gang foremen (shops, engine houses, and power plants).	1,064	do.....	2,570	1,384	.639	.528	(1)	(1)
Gang foremen (stores and ice, reclamation, and timber-treating plants).	1,018	do.....	2,270	1,384	.610	.604	(1)	(1)

¹ Data not comparable with 1933.

EARNINGS OF STEAM RAILROAD EMPLOYEES, 1931-34—Continued

Occupation	1934					1933	1932	1931
	Average number of employees who received pay during month	Average time worked per employee during year		Average earnings		Average earnings per day or hour	Average earnings per day or hour	Average earnings per day or hour
		Unit	Time	Per year	Per day or hour			
<i>Maintenance of equipment and stores—Continued</i>								
Classified laborers (shops, engine houses, and power plants).	24, 015	Hour....	2, 189	\$813	\$0. 371	\$0. 365	\$0. 371	\$0. 413
General laborers (shops, engine houses, and power plants).	20, 415	---do---	1, 934	660	. 341	. 335	(1)	(1)
General laborers (stores and ice, reclamation, and timber-treating plants).	13, 098	---do---	1, 934	785	. 406	. 405	(1)	(1)
Stationary engineers (steam)	1, 943	---do---	2, 437	1, 611	. 661	. 650	. 654	. 719
Stationary firemen, oilers, coal passers, and water tenders.	3, 726	---do---	2, 375	1, 216	. 512	. 506	. 511	. 564
Total:								
Daily basis.....	9, 739	Day....	316	2, 632	8. 331	8. 13	8. 36	9. 36
Hourly basis.....	291, 051	Hour....	1, 980	1, 188	. 600	. 589	. 595	. 656
<i>Transportation (other than train, engine, and yard)</i>								
Chief train dispatchers.....	749	---do---	2, 805	3, 402	1. 213	1. 188	(1)	(1)
Train dispatchers.....	2, 996	---do---	2, 197	2, 575	1. 172	1. 153	(1)	(1)
Train directors.....	183	---do---	2, 195	1, 941	. 884	. 872	(1)	(1)
Station agents (supervisory, major stations, nontelegraphers).	2, 253	Day....	322	2, 755	8. 565	8. 39	8. 54	9. 51
Station agents (smaller stations, nontelegraphers).	6, 756	Hour....	2, 380	1, 514	. 636	. 618	. 644	. 725
Station agents (telegraphers and telephoners).	16, 059	---do---	2, 434	1, 504	. 618	. 607	. 613	. 670
Chief telegraphers and telephoners, or wire chiefs.	838	---do---	2, 584	2, 112	. 818	. 803	. 816	. 900
Clerk-telegraphers and clerk-telephoners.	8, 878	---do---	2, 397	1, 466	. 611	. 602	. 608	. 664
Telegraphers, telephoners, and towermen.	16, 794	---do---	2, 291	1, 460	. 637	. 628	. 634	. 694
Station masters and assistants.....	360	Day....	325	2, 253	6. 939	6. 80	6. 93	7. 55
Supervising baggage agents.....	87	---do---	318	2, 019	6. 353	6. 10	6. 20	6. 95
Baggage agents and assistants.....	411	Hour....	2, 529	1, 399	. 553	. 543	. 555	. 615
Baggage, parcel room, and station attendants.	5, 518	---do---	2, 275	1, 024	. 450	. 439	. 445	. 487
General foremen (freight stations, warehouses, grain elevators, and docks).	366	---do---	2, 525	2, 073	. 821	. 798	. 805	. 897
Assistant general foremen (freight stations, warehouses, grain elevators, and docks).	170	---do---	2, 506	1, 818	. 725	. 711	. 719	. 812
Gang foremen (freight station, warehouse, grain elevator, and dock labor).	2, 246	---do---	2, 446	1, 557	. 637	. 624	. 628	. 696
Callers, loaders, scalers, sealers, and perishable-freight inspectors.	8, 160	---do---	1, 912	917	. 480	. 465	. 476	. 530
Truckers (stations, warehouses, and platforms).	23, 630	---do---	1, 682	706	. 420	. 410	. 419	. 463
Laborers (coal and ore docks, and grain elevators).	1, 217	---do---	1, 493	747	. 500	. 491	. 493	. 535
Common laborers (stations, warehouses, platforms, and grain elevators).	4, 219	---do---	1, 859	681	. 366	. 360	. 372	. 413
Stewards, restaurant and lodging-house managers, and dining-car supervisors.	1, 039	---do---	2, 762	1, 702	. 616	. 607	. 610	. 666
Chefs and cooks (restaurants or dining cars).	2, 971	---do---	2, 590	1, 105	. 427	. 423	. 433	. 468
Waiters, camp cooks, kitchen helpers, etc.	7, 238	---do---	2, 322	609	. 262	. 257	. 258	. 284
Officers, workers, and attendants on barges, launches, ferryboats, towing vessels, steamers, and shore workers.	7, 079	---do---	2, 397	1, 437	. 600	. 593	. 591	. 638

¹ Data not comparable with 1933.

EARNINGS OF STEAM RAILROAD EMPLOYEES, 1931-34—Continued

Occupation	1934				1933	1932	1931	
	Average number of employees who received pay during month	Average time worked per employee during year		Average earnings				
		Unit	Time	Per year				Per day or hour
<i>Transportation—Continued</i>								
Transportation and dining-service inspectors.....	516	Day.....	309	\$2,172	\$7.033	\$7.09	\$7.29	\$8.19
Parlor- and sleeping-car conductors.....	19	Hour.....	2,110	1,532	.736	.692	.692	.744
Train attendants.....	2,156	do.....	2,288	958	.419	.416	.419	.462
Bridge operators and helpers.....	1,110	do.....	2,713	1,135	.418	.412	.423	.471
Crossing and bridge flagmen and gate-men.....	18,625	Day.....	308	724	2.351	2.35	2.38	2.63
Foremen (laundry) and laundry workers.....	308	Hour.....	2,065	783	.379	.580	.387	.419
Total:								
Daily basis.....	21,841	Day.....	310	998	3.222	3.17	3.21	3.58
Hourly basis.....	121,110	Hour.....	2,185	1,208	.553	.548	.555	.599
<i>Transportation (yardmasters, switch tenders, and hostlers)</i>								
Yardmasters.....	2,682	Day.....	312	2,685	8.612	8.41	(1)	(1)
Assistant yardmasters.....	1,361	do.....	308	2,460	7.979	7.82	(1)	(1)
Switch tenders.....	3,500	Hour.....	2,080	1,236	.594	.586	.598	.655
Outside hostlers.....	1,516	do.....	2,332	1,716	.736	.726	.735	.808
Inside hostlers.....	4,437	do.....	2,166	1,426	.658	.649	.656	.722
Outside hostler helpers.....	1,273	do.....	2,131	1,251	.587	.579	.587	.644
Total:								
Daily basis.....	4,043	Day.....	311	2,610	8.400	8.22	8.36	9.32
Hourly basis.....	10,726	Hour.....	2,157	1,384	.642	.633	.640	.702
<i>Transportation (train and engine)</i>								
Road passenger conductors.....	7,257	do.....	3,020	2,665	.882	.871	.877	.966
Assistant road passenger conductors and ticket collectors.....	1,071	do.....	2,841	1,977	.696	.681	.687	.762
Road freight conductors (through freight).....	9,062	do.....	2,719	2,193	.807	.795	.805	.890
Road freight conductors (local and way freight).....	6,831	do.....	2,944	2,589	.879	.866	.873	.968
Road passenger baggagemen.....	4,160	do.....	2,905	1,925	.663	.652	.659	.725
Road passenger brakemen and flagmen.....	9,704	do.....	2,632	1,646	.625	.616	.619	.680
Road freight brakemen and flagmen (through freight).....	24,903	do.....	2,110	1,352	.641	.632	.639	.706
Road freight brakemen and flagmen (local and way freight).....	18,118	do.....	2,412	1,683	.698	.687	.693	.767
Yard conductors and yard foremen.....	13,398	do.....	2,501	2,086	.834	.822	.823	.911
Yard brakemen and yard helpers.....	39,492	do.....	1,848	1,413	.768	.757	.763	.839
Road passenger engineers and motormen.....	9,425	do.....	2,369	2,788	1.177	1.158	1.164	1.277
Road freight engineers and motormen (through freight).....	13,167	do.....	2,396	2,397	1.001	.986	.998	1.101
Road freight engineers and motormen (local and way freight).....	7,328	do.....	2,764	2,895	1.047	1.032	1.039	1.149
Yard engineers and motormen.....	13,105	do.....	2,433	2,151	.884	.871	.879	.965
Road passenger firemen and helpers.....	9,157	do.....	2,023	1,898	.938	.921	.926	1.013
Road freight firemen and helpers (through freight).....	16,566	do.....	1,905	1,447	.760	.750	.756	.835
Road freight firemen and helpers (local and way freight).....	8,844	do.....	2,263	1,785	.789	.777	.782	.865
Yard firemen and helpers.....	15,934	do.....	1,961	1,349	.688	.678	.684	.751
Total.....	227,522	do.....	2,274	1,833	.806	.795	.802	.882

¹Data not comparable with 1933.

Taxicab Drivers—Earnings in Ohio, 1934

INFORMATION on earnings of taxicab drivers in Ohio early in 1934, here given, was obtained in a survey made under the direction of the Ohio State University Bureau of Business Research. The data covered both drivers renting their cabs and those employed on a commission basis. The earnings from fares in the case of drivers paid on a commission basis were taken from pay-roll records. The earnings of the rental drivers were obtained from estimates of drivers and operators and from observations of investigators.

In Ohio, as in other parts of the country, the taxicab industry has undergone considerable change in recent years. The introduction of the light pleasure car in the taxicab field has been the most important single factor contributing to the change. Among the most obvious effects of the adoption of cars of this type have been increasingly sharp competition and drastically reduced rate schedules. In consequence, traditional methods of operation have been materially altered during the past 6 or 7 years. These changes have likewise had a marked influence on the earnings of the taxicab drivers.

Both fares and tips contribute to the drivers' earnings. Since few drivers keep accurate records of the amount received in tips, reliable statistics of total earnings of taxicab drivers were difficult to obtain.

Moreover, in the case of rental drivers, it was often impossible to obtain trustworthy figures of earnings from fares, as the amount received in rent was the only accurate income record available from the rental-driver operators.

Although uncertain in amount, tips constitute a substantial proportion of the taxicab drivers' total earnings.

Drivers paid on a commission basis turn in each day the amount of the fares collected as indicated by the taximeter record. The tips are simply pocketed and ordinarily no record is kept of the total amount received. Rental drivers, however, make no distinction between fares and tips. Their first concern is to meet their fixed rental and expenses. All in excess of their fixed charges represents their net earnings for the day, regardless of the source.

Estimates of the amount of tips received by both types of drivers could not be verified by records, but the marked unanimity of the amounts reported seemed to indicate that they were something more than approximations. The estimate most frequently made in all parts of the State was that tips averaged about \$1 per 12-hour day. It is obvious, however, that the amount of tips varies in direct ratio with the volume of business.

Earnings under the rental system.—The unsatisfactory character of the data relating to earnings of drivers under the rental system prompted an intensive 10-day survey of earnings of drivers in Columbus, where all cabs are operated on a driver-rental basis. The findings of this survey are summarized in table 1.

TABLE 1.—AVERAGE DAILY REVENUE, EXPENSES, AND NET INCOME OF TAXICAB DRIVERS IN COLUMBUS, OHIO, FEB. 22 TO MAR. 3, 1934

Company and shift	Revenue			Expenses				Net income per day
	Fares	Tips	Total	Rent	Gasoline	Other	Total	
All companies:								
Day shift.....	\$6.58	\$0.57	\$7.16	\$3.00	\$1.61	\$0.02	\$4.62	\$2.53
Night shift.....	7.35	.74	8.09	3.07	1.67	.01	4.72	3.33
Average.....	6.97	.66	7.63	3.03	1.64	.013	4.67	2.94
Company no. 1:								
Day shift.....	6.89	.57	7.46	3.17	1.70		4.87	2.58
Night shift.....	7.04	.95	7.99	3.23	1.80		5.03	2.95
Average.....	6.97	.76	7.78	3.20	1.76		4.95	2.77
Company no. 2:¹								
Day shift.....	7.85	.84	8.69	3.25	2.35	.05	5.65	3.04
Night shift.....	7.75	.92	8.68	3.25	2.36	.15	5.76	2.92
Average.....	7.82	.87	8.69	3.25	2.35	.11	5.71	2.98
Company no. 3:								
Day shift.....	6.63	.57	7.20	3.22	1.80		4.99	2.20
Night shift.....	6.72	.66	7.37	3.25	1.88		5.13	2.24
Average.....	6.67	.62	7.28	3.24	1.84		5.07	2.22
Company no. 4:								
Day shift.....	5.28	.42	5.70	2.60	1.39		3.99	1.72
Night shift.....	6.01	.60	6.61	2.65	1.46		4.11	2.50
Average.....	5.65	.51	6.16	2.63	1.43		4.05	2.11
Company no. 5:								
Day shift.....	6.09	.22	6.30	2.76	1.34		4.10	2.20
Night shift.....	7.69	.29	7.98	2.96	1.40		4.25	3.55
Average.....	6.93	.26	7.14	2.87	1.37		4.18	2.88
Company no. 6:								
Day shift.....	6.98	.80	7.78	3.15	1.55	.04	4.74	3.05
Night shift.....	7.88	1.01	8.89	3.15	1.69		4.85	4.04
Average.....	7.43	.91	8.34	3.15	1.62	.02	4.79	3.56

¹ Covers a 6-day period only.

It should be noted that the segregation of revenue into fares and tips was particularly difficult. Prior to the survey the drivers had no reason to make a distinction between these items, as they are entitled to the balance remaining after rent and expenses are deducted from the gross revenue. For this reason, it is probable that the drivers' estimates of the amount received as tips were not entirely accurate. First-hand observations made by the investigators indicated that tips averaged about \$1 a day. Assuming this to be true, the estimated fares should be reduced accordingly.

In considering the average daily earnings shown for drivers in Columbus it should be noted that the week during which the survey was made happened to be what many competent observers considered the best "taxicab weather" in 15 years. During the week the city was in the grip of an intense cold wave which was accompanied by heavy snow and ice. This fact should be kept in mind when comparing the earnings of these rental drivers with the earnings of drivers in other cities.

Earnings of drivers employed on commission basis.—The data relating to earnings of drivers employed on a commission basis were secured from the records of commissions paid by representative operating com-

panies in Cleveland, Cincinnati, and Toledo. The period covered included weeks in January and February 1934, when business was active but not exceptionally favorable, as when the survey for Columbus was made. For this reason the figures for these three cities are not exactly comparable with those for Columbus.

Table 2 summarizes the data collected for Cleveland, Cincinnati, and Toledo. For Cleveland and Cincinnati the information was available for both day and night drivers, but this break-down could not be made for the drivers in Toledo. The estimate of tips at 66 cents per day obtained from the Columbus survey was used throughout in order to make the data comparable, although, as previously indicated, this figure is considered low.

TABLE 2.—AVERAGE DAILY EARNINGS OF TAXICAB DRIVERS EMPLOYED ON A COMMISSION BASIS IN CLEVELAND, CINCINNATI, AND TOLEDO, JANUARY AND FEBRUARY 1934

City	Number of drivers	Driver-days	Total commissions paid	Average daily earnings from fares	Estimated tips per day	Total daily earnings
All three cities:						
Day shift.....	43	946	\$1,978.59	\$2.09	\$0.66	\$2.75
Night shift.....	57	1,148	3,207.15	2.79	.66	3.45
Day and night shift.....	144	2,463	6,072.99	2.47	.66	3.13
Cincinnati:						
Day shift.....	34	814	1,784.39	2.19	.66	2.85
Night shift.....	35	841	2,643.65	3.14	.66	3.80
Day and night shift.....	93	1,793	4,746.64	2.65	.66	3.31
Cleveland:						
Day shift.....	9	132	194.20	1.47	.66	2.13
Night shift.....	22	307	568.50	1.84	.66	2.50
Day and night shift.....	31	439	757.70	1.73	.66	2.39
Toledo:						
Average day and night shift.....	20	231	568.65	2.46	.66	3.12

The significant feature of table 2 is that the average earnings of drivers in both Cincinnati and Toledo were substantially higher than in Columbus, in spite of the more favorable weather condition prevailing at the time of the Columbus survey. The average earnings of the Cleveland drivers, on the other hand, were somewhat lower, being \$2.39 per day as against \$2.94.

In Toledo and Cincinnati, less than 30 percent of the drivers received less than \$12 per week exclusive of tips. About 7 percent of the Cincinnati drivers received between \$12 and \$13 per week, while about 26 percent of the Toledo drivers fell in this wage group. This is significant because in Toledo the drivers are guaranteed \$12 per 6-day week. About 52 percent of the Toledo drivers earned the minimum guaranteed, and the earnings of the remainder were above the minimum. About 25 percent of the Cincinnati drivers received more than \$18 per week, while only 5 percent of the Toledo drivers exceeded this figure. The maximum earned by the Cleveland drivers, exclusive of tips, was \$15 per week and about 85 percent earned less than \$12 per week.

The data collected led to the conclusion that \$18 a week for taxicab drivers in Ohio was a high average. The earnings of drivers working 12 hours a day and 6 days a week ranged from \$12 to \$18 a week and only under exceptionally favorable conditions did the earnings exceed the maximum. Weather conditions were largely responsible

for the variations in these amounts, although many other factors such as initiative, ability, and type of company management were also important factors influencing drivers' earnings.

Taxicab Drivers—Earnings in Washington, D. C., 1931-33¹⁷

TAXICAB drivers in Washington, D. C., worked long hours for a very moderate return, according to data collected by the Engineer Bureau of the Public Utilities Commission for varying periods during 1931-33.

The data indicated that an alert, energetic, expert taxicab driver cruising in search of patrons, could make from 2 to 2.5 revenue-trips per hour actually worked. At the prevailing rates of fares he would average about 23 cents per trip, plus 6 or 7 cents in tips, or a total of 29 to 30 cents per trip. His gross earnings would thus range from 60 to 75 cents per hour out of which he had to pay expenses of 25 to 35 cents per hour, leaving him about 35 cents per hour net. By working 65 to 70 hours per week (9.5 to 10 hours per day, 7 days per week) he could earn about \$25 per week. Less expert and diligent drivers would usually work longer hours and earn less than the foregoing example, which may be taken as about the maximum possible earnings. A good industrious cruising driver, but not of exceptional ability and energy would work 75 to 80 hours a week and net \$20 to \$22. The ordinary run of drivers would work 65 to 70 hours a week and net \$12 to \$15. Below them are those who could not regularly earn even the rental charges on the cab.

General Conditions in the Taxicab Industry in Washington

IN THE spring of 1930 many cars in the lighter models appeared as taxicabs on the streets of Washington. They were operated on zone rates which undercut the taximeter rates of the older-established operators. A taxicab war developed, and conditions for a time became so chaotic that certain operators were willing to render service for whatever remuneration or gratuity the patron chose to pay. As unemployment increased, the ranks of the drivers became augmented by men of all sorts of occupations, such as plumbers, mechanics, carpenters, masons, steel workers, architects, engineers, lawyers, real-estate salesmen, chauffeurs, and laborers.

After a time the meter-rate cabs were driven off the streets by the intensity of the competition, and the rental system became general. Under the meter system the owner can require each driver to render a daily report showing every trip made while the cab is out, but under a zone system he has no meter by which to check the report. The rental system was therefore adopted to meet the situation. Under this scheme the owner rents the cab to the driver for a stipulated amount per day, and the driver pockets all earnings in excess of the rental charge. The rental charge in Washington varied from \$2.50 to \$4 per 24-hour shift, and from \$1.50 to \$2.50 per 12-hour shift, the driver paying for the gasoline required.

The rental system has been widely used by the owners as a means of dodging liability for accidents. In order to do this they sell the cab to the driver on a conditional bill of sale, the daily rental charge

¹⁷ Abstract of article by Walter H. Dunlap, engineer, Public Utilities Commission, in *Monthly Labor Review*, March 1934.

constituting the daily installment due under the purchase plan. This scheme enables the real owner to title the cab in the name of an irresponsible driver and to escape responsibility himself.

In the fall of 1931 the Public Utilities Commission held exhaustive public hearings and later ordered that taximeters be installed in all taxicabs and that rates of fare should be 25 cents for the first 2 miles and 5 cents for each additional one-third mile. However, the Commission had been prevented by law from enforcing this order, and the zone rates had continued in effect. Various rates were in use, but until October 1933 the majority of the cabs charged 20 cents for the first zone, 40 cents for the second, and 60 cents for the third. The first zone included the business section and extended well into the residential section, the diameter of the zone being 4 to 5 miles. The second zone averaged a little over a mile in width and the third about 2 miles. In October 1933 most of the operators added a subzone to the first zone and charged 20, 30, 50, and 70 cents, respectively, for the resulting four zones.

Up to January 23, 1934, over 3,400 cabs had received the 1934 registration plates. Of this number, 730 cars were operated by independent drivers, not in fleets; 2,294 were in some 23 fleets of associated owners; and 421 were in 6 fleets owned by corporations. There were approximately 2,000 "companies" (owners) offering taxicab service to the public.

This excessive number of cabs represented the necessity of the unemployed rather than the needs and best interests of the community. The Public Utilities Commission had no legislative authority by which it could limit the number of cabs or owners. The public streets became congested with large numbers of cabs cruising in search of patrons, and the life of the street railways, an essential industry, was seriously threatened. It was a common practice for taxicab operators to make standing agreements to drive a group of from 4 to 6 patrons to work every morning for 25 cents per trip. The street railway companies pay 51 cents per hour to conductors and motormen, in competition with net earnings of 16 to 38 cents per hour made by taxicab drivers.

Hours and Earnings of Taxicab Drivers

DETAILED data as to hours and earnings were obtained for varying periods from three taxicab drivers. Also, beginning with January 1932, the taxicab clerk of the Public Utilities Commission was directed to ask each driver who came in how many hours he had worked and how much money he had taken in on the last day he had worked. In September 1933 the questionnaire was made more definite and extensive. The information thus collected is shown in table 1, together with averages computed therefrom. The data obtained by the taxicab clerk are believed to be not so reliable as those from the three individual drivers, but may be accepted as fairly representative of existing conditions.

TABLE 1.—SUMMARY ANALYSIS OF TAXICAB DRIVERS' EARNINGS IN WASHINGTON, D. C., 1931-33

Item	Mr. F.: 500 trips, April to May 1933	Mr. M.: 10 months, November 1932 to Au- gust 1933	Mr. S.		Public Utilities Commission taxi- cab clerk	
			1 month, April 1932	7 months, 1931 and 1932	Last 4 months of 1933	2 years, 1932 and 1933
Number of driver-days.....	21	266	30.0	202.0	349	4,236
Hours worked.....	197	13,192	367.5	2,478.5	3,103	41,365
Miles run ¹	2,451	* 20,000	3,933.0	25,140.0	23,012	(²)
Trips made.....	500	(³)	716.0	(⁴)	6,007	(⁴)
Gross revenue:						
Fares.....	\$116.60	(⁴)	\$160.00	\$1,148.85	\$1,363.75	(⁴)
Tips.....	33.30	(⁴)	38.80	297.70	242.60	(⁴)
Total.....	149.90	\$1,425.40	198.80	1,446.55	1,606.35	\$20,936.40
Expenses:						
Cab.....	\$50.81	\$250.00	\$52.00	\$434.00	\$670.34	(⁴)
Gasoline and oil.....	23.36	206.98	36.46	235.06	351.06	(⁴)
Repairs.....		351.28	3.65	76.54		(⁴)
Dues and other expenses.....		99.75		18.78	3.53	(⁴)
Total.....	74.17	908.01	92.11	764.38	1,024.93	(⁴)
Net revenue.....	\$75.73	\$517.39	\$106.69	\$682.17	\$581.42	(⁴)
Averages per day:						
Hours worked.....	9.37	12	12.25	12.25	8.9	9.75
Gross miles.....	117	75	133	124.5	80	(⁴)
Number of trips.....	23.8	(⁴)	23.9	(⁴)	17.2	(⁴)
Gross revenue.....	\$7.14	\$5.36	\$6.63	\$7.16	\$4.61	\$4.95
Expenses.....	\$3.53	\$3.41	\$3.07	\$3.78	\$2.94	(⁴)
Net revenue.....	\$3.61	\$1.95	\$3.56	\$3.38	\$1.67	(⁴)
Averages per hour:						
Number of trips.....	2.54	(⁴)	1.95	(⁴)	1.94	(⁴)
Gross revenue..... cents.....	76.10	44.70	54.10	58.40	51.80	50.50
Expenses..... do.....	37.60	28.50	25.10	30.90	33.00	(⁴)
Net revenue..... do.....	38.50	16.20	29.00	27.50	18.80	(⁴)
Averages per mile:						
Gross revenue..... do.....	6.12	7.13	4.98	5.75	5.74	(⁴)
Expenses:						
Cab..... do.....	2.07	1.25	1.31	1.73	2.40	(⁴)
Gasoline..... do.....	.96	1.03	.91	.94	1.25	(⁴)
Repairs..... do.....		1.76	.09	.30		(⁴)
Dues and other expenses..... do.....		.50		.07	.01	(⁴)
Total expenses..... do.....	3.03	4.54	2.31	3.04	3.66	(⁴)
Net revenue..... do.....	3.09	2.59	2.67	2.71	2.08	(⁴)
Averages per trip:						
Gross miles.....	4.90	(⁴)	5.57	(⁴)	4.67	(⁴)
Revenue from:						
Fares..... cents.....	23.30	(⁴)	22.40	(⁴)	22.70	(⁴)
Tips..... do.....	6.78	(⁴)	5.40	(⁴)	4.10	(⁴)
Total..... do.....	30.00	(⁴)	27.80	(⁴)	26.80	(⁴)
Total expenses..... do.....	14.80	(⁴)	12.90	(⁴)	17.10	(⁴)
Net revenue..... do.....	15.20	(⁴)	14.90	(⁴)	9.70	(⁴)

¹ Estimated on the basis of 12 hours per day.

² Includes miles run while "cruising."

³ The exact figure is not known, but was a little over 20,000 miles.

⁴ No data.

There is considerable seasonal variation in the earnings of taxicab drivers in Washington, July and August being the dull months and the Christmas season the busy period. This is reflected to some extent in the figures collected by the taxicab clerk, shown in table 2. As already stated, this information was obtained by asking the drivers regarding the results of their last day's work. "Gross revenue" includes fares plus tips. Out of it the driver had to pay the rent for

his cab and the cost of gasoline, which together cost from \$3 to \$3.75 per day.

TABLE 2.—GROSS REVENUE OF TAXICAB DRIVERS IN WASHINGTON, D. C., 1932 AND 1933

Year and month	Number of drivers working 1 day each	Number of hours worked	Gross revenue			Average number of hours worked per day
			Total amount	Average per day	Average per hour	
1932:						
January.....	110	1,101	\$629.66	\$5.71	\$0.572	9.99
February.....	194	2,032	1,152.27	5.95	.567	10.48
March.....	62	674	378.28	6.10	.555	10.88
April.....	206	2,124	1,226.70	5.94	.577	10.29
May.....	182	1,772	980.57	5.39	.554	9.73
June.....	249	2,551	1,258.45	5.06	.493	10.26
July.....	654	6,702	2,966.52	4.54	.443	10.25
August.....	110	1,092	468.97	4.24	.429	9.88
September.....	144	1,382	645.32	4.48	.467	9.60
October.....	201	1,872	927.15	4.62	.495	9.33
November.....	272	2,551	1,300.79	4.78	.510	9.37
December.....	249	2,408	1,349.06	5.42	.560	9.68
Total.....	2,633	26,261	13,283.84	5.05	.505	9.97
1933:						
January.....	156	1,413	775.04	4.98	.549	9.08
February.....	231	2,215	1,128.83	4.88	.510	9.57
March.....	203	1,943	942.63	4.65	.485	9.59
April.....	150	1,455	754.61	5.02	.518	9.69
May.....	129	1,252	667.05	5.17	.532	9.71
June.....	119	1,238	566.25	4.76	.457	10.40
July.....	143	1,350	643.63	4.51	.477	9.44
August.....	123	1,135	568.17	4.55	.500	9.22
September.....	125	1,124	551.00	4.41	.490	9.03
October.....	61	605	244.45	4.01	.484	8.28
November.....	86	806	416.85	4.85	.518	9.37
December.....	77	668	394.05	5.12	.590	8.68
Total.....	1,603	15,104	7,652.56	4.78	.507	9.42
Grand total.....	4,236	41,365	20,936.40	4.95	.505	9.75

Union Scales of Wages and Hours of Labor, 1933

UNION scales of wages and hours have been the subject of annual surveys by the Bureau of Labor Statistics for over 25 years. In 1933 the survey covered nearly a half million organized workers in time-work trades in 67 important industrial cities. A summary of the 1933 data is given in this article. The data in much greater detail appear in Bulletin No. 600 of the Bureau. Summary data for 1933 and 1934, compiled too late for inclusion herein, are given in the April 1936 Monthly Labor Review.

Trend of Union Wage Rates and Hours, 1907 to 1933

To show the extent of the changes that have taken place in average union wage rates and hours during the years for which the Bureau has collected such data, index numbers of average wage rates and hours have been computed for each year from 1907 to 1933, with the 1913 average as the base, or 100, and are presented in table 1. These indexes include all the time-work trades in all the cities covered in preceding years, but the number of trades and cities included in the data has varied some during the period.

With the exception of 1922 wage rates steadily increased and hours steadily decreased from year to year up to 1931. Between 1931 and 1932 average rates per hour decreased from an index of 273.0 to 241.8, or 11.4 percent, and between 1932 and 1933 decreased 4.5 percent. The 1933 index of average rates per hour (231.0) is nearly two and one-third times the 1913 average, and that of average rates per full-time week (202.8) is slightly more than twice the 1913 average. The smaller increase in the index for average rates per full-time week as compared with that for average rates per hour is due to the change from year to year in average full-time hours per week. The 1933 index of average full-time hours per week (88.0) is approximately one-eighth less than the 1913 index.

TABLE 1.—INDEX NUMBERS OF UNION WAGE RATES AND HOURS OF LABOR IN THE UNITED STATES AS OF MAY EACH YEAR, 1907-33

[1913=100.0]

Year	Index numbers			Year	Index numbers		
	Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week		Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week
1907.....	89.7	102.6	91.5	1921.....	205.3	93.9	193.3
1908.....	91.0	102.1	92.5	1922.....	195.1	94.4	183.0
1909.....	91.9	101.9	93.3	1923.....	210.6	94.3	198.6
1910.....	94.4	101.1	95.2	1924.....	228.1	93.9	214.3
1911.....	96.0	100.7	96.5	1925.....	237.0	93.0	222.3
1912.....	97.8	100.3	97.7	1926.....	250.3	92.8	233.4
1913.....	100.0	100.0	100.0	1927.....	259.5	92.4	240.8
1914.....	101.9	99.6	101.6	1928.....	260.6	91.9	240.6
1915.....	102.8	99.4	102.3	1929.....	262.1	91.5	240.7
1916.....	107.2	98.8	106.2	1930.....	272.1	89.8	243.8
1917.....	114.2	98.4	112.4	1931.....	273.0	89.2	242.9
1918.....	132.7	97.0	129.6	1932.....	241.8	87.7	212.2
1919.....	154.5	94.7	147.8	1933.....	231.0	88.0	202.8
1920.....	199.0	93.8	188.5				

Because of the wide interest in building operations and the many inquiries to the Bureau for wage changes in building trades as a group, index numbers of wage rates per hour for these trades are given below.

Index numbers of union wage rates per hour in the building trades

	Index number		Index number
1913.....	100.0	1924.....	224.0
1914.....	101.9	1925.....	232.7
1915.....	102.8	1926.....	248.0
1916.....	106.2	1927.....	256.7
1917.....	112.8	1928.....	258.1
1918.....	125.2	1929.....	261.6
1919.....	145.4	1930.....	272.8
1920.....	196.8	1931.....	276.3
1921.....	200.3	1932.....	235.3
1922.....	187.5	1933.....	232.2
1923.....	207.3		

Wage Rates and Hours, 1933

TABLE 2 shows a percentage distribution, by wage rates per hour, as of May 15, 1933, of the number of members reported in each trade group and in all trades combined. The wage rates of over half (55 percent) of the total membership were under \$1.12½ per hour and the rates of nearly three-fourths (74.4 percent) thereof fell within the range of 75 cents and under \$1.50 per hour.

In the building trades the rates of only 17.4 percent of the members were under \$1 per hour, the majority (69.6 percent) having rates between \$1 and \$1.50. Over three-fourths of those in the printing and publishing trades (78.5 percent in the book and job section and 87.8 in the newspaper section) were between 75 cents and \$1.37½ per hour.

All of the laundry workers and almost three-fourths (74.6 percent) of the chauffeurs and teamsters and drivers had wage rates under 75 cents per hour.

TABLE 2.—PERCENT OF TRADE-UNION MEMBERS WHOSE AVERAGE RATES IN CENTS PER HOUR FALL WITHIN EACH SPECIFIED RATE INTERVAL, MAY 15, 1933, BY TRADE GROUPS

Trade group	Percent of members whose rates (in cents) per hour were—											
	Under 50	50 and under 62½	62½ and under 75	75 and under 87½	87½ and under 100	100 and under 112½	112½ and under 125	125 and under 137½	137½ and under 150	150 and under 162½	162½ and under 175	175 and over
All trade groups.....	2.1	6.3	8.7	11.6	11.6	14.7	8.4	11.1	17.0	5.3	2.9	0.4
Bakery.....	2.3	14.1	28.2	19.8	20.7	7.4	5.5	2.1	-----	-----	-----	-----
Building trades.....	.2	1.5	2.6	5.6	7.5	19.1	10.4	12.9	27.2	7.5	4.9	.5
Chauffeurs and teamsters and drivers.....	7.2	29.5	37.9	17.1	7.6	.3	.1	.1	-----	-----	-----	-----
Granite and stone trades.....	-----	.1	-----	2.8	.7	25.0	9.4	34.1	1.4	26.6	-----	-----
Laundry workers.....	65.0	21.7	13.3	-----	-----	-----	-----	-----	-----	-----	-----	-----
Linemen.....	-----	.4	1.7	11.4	19.6	51.9	2.2	2.8	(1)	1.0	-----	-----
Longshoremen.....	.3	.5	6.3	55.7	33.7	.4	.2	-----	-----	2.8	-----	-----
Printing and publishing:	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Book and job.....	4.4	6.1	4.2	13.6	21.8	15.6	8.6	18.9	4.5	2.3	-----	(1)
Newspaper.....	-----	.1	.7	5.3	20.4	20.1	20.7	21.3	6.7	2.6	.5	1.4

¹ Less than ¼ of 1 percent.

Table 3 shows for 1933 the average hours per full-time week and the percent of members in each trade group having specified working hours. The hours stated represent the regular full time per week. No data are available as to broken time or overtime that may have been worked.

Approximately three-fifths (59.1 percent) of the total membership had a regular work week of 40 hours or less and 89.9 percent a work week of 48 hours or less. Of the separate trade groups, the building trades with an average of 40.4 hours had the shortest full-time work week. To a large extent this short week is occasioned by the rather general adoption of a 5-day week within this group. The normal change in this regard, however, was slightly interfered with in 1932 and 1933 by the adoption of short-time work for the purpose of spreading employment among the members. In some cases members in individual local unions are limited by agreement to less than 5 days' work each week. The chauffeurs and teamsters and drivers with an average of 53 hours per week had the longest full-time week; 68.5 percent of them had a full-time week of more than 48 hours.

TABLE 3.—AVERAGE HOURS PER WEEK AND PERCENT OF TRADE-UNION MEMBERS, BY TRADE GROUPS, WORKING EACH CLASSIFIED NUMBER OF HOURS PER WEEK, MAY 15, 1933

Trade groups	Average hours per full-time week	Percent of members whose hours per week were—										
		Under 40	40	Over 40 and under 44	44	Over 44 and under 48	48	Over 48 and under 54	54	Over 54 and under 60	60	Over 60
All trade groups.....	43.1	2.4	56.7	0.7	18.5	3.2	8.4	1.2	4.3	2.4	1.7	0.5
Bakers.....	47.6	1.5	3.2	.3	-----	7.2	84.3	-----	3.6	-----	-----	-----
Building trades.....	40.4	.9	88.1	-----	10.4	.2	.3	-----	(1)	-----	-----	-----
Chauffeurs and teamsters and drivers.....	53.0	-----	.5	.5	1.2	5.4	24.0	7.6	29.1	16.6	12.0	3.2
Granite and stone trades.....	40.9	-----	78.3	-----	21.7	-----	-----	-----	-----	-----	-----	-----
Laundry workers.....	48.0	-----	-----	-----	-----	-----	100.0	-----	-----	-----	-----	-----
Linemen.....	43.4	6.2	38.0	1.0	19.0	.2	33.1	2.6	-----	-----	-----	-----
Longshoremen.....	44.5	-----	-----	-----	88.9	-----	9.4	1.4	-----	-----	-----	.3
Printing and publishing: Book and job.....	42.0	10.8	31.7	.2	53.6	.1	3.6	-----	-----	-----	-----	-----
Newspaper.....	43.8	13.4	6.3	11.3	11.1	37.6	20.3	-----	-----	-----	-----	-----

¹ Less than $\frac{1}{10}$ of 1 percent.

Table 4 shows average union wage rates per hour, average full-time hours per week, the number of quotations on which 1933 averages are based, and index numbers of hourly rates for the years 1928 to 1933. Index numbers for the years back to 1907 may be found in Bulletin No. 482 of this Bureau.

In computing the average rates shown, the various rates quoted were weighted by the number of union members receiving such rates. This information is furnished the Bureau for this purpose alone and is held strictly confidential. The rates for a city may enter into an average one year because the trade has an effective wage scale, but may drop out the next year because the trade cannot enforce its scale or because the union has disbanded. Also, membership fluctuations in high- or low-rate cities have an important bearing on this weighted average rate. The average rate for each of the trades in a city may possibly vary from year to year to a greater extent than the average rate for a combination of all of the trades in the city. The individual rates may show no change, or some increases or decreases, while the average for all of them may show a decrease. In 1932 and 1933 the fluctuations in rates and membership were unusually severe, which factors were productive of anomalous or paradoxical average rates for several occupations and group averages. The index numbers are computed from these averages, and are, of course, affected by these same influences.

In table 4 hourly rates only are considered. Equivalent weekly rates do not exactly parallel hourly rates because of changes in working hours.

TABLE 4.—NUMBER OF QUOTATIONS IN 1933, AVERAGE WAGE RATES PER HOUR, 1932 AND 1933, AVERAGE FULL-TIME HOURS PER WEEK, 1933, AND INDEX NUMBERS OF HOURLY RATES FOR SPECIFIED YEARS

Trade	Number of quotations, May 1933	Average rate of wages per hour		Index numbers of rates of wages per hour (1913=100.0)						Average hours per week, May 1933
		May 1932	May 1933	May 1928	May 1929	May 1930	May 1931	May 1932	May 1933	
All trades, average.....	4,408	\$1.111	\$1.061	260.6	262.1	272.1	273.0	241.8	231.0	43.1
<i>Bakery trades</i>										
Bakers.....	201	.951	.799	285.9	293.4	289.2	279.9	285.0	239.5	47.6
<i>Building trades</i>										
Asbestos workers.....	42	1.237	1.222	(1)	(1)	(1)	(1)	(1)	(1)	40.0
Bricklayers:										
Building.....	63	1.465	1.435	233.9	239.6	245.1	245.9	211.9	207.5	40.1
Sewer, tunnel, and caisson.....	8	1.522	1.604	214.2	199.5	199.1	212.2	158.4	166.9	41.2
Building labor group:										
Building laborers.....	53	.762	.761	257.0	258.2	275.3	267.5	228.3	228.0	41.4
Hod carriers.....	39	.883	.754	280.7	293.0	302.3	297.3	241.3	206.1	40.4
Plasterers' laborers.....	38	.910	.838	264.1	265.0	282.3	274.3	221.3	203.7	40.2
Plumbers' laborers.....	9	.883	.908	(1)	(1)	(1)	(1)	(1)	(1)	40.1
Carpenter group:										
General carpenters.....	67	1.166	1.106	247.5	252.0	261.6	263.5	219.4	208.1	40.3
Millwrights (carpenters).....	34	1.108	1.047	(1)	(1)	(1)	(1)	(1)	(1)	40.5
Parquetry-floor layers (carpenters).....	27	1.184	1.004	236.1	241.9	259.5	262.8	208.3	176.6	39.5
Ship carpenters.....	11	1.109	1.021	(1)	(1)	(1)	(1)	(1)	(1)	40.3
Wharf and bridge carpenters.....	19	1.153	1.228	(1)	(1)	(1)	(1)	(1)	(1)	40.3
Cement finishers.....	54	1.245	1.228	234.6	234.6	256.4	253.3	213.8	210.9	41.8
Composition roofers.....	31	1.182	1.207	(1)	(1)	(1)	(1)	(1)	(1)	40.9
Composition roofers' helpers.....	5	.730	.682	(1)	(1)	(1)	(1)	(1)	(1)	41.6
Elevator constructors.....	75	1.409	1.295	(1)	(1)	(1)	(1)	(1)	(1)	40.7
Elevator constructors' helpers.....	68	1.004	.936	(1)	(1)	(1)	(1)	(1)	(1)	40.6
Engineers, portable and hoisting.....	109	1.511	1.321	233.5	232.5	259.0	261.4	245.7	214.8	41.4
Glaziers.....	34	1.211	1.222	(1)	(1)	(1)	(1)	(1)	(1)	40.8
Inside wiremen.....	70	1.437	1.320	257.2	268.2	271.1	275.1	262.5	241.1	40.1
Inside wiremen, fixture hangers.....	19	1.276	1.002	235.8	241.8	258.2	257.7	246.3	193.4	39.9
Lathers.....	73	1.385	1.309	251.0	249.0	259.4	262.6	232.4	219.6	40.0
Marble setters.....	51	1.432	1.398	218.0	233.4	234.5	235.5	214.6	209.5	40.4
Marble setters' helpers.....	22	.931	.938	248.0	262.8	259.1	254.1	230.6	232.3	40.5
Mosaic and terrazzo workers.....	40	1.356	1.238	(1)	(1)	(1)	(1)	(1)	(1)	40.2
Painter group:										
Building painters.....	65	1.228	1.243	270.8	270.2	289.5	292.4	242.3	245.3	40.1
Fresco painters.....	18	1.051	1.070	226.7	230.9	253.4	267.3	192.9	196.4	41.2
Sign painters.....	46	1.393	1.338	247.5	249.9	249.6	248.3	219.9	211.2	40.9
Plasterers.....	62	1.423	1.360	241.6	238.6	250.3	253.0	210.6	201.3	40.1
Plumbers and gas fitters.....	66	1.302	1.300	232.1	233.8	240.0	244.2	210.0	209.7	40.6
Sheet-metal workers.....	50	1.234	1.200	247.4	256.9	268.5	273.2	234.0	227.5	40.3
Slate and tile roofers.....	20	1.401	1.375	(1)	(1)	(1)	(1)	(1)	(1)	40.6
Steam and sprinkler fitters.....	82	1.283	1.266	239.5	241.0	252.2	254.5	214.2	211.3	40.0
Steam and sprinkler fitters' helpers.....	40	.953	.926	309.2	305.0	340.5	346.6	304.7	296.1	40.1
Stonemasons.....	53	1.449	1.369	259.3	266.5	296.4	299.0	237.4	224.3	40.1
Structural-iron workers.....	85	1.339	1.323	235.7	236.0	248.1	251.6	215.4	212.8	40.6
Structural-iron workers, finishers.....	47	1.332	1.346	230.2	240.0	237.2	237.1	214.3	216.5	40.4
Tile layers.....	54	1.350	1.307	221.8	224.2	234.9	237.2	206.1	199.5	40.5
Tile layers' helpers.....	23	.923	.831	278.5	274.3	300.8	291.8	257.3	231.6	41.5
Average, building trades.....	1,772	1.216	1.200							40.4
<i>Chauffeurs and teamsters and drivers</i>										
Chauffeurs.....	484	.711	.664	243.2	244.2	249.4	253.9	244.9	228.7	52.8
Teamsters and drivers.....	82	.785	.654	277.1	279.8	292.0	287.8	299.2	249.3	54.1
Average, chauffeurs, etc.....	566	.722	.663							53.0
<i>Granite and stone trades</i>										
Granite cutters.....	40	1.199	1.170	245.3	249.8	262.3	262.5	234.1	228.5	40.7
Stone cutters.....	52	1.380	1.294	242.2	253.6	256.0	262.6	237.7	222.9	41.1
Average, granite and stone trades.....	92	1.293	1.234							40.9
<i>Miscellaneous trades</i>										
Laundry workers.....	38	.487	.435	(1)	(1)	(1)	(1)	(1)	(1)	48.0
Linemen.....	41	1.091	1.034	(1)	(1)	(1)	(1)	(1)	(1)	43.4
Longshorem.....	39	.868	.837	243.6	250.1	253.5	251.5	251.5	242.5	44.5

¹ No data for 1913.

TABLE 4.—NUMBER OF QUOTATIONS IN 1933, AVERAGE WAGE RATES PER HOUR, 1932 AND 1933, AVERAGE FULL-TIME HOURS PER WEEK, 1933, AND INDEX NUMBERS OF HOURLY RATES FOR SPECIFIED YEARS—Continued

Trade	Number of quotations, May 1933	Average rate of wages per hour		Index numbers of rates of wages per hour (1913=100)						Average hours per week, May 1933
		May 1932	May 1933	May 1928	May 1929	May 1930	May 1931	May 1932	May 1933	
<i>Printing and publishing—book and job</i>										
Bindery women.....	45	\$0.515	\$0.509	(1)	(1)	(1)	(1)	(1)	(1)	44.6
Bookbinders.....	88	.988	.968	244.8	247.5	250.7	252.7	244.0	239.1	44.4
Compositors (hand).....	68	1.162	1.063	250.1	251.5	259.3	260.2	259.3	237.2	42.5
Electrotypers.....	52	1.807	1.216	257.1	263.2	269.9	274.5	272.8	253.9	42.2
Machine operators.....	69	1.251	1.137	224.6	228.0	238.0	228.8	240.1	218.3	41.9
Machine tenders (machinists).....	32	1.279	1.191	216.8	219.9	233.2	224.2	235.4	219.2	41.8
Photoengravers.....	48	1.371	1.321	(1)	(1)	(1)	(1)	(1)	(1)	40.6
Press assistants and feeders.....	137	.852	.796	287.0	289.7	294.8	299.9	290.4	271.3	40.7
Pressmen, cylinder.....	141	1.147	1.088	232.7	236.8	240.1	239.1	236.2	224.1	40.7
Pressmen, platen.....	108	.911	.879	253.9	257.8	259.9	260.2	250.1	241.3	42.0
Average, book and job.....	788	1.084	1.006							42.0
<i>Printing and publishing—newspaper</i>										
Compositors (hand):										
Daywork.....	80	1.164	1.114	206.6	211.3	212.5	212.5	204.5	195.7	43.5
Nightwork.....	69	1.283	1.222	203.0	205.3	203.6	203.0	198.7	189.2	43.3
Machine operators, daywork:										
Piecework.....	8	1.149	1.129	138.5	124.1	130.4	132.2	134.0	116.0	42.5
Timework.....	78	1.206	1.110	213.8	217.4	216.7	220.0	214.2	197.1	43.6
Machine operators, nightwork:										
Piecework.....	7	1.167	1.158	108.1	103.2	109.5	117.2	117.2	110.9	42.3
Timework.....	68	1.335	1.219	205.9	207.5	207.0	207.9	207.3	189.3	43.3
Machine tenders (machinists):										
Daywork.....	69	1.233	1.094	198.4	201.7	205.1	204.7	209.7	186.0	43.5
Nightwork.....	63	1.380	1.211	190.8	196.6	191.9	195.5	202.5	177.7	43.4
Photoengravers:										
Daywork.....	40	1.347	1.263	(1)	(1)	(1)	(1)	(1)	(1)	44.0
Nightwork.....	38	1.652	1.478	(1)	(1)	(1)	(1)	(1)	(1)	41.9
Pressmen, web presses:										
Daywork.....	124	1.122	1.028	224.9	228.1	229.3	231.2	235.0	215.3	46.4
Nightwork.....	112	1.306	1.240	215.7	216.1	218.7	222.1	224.5	213.1	41.9
Stereotypers:										
Daywork.....	60	1.075	1.004	191.0	200.1	201.8	201.6	203.9	190.4	46.0
Nightwork.....	55	1.227	1.160	188.6	198.3	202.8	204.9	202.6	191.5	42.4
Average, newspaper.....	871	1.231	1.149							43.8

¹ No data for 1913.

² Per 1,000 ems.

Table 5 shows the percent of change in weekly wage rates in 1933 as compared with specified years. The average rates per full-time week in 1933 were generally lower than the rates in 1925 and in a few occupations were lower than in 1921.

TABLE 5.—PERCENT OF CHANGE IN RATES OF WAGES PER FULL-TIME WEEK IN 1933 AS COMPARED WITH SPECIFIED YEARS

Trade and occupation	Percent of increase (+) or decrease (-) in rates of wages per full-time week in 1933 as compared with—									
	1907	1913	1917	1921	1925	1928	1929	1930	1931	1932
<i>Bakery trades</i>										
Bakers.....	+153.9	+116.0	+89.2	-13.1	-17.4	-15.1	-17.0	-16.0	-13.9	-15.7
<i>Building trades</i>										
Asbestos workers.....	(1)	(1)	+88.6	+7.1	-4.7	-15.5	-18.6	-19.3	-18.5	-2.3
Bricklayers:										
Building.....	+93.1	+86.5	+75.4	+9.3	-11.4	-18.8	-18.4	-18.4	-17.3	-7
Sewer, tunnel, and caisson.....	(1)	+56.9	+51.8	+2.5	-16.1	-26.6	-20.3	-16.9	-23.0	+6.4
Building labor group:										
Building laborers.....	+107.9	+94.3	+74.1	-7.3	-8.7	-18.0	-18.4	-21.7	-18.3	-2.2
Hod carriers.....	+92.8	+87.3	+60.5	-20.6	-24.9	-32.8	-31.5	-33.3	-32.1	-14.6

¹ Not reported.

TABLE 5.—PERCENT OF CHANGE IN RATES OF WAGES PER FULL-TIME WEEK IN 1933 AS COMPARED WITH SPECIFIED YEARS—Continued

Trade and occupation	Percent of increase (+) or decrease (—) in rates of wages per full-time week in 1933 as compared with—									
	1907	1913	1917	1921	1925	1928	1929	1930	1931	1932
<i>Building trades—Continued</i>										
<i>Building labor group—Continued.</i>										
Plasterers' laborers.....	+100.9	+84.1	+65.7	-14.7	-23.1	-26.5	-26.8	-28.9	-27.0	-9.2
Plumbers' laborers.....	(1)	(1)	(1)	-3.0	-14.1	-14.2	-20.7	-13.9	-13.5	+2.8
<i>Carpenter group:</i>										
General carpenters.....	+105.0	+88.1	+64.0	-3.4	-14.6	-22.6	-24.0	-24.3	-23.6	-5.7
Millwrights (carpenters).....	(1)	(1)	+44.5	-13.2	-17.2	-23.6	-19.8	-23.3	-26.1	-7.2
Parquetry-floor layers (carpenters).....	(1)	+49.8	+28.6	-27.6	-25.7	-32.1	-34.0	-33.9	-34.1	-17.3
Ship carpenters.....	(1)	(1)	+53.6	+2.8	+6.3	+5.1	-15.1	-28.5	-25.6	-9.0
Wharf and bridge carpenters.....	(1)	(1)	+95.4	+14.1	-4.4	-13.8	-13.0	-13.0	-13.4	+5.5
Cement finishers.....	+105.8	+90.9	+79.6	+5.4	-6.4	-14.3	-14.4	-18.3	-17.0	+1
Composition roofers.....	(1)	(1)	+106.4	+11.3	-3.8	-15.8	-16.9	-14.9	-16.5	+3.7
Composition roofers' helpers.....	(1)	(1)	+55.6	-8.3	-15.6	-20.2	-18.5	-18.5	-12.5	-5.1
Elevator constructors.....	(1)	(1)	+77.3	+6.3	-8.9	-17.4	-17.3	-18.3	-17.1	-9.4
Elevator constructors' helpers.....	(1)	(1)	+99.2	+6.6	-7.4	-18.1	-17.0	-17.6	-16.7	-8.0
Engineers, portable and hoisting.....	(1)	+90.3	+79.4	+11.5	-2.9	-15.0	-14.9	-20.2	-20.1	-12.4
Glaziers.....	(1)	(1)	(1)	+14.6	-7.5	-15.6	-16.1	-16.2	-15.9	+9
Inside wiremen.....	+137.5	+113.1	+90.5	+8.9	-5.3	-14.0	-15.3	-14.3	-14.7	-7.9
Inside wiremen, fixture hangers.....	(1)	+69.2	+48.1	-12.9	-20.3	-24.8	-26.3	-26.1	-26.7	-23.2
Lathers.....	(1)	+95.9	+80.1	+4.3	-14.7	-19.1	-18.0	-16.5	-17.0	-5.8
Marble setters.....	+107.9	+90.1	+86.1	+19.3	+9	-12.0	-17.9	-13.4	-12.4	-2.8
Marble setters' helpers.....	(1)	+113.0	+99.4	-1.0	-4.2	-14.0	-18.9	-13.6	-10.0	+6
Mosaic and terrazzo workers.....	(1)	(1)	+95.4	+14.9	-7.1	-16.2	-20.2	-18.7	-18.0	-7.5
<i>Painter group:</i>										
Building painters.....	+151.8	+119.6	+89.5	+8.4	-5.8	-11.9	-11.5	-16.3	-16.6	+9
Fresco painters.....	(1)	+84.2	+58.9	-3.5	-10.0	-13.5	-15.2	-21.5	-25.3	+1.2
Sign painters.....	(1)	+92.5	+81.6	-5	-15.9	-18.0	-17.4	-16.9	-15.6	-4.7
Plasterers.....	+88.4	+81.2	+71.4	+2.9	-15.9	-19.9	-18.3	-20.5	-20.8	-2.9
Plumbers and gas fitters.....	+110.0	+90.1	+80.3	+7.0	-6.2	-16.4	-16.2	-14.1	-14.6	+5
Sheet-metal workers.....	+132.4	+102.7	+83.3	+2.8	-9.3	-15.5	-18.5	-18.7	-19.0	-2.9
Slate and tile roofers.....	(1)	(1)	+93.8	+10.0	-10.8	-17.7	-17.7	-15.7	-13.1	-2.0
Steam and sprinkler fitters.....	+113.9	+87.0	+71.9	+12.2	-9.5	-19.6	-19.7	-19.7	-19.8	-1.8
Steam and sprinkler fitters' helpers.....	+212.5	+164.7	+135.6	+22.6	-1.4	-12.5	-11.2	-13.4	-14.8	-2.9
Stonemasons.....	+113.2	+101.7	+84.6	+5.6	-11.0	-21.2	-20.7	-18.2	-17.4	-5.9
Structural-iron workers.....	+115.2	+93.7	+77.6	+6.6	-4.1	-16.8	-16.5	-17.8	-17.9	-1.5
Structural-iron workers, finishers.....	(1)	+88.9	+83.4	+4.8	+1.1	-13.7	-17.0	-18.8	-18.1	+8
Tile layers.....	(1)	+84.2	+73.7	+16.0	-7.2	-15.2	-15.9	-15.2	-14.9	-2.1
Tile layers' helpers.....	(1)	+114.6	+98.5	-4.4	-11.7	-21.0	-19.5	-22.2	-19.8	-6.5
<i>Chauffeurs and teamsters and drivers</i>										
Chauffeurs.....	(1)	+83.7	+68.3	+5.3	-4.6	-8.7	-7.8	-8.0	-9.9	-6.7
Teamsters and drivers.....	(1)	+116.5	+92.7	+8.5	-2.9	-12.4	-12.5	-16.5	-17.6	-16.0
<i>Granite and stone trades</i>										
Granite cutters.....	+128.3	+110.2	+92.9	+1.1	-2.8	-14.1	-15.4	-15.0	-14.2	-4.3
Stone cutters.....	+112.2	+104.3	+85.4	+9.1	-7.0	-14.6	-18.3	-16.3	-16.6	-6.7
<i>Miscellaneous</i>										
Laundry workers.....	(1)	(1)	+73.8	+4.7	-2.0	-2.7	-5.0	-9.2	-9.5	-10.7
Linemen.....	(1)	(1)	(1)	+3.4	+2.9	-2.7	-5.0	-11.2	-10.9	-5.4
Longshoremen.....	(1)	+83.2	+54.0	+1.2	-1.8	-2.9	-3.5	-4.7	-4.3	-3.8
<i>Printing and publishing—book and job</i>										
Bindery women.....	(1)	(1)	+109.1	-2.0	-3.9	-4.6	-5.3	-7.9	-7.2	-2.5
Bookbinders.....	+136.4	+120.6	+103.8	+6.2	+1	-3.4	-4.3	-5.6	-6.1	-2.5
Compositors (hand).....	+135.7	+109.4	+95.1	+1.5	-3.9	-8.8	-9.3	-12.2	-12.3	-11.7
Electrotypers.....	+152.7	+127.4	+101.0	+5.6	-6.0	-8.7	-10.6	-11.9	-12.9	-12.4
Machine operators.....	+107.8	+91.0	+83.2	+3.1	-2.3	-7.7	-9.1	-12.9	-9.3	-13.6
Machine tenders (machinists).....	(1)	+90.4	+83.8	+4.1	-1.6	-4.4	-5.8	-11.2	-7.9	-11.9
Photoengravers.....	(1)	(1)	+98.1	+18.7	+6.1	-7.3	-8.6	-8.7	-8.3	-6.4
Press assistants and feeders.....	+155.1	+128.5	+107.4	-5	-11.0	-13.4	-14.2	-15.7	-17.1	-1.1
Pressmen, cylinder.....	+113.8	+88.8	+78.4	-2.2	-9.3	-11.8	-13.2	-14.5	-14.2	-3.7
Pressmen, platen.....	+128.9	+109.7	+92.0	-3.9	-7.6	-10.5	-12.6	-12.0	-12.7	-6.4

1 Not reported.

TABLE 5.—PERCENT OF CHANGE IN RATES OF WAGES PER FULL-TIME WEEK IN 1933 AS COMPARED WITH SPECIFIED YEARS—Continued

Trade and occupation	Percent of increase (+) or decrease (-) in rates of wages per full-time week in 1933 as compared with—									
	1907	1913	1917	1921	1925	1928	1929	1930	1931	1932
<i>Printing and publishing—newspaper</i>										
Compositors (hand):										
Daywork.....	+105.4	+84.3	+76.2	+5.7	-4.6	-9.7	-11.2	-11.9	-12.0	-6.6
Nightwork.....	+93.9	+80.7	+74.6	+5.4	-3.6	-10.3	-11.0	-10.8	-10.5	-5.2
Machine operators:										
Daywork.....	+105.0	+87.4	+78.6	+7.6	-4.4	-10.8	-12.2	-11.8	-13.5	-8.6
Nightwork.....	+94.0	+81.8	+74.3	+7.0	-3.8	-11.2	-12.0	-11.8	-12.2	-6.6
Machine tenders (machinists):										
Daywork.....	(1)	+76.1	+71.9	-1.1	-5.2	-11.0	-12.1	-13.1	-13.2	-8.9
Nightwork.....	(1)	+68.7	+65.5	-1.2	-5.6	-11.5	-13.6	-11.2	-12.5	-6.5
Photoengravers:										
Daywork.....	(1)	(1)	+96.2	+19.4	+7.2	-5.6	-6.3	-5.7	-6.3	-6.1
Nightwork.....	(1)	(1)	+101.7	+20.9	+6.9	-5.7	-6.6	-8.9	-9.6	-10.1
Pressmen, web presses:										
Daywork.....	+137.1	+111.3	+102.4	+14.7	+1.9	-5.5	-6.6	-7.1	-7.8	-7.5
Nightwork.....	+129.1	+118.1	+111.4	+19.1	+5.5	-2.4	-3.0	-4.0	-5.4	-4.3
Stereotypers:										
Daywork.....	+110.3	+84.2	+75.7	+8.6	+4	-2.9	-6.2	-7.1	-7.1	-7.5
Nightwork.....	+103.4	+87.1	+79.3	+9.5	+1.9	-9	-5.2	-6.3	-6.7	-6.3

¹ Not reported.

Other Trades

THE Bureau of Labor Statistics has from time to time collected information concerning union wage rates and hours of labor of various trades which, though not included in the annual compilation of union wage scales, are of general or special interest. The results of these independent studies, made generally through questionnaires sent to the local unions of the trades covered have been published in the Monthly Labor Review. The trades covered and the issues of the Review in which these studies are published are as follows: Barbers, July 1932 (p. 156); blacksmiths, August 1933 (p. 355); cereal beverage workers, February 1933 (p. 360); hotel and restaurant employees, August 1933 (p. 350); metal trades, June 1933 (p. 1375); pulp, sulphite, and paper mill workers, October 1933 (p. 941); quarry workers, April 1933 (p. 862); stage employees and motion-picture machine operators, May 1933 (p. 1111); upholsterers and carpet and linoleum mechanics, September 1933 (p. 674); and woodworking industry, September 1933 (p. 675).

Woolen and Worsted Goods Manufacturing—Wage Rates and Weekly Earnings, 1932-34¹⁸

AVERAGE hourly earnings of workers in the woolen and worsted goods industry in August 1934, a year after the wool textile code became effective, were 5 percent higher than in August 1933, 74 percent above the lowest level—May 1933—but 7 or 8 percent below the relatively high level of the year 1924. Hourly earnings of low-paid workers, and especially of female employees, were raised most as a result of the code. Since skilled workers did not have their hourly earnings increased in proportion to those of the unskilled there was a concentration of workers close to the minimum rate per hour. This concentration was not so great as in the cotton or silk and rayon industries, and it was decreased somewhat during the first

¹⁸ Summary of article published in Monthly Labor Review, June 1935 (p. 1448).

year of operation of the code. Average weekly earnings for workers as a whole rose to a peak of about \$17.50 immediately after the code became effective, but declined after September 1933 because of the continued decrease in available working time. The actual hours worked per week decreased from 36.8 in August 1933 to 30.7 in August 1934, at which time the average earnings of all the workers were \$15.13 a week or about \$1 less than during the first quarter of 1932.

The average decrease in weekly earnings from August 1933 to August 1934 was smaller in the case of the higher-paid workers than of the less well paid, and greater for female than for male workers, due to the more severe cut in the hours of females. Though workers in this industry continued to receive more than other textile workers, 18.6 percent of the males and 38.6 percent of the females for whom information was obtained by the Bureau earned less than \$10 a week in August 1934.

The movement of average earnings between August 1933 and 1934 varied with occupations and regions. Although hourly earnings increased 5 percent on the average, some occupations suffered actual decreases. The fall in weekly earnings was especially sharp in northern New England. In contrast, the average actually rose in the South, due to the relative stability of hours in that section.

Extent of Survey

THIS report on wages and hours in the woolen and worsted goods industry is the third of a series made under Executive Order No. 6858 of September 26, 1934, and is based chiefly on 2 field studies by the Bureau¹⁰ covering 3 pay-roll periods—January to March 1932, August 1933, and August 1934. As the National Recovery Administration code for woolen goods manufacturing became effective on August 14, 1933, these studies give information for periods a year and a half before the code, the first week of code operation, and a year after the code. From one-fourth to one-third of the wage earners in the industry were covered in these surveys. All important producing regions were represented and the regional distribution followed very closely that of the Census of Manufactures.

Trend of Wages, Hours, and Employment

THE number of workers employed by the industry declined from 194,500 in the year 1923 to 110,200 in August 1934. The low point for employment occurred in June 1932, when 75,500 workers were employed. In March 1933, just before the National Recovery Administration codes were contemplated, 86,300 workers were employed, and in August 1933, just after the code became effective, there were 163,000 workers. During the first year of operation under the code there was a decrease of 52,800 in the number of workers from the level of August 1933. This displacement of labor is rooted in causes which lie deeper than the current depression. There are indications of an increase in output per worker, while per capita consumption of wool textiles has been decreasing. The increased production per worker may have been due, in part, to a shift to lower-quality goods.

¹⁰ The first of these was reported in Bul. No. 584 of the Bureau, and the second was a special study made in October 1934. The report for the cotton-textile industry is given on p. 921 and the report for silk and rayon manufacturing is given on p. 1021.

Hourly earnings in the industry reached an average of 53.3 cents in 1924. The trend was slightly downward before the depression. Hourly earnings fell slowly during 1930, but thereafter sank to a low point of 28.4 cents in May 1933.

Hours of work were increasing gradually before the National Recovery Administration code was put into effect. The full-time working week increased from 48.3 hours in 1920 to 50.3 hours in 1932. The actual hours of work averaged 40.2 per week during the first quarter of 1932.

Actual weekly earnings declined slightly before the depression, the average for all workers in 1928 being \$19.88 per week. The low point for weekly earnings occurred in March 1933, when the average for all workers was estimated to have been approximately \$13 per week.

Average Hourly Earnings

THE woolen code, which became effective August 14, 1933, provided for minimum hourly rates of 32½ cents in the South and 35 cents in the North—2½ cents higher in both regions than that required for cotton, silk, or rayon workers. The rates for workers previously receiving more than the minimum were required to yield, for a full-time week of 40 hours, not less than the prevailing wage for the longer working week prior to the code.

As in the cases of cotton, and silk and rayon, there was a sharp increase in average hourly earnings in woolen and worsted goods manufacturing when the code took effect. For the workers as a whole, the average rose to 46.9 cents in August 1933, just after the code became effective. Further small increases continued in succeeding months, the average in August 1934 being 49.3 cents or 5 percent higher than the year before. The latter earnings are estimated to have been 74 percent above the lowest level of May 1933 and 7 or 8 percent below the highest level of the year 1924.

The whole wage structure of the industry was altered by the increase in hourly earnings which took place after the code became effective. In table 1 the number of workers recorded in the surveys by the Bureau in 1932, 1933, and 1934 are classified according to their average hourly earnings in those years.

TABLE 1.—DISTRIBUTION OF AVERAGE HOURLY EARNINGS IN THE WOOLEN AND WORSTED GOODS INDUSTRY, 1932, 1933, AND 1934

Average hourly earnings	January to March 1932		August 1933		August 1934	
	Males	Females	Males	Females	Males	Females
Total number of employees covered.....	20,407	18,102	20,530	20,897	18,091	13,893
Under 25.0 cents.....	858	3,741	22	6	13	7
25.0 and under 27.5 cents.....	671	1,855	17	22	14	7
27.5 and under 30.0 cents.....	620	2,119	28	30	13	2
30.0 and under 32.5 cents.....	1,378	1,861	51	56	27	19
32.5 and under 35.0 cents.....	1,443	2,260	602	560	418	267
35.0 and under 37.5 cents.....	2,073	1,682	3,116	9,280	2,099	4,560
37.5 and under 40.0 cents.....	2,191	1,165	1,835	3,160	1,737	2,304
40.0 and under 42.5 cents.....	1,629	1,048	1,987	1,919	1,810	1,478
42.5 and under 45.0 cents.....	956	561	1,215	1,447	989	1,197
45.0 and under 47.5 cents.....	1,253	410	1,226	1,287	1,162	897
47.5 and under 50.0 cents.....	860	294	974	601	931	564
50.0 and under 55.0 cents.....	1,827	546	1,926	948	1,901	852
55.0 and under 60.0 cents.....	1,467	264	1,371	648	1,376	577
60.0 and under 65.0 cents.....	1,307	160	1,312	316	1,324	393
65.0 and under 70.0 cents.....	916	54	1,258	333	1,191	241
70.0 and under 75.0 cents.....	532	25	1,064	148	1,047	174
75.0 and under 80.0 cents.....	241	19	904	78	680	102
80.0 cents and over.....	285	38	1,622	58	1,359	154

Regional comparison.—Although there are discernible differences between the wage scales in different regions, they are of less moment to the woolen and worsted industry than to those who manufacture cotton, and silk and rayon. This is partly because regional wage differentials are not great except between the North and South, but chiefly because woolen-textile manufacture is highly concentrated in a few contiguous States.

The hourly earnings of the workers covered by the Bureau in August 1933 and 1934, by regions, are shown in table 2.

TABLE 2.—HOURLY EARNINGS IN THE WOOLEN AND WORSTED INDUSTRY, BY REGION AND SEX, 1933 AND 1934

Amount	August 1933							
	Northern New England		Southern New England		Middle Atlantic and Middle Western		South	
	Males	Females	Males	Females	Males	Females	Males	Females
All workers.....	2,643	2,709	11,892	10,495	4,973	7,145	1,022	548
Less than 22.5 cents.....	6	0	2	0	4	1	3	0
22.5 and less than 27.5 cents....	10	4	6	6	2	14	6	3
27.5 and less than 30.0 cents....	8	2	11	6	3	10	6	12
30.0 and less than 32.5 cents....	10	2	15	20	6	19	20	15
32.5 and less than 35.0 cents....	12	19	44	90	20	17	526	434
35.0 and less than 40.0 cents....	888	1,854	2,923	6,067	967	4,467	173	52
40.0 and less than 45.0 cents....	520	492	1,973	1,561	592	1,294	117	19
45.0 and less than 50.0 cents....	266	145	1,185	1,142	665	593	84	8
50.0 and less than 60.0 cents....	375	130	1,684	1,039	1,182	423	56	4
60.0 and less than 70.0 cents....	311	46	1,574	364	676	239	9	0
70.0 cents and over.....	237	15	2,475	200	856	68	22	1
	August 1934							
All workers.....	2,828	1,914	9,752	6,794	4,559	4,731	952	454
Less than 22.5 cents.....	3	0	4	2	1	1	2	1
22.5 and less than 27.5 cents....	6	0	6	1	1	5	4	2
27.5 and less than 30.0 cents....	5	0	4	1	1	0	3	1
30.0 and less than 32.5 cents....	4	1	8	5	2	2	13	8
32.5 and less than 35.0 cents....	8	3	22	57	12	17	376	285
35.0 and less than 40.0 cents....	759	1,007	2,112	3,422	750	2,352	206	83
40.0 and less than 45.0 cents....	542	405	1,501	1,114	653	1,105	103	51
45.0 and less than 50.0 cents....	362	187	1,039	775	614	483	78	16
50.0 and less than 60.0 cents....	539	186	1,515	770	1,124	467	99	6
60.0 and less than 70.0 cents....	385	79	1,480	354	610	201	40	0
70.0 cents and over.....	215	41	2,061	290	782	98	28	1

Occupational comparison.—The hourly earnings of every occupation in the industry were advanced when the code became effective, but the less skilled occupations generally received larger increases than the more skilled. Table 3 presents the results for selected important occupations, arranged in the order of their average hourly earnings in the first quarter of 1932. The list of occupations is limited to cases in which similar wage changes took place in each region.

TABLE 3.—AVERAGE HOURLY EARNINGS IN SELECTED OCCUPATIONS OF THE WOOLEN AND WORSTED INDUSTRY, 1932 TO 1934

Occupation	Sex	Average hourly earnings (cents)			Percent of increase		
		Janu- ary to March 1932	Aug- ust 1933	Aug- ust 1934	1932 to 1934	1932 to 1933	1933 to 1934
		Perchers.....	Male.....	46.0	53.2	52.4	14	16	1 1
Weavers.....	Female....	44.0	49.2	51.5	17	12	5
Drawers-in, hand.....	do.....	42.3	49.7	53.0	25	18	7
Menders.....	do.....	37.1	47.9	47.9	29	29	0
Picker tenders.....	Male.....	35.9	41.3	40.1	12	15	1 3
Truckers.....	do.....	35.1	41.1	42.0	20	17	2
Gill-box tenders.....	do.....	34.8	39.7	38.9	12	14	1 2
Spinners, frame.....	Female....	34.0	41.6	41.2	21	22	1 1
Winders, yarn.....	do.....	31.0	39.9	40.5	31	29	2
Drawing-frame tenders.....	do.....	30.8	37.5	37.8	23	22	1
Spooler tenders.....	do.....	30.4	38.9	40.2	32	28	3
Burlers.....	do.....	29.4	39.8	41.6	42	35	5
Gill-box tenders.....	do.....	28.8	37.1	37.5	30	28	1
Doffers.....	do.....	24.8	36.0	36.3	46	45	1

¹ Decrease.

Average Weekly Earnings

AVERAGE weekly earnings in the woolen and worsted goods industry rose to a peak of about \$17.50 during August and September 1933. Before the code weekly earnings were increased by the lengthening of the working week, and after the code the weekly earnings were sustained by the increase in hourly rates. After September 1933 weekly earnings declined, due to the continued decrease in available working time. Between August 1933 and August 1934 actual hours per week decreased from 36.8 to 30.7. In August 1934 workers as a whole averaged \$15.13 a week, or about \$1 a week less than during the first quarter of 1932.

As a general rule, weekly earnings were slightly higher in August 1933 than in the first quarter of 1932 and individual occupational groups show this general upward tendency, with some variation. Large percentage increases (as high as 36 percent) for the low-paid occupations of females stand in contrast to the small advances or slight declines in the weekly earnings of the skilled occupations. After a year of the code, every important occupation in the industry had suffered a decrease in weekly earnings. Table 4 shows average weekly earnings of 22 occupational groups for the 3 pay-roll periods. The list of occupational groups is limited to those for which the samples are sufficiently large and stable to be representative.

TABLE 4.—AVERAGE WEEKLY EARNINGS OF SELECTED OCCUPATIONS IN THE WOOLEN AND WORSTED INDUSTRY, 1932, 1933, AND 1934

Occupation	Sex	Average weekly earnings			Percent of change		
		January to March 1932	August 1933	August 1934	1932 to 1934	1932 to 1933	1933 to 1934
Loom fixers.....	Male.....	\$30.72	\$30.00	\$27.12	-11.7	-2.3	-9.6
Weavers.....	do.....	21.38	20.81	18.63	-13.3	-2.7	-11.0
Spinners, mule.....	do.....	20.97	22.52	19.07	-9.1	+7.4	-15.3
Weavers.....	Female.....	19.12	18.75	16.80	-12.2	-2.0	-10.3
Perchers.....	Male.....	18.96	20.02	16.25	-14.3	+5.6	-18.8
Card strippers.....	do.....	17.21	18.20	15.92	-7.5	+5.8	-12.5
Spinners, frame.....	do.....	17.17	19.42	16.64	-3.1	+13.1	-14.3
Drawers-in, hand.....	Female.....	16.06	17.01	16.22	+1.0	+5.9	-4.6
Card tenders.....	Male.....	15.09	15.96	13.56	-10.1	+5.8	-15.0
Picker tenders.....	do.....	14.69	15.22	13.45	-8.4	+3.6	-11.6
Truckers.....	do.....	14.51	15.21	11.73	-19.2	+4.8	-22.9
Spinners, frame.....	Female.....	13.80	14.68	11.61	-15.9	+6.4	-20.9
Drawing-frame tenders.....	Male.....	13.65	14.44	10.18	-25.4	+5.8	-29.5
Menders.....	Female.....	13.57	17.81	13.64	+5	+31.2	-23.4
Winders, yarn.....	do.....	12.44	13.74	10.28	-17.4	+10.5	-25.2
Twister tenders.....	do.....	11.88	14.12	9.97	-16.1	+18.9	-29.4
Drawing-frame tenders.....	do.....	11.85	13.11	9.56	-19.3	+10.6	-27.1
Gill-box tenders.....	Male.....	11.28	13.74	10.96	-2.8	+21.8	-20.2
Do.....	Female.....	11.14	12.32	10.08	-9.5	+10.6	-18.2
Burlers.....	do.....	10.82	14.74	11.73	+8.4	+36.2	-20.4
Spooler tenders.....	do.....	10.52	13.74	11.37	+8.1	+30.6	-17.2
Doffers.....	do.....	9.03	11.89	7.68	-15.0	+31.7	-35.4

General Wage Changes

Index Numbers of Wages per Hour, 1840 to 1934

A GENERAL index of wages or earnings per hour for each year, 1840 to 1934, for the wage earners of the country as a whole, exclusive of agricultural wage earners, with the 1913 earnings per hour as the base or 100, is presented in the table following. The index is a composite of all satisfactory data available. Agriculture was excluded because of the seasonal character of that industry and the wide variety of the perquisites so often forming part of the compensation of farm hands.

The figures in the table are for average wage rates or earnings per hour for wage earners actually at work. They cannot be taken as reflecting earnings per day or per week.

The table shows that the general trend of hourly earnings has been upward. There was a sevenfold increase in the 80 years from 1840 to 1920, the peak year, the index rising from 33 to 234 in that time. Unusual increases were made during each of the two great wars. After the Civil War there was an increase each year to 1872, when rates or earnings per hour were 72 percent higher than in 1861. From 1914 to 1919, or during the World War, the increase was from an index of 102 to 184 or 80 percent. In 1920 the wage level was 129 percent higher than in 1914 and 134 percent higher than in 1913.

INDEX NUMBERS OF WAGES PER HOUR, 1840 TO 1934 (EXCLUSIVE OF AGRICULTURE

[On currency basis during Civil War period. 1913=100]

Year	Index number						
1840.....	33	1864.....	50	1888.....	67	1912.....	97
1841.....	34	1865.....	58	1889.....	68	1913.....	100
1842.....	33	1866.....	61	1890.....	69	1914.....	102
1843.....	33	1867.....	63	1891.....	69	1915.....	103
1844.....	32	1868.....	65	1892.....	69	1916.....	111
1845.....	33	1869.....	66	1893.....	69	1917.....	128
1846.....	34	1870.....	67	1894.....	67	1918.....	162
1847.....	34	1871.....	68	1895.....	68	1919.....	184
1848.....	35	1872.....	69	1896.....	69	1920.....	234
1849.....	36	1873.....	69	1897.....	69	1921.....	218
1850.....	35	1874.....	67	1898.....	69	1922.....	208
1851.....	34	1875.....	67	1899.....	70	1923.....	217
1852.....	35	1876.....	64	1900.....	73	1924.....	223
1853.....	35	1877.....	61	1901.....	74	1925.....	226
1854.....	37	1878.....	60	1902.....	77	1926.....	229
1855.....	38	1879.....	59	1903.....	80	1927.....	231
1856.....	39	1880.....	60	1904.....	80	1928.....	232
1857.....	40	1881.....	62	1905.....	82	1929.....	233
1858.....	39	1882.....	63	1906.....	85	1930.....	229
1859.....	39	1883.....	64	1907.....	89	1931.....	217
1860.....	39	1884.....	64	1908.....	89	1932.....	186
1861.....	40	1885.....	64	1909.....	90	1933.....	178
1862.....	41	1886.....	64	1910.....	93	1934.....	1 200
1863.....	44	1887.....	67	1911.....	95		

¹ Subject to revision.

The year 1921 was one of depression, unemployment, and wage-rate decreases. The general level of wage rates or earnings per hour in that year was 7 percent, and in 1922 was 11 percent, less than in 1920. From 1922 there was an increase each year to 1929. The depression began late in that year and continued through 1930 to 1934 and into 1935. The level for 1929 was but a fraction of 1 percent lower than in 1920. The level for 1930 was 1.7 percent lower than in 1929; for 1931 it was 6.9 percent lower; for 1932 it was 20.2 percent lower; and for 1933 it was 23.6 percent less than in 1929. The index for 1934 was 12.4 percent higher than in 1933.

Average Wage and Salary Payments in Ohio, 1918 to 1933²⁰

REPORTS from practically all establishments in Ohio employing three or more persons and falling within the general industry groups of manufactures, wholesale and retail trade, service, transportation and public utilities, construction, agriculture, and fisheries show an average wage and salary payment of \$1,480 in 1929, \$1,048 in 1932, and \$997 in 1933.

For the occupation group, "wage earners", the reports show an average wage and salary payment of \$1,457 in 1929, \$978 in 1932, and \$938 in 1933. For the group, "bookkeepers, stenographers, and office clerks", the average was \$1,677 in 1929, \$1,390 in 1932, and \$1,336 in 1933. The group "salespeople (not traveling)", averaged \$1,374 for 1929, \$1,014 in 1932, and \$917 in 1933.

The following table shows average wage and salary payments for each year of the period, 1918 to 1933, computed by dividing total wage and salary payments, as reported to and compiled by the

²⁰ Abstract of articles in Monthly Labor Review, January 1934 and April 1935 by Fred C. Croxton, Columbus, Ohio, and Frederick E. Croxton, Columbia University.

Division of Labor Statistics of the Department of Industrial Relations of Ohio, by the average number of employees within the same group.

Considering all industries combined, and all employees, the highest average wage and salary payment was in 1920, with the second highest in 1929. The lowest average was in 1933, with a drop in 4 years of \$483, or 32.6 percent.

AVERAGE WAGE AND SALARY PAYMENTS EACH YEAR 1918 TO 1933, BY INDUSTRY AND GENERAL OCCUPATION GROUPS

Year	All industries					Agriculture				
	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)
1918	22,709	\$1,098	\$1,109	\$1,086	\$894	520	\$750	\$744	(1)	(1)
1919	23,652	1,245	1,246	1,314	1,039	552	834	823	(1)	(1)
1920	27,241	1,524	1,543	1,495	1,250	588	1,055	1,043	(1)	(1)
1921	23,562	1,284	1,252	1,480	1,271	504	923	905	(1)	(1)
1922	24,025	1,304	1,250	1,707	1,216	524	912	895	(1)	(1)
1923	25,904	1,425	1,422	1,492	1,332	548	981	972	(1)	(1)
1924	30,439	1,419	1,406	1,554	1,316	732	1,015	1,006	(1)	(1)
1925	33,443	1,445	1,435	1,546	1,367	910	1,021	1,010	(1)	(1)
1926	36,004	1,436	1,418	1,577	1,395	1,052	970	954	(1)	(1)
1927	38,509	1,455	1,431	1,620	1,417	1,199	982	965	(1)	(1)
1928	39,979	1,469	1,448	1,634	1,407	1,329	986	969	(1)	(1)
1929	42,216	1,480	1,457	1,677	1,374	1,444	971	957	(1)	(1)
1930	43,348	1,388	1,343	1,676	1,249	1,639	949	937	(1)	(1)
1931	42,095	1,245	1,187	1,564	1,161	1,777	819	804	(1)	(1)
1932	39,109	1,048	978	1,390	1,014	1,736	661	650	(1)	(1)
1933	37,578	997	938	1,336	917	1,683	583	574	(1)	(1)
Year	Construction					Manufactures				
	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)
1918	4,273	\$1,094	\$1,094	\$1,073	(1)	8,858	\$1,162	\$1,159	\$1,165	\$1,496
1919	4,747	1,414	1,415	1,279	\$2,077	9,011	1,304	1,185	1,460	1,689
1920	5,882	1,698	1,703	1,576	1,953	9,652	1,602	1,598	1,616	1,881
1921	4,890	1,400	1,382	1,602	1,795	8,632	1,298	1,252	1,547	1,871
1922	5,007	1,373	1,361	1,485	1,829	8,330	1,350	1,270	2,064	1,796
1923	5,883	1,929	1,946	1,593	1,989	8,701	1,449	1,428	1,604	2,037
1924	7,364	1,642	1,637	1,646	1,960	9,125	1,456	1,429	1,644	1,960
1925	8,407	1,656	1,651	1,649	2,064	9,502	1,497	1,467	1,704	2,226
1926	9,145	1,622	1,611	1,694	2,091	9,704	1,479	1,448	1,702	2,092
1927	9,724	1,630	1,618	1,720	2,109	9,880	1,502	1,464	1,774	2,129
1928	9,942	1,637	1,624	1,751	2,014	9,937	1,528	1,496	1,758	2,163
1929	10,183	1,676	1,668	1,685	1,966	10,035	1,535	1,499	1,792	2,171
1930	9,672	1,568	1,545	1,760	2,196	10,011	1,424	1,365	1,825	2,078
1931	8,272	1,352	1,328	1,607	1,453	9,683	1,248	1,185	1,679	1,787
1932	6,456	1,026	982	1,351	1,295	9,102	1,032	956	1,513	1,737
1933	5,586	861	821	1,186	997	8,755	1,005	950	1,428	1,463

¹ Not computed owing to small number involved.

² This amount is undoubtedly an error, but original schedules and work sheets have been destroyed and definite correction, therefore, cannot be made.

³ The number of establishments reporting employees was: Total, 24,124; agriculture, 519; construction, 5,005; fisheries, 27; manufactures, 8,403; service, 3,032; trade, wholesale and retail, 6,067; and transportation and public utilities, 1,071.

⁴ Wage and salary payments to salespeople (not traveling) not included in this average, as number of such employees could not be determined.

⁵ Combined with "industries not otherwise classified" in detailed tabulation by Division of Labor Statistics; number does not exceed 60.

AVERAGE WAGE AND SALARY PAYMENTS EACH YEAR 1918 TO 1933, BY INDUSTRY AND GENERAL OCCUPATION GROUPS—Continued

Year	Service					Trade, wholesale and retail				
	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)	Estab-lish-ments	All em-ploy-ees	Wage earn-ers	Bookkeep-ers, stenog-raphers, and office clerks	Sales-people (not travel-ing)
1918.....	2,556	\$306	\$720	\$1,083	\$1,309	5,330	\$854	\$870	\$940	\$779
1919.....	2,563	903	809	1,171	1,408	5,657	1,000	1,015	1,101	914
1920.....	3,847	1,134	1,030	1,360	1,881	6,589	1,212	1,230	1,344	1,092
1921.....	2,823	1,177	1,054	1,510	1,695	5,638	1,243	1,264	1,359	1,135
1922.....	3,034	1,112	1,026	1,325	1,599	6,031	1,167	1,152	1,291	1,097
1923.....	3,341	1,165	1,049	1,400	2,072	6,276	1,248	1,248	1,356	1,171
1924.....	4,233	1,191	1,106	1,349	1,845	7,689	1,280	1,296	1,422	1,165
1925.....	5,971	1,287	1,174	1,416	1,982	7,277	1,224	1,264	1,395	1,151
1926.....	6,761	1,299	1,153	1,512	1,955	7,867	1,258	1,280	1,355	1,194
1927.....	7,598	1,343	1,210	1,555	1,980	8,526	1,273	1,276	1,350	1,238
1928.....	8,210	1,306	1,120	1,619	1,916	8,916	1,268	1,293	1,327	1,220
1929.....	9,335	1,384	1,180	1,732	2,027	9,524	1,237	1,281	1,332	1,164
1930.....	10,241	1,306	1,123	1,637	1,882	10,022	1,231	1,259	1,405	1,132
1931.....	10,452	1,236	1,066	1,561	1,394	10,111	1,166	1,217	1,282	1,076
1932.....	10,357	1,074	939	1,365	1,045	9,716	1,014	1,064	1,122	930
1933.....	10,215	1,001	797	1,376	1,078	9,647	920	970	1,021	845
	Transportation and public utilities									
1918.....	1,134	\$959	\$969	\$879	(1)	-----	-----	-----	-----	-----
1919.....	1,081	1,124	1,144	971	(1)	-----	-----	-----	-----	-----
1920.....	1,146	1,385	1,401	1,183	(1)	-----	-----	-----	-----	-----
1921.....	1,048	1,318	1,318	1,309	(1)	-----	-----	-----	-----	-----
1922.....	1,072	1,281	1,252	1,444	(1)	-----	-----	-----	-----	-----
1923.....	1,129	1,316	1,316	1,298	(1)	-----	-----	-----	-----	-----
1924.....	1,271	1,417	1,350	1,800	(1)	-----	-----	-----	-----	-----
1925.....	1,353	1,359	1,341	1,436	(1)	-----	-----	-----	-----	-----
1926.....	1,453	1,397	1,385	1,424	\$2,203	-----	-----	-----	-----	-----
1927.....	1,561	1,388	1,374	1,423	2,243	-----	-----	-----	-----	-----
1928.....	1,625	1,438	1,413	1,526	2,210	-----	-----	-----	-----	-----
1929.....	1,674	1,429	1,406	1,485	2,199	-----	-----	-----	-----	-----
1930.....	1,741	1,420	1,402	1,461	1,997	-----	-----	-----	-----	-----
1931.....	1,776	1,377	1,343	1,479	1,909	-----	-----	-----	-----	-----
1932.....	1,742	1,241	1,199	1,363	1,868	-----	-----	-----	-----	-----
1933.....	1,692	1,189	1,149	1,303	1,864	-----	-----	-----	-----	-----

¹ Not computed owing to small number involved.

² This amount is undoubtedly an error, but original schedules and work sheets have been destroyed and definite correction, therefore, cannot be made.

³ The number of establishments reporting employees was: Total, 24,124; agriculture, 519; construction, 5,005; fisheries, 27; manufactures, 8,403; service, 3,032; trade, wholesale and retail, 6,067; and transportation and public utilities, 1,071.

⁴ Tabulations of the Division of Labor Statistics change the classification of offices from "trade" to "service" beginning in 1925.

Individual Industries

STUDIES of average wage and salary payments in individual industries which enter into the total averages presented in this article have been published in the Monthly Labor Review, as follows: Construction industry, February 1934 (p. 253); manufactures, March 1934 (p. 627) and May 1935 (p. 1288); iron and steel and their products, April 1934 (p. 898); wholesale and retail trade, May 1934 (p. 1032); food and kindred products, June 1934 (p. 1441); lumber and lumber products, August 1934 (p. 423); chemicals and allied products, September 1934 (p. 716); "service" industries, October 1934 (p. 970); manufacture of paper and printing, rubber products,

stone, clay, and glass products, vehicles, and transportation and public utilities, November 1934 (p. 1198); leather and leather products, liquors and beverages, and metals and metal products other than iron and steel, December 1934 (p. 1457); textiles, manufacture of tobacco, and miscellaneous manufactures, January 1935 (p. 147).

Employment and Earnings of Heads of Families in Denver, 1929 and 1933

IN DENVER, COLO., a house-to-house canvass in December 1933 disclosed several significant facts on employment and earnings of heads of families. In November 1933 only 67.6 percent of the male and female heads of families had full-time employment as contrasted with 86.7 percent in November 1929. At both periods the employment record was in general best for those who in November 1933 were from 30 to 39 years of age. The median monthly earnings of heads of families at the earlier date were \$116.08 and in November 1933, \$95.04, a reduction of \$21.04 or 18.1 percent. The value of college training in connection with full-time employment was brought out.

The survey was made, at the request of the Denver committee of the Federal Civil Works Administration, by the Bureau of Business and Social Research of the University of Denver as a project for the utilization of the services of the "white-collar" unemployed. The results of this investigation were published in the September 1934 issue of the University of Denver Reports.

Employment records were obtained for 60,018 heads of families (approximately an 80-percent sample), and records of earnings were secured in 55,262 cases. In most instances data on age and scholastic training were also reported.

The number of persons for whom information was available was larger for recent than for earlier periods: (1) Because some had recently assumed family responsibilities, and (2) because many could not remember their employment status or earnings over a period of years. However, according to the report, the doubtful group contributed both to "the employment and the unemployment record, and for that reason is not considered important in its effect upon the record as compiled."

Table 1 shows the percent of male and female heads of families employed full time November 1929 and November 1933, by agegroups and scholastic training. It will be noted that on the whole in both years the employment record is best for those who were from 30 to 39 years of age in November 1933.

TABLE 1.—PERCENT OF MALE AND FEMALE HEADS OF FAMILIES IN DENVER EMPLOYED FULL TIME IN NOVEMBER 1929 AND NOVEMBER 1933, BY AGE AND SCHOLASTIC TRAINING¹

Scholastic training group and year	Percent employed full time, by age groups						
	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	All ages
<i>November 1929</i>							
All groups.....	87.7	89.6	89.2	86.5	80.8	64.2	86.7
Group I. Not beyond the sixth grade.....	74.3	79.8	78.3	78.6	72.0	55.8	75.9
Group II. Beyond the sixth grade but not the ninth.....	85.7	87.6	88.4	85.6	80.1	63.2	85.3
Group III. Beyond the ninth grade but not beyond high school.....	90.1	91.2	92.1	89.2	85.9	73.0	90.0
Group IV. College without graduation.....	92.0	93.2	93.2	91.4	84.7	68.4	91.5
Group V. College graduates.....	90.1	96.2	95.3	93.5	89.4	73.4	93.4
All others ²	80.3	83.8	87.6	84.7	77.6	56.7	80.7
<i>November 1933</i>							
All groups.....	72.8	73.3	70.0	65.3	56.4	36.3	67.6
Group I. Not beyond the sixth grade.....	44.7	47.2	52.0	49.8	42.1	24.8	46.7
Group II. Beyond the sixth grade but not the ninth.....	65.4	68.7	67.0	62.3	53.0	33.4	63.3
Group III. Beyond the ninth grade but not beyond high school.....	77.0	77.4	75.1	70.5	65.8	43.1	73.9
Group IV. College without graduation.....	83.1	80.6	77.8	74.5	61.8	46.2	77.6
Group V. College graduates.....	87.5	88.7	85.6	83.2	76.8	56.4	84.4
All others ²	66.7	69.2	63.7	63.1	51.9	36.4	59.6

¹ Age and scholastic training classifications as of November 1933.
² Includes foreign educated and unknown.

In table 2 the median monthly earnings of full-time employees are given for November 1929 and November 1933, by age groups and scholastic training. As noted above, the decline between these two periods was 18.1 percent. At both of these dates for all scholastic-training groups combined earnings were higher among those in the 40 to 49 age group.

TABLE 2.—MEDIAN MONTHLY EARNINGS OF MALE AND FEMALE HEADS OF FAMILIES IN DENVER (FULL-TIME EMPLOYEES) CLASSIFIED BY AGE AND TRAINING, NOVEMBER 1929 AND NOVEMBER 1933¹

Scholastic training group and year	Earnings by age groups						
	20-29 years	30-39 years	40-49 years	50-59 years	60-69 years	70 years and over	All ages
<i>November 1929</i>							
All groups.....	\$94.19	\$122.99	\$126.20	\$121.37	\$105.39	\$91.61	\$116.08
Group I. Not beyond the sixth grade.....	65.33	79.57	87.17	86.56	82.13	75.80	82.24
Group II. Beyond the sixth grade but not the ninth.....	86.98	108.95	116.36	113.38	100.24	90.11	106.61
Group III. Beyond the ninth grade but not beyond high school.....	97.85	131.40	140.28	139.77	126.44	114.29	126.70
Group IV. College without graduation.....	113.78	142.16	149.52	142.19	136.81	80.00	137.70
Group V. College graduates.....	128.76	171.22	198.00	191.60	164.63	146.43	175.63
<i>November 1933</i>							
All groups.....	80.12	99.47	103.71	100.46	91.11	80.02	95.04
Group I. Not beyond the sixth grade.....	51.99	66.10	72.05	70.78	68.18	69.44	67.66
Group II. Beyond the sixth grade but not the ninth.....	70.25	87.21	93.00	93.09	85.59	71.80	86.51
Group III. Beyond the ninth grade but not beyond high school.....	81.11	106.55	118.18	118.86	113.39	97.16	100.27
Group IV. College without graduation.....	91.36	120.49	132.78	128.13	109.38	72.50	113.99
Group V. College graduates.....	113.85	146.11	169.82	170.52	141.07	122.92	145.93

¹ Age and scholastic training classification as of November 1933.

Movement Toward the Shorter Workweek Prior to the National Industrial Recovery Act

A COMBINATION of forces led to rather widespread adoption of the 5-day week in industry in the years just preceding the passage of the National Industrial Recovery Act. A large contributing factor to this trend was the general depression reflected in steadily shrinking markets beginning with 1929. Although the shorter workweek introduced in the depression would not ordinarily indicate a normal tendency, the increases in productivity that occurred under the reduced working time and the steady progress of technological change argued for the continuance of the 5-day week by individual establishments and trades, even before the enactment of the recovery legislation placed national emphasis on shorter hours. Below are given certain examples of this earlier experience with shorter hours of labor.

Extent of 5-Day Week in American Industry in 1932

Two inquiries were made in 1932 by the Bureau of Labor Statistics regarding the extent to which the 5-day week had been permanently adopted in American industry. One inquiry was in the form of a questionnaire addressed to employers, covering the principal industries of the country, with the exception of the building trades and railroad transportation. The second was part of the regular annual survey of union scales of wages and hours of labor and deals with the 5-day-week as adopted in collective agreements between employers and organized labor. The building trades were covered in the trade-union survey. Except for the printing trades, there was very little, if any, overlapping in the results of the two inquiries.

General Survey of the 5-Day Week

IN THE general survey questionnaires were sent to the various establishments which cooperated with the Bureau by furnishing monthly reports on employment and pay rolls. These questionnaires were answered by 44,025 establishments, having 3,848,349 employees, and representing 102 industries or industry groups. As a similar survey had been made by the Bureau about a year earlier, covering substantially the same establishments, information was made available for a comparison of conditions in 1931 and 1932. The number of establishments and employees covered in both of these surveys was believed to be sufficiently large to be fairly representative, with the exceptions above noted, of American industry as a whole.

The 1931 survey showed that 2.4 percent of the establishments reporting had permanently adopted the 5-day week for all or a part of their employees, and that 5.6 percent of the employees of the establishments had been placed on this 5-day-week schedule as compared with 5.4 percent and 8.4 percent, respectively, in 1932.

For the manufacturing industries, the proportions of establishments and of employees on a 5-day week were considerably higher than for all industries combined. Thus, in 1932, 7.8 percent of the manufacturing establishments reporting had adopted the 5-day week

for all or part of their working force, and 12.3 percent of the employees of the establishments were employed on a 5-day-week basis.

It is to be emphasized that in both of the surveys referred to, establishments were listed as having the 5-day week only when such a working schedule had been adopted as a permanent policy. Establishments temporarily operating on a 5-day or shorter working week as a result of business conditions, but not as a permanent policy or with uncertainty as to their future policy, were not included in the 5-day-week classification. Also, it is to be noted that this classification included only persons working not more than 5 days per week and did not include many cases of shortened hours of labor, as, for instance, when plants operating continuously had adopted a system of four 6-hour shifts, thus greatly reducing the weekly hours, although still operating on a 6- or even 7-day basis.

The detailed report of the survey (published in the Monthly Labor Review for November 1932) showed that the automobile industry had in 1932 the greatest percentage of employees on the 5-day week, namely 67.2 percent. The chewing- and smoking-tobacco and snuff industry, with 40 percent of its employees on the 5-day week, was second, followed by the druggists' preparations industry, with 39.9 percent, and the electrical machinery, apparatus, and supplies industry, with 38.6 percent.

The 5-Day Week Among Trade Unions

AS A PART of the study of the annual survey of union wage rates and hours of labor in the time-work trades in 67 cities, made by the Bureau of Labor Statistics as of May 1932 and covering union membership of 595,367, data were collected relative to the regular working days per week provided in the agreements under which the membership was working. The agreement for a permanent basic 5-day week was found widespread in the building trades and to quite an extent in several of the other trades canvassed. Of the full membership reported, 56 percent had a recognized working week of 5 days or less, a small fraction of 1 percent had a 5-day week or less for one-half of a year but less than a full year, and 3.1 percent had a 5-day week for some part of the year less than one-half. In a number of trades, such as bricklayers, inside wiremen, lathers, plasterers, stone masons, more than 90 percent of the members were on a working schedule of 5 days per week or less.

In a few instances the agreement was that the provision for a week of 5 days, or even less, was temporary in character, running for a fixed period or indefinitely until further agreement. Some of the curtailments of working hours reported, especially those for less than 5 days a week, were made to spread work among the members.

Experience of Manufacturing Company With 5-Day Week

AN INCREASE of 10 percent in production and a decrease in production cost, over a 6-month period in 1929, was the result of the adoption of the 5-day week by the Snow King Baking Powder Co., of Cincinnati, according to an account given in the magazine *Management* (Chicago) for February 1931.

The 2 years' experience of the company with the 5-day week developed the following advantages:

- (1) It is much easier to get a better class of employees when they know we work on the 5-day plan.
- (2) It reduces labor turnover to a minimum.
- (3) A saving in light, heat, and power is effected by not operating on Saturday.
- (4) Workers throughout the plant show an increase in efficiency.
- (5) Basing the monthly quota on our best previous record has materially increased production while reducing the cost.
- (6) Should it become necessary to increase production in any one week, this can easily be done on Saturday without increasing the cost of production.

Prior to the adoption of the 5-day week the factory employees worked 48¼ hours per week and the office employees 41 hours. With the change to the shorter workweek in November 1928 the working hours of the factory employees were reduced to 47½ for the male workers and to 45 for the female workers. The office employees' hours were reduced to 40. There was no change in wage rates, but a production quota, based on the best single month's production of 1928, was established, and if this quota was not reached the employees were required to work on Saturday, without extra pay, to make it up.

To reduce absenteeism the wages of the factory employees were based on a 50-hour week instead of the shorter workweek adopted. Thus, if an employee worked full time he was paid for full-time work, but if he worked less than the full 5 days he was paid only for as many hours as he actually worked. This plan is said to have reduced absenteeism to a minimum.

Forty-Hour Week Established by Standard Oil Co. of New Jersey, 1932

A NORMAL 40-hour week, consisting of a maximum of 5 working days or its equivalent, was established for its entire domestic operations by the Standard Oil Co. of New Jersey, to become effective July 1, 1932, in order to give the personnel "all practicable assurance of continued employment and to effect further economies in operation."

This plan, as announced to the employees, provided for a normal working week of 5 days for all salaried and wage-earning employees of the company in this country. However, each of the subsidiary companies was to determine for its various departments whether this reduction in working time should be taken off currently each week or in one or more periods over the year. Hourly wage earners were to continue to be paid on the basis of time actually worked, but salaried employees, including salaried wage earners, on a 5½-day schedule prior to July 1, were to go on a 5-day basis with a reduction in pay of one-eleventh.

Operation of 6-Hour Day in Plants of the Kellogg Co.

THE Kellogg Co., of Battle Creek, Mich., manufacturers of cereal foods, adopted the 6-hour day December 1, 1930, primarily to help relieve unemployment.

A description of operations under the plan was given in a press statement by Lewis J. Brown, president of the company, under date of April 14, 1931. This statement, in part, follows.

The Kellogg Co. adopted the 6-hour day as an emergency expedient to relieve the unemployment situation in Battle Creek, where the main plant is located. It proved so satisfactory that it was expected to adopt the 6-hour day as a permanent operating policy.

The reduction of the working day from 8 hours to 6 hours seemed to be the most practical method of adjustment to the needs of the current situation, and at the same time of working toward a permanent adjustment to economic trends. Also, it promised to iron out some inequalities and eliminate some petty evils which had grown up over a period of years.

Where the jobs outside of mechanical and maintenance are mostly repetitious, the work tends to become monotonous. Toward the end of an 8-hour shift, the employees formerly grew somewhat careless and waste increased. Speed of our processes and machines had to be adjusted to this human factor. In a shorter working day the workers are much more alert and efficient, knowing that the working time is short, and that it "won't be long now" until the whistle will blow. Because of this there was a slight increase in the rate of production lines that multiplied itself into a substantial increase in total production and gave a greater return on investment and machinery.

Advantages to Employees

WHILE the chief advantages to the worker, under the 6-hour day, are fairly obvious in the actual operation, others have been discovered. An enumeration of these advantages may prove interesting:

More leisure time for recreation (embracing both rest and play).

Opportunity to cultivate farms or gardens, especially by those living on the outskirts of the city, affording them both wholesome exercise and a supply of fruits and flowers, vegetables, and dairy products for their tables.

Time to pursue educational courses, music, or other cultural studies.

Increased incentive to prepare for managerial jobs, as the change from 3 to 4 shifts makes necessary an additional full staff of managers, foremen, foreladies, etc.

Less fatigue due to smaller number of hours of work daily, and longer periods of rest between, resulting in a more healthy, ambitious, alert, and aggressive working force.

Opportunity for mothers who must support children to earn a living and yet have ample time at home to care for their families.

Less waste time, due to concentration of work in a single period.

Decreased cost of living, on account of being able to have all meals at home.

Greater assurance of a steady job due to the fact that the increase in the number of workers employed absorbs more of the city's working people, makes them earners and consumers, and stabilizes the local industrial situation.

Advantages to the Business

THE list of advantages to the company is almost as impressive. It includes:

Increased daily production from the plant as an operating unit, due to increased production at every station or task, slight in itself but considerable in the aggregate.

Elimination of meal periods, with their waste, and the expense of a large cafeteria.

Increased return from the capital invested in plant and machinery, owing to the increased rate of plant operation.

Opportunity for reorganizing the working force to rectify inequalities and fit all "pegs" in appropriate "holes."

Decreased overhead due to the fact that the factory produces more packages of cereals per dollar of overhead than under the 8-hour shift. In this plant, where the overhead in proportion to direct labor is approximately two and one-half times, an increase in efficiency, thereby decreasing the cost per package of cereal, results in the overhead dropping two and one-half times more than the direct labor cost per package. Or, in other words, a saving of 10 cents per hundred pounds of production on direct labor saves 25 cents additional on overhead. As the majority of foremen and foreladies also work on production, the increased supervisory force does not have any material effect on the pay roll, and it is offset by the increased efficiency obtained from the plant as an operation machine.

Wage Adjustment

IN REDUCING the number of working hours a day, under the 6-hour-day plan, there was naturally a reduction in the day wages for the higher-paid employees. In fact, there were 2 hours less work, or 25 percent less actual working time.

It was found that if the base rate of the employees was increased 12½ percent, their purchasing power would be, when operating 6 hours a day, 6 days a week, approximately the same as it was in 1928.

An investigation was also made of the minimum daily wage a male employee should have, in order to provide himself and family with a proper living. As a result, it was decided that the minimum wage for a male employee should be \$4 per day, this being the same rate paid when operating on the 8-hour basis—a minimum wage of 50 cents an hour, or \$4 for an 8-hour day. Thus, in working on a 6-hour-day basis, the base rate for the minimum wage of an employee was increased 33½ percent, while those receiving a higher wage received a 12½ percent increase in base rate.

In determining the increase in hourly wages it was necessary that this figure be so established as to be sufficient for the employees to continue to live at the same scale as on the 8-hour shift, and it was also necessary to keep in mind the pay-roll cost so as not materially to affect the cost of production. Therefore, the cost of living was considered in connection with this preliminary study, and in announcing the new plan to the employees the results of this investigation were given.

Workers are not changed from one shift to another. They are hired for a particular shift, and ordinarily they stay on this shift. One great advantage of the 6-hour day is that each shift is in one unbroken unit, and that unit is not a long enough period to be a hardship to anyone, day or night.

The 6-hour day was not extended to the office, but was confined to the production, mechanical, and maintenance departments.

Six-Hour Shifts of India Tire & Rubber Co., 1932

AN ACCOUNT of the facts and circumstances incidental to the adoption of the 6-hour shift system by the India Tire & Rubber Co. was furnished to the Bureau of Labor Statistics by the company in 1932.

Although the establishment of the 6-hour shift system in this plant developed from conditions of manufacturing peculiar to certain operations in the industry, it proved so satisfactory from the standpoints of improved production, reduced labor costs, and reduction in absenteeism that it was gradually extended to other departments of the plant.

The plan was first applied in the curing or vulcanizing department of the plant, commonly called the "pit", in the summer of 1931. In this department the work is hot and humid and considerable skill is required. Tire demand is naturally highest in the hot season and full 7-day (24 hours) mold operation is commonly necessary in this department. The attempt to keep the men at work for 8 hours per day 7 days in the week had not proved satisfactory over a period of several years from the standpoint of production and of operating costs. The experiment of introducing one more shift of curing men was therefore tried, with the following results: (1) One-third more workmen were given employment; (2) loss of production was reduced so that at no time did it exceed 5 percent, with many days showing a perfect score; (3) absences, which had been an appreciable factor on the 8-hour basis, declined almost to the vanishing point; (4) the labor cost per unit cured declined 8.2 percent.

The reduction in labor cost was computed by comparing 2 months in which conditions were identical with the exception that in 1 month the work was on a 3-shift basis, and in the other on a 4-shift basis.

After watching this installation for a few months, covering both the busy and slack seasons, it was decided to begin extension of the 4-shift system to other departments of the plant. At the time the report was furnished most of the workmen were on the 6-hour basis, but it had not been applied to salaried employees, although it was said that eventually it would be extended to include everyone.

The direct savings as a result of the extension of the plan are less easy to compute than those of the vulcanizing department because of general rate reductions that had taken place in the preceding 12 months throughout the industry, but it was considered that the savings were at least equal to those secured in the first instance. No upward adjustment of rates was made when the 6-hour shift was installed.

In conclusion it was stated—

We have not attempted to outline the sociological advantages incident to shortened working periods and the employment of men who otherwise would have no work. All of these have been pointed out in other articles. Our experience bears out all of these advantages and the plan, in general, seems entirely sound and workable.

Six-Hour Shifts in Plants of Owens-Illinois Glass Co., 1932

ACCORDING to a press announcement confirmed by a letter from an official of the company, the Owens-Illinois Glass Co. in 1932 changed its daily operating schedule from three 8-hour shifts to four 6-hour shifts per day, in order to provide employment for a larger number of

workers. The hours of salaried workers in plant offices and in the general office remained the same, averaging about 8 hours per day. Several reductions were made in the salaries of these workers, and the hourly employees who were on a wage and production bonus plan had their compensation reduced to correspond to the reduction in the number of hours.

The secretary of the company stated that the change was working out very satisfactorily in that it accomplished what it was intended to do; that is, provided employment for additional workers.

The 5-Day Week in the Government Printing Office

AN ACCOUNT of the results of the adoption of the 5-day week in the Government Printing Office is given in the annual report of the Public Printer for the fiscal year ending June 30, 1932, and the last half of the calendar year 1932.

As authorized by the Economy Act, the 5-day week was put into effect in the Government Printing Office July 2, 1932. From that time until the reconvening of Congress on December 5 the entire office was closed on Saturdays, but with Congress in session it became necessary to rotate the time off for night employees so that an adequate force would be on duty every night except Sunday, and also to maintain a small day force on Saturdays by the same method. The employees in each work group, therefore, were rotated alphabetically for the Saturday work periods during the period that Congress is in session.

As regards the results of the change upon productivity, the report said—

The production records since the 5-day week was put into effect July 2, 1932 show that in 4 months the production of ems per day per employee on actual composition increased approximately 5 percent; that proof-room output of galleys increased about 4 percent per employee; that output of platemaking divisions increased about 10 percent per employee; that the ordinary run of presswork increased about 10 percent per employee; and that in binding division the machine gathering of signatures increased about 7 percent per employee.

Prior to this year the 4-hour work period on Saturday was low in production, while now the 5-full-day week is giving more per 8 hours of work than did the former 5½-day week give per 8 hours of work. It is difficult to prove this exactly, but our best reading of the records generally seems to show a better output when work period is composed entirely of full days.

Report on Proposed 6-Hour Day for Railroad Employees

IN PURSUANCE of a joint resolution (No. 13) of the Seventy-second Congress dated March 15, 1932, the Interstate Commerce Commission on December 6, 1932, published the results of its hearings to determine what would be the effect upon operation, service, and expenses of applying the principle of a 6-hour day in the employment of railway employees.²¹

The Commission construed the term "railway employees" to include not only employees of steam railroads but also those of electric railroads, express companies, and sleeping-car companies. Separate reports and statistics were made for each of these agencies.

In construing the "principle of a 6-hour day", the Commission stated that this expression did not mean limiting each day's actual

²¹ Interstate Commerce Commission. Ex Parte No. 106: Six-Hour Day Investigation. Washington, Dec. 6, 1932. (Mimeographed.)

employment to 6 hours, but that "the number of hours worked per week or per month shall equal the product of the number of work days in the period times six."

In the opinion of the Commission a workweek might represent a total time of 36 hours, divided into 6 days of 6 hours each, or it might be a week of 5 days of 7 hours and 12 minutes each, or any other arrangement mutually satisfactory to both employer and employee.

It was, however, stressed by both parties at the hearings that an actual 6-hour day would be impracticable. The employees were agreed that, in order to avoid losses to the carriers from unproductive time, a week of varying time would be consistent with the principle of a 6-hour day.

The question also was presented whether the Commission would assume a 6-hour day at the existing 8-hour or other basic pay or a 6-hour day at a pro-rata pay. The carriers were convinced that a 6-hour day at the existing basic pay was intended by the resolution. The employees were of the same opinion, believing that the purpose of the short day was to create more employment and to stabilize compensation and hence not lower the standard of living of those now employed. The Commission was of the opinion that the resolution contemplated the establishment of a 6-hour day at the present basic pay; its findings, however, were calculated on both assumptions.

As to the operation and service of the several carriers, the Commission found that the principle of a 6-hour day could be applied, so far as physical conditions are concerned, without any material effect.

The Commission was of the opinion that the adoption of the principle of a 6-hour day in a year of abnormal economic conditions would result in the employment of 60,000 to 100,000 additional employees. In a year such as 1930 it was estimated that between 300,000 and 350,000 additional employees would be required in the event a shorter workweek was adopted.

The extent of the increased expenditure may be best observed by following the findings of the Commission on this item.

(a) Assuming the same volume of traffic and operations as in 1930, and assuming no reduction in the then existing compensation for an 8-hour or other basic day's work, the initial effect would be to increase operating expenses of the carriers collectively, including the express and sleeping-car companies, at the rate of approximately \$630,000,000 per year, or about 14.6 percent of the operating expenses, and approximately 22.2 percent of the pay-roll expenses in 1930. However, the compensation of steam railway, express, and sleeping-car employees was on February 1, 1932, reduced 10 percent by an agreement which expires on January 31, 1933. Various reductions in wages of electric-railway employees have also been made. If the wage reductions are continued, the above estimate of \$630,000,000 would be reduced to something less than \$570,000,000 per year.

(b) Assuming the same volume of traffic and operations as in 1930, and a reduction in the then existing compensation pro rata to the reduction in the basic day's work, and excluding road train and engine service from consideration, for reasons stated in the report, the initial effect would be to decrease operating expenses of the carriers collectively, including the express and sleeping-car companies, at the rate of approximately \$26,000,000 per year, or about 0.6 percent of the operating expenses, and approximately 0.9 percent of the pay-roll expenses in 1930. Allowing for the wage reductions above mentioned, this estimate would be reduced to something less than \$24,500,000 per year.

(c) Using the same percentages of operating expense, and assuming the same volume of traffic and operations as in the 12 months ended with September 1932, the initial effect would be an increase at the rate of approximately \$414,000,000 per year under the first assumption with reference to wages and a decrease at the rate of approximately \$20,000,000 per year under the second assumption. The

estimates of \$414,000,000 and \$20,000,000 above given are probably both somewhat too high, if wage reductions are to be continued.

(d) The increase in expenses at the outset under the first wage assumption would gradually be lessened and the decrease in expenses at the outset under the second wage assumption would gradually be increased as the result of experience with the proposed new arrangement and by technological developments.

The report also pointed out the sharp decline in the number of railroad employees since 1930. Class I railroads²² decreased the average number of their employees from 1,487,839 in 1930 to 1,031,014 in June 1932, and 2 months later a further decline to 980,627 employees was reported. This reduction, it was pointed out, was due partly to the business depression and partly to conditions resulting from increased operating efficiency, technological developments, etc.

The following table from the report shows by years the average number of employees, the revenue ton-miles carried, and the passenger train car-miles.

NUMBER OF EMPLOYEES AND BUSINESS OF CLASS I RAILROADS IN THE UNITED STATES, 1920-31

Year	Average number of employees	Revenue ton-miles	Passenger train car-miles	Year	Average number of employees	Revenue ton-miles	Passenger train car-miles
1920...	2,022,832	410,306,210,000	3,583,449,540	1926...	1,779,275	443,746,487,000	3,836,787,642
1921...	1,659,513	306,840,204,000	3,469,062,198	1927...	1,735,105	428,736,962,000	3,830,557,011
1922...	1,626,834	339,285,348,000	3,414,344,834	1928...	1,656,411	432,915,185,000	3,798,733,331
1923...	1,857,674	412,727,228,000	3,585,263,479	1929...	1,660,850	447,321,561,000	3,857,133,049
1924...	1,751,362	388,415,312,000	3,646,362,908	1930...	1,487,839	383,449,588,000	3,680,136,295
1925...	1,744,311	413,814,261,000	3,746,426,910	1931...	1,258,719	309,224,879,000	3,265,923,496

Legal Restrictions on Hours of Labor of Men in the United States, as of January 1, 1936

EVERY State in the United States has legislation regulating the hours of labor of employees. The most general and accepted is that limiting the working time of minors, although laws relating to hours of labor of women are also now quite general throughout the Union. The regulation of the working hours of men has been slower of development and acceptance because of being subject to constitutional limitations.

The present article shows existing legislation regulating the hours of labor of men and gives a review of the decisions of the United States Supreme Court on the constitutionality of such legislation.

Legislation regulating the hours of labor of men falls into several classifications:

1. Laws declaring the policy of the State as to the number of hours that shall constitute a day's work in the absence of contractual agreement between the parties to the employment contract. As a rule, no penalty is provided. It is doubtful whether penalties, if any, are enforced or damages collected for overtime work.

2. Laws fixing a maximum number of hours for men. These laws are generally not limited to men, but include also women and minors unless they are otherwise provided for by law. These laws usually

²² Having annual operating revenues of \$1,000,000 or more.

have penalty and enforcement provisions. They may be divided into several groups:

(a) Legislation limiting the hours of labor of workmen employed on public works.

(b) Legislation for the protection of the safety and health of the general public, as, for instance, acts covering railroad- and railway-operating employees (including bus, etc., drivers), seamen, and drug clerks.

(c) Legislation limiting the hours of labor of employees in obviously dangerous or unhealthful employments, as in mines, smelters, tunnels, and in certain types of mills.

(d) Legislation limiting the hours of labor in employments less obviously dangerous than in mines, smelters, etc., but in which investigation proves that there is direct correlation between the hours worked and the safety and health of the employees and that the safety and health hazard can be considerably reduced by a limitation in the hours of labor worked.

3. Laws requiring rest periods. These laws may be divided into two classes:

(a) Those prohibiting the employment of men for more than a fixed number of hours within a given period, such as legislation forbidding the employment of railroad- or railway-operating employees more than 10 hours per day in 12 consecutive hours, or 16 consecutive hours in 24, insuring a proper interval for rest, and making it certain that the hour legislation cannot be violated in principle though complied with technically.

(b) Those requiring the hours of labor, usually of females and minors, to be so arranged that a sufficient period or interval be allowed during the course of the 8 hours, or other set period, to enable the employees to eat or rest, or both. This provision is quite common in the laws relating to hours of labor of women.

Constitutionality

LEGISLATION on hours of labor was upheld as a valid exercise of the legislative power to protect the lives, health, and morals of citizens, as early as 1898. Though there was some question of the validity of this legislation following a decision in 1905 holding invalid an hour law for bakeries, the courts now uphold the constitutionality of reasonable hours-of-labor legislation, based upon the theory that the physical well-being of the population is an object of public interest.

The first important decision of the United States Supreme Court involving the constitutionality of such legislation was that of *Holden v. Hardy* (169 U. S. 366), decided in 1898. The opinion of the Court, recognizing the power in the legislature to fix the maximum hours of labor of persons in underground mines or in smelters and ore refineries at 8 hours, has been a landmark in the decisions of the Court and has been freely quoted by the Court in later decisions sustaining legislation furthering the protection of the health, safety, and morals of employees and of the public.

Seven years later, in 1905, the United States Supreme Court was asked to pass on the constitutionality of the New York statute providing that no employees shall be required or permitted to work in

bakeries more than 60 hours a week or more than 10 hours a day. The court held that—

The limitation of the hours of labor as provided for in this section of the statute, * * * has no such direct relation to and no such substantial effect upon the health of the employee, as to justify us in regarding the section as really a health law;

that—

it seems to us that the real object and purpose were simply to regulate the hours of labor between the master and his employees (all being men sui juris) in a private business, not dangerous in any degree to morals or in any real and substantial degree, to the health of the employees;

and that—

under such circumstances the freedom of master and employee to contract with each other in relation to their employment, and in defining the same, cannot be prohibited or interfered with, without violating the Federal Constitution.

Four of the nine Justices taking part in this decision dissented and two dissenting opinions were written. (*Lochner v. New York*, 198 U. S. 45, 64, 65, 74 (1905).)

In 1917 a statute of Oregon limiting the hours of labor of any person, whether man or woman, working in any mill, factory, or manufacturing establishment, to 10 hours a day, with a proviso as to overtime, was upheld as constitutional by the United States Supreme Court. Because of the overtime provisions it was contended that the law was a wage law, but the Court upheld it as a regulation of hours of labor. The Court said that—

It is enough for our decision if the legislation under review was passed in the exercise of an admitted power of Government; and that it is not as complete as it might be, not as rigid in its prohibitions as it might be, gives perhaps evasion too much play, is lighter in its penalties than it might be, is no impeachment of its legality. This may be a blemish, giving opportunity for criticism and difference in characterization, but the constitutional validity of legislation cannot be determined by the degree of exactness of its provisions or remedies. New policies are usually tentative in their beginnings, advance in firmness as they advance in acceptance. They do not at a particular moment of time spring full-perfect in extent or means from the legislative brain. Time may be necessary to fashion them to precedent customs and conditions and as they justify themselves or otherwise they pass from militancy to triumph or from question to repeal.

Our judgment of it is, that it does not transcend constitutional limits. (*Bunting v. Oregon*, 243 U. S. 426, 438 (1917).)

Three of the nine Justices dissented. Mr. Justice Brandeis took no part in the decision of the case.

The opinion in the *Bunting case* did not mention the *Lochner case*. Mr. Chief Justice Taft, in *Adkins v. Children's Hospital* (261 U. S. 525, 564 (1923)), states that—

No one can suggest any constitutional distinction between employment in a bakery and one in any other kind of a manufacturing establishment which should make a limit of hours in the one invalid, and the same limit in the other permissible.

and—

It is impossible for me to reconcile the *Bunting case* and the *Lochner case* and I have always supposed that the *Lochner case* was thus overruled sub silentio.

Mr. Justice Holmes, in the *Adkins case*, said that he had supposed that the *Lochner case* "would be allowed a deserved repose."

Various State laws regulating the hours of labor in private employments have been challenged in the State and Federal courts. Some

decisions have followed the decision in the *Bunting* case and others have been based upon the *Lochner* case. (See *Meyer v. Nebraska*, 262 U. S. 390; *Adair v. United States*, 208 U. S. 161; *Adkins v. Children's Hospital*, 261 U. S. 525; *Miller v. Wilson*, 236 U. S. 373; *State v. Henry*, 25 Pac. (2d) (204).)

Legislation regulating hours of labor of railroad employees has been passed in several States but has not been included in this study, as Congress has passed legislation regulating the hours of labor of certain railroad employees. In *Erie Railroad Co. v. New York* (233 U. S. 671 (1914)) the United States Supreme Court held a State law of this kind unconstitutional because it conflicted with the Federal law. The Supreme Court said that "where there is a conflict the State legislation must give way", and "when Congress acts in such a way as to manifest its purpose to exercise its constitutional authority the regulating power of the State ceases to exist." (See also *Northern Pacific Railway v. Washington*, 222 U. S. 370 (1912).)

Public Works

THE State and the Federal Government may fix the hours of labor of persons employed by them. Early attempts to pass 8-hour laws for public employees were looked upon as in the nature of a direction from a principal to his agent that 8 hours be deemed to be a proper length of time for a day's work, and that contracts should be based upon that theory, but that the law did not necessarily provide that the employer and the laborer may not agree with each other as to what time should constitute a day's work independent of the statute. This attitude was taken in the case of *United States v. Martin*, 94 U. S. 400 (1876). This decision made it evident that, to be effective, the statutes must be mandatory and provide penalties for violations. Such statutes were passed and extended to include contractors and subcontractors engaged in the construction of public works for the State or one of its governmental subdivisions. The constitutional power of the States to pass such statutes was immediately questioned in the courts. A test case arose in Kansas which went to the Supreme Court of the United States, where the statute was upheld, in the year 1903, as a constitutional exercise of power. The court said that it could "imagine no possible ground to dispute the power of the State to declare that no one undertaking work for it or for one of its municipal agencies should permit or require an employee on such work to labor in excess of 8 hours each day, and to inflict punishment upon those who are embraced by such regulations and yet disregard them. It cannot be deemed a part of the liberty of any contractor that he be allowed to do public work in any mode he may choose to adopt, without regard to the wishes of the State. On the contrary, it belongs to the State, as the guardian and trustee for its people, and having control of its affairs, to prescribe the conditions upon which it will permit public work to be done on its behalf, or on behalf of its municipalities." The court rested its decision "upon the broad ground that the work being of a public character, absolutely under the control of the State and its municipal agents acting by its authority, it is for the State to prescribe the conditions under which it will permit work of that kind to be done." (*Atkin v. Kansas*, 191 U. S. 207, 222, 224 (1903).) This decision removed all doubts regarding the

constitutionality of laws regulating the hours of labor in public employment.

The 30-hour week, "so far as practicable and feasible", was required in the Emergency Relief and Construction Act of 1932, and in title 2 of the National Industrial Recovery Act in an attempt to relieve the unemployment situation. These laws are cited as a part of U. S. Code, 1934, but under the provisions of section 6 of the Emergency Relief Appropriation Act of 1935 (Public Res. No. 11, of the 74th Congress) the President prescribes rules and regulations to carry out the resolution. In actual practice the hours vary on different projects but they may not exceed 8 per day or 140 per month.

Hours of labor on public works as of January, 1, 1936.

- Alaska.—Comp. L. 1933, sec. 2134.
 Arizona.—Rev. Code 1928, sec. 1350 (reenacted 1933, ch. 12).
 California.—Penal Code 1931, sec. 653C-1 (as amended 1933, ch. 632); also Deering's Pol. Code 1931, sec. 3245.
 Colorado.—Comp. L. 1921, sec. 4175.
 Delaware.—(City of Wilmington) Rev. Codes 1915, secs. 2159 and 2160.
 District of Columbia.—U. S. Code 1934, title 40, sec. 321.
 Hawaii.—Rev. L. 1935, sec. 89.
 Idaho.—Code 1932, sec. 43-701.
 Illinois.—Code 1931, ch. 48, sec. 39a, Acts of 1933, p. 221, sec. 2.
 Indiana.—Burn's Stats. 1926, secs. 9366, 9367.
 Kansas.—Rev. Stats. 1923, sec. 44-203; Supp. (1931) to Rev. Stats., sec. 44-201.
 Kentucky.—Carroll's Stats. 1930, sec. 2290b-1.
 Louisiana.—Dart's Gen. Stats., 1932, sec. 5666.
 Maryland.—(Baltimore City) Code Pub. Loc. L. 1930, art. 4, sec. 516. (City of Cumberland) art. 1A, secs. 102, 102A (as amended 1933, ex. sess., ch. 54; 1935, ch. 19).
 Massachusetts.—Gen. L. 1932, ch. 149, secs. 30, 31.
 Minnesota.—Mason's Stats. 1927, secs. 4088, 4089.
 Missouri.—Rev. Stats. 1929, sec. 6712.
 Montana.—Rev. Code 1921, secs. 1962, 3079 (as amended 1929, ch. 116), 5512.
 Nevada.—Comp. L. 1929, secs. 6170 (as amended 1935, ch. 32), 10460.
 New Jersey.—Cum. Supp. (1911-24) to Comp. Stats. 1910, secs. 107-78a, 107-78d (as amended 1932, ch. 230); Acts of 1935, ch. 243.
 New Mexico.—Acts of 1933, ch. 145.
 New York.—Cahill's Consol. L. 1930, ch. 32, sec. 220 (as amended 1931, ch. 785; 1933, ch. 20; 1934, ch. 37; 1935, chs. 14, 15, and 684); sec. 225 (as amended 1935, ch. 728).
 Ohio.—Code 1932, secs. 17-1 (see supp. in back of Code).
 Oklahoma.—Stats. 1931, secs. 10872, 10873.
 Oregon.—Code 1930, sec. 49-704 (as amended 1931, ch. 330; 1935, ch. 206).
 Pennsylvania.—Stats. 1920, sec. 18270.
 Puerto Rico.—Rev. Stats. 1911, sec. 1657; also Acts 1913, ch. 140; U. S. Code 1926, title 48, sec. 737.
 Texas.—Rev. Stats. 1925, art. 5165.
 Utah.—Rev. Stats. 1933, sec. 49-3-1; Acts of 1933, chs. 23 (2d ex. sess.), 39.
 Washington.—Rem. Rev. Stats. 1931, secs. 7642, 9044.
 West Virginia.—Code 1931, ch. 21, art. 4, sec. 2.
 Wisconsin.—Stats. 1931, sec. 103.41.
 Wyoming.—Rev. Stats. 1931, sec. 63-101.
 United States.—U. S. Code 1934, title 40, secs. 321 and 406; title 15, sec. 605 b (6).

Private Employment

The legal restrictions on the hours of labor of men in private employment, as of January 1, 1936, are presented in table 1. No attempt has been made to include either the rules and regulations of State labor departments, which in some States have the force and effect of law, or the legislation limiting the hours of bus and truck drivers, the latter subject being covered in table 2.

TABLE 1.—STATE AND TERRITORIAL RESTRICTIONS ON HOURS OF LABOR OF MEN IN PRIVATE EMPLOYMENT

Jurisdiction	Maximum hours		Occupations or industries covered	Citation
	Daily	Week-ly		
Alaska.....	8		Underground mines.....	Comp. L., 1933, sec. 2132.
Arizona.....	8		Certain employees in mines and smelters.....	Rev. Code, 1928, sec. 1354.
	8		Mines, smelters, reduction works, stamp mills, concentrating mills, chlorinating processes, cyanide processes, cement works, rolling mills, rod mills, coke ovens, blast furnaces.	Idem, sec. 1356.
	8		Certain employees in electric light and power plants.	Idem, sec. 1357.
	8	48	Laundry employees.....	Idem, sec. 1358.
Arkansas.....	16		Certain railroad employees ¹	Idem, sec. 4707.
	8		Railroad telegraph and telephone operators.....	Digest, 1921, sec. 7080.
	10		Sawmills and planing mills.....	Idem, secs. 7082, 7083, 7084.
California.....	8		Underground workings, mines, smelters, etc.....	Deering's Gen. L. 1931, Act. No. 4933, sec. 1.
	9	(²)	Drug clerks.....	Idem, Act No. 5887, secs. 1 and 2.
	16		Certain railway employees.....	Idem, Act No. 6479, sec. 1.
	³ 13		Telegraph or telephone dispatchers of trains.....	Idem, Act No. 6479, sec. 1.
	12		Employees on street cars.....	Deering's Pol. Code, 1931, sec. 3246.
Colorado.....	8		Underground workings and mines, smelters, reduction works, stamp mills, concentrating mills, chlorination processes, cyanide processes, and coke ovens.	Comp. L., 1921, sec. 4173.
	8		Cement and plaster manufacturing plants.....	Acts of 1927, ch. 87.
Connecticut.....	8		Railway telegraph or telephone operators and train dispatchers.	Gen. Stat., 1930, sec. 3748.
Florida.....	13		Employees operating trains.....	Comp. Gen. L., 1927, sec. 6595.
Georgia.....	10	60	Cotton and woolen manufacture, except engineers, firemen, watchmen, mechanics, teamsters, yard employees, clerical forces, cleaners, repairmen.	Code, 1933, sec. 54-201.
	13		Certain railroad employees.....	Idem, sec. 18-106.
Idaho.....	8		Underground workings and mines, smelters, ore-reduction works, stamp mills, concentrators, and other ore-refining establishments.	Code, 1932, secs. 43-704 (as amended 1935, ch. 74) to 43-706.
Indiana.....	16		Certain railroad employees.....	Burn's Ann. Stat., 1926, sec. 13061.
Iowa.....	16		Railroad employees.....	Code, 1931, sec. 7984.
Kansas.....	8		Lead and zinc mines.....	Rev. Stat., 1923, secs. 49-282, 49-283.
Louisiana.....	⁴ 10		Employees of street railroads.....	Dart's Gen. Stat., 1932, sec. 8173.
	⁵ 8		Compressed air.....	Acts of 1934, no. 71.
Maine.....	⁶ 8		do.....	Acts of 1931, ch. 164.
Maryland.....	8		Railway telegraph or telephone operators.....	Ann. Code, 1924, art. 23, sec. 260.
	10		Cotton and woolen mills.....	Idem, art. 100, sec. 1.
	10		Employees in tobacco warehouses in Baltimore ⁶	Idem, art. 48, sec. 15.
	10		Employees in mines of Allegany and Garrett Counties.	Public Local Laws of Md., 1930 (Garrett County), sec. 390, p. 2821.
Massachusetts.....	⁷ 9 in 11		Certain street- or elevated-railway employees.....	Gen. L., 1932, ch. 161, sec. 103.

¹ It is declared to be a misdemeanor to require a railroad employee who has worked 16 consecutive hours to go on duty again before he has had at least 9 hours' rest.

² 108 hours in any 2 consecutive weeks; employee must have 1 complete day's rest in 1 of such weeks and 2 half-day rest periods in the other week.

³ In towers operated only during day; maximum, 9 hours in towers operated night and day.

⁴ To fall within 12 consecutive hours.

⁵ Schedule prescribed, limiting hours in ratio to air pressure.

⁶ Hours are limited to from 7 a. m. until noon and from 1 p. m. until 6 p. m.

⁷ Consecutive hours.

TABLE 1.—STATE AND TERRITORIAL RESTRICTIONS ON HOURS OF LABOR OF MEN IN PRIVATE EMPLOYMENT—Continued

Jurisdiction	Maximum hours		Occupations or industries covered	Citation
	Daily	Week-ly		
Michigan.....	7 10 in 12		Operators of steam, surface, and elevated railroads.	Comp. L., 1929, sec. 8492.
Minnesota.....	7 16	(⁶)	Motormen or conductors of street cars..... Certain railway employees.....	Idem, sec. 8495. Mason's Stat., 1927, sec. 4092. Idem, sec. 4091.
Mississippi.....	14	80	Locomotive engineers and firemen.....	Code, 1930, sec. 4646.
Missouri.....	10		Mill, cannery, workshop, factory, or manufacturing establishment.	Rev. Stat., 1929, secs. 13206, 13208, 13622.
Montana.....	8		Mining, mechanical, chemical, manufacturing or smelting, plate-glass manufacturing.	Idem, sec. 4851.
	9		Operators in interlocking towers.....	Rev. Code, 1921, secs. 3068, 3071, 3072, 3073 (as amended by Acts of 1929, ch. 116).
	8		Hoisting engineers, underground mines or tunnels, stamp mills, concentrators or smelters for treatment of ores.	Idem, sec. 3074.
	9		Telephone switchboards in cities with population of 3,000 or over.	Idem, sec. 3081.
	16 in 24		Certain railroad employees.....	Acts of 1933, ch. 76, sec. 2.
	8		Strip mining.....	Idem, ch. 77, sec. 1.
	8		Cement plants, quarries, and hydroelectric dams.	Idem, ch. 90, sec. 1.
	8		Sugar refineries.....	Acts of 1933-34, ch. 8.
Nebraska.....	7 16		Retail stores..... Certain common carriers.....	Comp. Stat., 1929, sec. 74-902.
Nevada.....	8 13		Telegraph or telephone dispatchers of trains.....	Idem, sec. 74-902.
	8		Underground mines or workings of any kind; all workmen working around surface of such mines, in smelters, open mines, plaster and cement works.	Comp. L., 1929, secs. 2794, 10238, 10240, 10242.
	7 16		Employees of common carriers.....	Idem, sec. 6335.
	8		Telephone or telegraph operators and all other persons dispatching trains.	Idem, sec. 6338.
New Jersey.....	7 12		Certain street-railway employees.....	Comp. Stat., 1910, p. 8008, sec. 57.
	8		Compressed air.....	Comp. Stat. Supp., 1911-24, sec. 107-140A (10).
New Mexico.....	16		Certain railroad employees.....	Stat., 1929, sec. 116-724.
New York.....	8		Compressed air.....	Cahill's Consol. L., 1930, ch. 32, sec. 430.
		9 70	Apprentices or employees in pharmacies or drug stores.....	Idem, ch. 15, sec. 1357.
		10	Brickyards.....	Idem, ch. 32, sec. 163.
		10	Street surface or elevated railroads.....	Idem, ch. 32, sec. 164.
		7 16	Steam or other railroads.....	Idem, ch. 32, sec. 165.
		8	Signalmen on railroads.....	Idem, ch. 32, sec. 166.
North Carolina..	16		Certain employees of common carriers.....	Consol. Stat., 1924, p. 7, sec. 6565.
North Dakota....	8 13		Telegraph or telephone train dispatchers.....	Do.
	7 16		Any railroad corporation or common carrier.....	Comp. L., 1913, sec. 4668.
	8		Coal mines or open-pit mines.....	Supp. (1925) to Comp. L., 1913 sec. 3084.88
Ohio.....	8		Mechanical, manufacturing, or mining business.	Page's Gen. Code, 1932, sec. 6241.
Oklahoma.....	15		Certain railway or street-railway employees.....	Idem, sec. 9007.
	8		In or about all coal mines.....	Stat., 1931, sec. 11112.

² In towers operated only during day; maximum, 9 hours in towers operated night and day.

³ Schedule prescribed, limiting hours in ratio to air pressure.

⁷ Consecutive hours.

⁸ Prohibits working more than 6 days in any consecutive 7 days of 24 hours each.

⁹ Hours to be so arranged that employee shall receive 1 afternoon and evening off in each week, and also 1 full day off in 2 consecutive weeks.

TABLE 1.—STATE AND TERRITORIAL RESTRICTIONS ON HOURS OF LABOR OF MEN IN PRIVATE EMPLOYMENT—Continued

Jurisdiction	Maximum hours		Occupations or industries covered	Citation
	Daily	Week-ly		
Oregon.....	10		Mill, factory, or manufacturing establishments..	Code, 1930, sec. 49-602.
	8	48	Sawmills, planing mills, shingle mills, and logging camps.	Idem, sec. 49-601.
	8		Underground mines.....	Idem, sec. 49-604.
	⁷ 14		Common-carrier.....	Idem, sec. 62-1602.
Pennsylvania....	¹⁰ 9		Telegraph operators or train dispatchers responsible for train movements.	Do.
	⁷ 10		Conductor, engineer, fireman, brakeman, or flagman on steam railroad.	Code, 1930, sec. 62-1605.
	⁸ 8		Compressed air.....	West's Stat., 1920, sec. 5433.
	12		Certain street-railway employees.....	Idem, sec. 6215.
Puerto Rico.....	8		Mine hoisting engineers.....	Idem, sec. 15251.
	12		Certain railroad employees.....	Rev. Stat., 1911, sec. 1663.
Rhode Island....	8		Employees in commercial, industrial, or agricultural establishments.	Acts of 1935 (spec. sess.), no. 49.
	10		Certain street-railway employees.....	Gen. L., 1923, sec. 3661.
South Carolina..	10	55	Cotton and woolen mills.....	Code, 1932, sec. 1466.
	12		Certain street-railway employees.....	Idem, sec. 1479.
	10		Interurban railway employees.....	Idem, sec. 1480.
Texas.....	⁷ 16		Certain railroad employees.....	Rev. Civil Stat., 1925, art. 6390.
Utah.....	8		Underground workings and mines, smelters and other institutions for the reduction of ores.	Rev. Stats. 1933, sec. 49-3-2.
Washington.....	10		Certain street-railway employees.....	Rem. Rev. Stat., 1931, sec. 7648.
	8		Coal mines.....	Idem, sec. 7654.
	10		Those employed in transporting men in and out of mines.	Idem, sec. 7656.
West Virginia...	8		Telephone or telegraph operators on railroads...	Code, 1931, ch. 21, art. 4, sec. 1.
Wyoming.....	8		Underground mines, smelters, stamp mills, sampling works, concentration plants and all other plants for reduction or refining of ores and metals.	Rev. Stat., 1931, secs. 63-103, 63-104.
United States....	8		Underground workers on leased mineral lands of the United States.	U. S. Code, 1934, title 30, sec. 187.
	¹¹ 16		Persons engaged in or connected with the operation of trains in the District of Columbia or in interstate commerce.	Idem, title 45, sec. 62.
	³ 13		Telegraph operators and train dispatchers.....	Idem, title 45, sec. 62.
	¹² 8		Railroad operating employees.....	Idem, title 45, sec. 65.
	¹³ 9	}	Deck officers on vessels.....	Idem, title 46, sec. 235.
	¹⁴ 12			
	¹⁵ 9			
¹⁶ 8		Seamen.....	Idem, title 46, sec. 673.	
¹⁵ 12				

³ In towers operated only during day; maximum, 9 hours in towers operated night and day.

⁸ Schedule prescribed, limiting hours in ratio to air pressure.

⁷ Consecutive hours.

¹⁰ In a 24-hour period, in towers, etc., operated only in the daytime. In an emergency, may work 4 additional hours 3 days per week.

¹¹ Maximum hours permitted. After 16 consecutive hours of work, 10 consecutive hours off is required, but after 16 hours of work in an aggregate of 24 hours, then 8 consecutive hours off duty.

¹² 8 hours is used as a standard in computing the wages of the employee.

¹³ While in port.

¹⁴ While at sea; immediately after leaving port no duty, unless officer had 8 hours off duty within the 12 hours immediately preceding time of sailing.

¹⁵ While in safe harbor, no seaman shall be required to do any unnecessary work on Sunday or on certain legal holidays. While at sea, sailors shall be divided into 2 watches, and firemen, oilers, and water tenders into 3 watches.

Motorbus drivers.—Table 2 shows the maximum hours of labor (continuous and noncontinuous) permitted for drivers, and the number of hours of rest required before an operator may resume his duties. It shows also the regulatory agency in each State which has a law or regulation limiting the hours of labor of motorbus, etc., drivers, and whether it is limited to the transportation of persons or property or both.

TABLE 2.—RESTRICTIONS ON HOURS OF LABOR OF MOTORBUS, ETC., OPERATORS, MADE BY LAW OR REGULATION

State	Continuous labor		Noncontinuous labor		Regulation covers transportation of—	Regulating agency
	Maximum hours	Hours of rest before resuming duty	Maximum hours	Required hours of rest		
Ala.	8	8	8 in 12	8	Passengers and property	Public service commission.
Ariz.	10	8	10 in 24	8	do.	Corporation commission.
Ark.	12	8			do.	Railroad commission.
Calif.			10 in 15	9	do. ¹	Do.
	10	8	10 in 15	8	Passengers	Do.
	12	8	12 in 15	8	Property	Do.
Colo.			10 in 24	8	Passengers and property	Public utilities commission.
Conn.	12	8	16 in 24	² 10	do.	Commissioner of motor vehicles.
Del. ³	10	8	10 in 24	8	do.	State highway department.
D. C.	12	8			Passengers	Public utilities commission.
Fla.	⁴ 12	8			Passengers and property	Railroad commission.
Ga.	10	10	14 in 24		do.	Public service commission.
Idaho.	8		10 in 24		do.	Public utilities commission.
Ill.	10	8	10 in 16	8	do.	Do.
Ind.	8		⁶ 16 in 24		do.	Public service commission.
Iowa.	12 in 24	10	12 in 24	8	do.	Board of railroad commissioners.
Kans.	12 in 24		⁵ 14 in 24		do.	Do.
Ky.	12	8	⁶ 16 in 24	10	do.	Commission of motor transportation.
Maine.	12	8	⁶ 16 in 24	10	Property	Public utilities commission.
Mass.	12	8	⁷ 16 in 24	10	do.	Department of public utilities.
	10 in 16				Passengers	Do.
Mich.	14	10	14 in 24	8	Passengers and property	Public utilities commission.
Minn.	12				Property	Railroad and warehouse commission.
Miss.	12 in 24		16 in 24		Passengers and property	Railroad commission.
Mo.			10 in 20	(⁸)	do.	Public service commission.
Mont.			8 in 24	12	Passengers	Board of railroad commissioners.
			10 in 24	8	Passengers and property	Do.
Nebr.			12 in 24		do.	Railway commission.
Nev.	12 in 24	8	12 in 15	8	do.	Public service commission.
N. H.	12	8	16 in 24	² 10	Property	Do.
N. J.	12 in 16	8		(²)	Passengers and property	
N. Mex.	10	8	16 in 24	(⁷)	Property	State corporation commission.
N. Y.	10	8			Passengers and property	Public service commission.
N. C.	7	1	14 in 24	(⁶)	do.	Corporation commission.
N. Dak.	10 in 24	10	10 in 24	10	do.	Board of railroad commissioners.

^{*} Where passenger vehicles are operated in cities of the State, or suburban areas of the same, the aggregate hours shall not exceed 8½ in any 24-hour period.

¹ Any motor vehicles transporting persons or property as a common carrier.

² Periods of release from duty must be at such places and under such circumstances that rest and relaxation from the strain of the duties of employment may be obtained.

³ Drivers who have driven more than the given hours are liable to suspension of license because believed to be incompetent or physically disabled drivers.

⁴ Period of not less than 4 consecutive hours off duty during any 12-hour period shall not be counted as a part of any such 12-hour period.

⁵ A rest period of 2 hours during such period required.

⁶ Periods off duty must be for at least 3 consecutive hours to break continuity of service.

⁷ Periods of release from duty must be at such places and under such circumstances that rest and relaxation from the strain of the duties of employment may be obtained; periods off duty must be for at least 3 consecutive hours to break continuity of service.

⁸ Permitted to have at least 4 days off duty each month.

⁹ Rest period of not less than 9 hours required at end of two 7-hour or fraction thereof periods on duty, with 1-hour rest period intervening.

TABLE 2.—RESTRICTIONS ON HOURS OF LABOR OF MOTORBUS, ETC., OPERATORS, MADE BY LAW OR REGULATION—Continued

State	Continuous labor		Noncontinuous labor		Regulation covers transportation of—	Regulating agency
	Maximum hours	Hours of rest before resuming duty	Maximum hours	Required hours of rest		
Ohio.....	14	8	14 in 24	¹⁰ 8	Property.....	Public utilities commission.
Okla.....	14	10			do.....	Corporation commission.
Oreg.....	12	10	12 in 24	10	do.....	Public utilities commission.
R. I.....	12	8	16 in 24	10	Passengers	Do.
S. C.....			¹¹ 10 in 24	8 in 24	Passengers and property	Railroad commission.
S. Dak.....	12	12	12 in 24	⁷ 8	do.....	Board of railroad commissioners.
Tenn.....			¹² 11 in 24	8	Passengers	Railroad and public utilities commission.
Tex.....	14	8	14 in 24	8	Property.....	Railroad commission.
Utah.....	8		¹³ 10 in 24		Passengers and property	Public utilities commission.
Va.....			8	10 in 24	do.....	State corporation commission.
Wash.....	10	8	10 in 24	8	do.....	Department of public works.
Wis.....	12	10	12 in 24	8	do.....	Public service commission.
Wyo.....	10	8	14 in 24	10	do.....	Do.

⁷ Periods of release from duty must be at such places and under such circumstances that rest and relaxation from the strain of the duties of employment may be obtained; periods off duty must be for at least 3 consecutive hours to break continuity of service.

¹⁰ Operating a bus more than 250 miles in a 24-hour period or more than 1,500 miles in 1 week, without adequate rest stops, is forbidden.

¹¹ Also limited to 55 hours in any 7 consecutive days.

¹² Or 63 driving hours in any 7-day period.

¹³ May be spread over a total of 15 hours in any one 24-hour period, where time between runs is sufficient to permit of relaxation.

Collection of Wage Claims by State Labor Offices

THE collection of wage claims by State labor offices was investigated by the United States Bureau of Labor Statistics in 1920, 1926, 1929, and 1932. Twenty States (including Philippine Islands and Puerto Rico) reported handling 69,921 claims in 1932, and the total amount collected was \$1,445,544. California, which has a very effective law, settled the largest number of claims (16,517) and collected the largest amount of money (\$775,254), and New York came next with 7,332 cases settled and collections amounting to \$202,638.

The claims handled and settled and the amounts collected in 1932 and the previous years for which the Bureau has data are shown in the following table.

WAGES AND HOURS OF LABOR

WAGE CLAIMS SETTLED AND AMOUNTS COLLECTED, 1920, 1926, 1929, AND 1932,
REPORTED BY STATE LABOR OFFICES

State labor office of—	Number of wage claims							
	1920		1926		1929 ¹		1932 ²	
	Claims sub- mitted or handled	Claims settled	Claims sub- mitted or handled	Claims settled	Claims sub- mitted or handled	Claims settled	Claims sub- mitted or handled	Claims settled
Arizona.....	(3)	(3)	236	110	642	276	2,450	1,127
Arkansas.....			297	146	404	208	322	158
California.....	7,603	5,362	27,813	16,121	28,419	17,966	35,400	16,517
Colorado.....	1,300	915	961	525	827	471	1,116	541
Massachusetts.....	733	344	1,947	1,947	2,501	1,688	4 2,405	5 1,675
Minnesota.....							6 256	6 102
Nevada.....	77	60	201	76	224	192	833	488
New Jersey.....	7	6	590	350	1,783	1,160	2,805	5 753
New York.....	251	221	1,796	1,005	2,860	2,242	9,591	7,332
Oklahoma.....	1,326	1,193	188	7 32	239		203	
Oregon.....	1,440	572	1,049	436	1,466	488	1,334	762
Puerto Rico.....	217	77	542	222	1,373	842	2,195	1,260
Texas.....			73	18		405	1,071	782
Utah.....			245	245	617	286	606	280
Washington.....	1,590	1,401	2,122	1,170	3,731	1,410	1,973	974
Wisconsin.....							8 2,197	944
Wyoming.....	487	373		174	219	157	(9)	(9)

State labor office of—	Amounts collected							
	1920		1926		1929 ¹		1932 ²	
	Total	Average per claim settled	Total	Average per claim settled	Total	Average per claim settled	Total	Average per claim settled
Arizona.....	(3)	(3)	\$1,866	\$16.96	\$14,096	\$51.07	\$56,516	\$50.15
Arkansas.....			4,021	27.54	4,829	23.22	3,578	22.65
California.....	\$206,389	\$38.49	10 976,368	10 60.57	1,051,925	58.55	775,254	46.94
Colorado.....	33,642	36.77	13,896	26.47	10,821	22.97	12,063	22.30
Massachusetts.....	5,749	16.71	28,705	14.74	54,629	32.36	49,768	11 29.71
Minnesota.....							1,380	13.53
Nevada.....	7,500	125.00	12,784	168.21	11,746	61.18	26,947	55.22
New Jersey.....	90	15.00	10,863	11 31.04	24,252	20.91	29,458	11 39.12
New York.....			31,169	31.01	57,969	25.86	202,638	27.63
Oklahoma.....	24,850	20.83	7 3,120	7 97.49	10,490	1,839	(12)	
Oregon.....	23,781	41.58	20,147	46.16	16,392	33.59	24,293	31.88
Puerto Rico.....	1,254	16.29	12,052	22.24	14,459	17.17	16,569	13.15
Texas.....					32,257	79.65	90,202	115.35
Utah.....			12,877	50.52	13,206	46.17	18,014	64.34
Washington.....	87,873	67.72	73,534	62.89	67,290	47.72	45,244	46.45
Wisconsin.....							35,276	37.37
Wyoming.....	15,204	40.76	8,594	49.39	5,748	36.61	(9)	(9)

¹ Fiscal or calendar year. Arkansas, Maine, and Puerto Rico, however, reported for fiscal year 1929-30 and Utah for 1927-28.

² Fiscal or calendar year, the latter in the majority of cases. Nevada report covers 18 months. Texas figure is an average based on biennial record.

³ No department of labor in 1920.

⁴ Claims investigated.

⁵ Claims paid.

⁶ Claims of women and minor males, exclusive of claims under minimum wage law.

⁷ Not including cases handled by telephone.

⁸ Includes some claims other than those for wages.

⁹ Not known.

¹⁰ Includes also amounts collected in part payment of claims still pending.

¹¹ Based on claims paid.

¹² Not reported.

In addition to the statistics in the preceding table the following data for 1932 were furnished by the labor offices indicated. The Connecticut Department of Labor handled 393 cases involving claims amounting to \$32,488. The labor department of the Kansas Industrial Commission handled 94 claims and collected \$3,736. The number of claims submitted to the Michigan Department of Labor and Industry was 3,758 and the amount of wages collected \$32,308. The New Mexico State Labor and Industrial Commission collected \$13,032²³ in wages, but did not report on the number of claims handled or settled. The Philippine Bureau of Labor reported, for the calendar year 1932, 919 wage claims handled of which 368 were settled in favor of the workers, the amount collected being 14,858 pesos (\$7,429).

The Department of Labor of Illinois reported that wage claims coming to its attention are referred to private legal aid associations. The Iowa Bureau of Labor stated that it has no authority for the collection of wage claims but has made a practice of advising claimants, and daily directs cases to the Des Moines municipal court, which functions as a small claims court; in cases outside the city each claimant is instructed as to his rights and the methods to follow. The Louisiana Department of Labor and Industrial Statistics appeals to employers to adjust claims and when unsuccessful refers cases to some attorney or member of the legal aid society or lets the claimant select his own lawyer. The Nebraska Department of Labor uses moral suasion to get employers to meet obligations to their workers.

Wage claims are sometimes collected by the Department of Labor of Tennessee, but no data were supplied as to work done along this line in 1932.

The replies from the labor offices of the following States indicated that no wage claims were handled by them in the fiscal or calendar year 1932: Florida, Georgia, Indiana, Kentucky, Maine, Maryland, Mississippi, Montana, New Hampshire, North Carolina, North Dakota, Ohio, Rhode Island, South Carolina, South Dakota, Vermont, Virginia, and West Virginia. While some wage claims were formerly handled by the Maine Department of Labor and Industry, the attorney general has ruled that wages cannot be collected under the law providing for the weekly payment of wages. For the past 3 years the Montana Department of Agriculture, Labor, and Industry has received hundreds of wage claims, all of which it was compelled to turn aside because under the State labor laws it was powerless to render any assistance whatsoever.

The Labor and Industrial Inspection Department of Missouri was not able to report on the subject as that office was in process of reorganization under a new administration. The Labor Commission of Delaware did not answer the inquiry of the United States Bureau of Labor Statistics, but the duties of that commission have to do mainly with the protection of woman and child workers.

While no direct report was received from the Pennsylvania Department of Labor and Industry, in the November 1932 issue of Labor and Industry, monthly bulletin of that department, it is stated that workers who had not been paid wages due them had been deluging the department with complaints. "In the first part of 1932 these claims were at the rate of \$114,600 a year. In the latter part of this

²³ Not clear whether 1932 was the year covered.

year they are coming in at the rate of \$300,000 a year." According to the same source, the only effective procedure for unpaid workers in Pennsylvania is to enter civil suit; in most of the cases submitted to the department, however, the wage claimants have not enough money to do this.

No questionnaire was sent to Alabama, Alaska, Hawaii, and Idaho, as the character or status of their present State offices indicates that they are not engaged in the special activity covered by the study.

Establishment of Wage-Collection Division in New Jersey Department of Labor

BY THE provisions of chapter 91, Acts of 1934, New Jersey established a wage-collection division in the department of labor. Prior to the enactment of this law the New Jersey Department of Labor had somewhat limited authority to assist wage earners in the collection of their claims, by an act of 1899 (ch. 38), subsequently amended by chapter 249, Acts of 1932. The new law extends greater power to the labor department to hear and determine controversies pertaining to wages. In the investigation of any claims for wages the commissioner of labor may summon the offending employer in all cases involving \$200 or less, and he may subpoena witnesses, administer oaths, take testimony, and after a hearing, must make known his decision. Upon filing a certified copy of the award with the court of common pleas in the county in which the defendant resides, the award shall become a judgment and have the same effect as judgments in suits heard and determined by courts of competent jurisdiction.

Any employee to whom wages are due and unpaid may file a claim in the wage-collection division of the State department of labor. The same is entered on a wage-collection docket maintained by the department, and thereupon this department must issue a summons to the defendant informing him of the time, place, etc., of the hearing, which shall be conducted by the commissioner of labor in a summary manner. Legal process of the wage-collection division is operative in every section of the State and may be served by either a constable or a process server of the department of labor. Either party may appeal from a judgment of the department to the county court of common pleas within 20 days, but such appeal is granted at the pleasure of the department of labor only upon certain terms.

In the appeals court new evidence may be adduced and the hearing shall be conducted in a summary manner without a jury. A claimant, however, may bring an action in a law court and stand trial by jury upon payment of the required jury fees. No other fees are permitted under the law, except however, that certain taxed costs of service, etc., according to the table of court costs, may be charged.

Wage-Payment Plans in Connecticut Factories

A STUDY of methods of wage payment in use in Connecticut factories was made in December 1929, by members of the economics department of Yale University. The results of the study

were given in an article in *Factory and Industrial Management* (Chicago) for March 1931.

The survey disclosed a definite trend toward the basing of wages on output. Data furnished by 132 firms employing over 88,000 workers, or more than one-fourth of the total number of industrially employed persons in the State, showed that 52 percent of these workers were paid on some kind of an output basis. Of the total, 37.5 percent were paid piece rates and 14.5 percent were working under some form of incentive system, the remainder (48 percent) being on day rates. Straight time was the exclusive basis of payment in only 13 plants. Of 104 plants replying to the question as to the use of incentive plans, 25 reported an increase in number of workers under such plans; 4, a decrease; and 75, no change. A large percentage of the reporting plants used some method of time study or job analysis in setting wage rates.

Table 1 shows the number and percent of employees who were working on piece or day rates or under incentive systems in the industries represented by the 132 firms mentioned above.

TABLE 1.—NUMBER AND PERCENT OF EMPLOYEES IN EACH INDUSTRY WORKING ON PIECE OR DAY RATES OR UNDER INCENTIVE SYSTEMS

Industry	Number of workers	Number of establishments	Percent of employees working on—		
			Piece rates	Bonus or other incentive systems	Day rates
All industries.....	88,500	132	37.5	14.5	48.0
Light metal.....	65,400	80	36.2	16.8	47.0
Textiles.....	9,000	20	46.0	9.0	45.0
Foundry.....	2,400	6	20.1	13.7	66.2
Machinery.....	4,000	9	24.2	9.6	66.2
Rubber.....	4,200	3	73.6	-----	26.4
Paper.....	2,400	7	7.7	6.5	85.8
Tobacco.....	200	2	22.2	53.4	24.4
Hats.....	900	5	70.6	-----	29.4

The number and percent of employees and the number of plants working under specified incentive systems are given in table 2.

TABLE 2.—NUMBER AND PERCENT OF EMPLOYEES AND NUMBER OF PLANT WORKING UNDER SPECIFIED INCENTIVE SYSTEMS

System of payment	Employees		Number of plants
	Number	Percent of total	
All systems.....	12,806	100.0	149
Bedeaux point.....	3,431	26.8	9
Emerson bonus.....	2,931	22.9	3
Task and bonus (details not given).....	2,230	17.4	14
Time premium.....	2,278	17.8	7
Group systems.....	236	1.8	5
C. L. Stevens point.....	418	3.3	1
Parkhurst differential bonus.....	385	3.0	1
Keys-Weaver system.....	248	2.0	1
Sherman Co. system.....	142	1.1	1
General Electric Co.....	134	1.0	1
George S. May.....	93	.7	1
Miscellaneous.....	280	2.2	1

¹ Not the sum of the items, but as given in article under review.

Share of Labor in the National Income, 1929-34

Statistics of National Income, 1929-32

A NEW series of basic estimates of the national income was submitted to the United States Senate in response to Senate Resolution No. 220, Seventy-second Congress, by the Bureau of Foreign and Domestic Commerce in January 1934. The study, entitled "National Income 1929-32", required over a year of research and was prepared with the active cooperation of the National Bureau of Economic Research, Inc. From the standpoint of labor, this study is of particular significance, as it analyzes in a series of tables the share of labor in the national income. A few of these tables are reproduced below.

The results of the study, as a whole, show a reduction in total national income produced from \$83,032,000,000 to \$39,365,000,000 between 1929 and 1932. During this period income paid out fell from \$81,136,000,000 to \$48,894,000,000. The income items for each of the years 1929 to 1932, with percentage comparisons of the changes in national income with changes in cost of living and wholesale prices, are shown in table 1. These figures have subsequently been revised, as shown in the table on page 1089, but there has been little change in the percentage relationships of different kinds of income.

TABLE 1.—NATIONAL INCOME, PAID OUT AND PRODUCED, 1929 TO 1932

Item	Amount (millions of dollars)				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
Income paid out.....	81,136	75,410	63,247	48,894	92.9	78.0	60.3
Business savings.....	1,896	-5,065	-8,604	-9,529			
Income produced.....	83,032	70,345	54,643	39,365	84.7	65.8	47.4
Bureau of Labor Statistics cost-of-living index.....					97.4	88.9	80.4
Bureau of Labor Statistics wholesale-price index.....					90.7	76.6	68.0

The participation of labor in the national income, both in wages and salaries, and comparisons with the income received in the form of dividends, interest, rents, and profits, are shown in table 2. The total wage income, it will be noted, dropped from \$17,179,000,000 in 1929 to \$6,840,000,000 in 1932, or to 39.8 percent of the 1929 level, thus representing a much more rapid decline than occurred in the other types of income recipients. Moreover, wages, which formed 21.2 percent of the total paid-out income in 1929, was only 14.0 percent in 1932.

TABLE 2.—NATIONAL INCOME PAID OUT, 1929-32, BY TYPE OF PAYMENT¹

Type of payment	Amount (millions of dollars)				Percent of 1929			Percent of total income paid out			
	1929	1930	1931	1932	1930	1931	1932	1929	1930	1931	1932
Total income paid out.....	81,136	75,410	63,247	48,894	92.9	78.0	60.3	100.0	100.0	100.0	100.0
Total labor income ²	52,793	48,582	40,896	31,533	92.0	77.5	59.7	65.1	64.4	64.7	64.5
Salaries (selected industries) ³	5,702	5,661	4,738	3,383	99.3	83.1	59.3	7.0	7.5	7.5	6.9
Wages (selected industries) ³	17,179	14,210	10,542	6,840	82.7	61.4	39.8	21.2	18.8	16.7	14.0
Salaries or wages (all other industries).....	29,052	27,794	24,622	20,302	95.7	84.8	69.9	35.8	36.9	38.9	41.5
Total property income ⁴	12,206	12,226	10,498	8,472	100.2	86.0	60.4	15.0	16.2	16.6	17.3
Dividends.....	5,964	5,795	4,313	2,588	97.2	72.3	43.4	7.4	7.7	6.8	5.3
Interest.....	5,677	5,815	5,649	5,491	102.4	99.5	96.7	7.0	7.7	8.9	11.2
Total entrepreneurial income.....	16,136	14,602	11,853	8,890	90.5	73.5	55.1	19.9	19.4	18.7	18.2
Net rents and royalties.....	4,116	3,475	2,752	1,865	84.4	66.9	45.3	5.1	4.6	4.4	3.8
Entrepreneurial withdrawals.....	12,020	11,127	9,102	7,024	92.6	75.7	58.4	14.8	14.8	14.4	14.4

¹ The grand totals in this and the following tables were obtained by an addition of the totals for each industrial field. The income subtotals by industrial fields are primarily in thousands of dollars, while the subtotals of gainfully engaged are usually in actual numbers. But the subtotals entered in tables 2 to 6 are either in millions of dollars (for income) or in thousands of persons (for numbers engaged). These subtotals do not, therefore, add up exactly to the grand totals given.

² Includes also employees' pensions and compensation for injury.

³ Includes mining, manufacturing, construction, steam railroads, Pullman, railway express, and water transportation.

⁴ Includes also net balance of international flow of property incomes.

The reduction between 1929 and 1932 in the proportion of wage earners employed was also far more severe than that of salaried employees. The details are shown in table 3, which gives estimates of the number of persons actually engaged, in several principal groups, for each of the 4 years covered by the study.

TABLE 3.—NUMBER OF PEOPLE ENGAGED, 1929-32¹

Item	Number (thousands)				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
All gainfully employed.....	44,225	41,809	38,053	34,131	94.5	86.0	77.2
All employees.....	35,205	32,921	29,349	25,453	93.5	83.4	72.3
Salaried employees (selected industries) ²	2,221	2,187	1,915	1,556	98.4	86.2	70.0
Wage earners (selected industries) ²	12,219	10,677	8,890	7,131	87.4	72.8	58.4
Salaried employees or wage earners (all other industries).....	20,765	20,057	18,544	16,767	96.6	89.3	80.7
Entrepreneurs.....	9,020	8,889	8,704	8,677	98.5	96.5	96.2

¹ In this table and all subsequent tables relating to number of people employed or engaged, the annual estimates are averages for the calendar year. The numbers represent in some industries a full-time equivalent.

² Includes mining, manufacturing, construction, steam railroads, Pullman, railway express, and water transportation.

Table 4 presents estimates of the number of persons engaged in each of 12 major industrial divisions for each of the years 1929 to 1932. These figures indicate that the ratio of agricultural and Government workers to all workers rose perceptibly during the 4-year period considered, and that severe declines characterized the percentages of the total represented by mining, manufacturing, and construction. Electric light and power, and gas, communication, trade, finance, and the service trades, maintained their respective shares of the reduced volume of employment.

TABLE 4.—NUMBER OF PEOPLE ENGAGED, 1929-32, BY INDUSTRIAL DIVISION

Industrial division	Number (thousands)				Percent of 1929			Percent of total number engaged			
	1929	1930	1931	1932	1930	1931	1932	1929	1930	1931	1932
All industries.....	44,225	41,809	38,053	34,131	94.5	86.0	77.2	100.0	100.0	100.0	100.0
Agriculture.....	7,592	7,511	7,448	7,288	98.9	98.1	96.0	17.2	18.0	19.6	21.3
Mining.....	1,068	980	819	644	91.7	76.6	60.3	2.4	2.3	2.2	1.9
Electric light and power, and gas.....	336	344	322	283	102.3	95.7	84.0	.8	.8	.8	.8
Manufacturing.....	10,023	8,860	7,566	6,257	88.4	75.5	62.4	22.7	21.2	19.9	18.3
Construction.....	1,528	1,378	1,054	673	90.2	69.0	44.1	3.5	3.3	2.8	2.0
Transportation.....	3,073	2,846	2,498	2,140	92.6	81.1	69.6	6.9	6.8	6.5	6.3
Communication.....	533	520	449	402	97.5	84.2	75.5	1.2	1.2	1.2	1.2
Trade.....	7,163	6,785	6,177	5,619	94.7	86.2	78.4	16.2	16.2	16.2	16.5
Finance.....	1,422	1,388	1,275	1,135	97.6	89.7	79.8	3.2	3.3	3.4	3.3
Government.....	3,003	3,156	3,127	3,122	105.1	104.1	104.0	6.8	7.5	8.2	9.1
Service.....	5,535	5,276	4,810	4,283	95.3	86.8	77.3	12.5	12.6	12.6	12.6
Miscellaneous.....	2,948	2,766	2,515	2,285	93.8	85.3	77.5	6.7	6.6	6.6	6.7

In table 5, labor income paid out is given by industrial divisions. Here again construction stands out as the industry most affected by the depression, the 1932 figure of \$2,867,000,000 representing 26.3 percent of the total income paid out in 1929, or \$4,970,000,000.

TABLE 5.—LABOR INCOME PAID OUT, 1929-32, BY INDUSTRIAL DIVISION

Industrial division	Amount (millions of dollars)				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
All industries.....	52,793	48,582	40,896	31,533	92.0	77.5	59.7
Agriculture.....	1,313	1,112	807	523	84.7	61.5	39.8
Mining.....	1,639	1,413	1,024	677	86.2	62.5	41.3
Electric light and power, and gas.....	531	550	515	384	103.7	97.1	72.3
Manufacturing.....	14,984	12,969	10,113	6,961	86.5	67.5	46.5
Construction.....	2,620	2,291	1,535	689	87.5	58.6	26.3
Transportation.....	4,970	4,521	3,788	2,867	91.0	76.2	57.7
Communication.....	713	722	649	542	101.3	91.0	76.1
Trade.....	8,209	7,687	6,837	5,597	93.6	83.3	68.2
Finance ¹	3,246	3,167	2,798	2,223	97.6	86.2	68.5
Government.....	4,984	5,280	5,352	5,277	105.9	107.4	105.9
Service.....	5,932	5,524	4,700	3,713	93.1	79.2	62.6
Miscellaneous.....	3,652	3,345	2,778	2,079	91.6	76.1	56.9

¹ Includes compensation of insurance agents.

Salaries and wages paid in selected industries (table 6) indicate the relatively favored position of salaried workers as opposed to wage workers.

TABLE 6.—SALARIES AND WAGES PAID, 1929-32, BY SELECTED INDUSTRIAL DIVISION

Item	Amount (millions of dollars)				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
Total salaries.....	5,702	5,661	4,738	3,383	99.3	83.1	59.3
Total wages.....	17,179	14,210	10,542	6,840	82.7	61.4	39.8
Mining:							
Salaries.....	247	243	216	150	98.3	87.4	60.8
Wages.....	1,367	1,146	788	511	83.9	57.7	37.4
Manufacturing:							
Salaries.....	4,013	4,030	3,378	2,429	100.4	84.2	60.5
Wages.....	10,899	8,866	6,669	4,474	81.3	61.2	41.1
Construction:							
Salaries.....	455	451	321	167	99.2	70.7	36.7
Wages.....	2,134	1,806	1,181	498	84.7	55.4	23.3
Transportation: ¹							
Salaries.....	988	937	824	637	94.8	83.4	64.5
Wages.....	2,781	2,391	1,903	1,357	86.0	68.5	48.8

¹ Includes only steam railroads, Pullman, railway express, and water transportation.

Table 7 shows that per capita annual income of all employees fell from \$1,475 in 1929 to \$1,199 in 1932. The percentage that 1932 income bears to 1929 income is 84.7 for salaried employees (actual figures \$2,567 in 1929 and \$2,175 in 1932) and 68.2 for wage earners (actual figures \$1,406 in 1929 and \$959 in 1932).

TABLE 7.—PER CAPITA INCOME OF EMPLOYEES AND THE COST OF LIVING, 1929-32

Item	Amount				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
Salaried employees (selected industries) ¹	\$2,567	\$2,589	\$2,474	\$2,175	100.9	96.4	84.7
Wage earners (selected industries) ¹	1,406	1,331	1,186	959	94.7	84.4	68.2
Salaried employees or wage earners (all other industries).....	1,399	1,386	1,328	1,211	99.1	94.9	86.6
All employees.....	1,475	1,448	1,360	1,199	98.2	92.2	81.3
Bureau of Labor Statistics cost-of-living index.....					97.4	88.9	80.4

¹ Includes mining, manufacturing, construction, steam railroads, Pullman, railway express, and water transportation.

Per capita annual income for various industries is shown in table 8. The highest per capita income in all years was in the group listed as "finance", while the lowest per capita was in agriculture.

TABLE 8.—PER CAPITA INCOME OF EMPLOYEES, 1929-32, BY INDUSTRIAL DIVISION

Industrial division	Amount				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
Agriculture.....	\$648	\$588	\$462	\$352	90.7	71.3	54.3
Mining.....	1,531	1,438	1,248	1,049	93.9	81.5	68.5
Electric light and power, and gas.....	1,561	1,581	1,580	1,339	101.3	101.2	85.8
Manufacturing.....	1,508	1,474	1,344	1,115	97.7	89.1	73.9
Construction.....	1,904	1,866	1,695	1,315	98.0	89.0	69.1
Transportation.....	1,681	1,658	1,596	1,409	98.6	94.9	83.8
Communication.....	1,319	1,369	1,419	1,320	102.8	107.6	100.1
Trade.....	1,474	1,435	1,375	1,245	97.4	93.3	84.5
Finance ¹	2,282	2,282	2,193	1,958	100.0	96.1	85.8
Government.....	1,466	1,473	1,483	1,448	100.5	101.2	98.8
Service.....	1,216	1,196	1,126	1,015	98.4	92.6	83.5
Miscellaneous.....	1,615	1,605	1,507	1,285	99.4	93.3	79.6
All industries.....	1,475	1,448	1,360	1,199	98.2	92.2	81.3
Bureau of Labor Statistics cost of living index.....					97.4	88.9	80.4

¹ Includes insurance agents.

Table 9 presents per-capita salaries and wages in selected industrial divisions. In mining and manufacturing the 1932 annual per-capita wages shown were \$909 and \$876, respectively. The average wage income in all the industries covered amounted to \$959. The transportation average of \$1,319 is \$543 above the average in manufacturing industries.

TABLE 9.—PER CAPITA SALARIES AND WAGES IN SELECTED INDUSTRIAL DIVISIONS, 1929-32

Item	Amount				Percent of 1929		
	1929	1930	1931	1932	1930	1931	1932
Mining:							
Salary.....	\$2,504	\$2,474	\$2,571	\$2,210	96.8	102.7	88.3
Wage.....	1,430	1,321	1,094	909	92.4	76.5	63.6
Manufacturing:							
Salary.....	2,669	2,703	2,556	2,241	101.3	95.8	84.0
Wage.....	1,300	1,221	1,084	876	93.9	83.4	67.4
Construction:							
Salary.....	2,937	2,879	2,695	2,297	98.0	91.8	78.2
Wage.....	1,771	1,715	1,540	1,151	96.8	87.0	65.0
Transportation:¹							
Salary.....	2,126	2,127	2,108	1,924	100.0	99.2	90
Wage.....	1,663	1,598	1,523	1,319	96.1	91.6	79.5
Above industries:							
Salary.....	2,567	2,589	2,474	2,175	100.9	96.4	84.7
Wage.....	1,406	1,331	1,186	959	94.7	84.4	68.2

¹ Includes only steam railroads, Pullman, railway express, and water transportation.

Statistics of National Income, 1933 and 1934

THE figures representing national income in the United States in 1934 (and revised figures for earlier years) show that total income paid out increased over 1933 by 11.7 percent. The statistics of income issued by the Bureau of Foreign and Domestic Commerce²⁴ are shown in the accompanying table.

²⁴ U. S. Department of Commerce. Bureau of Foreign and Domestic Commerce. The National Income Produced 1929-34, by Robert R. Nathan. (Reprint from Survey of Current Business, November 1935.)

NATIONAL INCOME PAID OUT IN THE UNITED STATES, 1929 TO 1934, BY TYPE OF PAYMENT

Type of payment	Amount (in millions of dollars)					
	1929	1930	1931	1932	1933	1934
Total income paid out.....	78,632	72,932	61,704	48,362	44,940	50,189
Total labor income.....	51,487	47,198	39,758	30,920	29,420	33,528
Salaries (selected industries) ¹	5,664	5,548	4,606	3,387	3,048	3,250
Wages (selected industries) ¹	17,197	14,251	10,608	7,017	7,189	8,944
Salaries and wages (all other industries).....	27,690	26,409	23,461	19,417	17,591	19,046
Work relief wages ²					619	1,389
Other labor income.....	937	990	1,083	1,099	973	899
Total dividends and interest ³	11,218	11,302	9,764	7,980	6,969	7,227
Dividends.....	5,964	5,795	4,312	2,754	2,208	2,549
Interest.....	5,104	5,305	5,169	4,975	4,592	4,584
Entrepreneurial withdrawals.....	12,503	11,666	10,086	7,992	7,306	8,052
Net rents and royalties.....	3,424	2,766	2,096	1,470	1,245	1,382
	Index numbers					
Total income paid out.....	100.0	92.8	78.5	61.5	57.2	63.8
Total labor income.....	100.0	91.7	77.2	60.1	57.1	65.1
Salaries (selected industries) ¹	100.0	98.0	81.3	59.8	56.8	57.4
Wages (selected industries) ¹	100.0	82.9	61.7	40.8	41.8	52.0
Salaries and wages (all other industries).....	100.0	95.4	84.7	70.1	68.5	68.8
Other labor income.....	100.0	105.7	115.6	117.3	103.8	95.9
Total dividends and interest ³	100.0	100.7	87.0	71.1	62.1	64.4
Dividends.....	100.0	97.2	72.3	48.2	37.0	42.7
Interest.....	100.0	103.9	101.3	97.5	90.0	89.5
Entrepreneurial withdrawals.....	100.0	93.3	80.7	63.9	58.4	64.4
Net rents and royalties.....	100.0	80.8	61.2	42.9	36.4	40.4

¹ Includes mining, manufacturing, construction, steam railroads, Pullman, railway express, and water transportation.

² Includes pay rolls and maintenance of Civilian Conservation Corps enrollees and pay rolls of Civil Works Administration and Federal Emergency Relief Administration work projects plus administrative pay rolls outside of Washington.

³ Includes also net balance of international flow of property incomes.

Income Reported for Income-Tax Purposes for Year 1934

NET income reported for income-tax purposes increased by 14.9 percent for the year 1934 as compared with 1933, and the number of income-tax returns filed increased 9 percent, it was announced by the United States Treasury Department.²⁵ These increases are shown by a preliminary count of returns filed up to August 31, 1935. The returns were the first filed under the provisions of the Revenue Act of 1934, and reflect the new normal and surtax rates, the altered credits allowable, the new definition of capital assets, and the new limits on gains and losses from sales or exchange of such assets. The statement of the Treasury Department adds that the statistics for 1934 are not strictly comparable with those of the previous year because of the variation in proportion of the total number of returns filed up to a given date in each year. It is added, however, that final reports in previous years indicate that such changes are of minor importance.

²⁵ U. S. Treasury Department. Press Service No. 6-34, Dec. 6, 1935.

The total number of returns filed at the end of August 1935 was 3,988,269, of which 1,750,843 were taxable and 2,237,426 nontaxable. Net income reported for 1934 amounted to \$12,456,262,000; the tax liability on this sum amounts to \$506,481,000. In the table following summary statistics of number of returns made, net income, and amount of tax liability are shown by income classes.

NUMBER OF RETURNS, NET INCOME, AND TAX LIABILITY, BY INCOME CLASS, BASED ON RETURNS FOR YEARS 1933 AND 1934 FILED TO AUG. 31 OF EACH YEAR

Net income class	Number of individual returns		Net income		Tax liability	
	1933	1934	1933	1934	1933	1934
All income classes.....	3,660,105	3,988,269	\$10,845,654,000	\$12,456,262,000	\$372,968,000	\$506,481,000
Under \$5,000.....	3,339,602	3,568,788	6,792,000,000	7,485,000,000	39,700,000	32,500,000
\$5,000 and under \$10,000...	219,735	288,178	1,477,828,000	1,936,921,000	34,120,000	42,319,000
\$10,000 and under \$25,000...	74,626	102,488	1,096,874,000	1,507,617,000	54,256,000	83,609,000
\$25,000 and under \$50,000...	18,168	20,851	621,182,000	705,788,000	51,598,000	84,559,000
\$50,000 and under \$100,000...	5,927	6,073	394,766,000	404,548,000	56,562,000	84,474,000
\$100,000 and under \$150,000...	1,085	973	129,276,000	116,693,000	30,450,000	37,827,000
\$150,000 and under \$300,000...	693	684	138,870,000	139,749,000	40,474,000	57,489,000
\$300,000 and under \$500,000...	139	116	53,788,000	43,832,000	17,580,000	20,854,000
\$500,000 and under \$1,000,000.....	84	86	59,511,000	59,455,000	22,371,000	30,739,000
\$1,000,000 and over.....	46	32	81,559,000	56,659,000	25,848,000	31,611,000

Family Allowances

THE term "family allowances" refers to the practice in various European countries of supplementing the basic wages by special allowances in the case of married workers, thus providing for the greater need of those having dependents. In industry, such allowances are usually paid either directly by the employer or from an equalization fund maintained by a group of employers in an industry or in various industries in a particular district or region. In some countries, however, allowances to families with more than a certain number of children are made directly by the State out of public funds. In such cases the system might more properly be referred to as child endowment.

In 1926 the United States Bureau of Labor Statistics published Bulletin No. 401, Family Allowances in Foreign Countries, which embodied the results of a survey made by this office. In general, the study covered conditions existing in 1924 but included also developments in 1925 in a few cases where authoritative data were available at the time the bulletin was prepared.

Since Bulletin No. 401 of the Bureau of Labor Statistics was issued, considerable material on family allowances has been carried in the Monthly Labor Review.

WOMEN IN INDUSTRY

U. S. Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Woman Workers During the Depression

IN THE main the depression affected women much as it did men, although, in one or two particulars sex made a difference. Wage rates moved downward, and part-time work and complete unemployment became prevalent. In the early years of the depression, unemployment was not as extensive, comparatively, among women as among men. At one time there was a distinct effort to develop a drive against married women in industry, which in this country met with only limited success. The growth of sweatshop conditions in some of the industries employing large numbers of women attracted attention, and under the N. R. A. codes steps were taken to secure reasonable wages and hours and, wherever practicable, the abolition of home work. Since these codes were temporary, some States tried to insure the permanence of good conditions by enacting minimum-wage laws, so framed as to avoid the constitutional limitations which had made earlier laws of the kind invalid. An analysis of this legislation is given in the article on p. 481, entitled "Status of Minimum-Wage Legislation and Administration."

Unemployment Among Women in the Early Years of the Depression

IN THE tremendous demand made upon the resources of organized society by the effects of the depression, the special needs of the gainfully employed women were at first rather overshadowed by the more spectacular features of mass unemployment. Private agencies realized clearly the acuteness of the situation for the unattached women living in large cities who found their jobs gone and their savings exhausted, and the public was shocked when later it became known that women and girls, as well as men and boys, had taken to the road; but there was a rather widespread, tacit acceptance of the idea that such things were exceptional; that, in general, women's responsibilities were not as heavy as men's; and that on the whole they were probably getting along not too badly. Some facts contained in a bulletin issued in 1933¹ by the United States Women's Bureau dealing with unemployment and fluctuations of employment among women during the period 1928 to 1931 make it appear that the average woman worker, however, was not in a good position to meet the impact of the depression, and that even in its early years she suffered severely. The facts presented show that even in the relatively prosperous times before the crash of 1929 there was much irregularity of employment for women, that this irregularity increased as the depression grew, that unemployment developed early, and that it was more pronounced in certain industries and among certain groups than in the industrial population generally.

¹ U. S. Department of Labor. Women's Bureau. Bulletin No. 113: Employment Fluctuations and Unemployment of Women: Certain Indications from Various Sources, 1928-31, by Mary Elizabeth Pidgeon. Washington, 1933.

The discussion of unemployment among women is based on census material and on 21 special studies made by the Women's Bureau and by various other agencies, covering, usually, particular localities or industries. The census material deals with the situation in April 1930 and in January 1931, and groups the unemployed in various classes, of which the most important are (A) persons out of work, able to work and seeking to work; and (B) persons laid off. Other classes included those unable to work, persons not wishing to work, those on vacations, and the like. This discussion deals only with classes A and B combined, "since they are likely to include most of those for whom joblessness caused wholly or mainly by economic or business situations is the primary problem." The figures given do not, however, include those who are working part time, no matter how grave may be the reduction in hours and consequently in earnings. It is stated that the numbers working only part time approximate and sometimes exceed those wholly unemployed, so that the seriousness of the problem is greater than the unemployment figures, taken alone, indicate.

The unemployment census of January 1931 covered 19 large cities containing nearly one-fourth (23.6 percent) of the women normally engaged in gainful occupations in the whole country, so that its findings may be considered fairly indicative of the general situation.

Extent and Location of Unemployment Among Women

THE census of 1930 reported 668,661 women unemployed in all classes combined and 501,502 in classes A and B combined. That of January 1931 reported 479,283 women out of work (A and B combined) in 19 cities. Since this represented 18.9 percent of the women normally gainfully occupied in these localities, if this proportion be applied to all employed women in the United States, the total number of women unemployed in January 1931 must have approximated at least 2,000,000. In two of these same cities other agencies made studies of special samples in 1931, affording some information on extent of industrial unemployment among women. In these the proportion of women reported unemployed were fairly similar in the census and in the special sample studied; Buffalo, special sample 21.6 percent, census 18 percent; Philadelphia, special sample 23.7 percent, census 24.3 percent.

The number of women gainfully employed in each of these 19 cities, and the number and proportion unemployed in January 1931, are shown in table 1:

TABLE 1.—NUMBER AND PERCENT OF WOMEN UNEMPLOYED IN CLASSES A AND B COMBINED IN 19 SELECTED CITIES, JANUARY 1931

City	Normally gainfully employed	Unemployed		City	Normally gainfully employed	Unemployed	
		Number	Percent of number normally gainfully employed			Number	Percent of number normally gainfully employed
Total, 19 cities.....	2,533,762	479,283	18.9	Cleveland.....	98,968	21,159	21.4
New York ¹	737,996	117,408	15.9	San Francisco.....	84,352	7,985	9.4
Manhattan.....	319,899	45,836	14.3	Pittsburgh.....	60,925	13,542	19.4
Brooklyn.....	280,773	48,557	17.3	Minneapolis.....	64,437	7,830	12.2
Bronx.....	137,324	23,015	16.8	New Orleans.....	61,108	14,561	23.8
Chicago.....	406,760	96,264	23.7	Buffalo.....	58,249	10,461	18.0
Philadelphia.....	246,136	59,865	24.3	Seattle.....	45,365	5,312	11.7
Los Angeles.....	163,385	23,135	14.2	Denver.....	37,704	4,423	11.7
Detroit.....	140,879	33,382	23.7	Houston.....	37,689	9,786	26.0
Boston.....	108,416	19,561	18.0	Birmingham.....	32,199	7,615	23.6
St. Louis.....	106,583	21,735	20.4	Dayton.....	22,862	3,959	16.9
				Duluth.....	10,789	1,460	13.5

¹ Figures are shown for 3 boroughs only, but these contain over 85 percent of the gainfully employed women in the city.

The proportion of women unemployed ranged from 9.4 percent in San Francisco to 26.0 percent in Houston, the average for the 19 cities being 18.9 percent. Generally speaking, in these cities the proportion unemployed was greater among men than among women, the only exceptions being New Orleans where the proportions were identical (23.8 percent), and Houston, where 26.0 percent of the women and 22.4 percent of the men were unemployed.

For five cities each employing over 20,000 women a comparison is given in table 2 of the unemployment shown by the two census reports.

TABLE 2.—UNEMPLOYMENT AMONG WOMEN IN FIVE SELECTED CITIES, APRIL 1930 AND JANUARY 1931

City	Unemployed in classes A and B			
	Census of April 1930		Census of January 1931	
	Number	Percent	Number	Percent
New York ¹	42, 578	5. 8	117, 408	15. 9
Manhattan.....	18, 385	5. 7	45, 836	14. 3
Brooklyn.....	15, 227	5. 4	48, 557	17. 3
Bronx.....	8, 966	6. 5	23, 015	16. 8
Buffalo.....	2, 946	5. 0	10, 461	18. 0
Chicago.....	26, 869	6. 6	96, 264	23. 7
Cleveland.....	6, 575	6. 6	21, 159	21. 4
Dayton.....	1, 315	5. 7	3, 859	16. 9

¹ Figures are shown for 3 boroughs only, but these contain over 85 percent of the gainfully employed women in the city.

The rapidity with which unemployment among women increased in 1930 is the most striking feature of this table. In April 1930 not 1 of these 5 cities showed unemployment amounting to one-twelfth of the gainfully occupied women, while in January of the following year there was only 1 in which the amount of unemployment fell below one-sixth.

Unemployment by Occupational Groups

TABLE 3, based on the census of 1931, shows the percentage of women unemployed in each of the main occupational groups:

TABLE 3.—PERCENTAGE OF WOMEN UNEMPLOYED JANUARY 1931, BY OCCUPATIONAL GROUPS

Industry	Normally gainfully employed	Percent of those unemployed January 1931
All industries.....	1 2, 533, 762	18. 9
Domestic and personal service.....	721, 568	24. 2
Clerical occupations.....	686, 661	13. 0
Manufacturing and mechanical.....	467, 003	30. 3
Professional service.....	310, 867	4. 8
Trade.....	258, 923	19. 4
Transportation and communication.....	83, 811	10. 1

¹ Total exceeds details because several less important groups are omitted.

While the highest percentage of unemployment appears among those in manufacturing and mechanical industries, the next highest is shown in the traditional field of women, domestic and personal service, where practically one-fourth were unemployed. The extent of unemployment in the individual occupational groups varied from place to place. For manufacturing and mechanical pursuits the range was from 15.9 percent in Denver to 37.9 percent in Chicago, for transportation and communication from 5.5 percent in San Francisco to 16.9 percent in Buffalo, for trade from 10.5 percent in Manhattan to 26.6 percent in Pittsburgh, for professional pursuits from 3.0 percent in Dayton to 7.7 percent in Los Angeles, for domestic and personal service from 11.2 percent in the Bronx to 40.0 percent in Houston, and for clerical pursuits from 7.8 percent in San Francisco to 16.1 percent in Chicago.

In every city over 10 percent were unemployed in domestic and personal service, in manufacturing, and in trade. From 30 to 40 percent were unemployed in domestic and personal service in 8 cities, from 30 to 37.9 percent in manufacturing in 5 cities. The proportions unemployed formed over 10 percent of those in clerical occupations in 15 cities and in transportation and communication in 7 cities. In every case the smallest proportion unemployed was in professional service.

Duration of Unemployment and Age of Unemployed

TABLE 4 shows the proportion who had been unemployed for specified periods at the two census periods.

TABLE 4.—PERIOD OF IDLENESS OF WOMEN UNEMPLOYED IN CLASSES A AND B COMBINED, JANUARY 1931, BY CITY

City	Unemployed for—			
	27 weeks or longer		53 weeks or longer	
	Number	Percent	Number	Percent
Birmingham.....	1,643	21.6	256	3.4
Boston.....	4,186	21.4	975	5.0
Buffalo.....	2,342	22.4	428	4.1
Chicago.....	28,017	29.1	5,696	5.9
Cleveland.....	5,797	27.4	1,148	5.4
Dayton.....	887	23.0	117	3.0
Denver.....	585	13.2	74	1.7
Detroit.....	12,307	36.9	2,673	8.0
Duluth.....	285	19.7	42	2.9
Houston.....	1,201	12.3	141	1.4
Los Angeles.....	4,034	17.4	663	2.9
Minneapolis.....	1,475	18.8	306	3.9
New Orleans.....	3,594	24.7	597	4.1
New York ¹	24,389	20.8	4,505	3.8
Bronx.....	5,129	22.3	890	3.8
Brooklyn.....	10,765	22.2	2,013	4.1
Manhattan.....	8,495	18.5	1,612	3.5
Philadelphia.....	11,974	20.0	2,183	3.6
Pittsburgh.....	3,119	23.0	697	5.1
San Francisco.....	1,432	18.0	242	3.0
Seattle.....	894	16.8	209	3.9
St. Louis.....	5,180	23.8	770	3.5

¹ Figures are for 3 boroughs only, but they contain over 85 percent of the gainfully employed women in the city.

In 11 cities, as well as in 2 boroughs of New York City, at least 20 percent of the women reported as unemployed had been out of work over 6 months, the proportion running up to 36.9 percent in Detroit. In 5 cities from 5 to 8 percent had been out of work for over a year.

Attention is called to the fact that these figures were collected in 1931 and that later inquiries would be apt to show larger proportions out of work for long periods than appear in the earlier surveys.

In respect to age, the youngest workers seemed to fare worse.

In every city those under 20 had the largest proportions unemployed. The range in the various age groups was from 17.8 percent to 36.6 percent, with more than 30 percent of the girl workers in 7 cities out of a job, and between 20 and 30 percent in 8 cities and the 3 boroughs of New York. Of the women 20 and under 24, over 20 percent were out of work in 8 cities. Ordinarily women 50 and over had the smallest proportions of unemployed.

Nativity and Color of Unemployed Women

For each of the 19 cities covered by the 1931 census inquiry table 5 shows the number of native-born white, of foreign-born white, and of colored women unemployed (classes A and B) at the time the census was taken, and the percentage these formed of the number who were normally in gainful employment.

TABLE 5.—NUMBER AND PERCENT OF WOMEN UNEMPLOYED IN 19 CITIES, JANUARY 1931, BY NATIVITY AND COLOR

City	Native white		Foreign-born white		Colored	
	Number	Percent	Number	Percent	Number	Percent
Birmingham.....	2,075	15.1	11	2.8	5,529	30.6
Boston.....	14,425	19.4	3,913	13.0	1,222	30.3
Buffalo.....	8,853	18.9	927	9.6	681	42.0
Chicago.....	58,256	20.4	11,873	15.5	25,990	58.5
Cleveland.....	12,276	17.9	2,841	14.8	6,040	55.1
Dayton.....	2,665	13.8	94	9.3	1,100	43.0
Denver.....	3,668	11.2	177	5.8	492	30.6
Detroit.....	17,894	19.0	3,933	12.6	11,531	75.0
Duluth.....	1,205	13.5	234	13.2	.....	.....
Houston.....	2,943	13.7	71	6.8	6,645	46.2
Los Angeles.....	16,817	13.5	1,749	8.0	3,234	38.3
Minneapolis.....	7,008	12.4	633	8.5	186	30.0
New Orleans.....	4,967	15.5	53	3.6	9,536	34.6
New York ¹	67,728	15.6	28,575	12.5	21,058	28.2
Bronx.....	15,425	16.9	7,158	16.4	431	18.5
Brooklyn.....	33,678	17.6	10,936	14.4	3,937	28.5
Manhattan.....	18,625	12.3	10,481	9.6	16,690	28.5
Philadelphia.....	37,506	22.2	4,819	14.2	17,537	41.0
Pittsburgh.....	9,244	16.9	781	9.5	3,516	50.8
San Francisco.....	6,343	9.9	1,273	7.3	157	20.3
Seattle.....	4,478	12.3	700	8.8	115	23.6
St. Louis.....	12,342	15.5	539	9.0	8,344	47.9

¹ Figures are for 3 boroughs only, but they contain over 85 percent of the gainfully employed women in the city.

In every case the foreign-born white women showed the smallest proportion unemployed, their percentages ranging from 2.8 in Birmingham to 16.4 percent in the Bronx; the native-born white women came next, with a proportion of unemployment ranging from 9.9 percent in San Francisco to 22.2 percent in Philadelphia, while the colored women showed the highest proportions, their percentage of unemployment only once falling below 20 (18.5 in the Bronx) and rising to 75.0 percent in Detroit, while in 5 separate cities it was between 40 and 50, and in 4 cities it passed 50. Ordinarily they formed a larger proportion of the unemployed than of those engaged in gainful pursuits.

Reference to the census figures on gainful occupations show that in each of the 19 cities the place of the foreign-born women in unemployment was less than their place among women normally gainfully employed, and that of native-white women usually was so (except in Boston, Buffalo, Duluth, San Francisco, and Seattle, and the Bronx and Brooklyn boroughs). For Negro women the opposite was the case—in every city they formed a larger proportion in the unemployed group than they did of the women normally in gainful work—except in Birmingham and New Orleans, which have large populations of Negro women at work.

Woman Workers in 1932

DURING the summer of 1932 the Bryn Mawr School for Women Workers was attended by 109 women, 4 of whom came from foreign countries and 105 from 17 different States of the Union. Occupationally as well as geographically they were widely distributed: 57 were in some form of garment making or millinery; 18 were in textiles; 15 in miscellaneous manufacturing industries; 15 in trade, transportation, and clerical work; and 4 in domestic service. During the summer these workers themselves proposed making a study of their experiences during the depression period as a step toward understanding the predicament into which they had been forced by the economic organization in which they lived and worked. The events of the year ending June 1, 1932, just prior to the school term, were still vividly in mind, and the facts as to unemployment and changes in living and working arrangements could be easily recalled. The study was made, and its results were published by the Federal Women's Bureau (Bul. No. 103) in 1933.

Employment Status During the Year

ONLY 10 had been employed steadily throughout the year, this group including 7 workers in American industry, and 3 of the 4 foreign workers, among them a Swedish worker in a clothing factory, a German trade-union official, and a Lancashire cotton weaver. Of the others, 20 had had a job throughout the whole year, but had had periods of short weeks, 23 had had times of being without a job but when employed had worked full time, and 56 had been both wholly and partially unemployed at different times throughout the year. Only 39, apart from the 10 who were steadily employed, had had as much as 26 weeks of full employment.

The periods of employment of the majority of the workers (82) were in connection with a single job, 19 held 2 jobs during the year, 5 held 3 jobs, and 1 held 4. Two workers were without any job during the entire year.

Effect on Earnings

THE actual earnings during the year ending June 1, 1932, of the 109 women studied were as follows:

	<i>Number of workers</i>
No earnings.....	2
Less than \$200.....	15
\$200 and less than \$400.....	27
\$400 and less than \$600.....	24
\$600 and less than \$800.....	25
\$800 and less than \$1,000.....	7
\$1,000 and less than \$1,200.....	4
\$1,200 and less than \$1,400.....	2
Unknown.....	3

Low earnings were general throughout the different industries. There was no single occupational group in which half of the workers earned as much as \$600, and the actual median of the earnings of the whole body was \$480. In the clothing group half earned under \$400, "yet this group contained many highly skilled and experienced women, whose earnings only a few years ago, in spite of a highly seasonal industry, were sufficient to yield a very comfortable living."

A comparison with the earnings of earlier years brings out clearly the shrinkage due to unemployment as well as to lower wage rates. A bulletin (No. 89) of the Women's Bureau published in 1931 contains a study of the earnings of 609 woman workers who had attended four summer schools (Bryn Mawr, Barnard, Wisconsin, and the Southern School) in the summers of 1928, 1929, and 1930. The workers were drawn in about the same proportion from the industries represented in the present study. The medians of the earnings and of the full-time weekly rates for the years covered are shown in table 1:

TABLE 1.—MEDIAN EARNINGS AND FULL-TIME WEEKLY RATES OF WORKERS IN SUMMER SCHOOLS

Year and schools covered	Median earnings	Median full-time weekly rates
1928 (4 schools).....	\$861	\$21.65
1929 (4 schools).....	887	23.15
1930 (4 schools).....	793	20.15
1931 (Bryn Mawr).....	696	-----
1932 (Bryn Mawr).....	480	14.50

The effect upon earnings of the fall in weekly rates was intensified by the amount of short-time work. Only 10, it will be remembered, had had a full year's work, and the others had lost time heavily.

The short weeks were very short indeed, many consisting of only 2 or 3 days. This fact accounts for the small total even in the case of workers employed the greater part of the year. The weeks counted include all those in which payment was received for any work, no matter how small the amount.

* * * A worker employed by a large electrical-supply company possessed ability and experience that enabled her to earn as much as \$15 a week; but she totaled only \$360 during the year, although employed 52 weeks, an average of \$6.92. During the greatest number of weeks her pay envelop contained \$4.

Effect of Unemployment on Standard of Living

FOUR elements that go to make up the standard of living—food, clothing, housing, and medical care—were considered, and the 79 workers who had been without jobs during the year thus summarized the effect upon these items:

TABLE 2.—STANDARD OF LIVING AND UNEMPLOYMENT

Lower standard in respect of—	Unemployed workers with lowered standards	
	Number	Percent
Food.....	32	41
Clothing.....	39	49
Housing.....	46	58
Medical care.....	48	61

The food standard was considered lower if the worker concerned had less nourishing food than when in work. The test for a lower standard of clothing was the absence from the wardrobe of some important article formerly considered necessary, such as good shoes or a winter coat. Housing was held to be of lower standard if the family had moved to secure lower rent, if lodgers had been taken without any increase in the number of rooms occupied, if a mortgage had been increased upon a house owned, or if the family had fallen more than 2 months behind in rent or mortgage payments. The postponement of medical care when it was urgently needed was considered to indicate a lowered health standard.

Savings, of course, had been used when they existed. "Only 17 of the 109 workers reported that they had accumulated any savings that had not dwindled away by the end of the year." All of these had had 32 weeks of work, or more. Thirty-four workers had been forced to borrow, the amounts ranging from less than \$50 in 7 cases to over \$1,000 in 2. Nearly all of these amounts were still owing at the end of the year.

Prospects for the Future

THE classification of these 109 workers according to their employment prospects in July 1932 was as follows:

	<i>Number of workers</i>
No job in prospect.....	40
Indefinite prospect, "when work begins".....	30
Indefinite job promised.....	38
No report.....	1

Influence of Depression on Expenditures of Business Women

THE income and expenditures in 1931 and 1932 of a group of girls who kept accurate accounts of what they earned and spent during the autumn months of both years are analyzed in an article in the December 1933 issue of the *Woman's Press*, organ of the Young Women's Christian Association.

In the fall of 1931 (in September, October, and November, to be exact), 313 girls kept accurate records of their daily spendings, and in the same months of the fall of 1932, 147 of these 313 did exactly the same thing. * * *

They were a mixed group; they came from all over the United States of America, they were engaged in all manner of clerical occupations, the bulk of them being stenographers, but secretaries also were included, bookkeepers, file clerks, and girls who called themselves clerical workers. They came from large cities and small cities, big towns and little; they lived at home and they lived away from home. In fact, they were a cross section of those nearly 2,000,000 business women reported by the last census. A few teachers, librarians, and doctors' assistants also took part in the study.

Earnings

THEIR weekly earnings ranged from a little under \$10 up to over \$40. The following table shows the number and proportion in each wage group for each year.

CLASSIFIED EARNINGS OF A GROUP OF BUSINESS GIRLS IN 1931 AND 1932

Weekly earnings	Girls receiving specified earnings in—			
	1931		1932	
	Number	Percent	Number	Percent
All earnings groups.....	313	100.0	147	100.0
\$5 to \$9.99.....	2	.6	6	4.1
\$10 to \$14.99.....	17	5.4	13	8.8
\$15 to \$19.99.....	83	28.5	42	28.6
\$20 to \$24.99.....	93	29.7	47	32.0
\$25 to \$29.99.....	56	17.9	22	15.0
\$30 to \$34.99.....	29	9.3	14	9.5
\$35 to \$39.99.....	26	8.3	3	2.0
\$40 to \$44.99.....	7	2.2		

The increased proportion in the lower-earnings groups in 1932 is at once apparent. As not all of the 1931 group reported in 1932, it is not possible to say just what this downward movement means in terms of individual earnings. For 128, however, complete details were received, and 65 percent of these were receiving lower wages in 1932 than in 1931.

* * * The largest actual number receiving a reduction was in the \$15 to \$19.99 group, of whom over 63 percent received 27 percent lower wages. But the most distressing group was perhaps the \$10 to \$14.99, of which 83 percent had received an average of 62 percent decrease in wages. All the girls in the very lowest group in 1932 had received cuts amounting to an average of 37 percent.

The higher the wage the smaller was the number of persons receiving cuts. The smaller the present rate of wages the greater was the rate of reduction on an earlier wage. The insecurity of the low-wage group is again borne witness to.

A separate study of the budgets of 150 business girls in Denver, Colo., showed the same general situation as to the incidence of wage cuts. Of these, 57 percent had had salary cuts amounting to 16.5 percent on an average, ranging from an average of 4.8 percent in the highest-paid group to 23 percent in the lowest-paid group.

Although the study here reviewed does not take up the situation in 1933, it is known that wage cuts, many of them drastic, have taken place since the fall of 1932.

Disposition of Earnings

COMPREHENSIVE budgets of expenditures are not given, so that it is not possible to trace fully the changes caused by the reduction in incomes. Even in 1931 it was evident that in many cases the amount earned was not adequate for healthful support.

Careful and exact budgeting in this group of 313, of whom 195 earned less than \$25 a week, exposes some of the inadequacies of the income and of the amounts which it is possible to set aside for emergencies, health, recreation, and education. There is practically no margin, and whereas in the case of the \$10 to \$14.99 group there was an average of \$1.76 savings per week with only \$5.08 spent on room, board, and lunches, it is obvious that subsidization is taking place somewhere.

The girl is not earning enough to keep herself, and either her parents or her friends are making up the inadequacy of the wage she receives from her employer, or she is impairing her strength and her future health by poor and insufficient food, inattention to teeth and general health.

In 1932, either the process of subsidization had been carried farther, or the girls were meeting the situation by cutting down on necessities. Four girls are cited who in 1931 earned an average of \$15.60 a week, but whose wages had been so cut that in 1932 they were earning a weekly average of \$9.25.

* * * Before, where they had spent \$8 on room, board, and lunches, now in 1932 they reduced this to \$5; \$2.50 had been spent on clothing, and this went down to \$1.83. They had managed somehow to have \$2.34 in 1931 to carry over in their pocketbooks from pay day to pay day, and this had now fallen to 18 cents a week.

The study of the 1932 expenditures brought out three features of importance: (1) In 5 out of the 7 earnings groups the amount spent on education and advancement increased in 1932, and in 2 of these groups the increase was very substantial—it is suggested that this may be because the business girl feels "more and more insecurity and wants the slight assurance and hope which a second skill may give her"; (2) while the earnings of the girls had decreased in 1932, the proportion of those accepting responsibility for the support of others had increased, and this was true in the case of the girls living independently as well as among those forming part of a family group; (3) it was apparent that in 1932 the girls were trying desperately to build up some protection, however slight, against the future.

* * * In spite of cut wages, in spite of increased dependents, altered habits, and changed standards of living, savings in 5 out of the 7 wage groups increased in 1932 and increased considerably. In fact even the \$20- to \$25-a-week group, where there were girls who had had cuts amounting to 12 percent of their wages, managed to save an average of \$4.71 a week in 1932 as against \$3.14 in 1931. The fall of 1932 was a very serious time for business girls and they held tight onto their money, spending it as wisely as they knew how, apparently going without the things they badly needed to save against a worse time which they saw coming. What happened to those savings, we do not know. We do know what happened to savings in general.

Marital Condition of Gainfully Occupied Women in 1930

APPROXIMATELY one-fourth (24.8 percent) of the women 15 years of age and over in the United States were gainfully employed in 1930, as compared to 18.9 percent over 42 years ago. In 1890, married women constituted only 13.9 percent of the women with gainful occupations; in 1930 they formed 28.9 percent, as shown in the following table, taken from a press release of the United States Bureau of the Census for October 12, 1932.

NUMBER AND PROPORTION OF WOMEN 15 YEARS OLD AND OVER GAINFULLY OCCUPIED, BY MARITAL CONDITION, 1890-1930

Census year and marital condition	Women 15 years old and over			
	Total number	Gainfully occupied		
		Number	Percent of total	Percent distribution
1890: Total.....	19,602,178	3,712,144	18.9	100.0
Single and unknown.....	6,250,912	2,531,398	40.5	68.2
Married.....	11,124,785	515,260	4.6	13.9
Widowed and divorced.....	2,226,481	665,486	29.9	17.9
1900: Total.....	24,249,191	4,997,415	20.6	100.0
Single and unknown.....	7,606,772	3,307,497	43.5	66.2
Married.....	13,810,057	769,477	5.6	15.4
Widowed and divorced.....	2,832,362	920,441	32.5	18.4
1910: Total.....	30,047,325	7,639,828	25.4	100.0
Single and unknown.....	9,001,342	4,602,102	51.1	60.2
Married.....	17,634,637	1,890,661	10.7	24.7
Widowed and divorced.....	3,361,286	1,147,065	34.1	15.0
1920: Total.....	35,177,515	8,346,796	23.7	100.0
Single, widowed, divorced, and unknown ¹	13,858,582	6,426,515	46.4	77.0
Married.....	21,318,933	1,920,281	9.0	23.0
1930: Total.....	42,837,149	10,632,227	24.8	100.0
Single and unknown.....	11,359,038	5,734,825	50.5	53.9
Married.....	26,170,756	3,071,302	11.7	28.9
Widowed and divorced.....	5,307,355	1,826,100	34.4	17.2

¹ This group was not subdivided in 1920.

It is believed by the Bureau of the Census that too many women were scheduled as agricultural laborers in 1910 and too few in 1920; that, consequently, the increase from 1900 to 1910 in the percentage of women 15 years of age and over in gainful occupations is too great and that the decline from 1910 to 1920 shown in the corresponding percentage may be only an apparent decline.

Labor Conditions in Connecticut Needle Trades

(See section on "National Recovery Administration—Labor Aspects.")

Trend of Women's Wages in New York, 1929-31

IN THE earlier stages of the depression there was a strong desire to maintain wage levels in the hope that the trouble was only temporary and could best be met by keeping things as they were. Early in 1931 the division of women in industry of the New York State Department of Labor published the results of a study of the changes from October 1929 in women's wages in New York City, and in July 1931 made a similar study in an up-State industrial city with a population of between 25,000 and 50,000. From both it was apparent

that the effort to maintain wages had not been successful, since wages showed instead a distinct downward tendency, more clearly seen in New York City than in the smaller community. The much wider scope of the first study would probably be entirely sufficient to account for this difference. On the other hand, in the smaller city the study showed a falling off in the number employed, a feature which had not been taken into account in the first inquiry.

Situation in New York City

DATA as to wages offered in New York City for various kinds of women's work in the fall of 1929 and for the same period of 1930, were gathered from the Manhattan, Bronx, and Brooklyn branches of the State employment bureau, from a large commercial agency specializing in office help, and from the classified advertisements in the New York World. These showed a fall in the wage rates for workers of all kinds, which was particularly marked in respect to clerical workers.

Before the crash in the stock market and the decline of business generally, clerks' wages ranged from \$10 to \$22 a week, with the general average between \$15 and \$18. In February 1931, clerks were offered \$8 to \$18 a week, and much higher educational standards were required. Wages for typists dropped from a range of \$15 to \$22 to one of \$12 to \$21, with the \$12 offer being the more usual. Stenographers have fared even worse, their rates dropping from \$15 for a beginner and \$35 for an expert to \$9 and \$20, respectively. In two instances wages for the identical position were secured for the two periods; one position previously paid \$20 and now offers \$15, while the other was \$25 and now is \$18 a week. In like manner bookkeepers were offered \$23 to \$25 a week and now the orders come in for \$15.

Specialized workers, such as those in banks, insurance companies, and brokerage houses had much the same experience, as shown in table 1:

TABLE 1.—RANGE OF WOMEN'S SALARIES IN SPECIFIED POSITIONS, 1929 AND 1930

Kind of business and of position	Range of weekly salaries	
	October 1929	October 1930
Insurance business:		
Clerk.....	\$18-\$35	\$18-\$30
Typist.....	23- 25	20- 25
Stenographer.....	16- 35	12- 30
Bookkeeper.....	20- 35	18- 30
Office machine operator.....	30- 35	25- 30
Range of yearly salaries		
Bank or brokerage position:		
Statistical clerk.....	\$1,000-\$1,800	\$1,000-\$1,600
General financial stenographer.....	1,000- 1,600	900- 1,800
Senior bookkeeper.....	2,600	1,600- 2,000
Assistant bookkeeper.....	1,100- 1,800	1,100- 1,600
Office machine operator.....	1,100- 1,800	1,100- 1,600

Permanent full-time saleswomen seemed in most cases able to hold or even to improve their position, the weekly salaries offered being \$12 to \$30, as against \$13 to \$25 in 1929. Part-time workers and extras suffered, the part-time workers having been reduced from \$15 to \$12 a week, and the extras from \$3 and \$4 to \$2 and \$3 a day.

Among restaurant workers, cashiers, who were being offered \$18 a week as against \$23 previously, seem to have been almost the only class affected. One case was reported, however, of a large chain of lunch rooms which had formerly paid its waitresses \$10 a week and had lowered this to \$6.

Wages for domestic servants showed a greater reduction than for any other class. For servants who were to live in the homes of their employers the wages formerly offered ran from \$40 to \$70 a month; these had sunk to a range of from \$15 to \$55, the most usual figure being \$40.

A record was secured of a placement made in February 1931 of an experienced domestic at \$5 a week with room and board. The woman was 52 years of age, Protestant, American born, and had been out of work for 8 months. Many times employers try to secure domestic help without paying any wages, but merely offering a home and food. No record has been found of any worker accepting such an offer but such offers continue to come to all the employment offices.

Domestics who do not live in the home, laundry workers, and factory workers, all showed reductions varying in degree. Among factory workers it was harder to trace the reductions because payment on a piece-rate basis was increasingly replacing a flat weekly rate in many unskilled operations. Formerly it was a common practice to take on a beginner at \$12 a week, with an agreement either to increase the wage or to put the learner on piece rates when she became proficient. "Nowadays the beginner is taken on at piecework immediately and she has to learn the work at her own expense." Some of the factory operations which were still paid for at a weekly rate showed a reduction in their starting wages of from \$1 to \$3, \$4, or \$5 a week.

Table 2 shows the result of such practices upon the earnings of woman factory workers:

TABLE 2.—WEEKLY EARNINGS OF WOMAN FACTORY WORKERS IN NEW YORK CITY, JANUARY 1929 AND JANUARY 1931

Industry group	Weekly earnings		Increase or decrease
	January 1929	January 1931	
Stone, clay, and glass.....	\$14. 52	\$15. 23	+\$0. 71
Metals and machinery.....	17. 58	15. 34	—2. 24
Wood manufacture.....	17. 28	16. 01	—1. 27
Furs, leather, and rubber goods.....	22. 90	18. 57	—4. 33
Chemicals, oils, paints, etc.....	16. 20	15. 79	— . 41
Printing and paper goods.....	19. 70	18. 22	—1. 48
Textiles.....	18. 71	17. 50	—1. 21
Clothing and millinery.....	23. 57	21. 82	—1. 75
Food and tobacco.....	18. 90	18. 57	— . 33
Total.....	21. 64	20. 18	—1. 46

Basing conclusions on the figures herewith presented, there can be no doubt that the wage levels for woman workers in the city of New York have declined sharply. This has been shown to be true for all large industrial groups and for many smaller occupational classifications in the clerical, mercantile, restaurant, and domestic lines of work. In view of the fact that many firms have maintained their former wage levels, in some cases with the announced purpose of helping to maintain community purchasing power, it still remains a question as to whether the reductions in salary noted were an economic necessity or whether they were caused by a desire on the part of employers to take advantage of the present oversupply of labor.

Inquiry in Small Up-State City

THIS inquiry, much more restricted in scope than that in New York City, was made during the period July 8 to 11, 1931. From the files of the bureau of factory inspection a list was secured of 23 plants employing the largest number of women, together with their inspection figures as of 1930 and 1931. Pay-roll data were secured for 11 of these plants, which in 1931 employed 698 women, from the largest department store in the city, employing 163 women, and from a chain store with 58 woman employees. The pay-roll data consisted of a list of all the women working in a selected week in June or July 1931, together with the operations which they performed, their rate of pay and weekly earnings, and the hours worked that week. For purposes of comparison, the same information was then secured for the corresponding week in 1930.

Comparative figures for the 2 weeks are given in table 3:

TABLE 3.—AVERAGE WEEKLY HOURS AND EARNINGS, 1930 AND 1931, OF WOMEN IN A NEW YORK UP-STATE CITY

Type of establishment	Number of women on pay roll		Average weekly earnings		Weekly hours of majority of women	
	1930	1931	1930	1931	1930	1931
Cigars.....	316	281	\$17.57	\$16.59	Piecework	Piecework
Department store.....	169	163	17.51	16.84	48	48
Men's clothing.....	(¹)	139	¹ 15.64	12.34	40	44½
Neckwear.....	110	117	11.84	14.91	41	44½
Chain store.....	59	58	12.12	11.41	48¼	47¾
Dresses.....	(²)	52	³ 14.61	³ 12.21	Piecework	Piecework
Laundry.....	37	33	15.09	16.46	49½	49½
Cleaning and dyeing.....	31	32	13.09	14.19	No report	No report
Printing.....	16	13	11.02	12.16	44	40
Paper boxes.....	12	12	12.46	14.08	⁵ 36	⁴ 41
Laundry.....	(⁵)	10	(⁶)	10.33	(⁶)	49½
Beverages.....	9	9	⁶ 20.00	⁶ 21.25	Piecework	Piecework

¹ Pay-roll figures for 1930 include only 130 women, who were still employed in 1931.

² Total number of women missing; records for 34 operators only.

³ Comparison based on pay roll for operators only; 37 operators in 1931, 34 operators in 1930.

⁴ All the women employed worked the same hours.

⁵ Figures for 1930 missing.

⁶ Not an average; all women earned the same amount.

The * * * table shows that there were fewer women employed in 1931 than in 1930 in both of the mercantile establishments, the cigar factory, a laundry, and a printing establishment. On the other hand there were more women on the 1931 pay roll of the neckwear plant and the cleaning and dyeing establishment. The number employed in the beverage plant and the box factory remained the same both years. Although the trend in number of women employed seems to be downward, the average weekly earnings rose in 1931 in six of the plants and went down in only four. In one case where the earnings went higher, the rise was definitely due to increased output. Unfortunately, the plants where the average earnings dropped were among the largest in the city, being the cigar factory, both mercantile establishments, and the dress factory. In all, these plants employed 554 women.

Wages of Women and Minors in Laundries in New Hampshire, 1933

THE Minimum Wage Board of New Hampshire, in accordance with the provisions of the minimum-wage law enacted by the legislature of that State in 1933, made an inquiry as to the wages of women and minors under 21 years of age employed in laundries in New Hampshire. The study was made in the fall of 1933, and as the temporary code of the laundry industry was then in effect, it was thought advisable, as a means of estimating the resultant changes in rates, earnings, and hours of employment, to take pay-roll records for 2 weeks—1 before and 1 after the temporary code became operative. The term "code" as used throughout the report refers to the temporary laundry code, also described as the "President's Reemployment Agreement."

Altogether the study included 64 laundries employing 431 women and minors for the first week in June prior to the temporary code, and 67 laundries employing 581 women and minors for the first week in September after the temporary code had gone into effect. An attempt was made to obtain data as to weekly hours worked, hourly wage rates, and weekly earnings; in some cases, however, the records available did not include information on all of these points. Where information regarding hours made it possible, potential earnings for full-time employment were also computed. The information secured is presented in the following tables.

Practically all employees in the laundries in New Hampshire are paid on a time-rate basis. Of the 581 women and minors for whom records were secured in the fall of 1933, 571, or 98.2 percent, were on time rates. A very few, 10 in all, received a combined time and piece rate.

TABLE 1.—AVERAGE EARNINGS OF WOMEN AND MINORS IN LAUNDRIES IN NEW HAMPSHIRE FOR 1 WEEK BEFORE AND FOR 1 WEEK AFTER TEMPORARY CODE, 1933, BY SIZE OF ESTABLISHMENT

Number of employees	Before temporary code ¹		After temporary code ²	
	Number of laundries	Average earnings	Number of laundries	Average earnings
Less than 5.....	25	\$8.28	23	\$8.70
5 and less than 10.....	19	9.12	17	10.26
10 and less than 15.....	11	9.71	14	10.87
15 and less than 20.....	4	11.81	6	10.66
20 and over.....	2	11.90	6	12.07

¹ 418 employees in 61 laundries; records not available for 47 employees in 6 laundries.

² 577 employees in 66 laundries; records not available for 4 employees in 1 laundry.

TABLE 2.—AVERAGE HOURS AND EARNINGS OF WOMEN AND MINORS IN LAUNDRIES OF NEW HAMPSHIRE FOR 1 WEEK BEFORE AND 1 WEEK AFTER TEMPORARY CODE, 1933, BY TYPE OF LAUNDRY

Type of laundry	Average weekly hours ¹		Average hourly rates ²		Average weekly earnings ³		Potential weekly earnings for full time ⁴
	Before temporary code	After temporary code	Before temporary code	After temporary code	Before temporary code	After temporary code	
Commercial.....	34	35	\$0.262	\$0.273	\$8.93	\$10.20	\$11.41
General.....	35	37	.26	.287	9.54	10.72	12.10
Wet wash and rough dry.....	29	29	.285	.314	7.93	9.15	9.30
Miscellaneous (including hand and home laundries).....	26	25	.23	.244	6.41	6.30	7.66
Institutional (including hospitals, schools, and endowed homes).....	42	42	.233	.219	9.33	8.99	8.99

¹ Covers 375 employees in 52 laundries before the code and 558 employees in 66 laundries after the code; records not available for 90 employees and for 15 laundries before the code and for 23 workers, including all employees in 1 laundry, after the code.

² Covers 394 employees in 56 laundries before the code and 579 employees in 67 laundries after the code; records not available for 71 employees and 11 laundries before the code and for 2 employees after the code.

³ Covers 418 employees in 61 laundries before the code and 577 employees in 61 laundries after the code; records not available for 47 employees and 6 laundries before the code and for 4 employees in 1 laundry after the code.

⁴ Full time represents the regular running schedule of the laundry; records of earnings not available for 1 laundry with 4 employees.

Employability of Destitute Women in Philadelphia, 1933

DESTITUTION and dependency among unemployed women living alone in Philadelphia are to a great extent social problems arising out of old age and chronic illness rather than an economic problem of unemployment, according to a survey covering 1,654 dependent Philadelphia women living alone under the care of various relief organizations made in 1933 by the Joint Committee on Research of the Community Council of Philadelphia and the Pennsylvania School of Social Work. Two representatives of the Women's Bureau of the United States Department of Labor assisted in the field work. The report was published by the committee under the title, "Women without work."

These 1,654 women comprise probably "the majority of those receiving unemployment relief in Philadelphia and may be considered to represent adequately the problem as a whole." Native-born white women constituted 605 of the group, while 281 were foreign-born white and 749 were colored.² More than one-fourth were native-born Philadelphians and most of the rest were long-time residents of the city, only a handful having been there less than 5 years. Over 70 percent had been married, and more than half the group had been widows for many years. Somewhat less than half of those with work histories had been domestic servants when they were employed, and 20 percent had been factory workers. Nearly 30 percent had not been employed in recent years—some had never worked at all and others not since marriage.

² Birthplace of 19 white women not reported.

Occupational Status

THE study was undertaken largely to determine whether these lone women, dependent at the time upon relief for their livelihood, were employable, and special care was used in examining them because of the element of doubt upon that point.

About one-fourth had never been wage earners at all "and probably never would be." Nearly half of the 1,187 women whose work histories were obtained had been in domestic service, and those who had been in related personal-service occupations—office cleaning, restaurant work, etc.—brought the total to more than half. This type of work was reported by more than 75 percent of the colored women.

Clerical work, factory work, and retail trade, in the order of their importance, had furnished employment to just half the white women. The number of whites in domestic service, however, exceeded the number in retail trade. Among other occupations reported for all women are nursing (48), teaching (11), and independent business (35).

Data on length of service indicate that the wage-earning women on the whole had worked for a long time in their regular jobs. Many of them probably gave the interviewer information covering the best jobs they ever had; others probably never had more than one job. In any event, the length of service reported would indicate that they were not unsatisfactory workers, as "no employer would have kept them for so long had they not been making good", at least within the standards of low-wage occupations.

It is on this point that the true industrial status of these women comes to light. If they were long-service workers on their regular jobs, it is also true that they had been out of those jobs for a long time. Some women had been dropped in prosperous times many years ago, as in the cases of the white teachers, who averaged 8 years and 7 months of unemployment, or the clerical secretaries, who averaged 5 years and 7 months. But by far the most prevalent averages were from 2½ to 3½ years, which means that the overwhelming majority of the women were laid off in the early days of the depression. The figures are so uniform on this point that it was fairly safe to establish two conclusions: (1) The bulk of these women were employed when the depression began in the summer of 1929, and (2) they were among the first to be laid off by the employers when curtailment became necessary. In other words, they were the marginal workers. By the same sign, it is safe to say they they will probably be the last to be taken on, if they are ever taken on at all (as many will not be).

Employability

TO DETERMINE as definitely as possible the employability of the group, the representatives of the United States Women's Bureau interviewed a selected sample of 277 women under 60 years of age who had been wage earners. Results were tabulated thus: Definitely employable, 37.1 percent of the whites, 56.0 percent of the colored; employable with limitations, 24.7 percent of the whites, 5.5 percent of the colored; employability doubtful, 14.5 percent of the whites, 9.9 percent of the colored; and definitely unemployable, 23.7 percent of the whites, 28.6 percent of the colored.

Those diagnosed as being "employable within limitations" had handicaps of age or mental or physical disabilities which, while not sufficient to prevent them from obtaining work, still limited their possibilities. "Perhaps the best way to put it", the report suggests, "would be to say that each of these women probably could hold a job if she could find an opportunity to do so under favorable circumstances."

The group whose employability was regarded as doubtful included women suffering from serious physical disabilities and, especially among the native-born white women, mental instability. These women "might, under the most favorable circumstances, succeed in holding some sort of job, but even then they would have to be treated with special consideration."

Age was considered less a deterrent to reemployment for colored workers than for the white women, because in the common occupation of the colored—domestic service—age does not constitute a handicap to the same extent as in clerical work or manufacture.

Applying to the entire group of 1,654 the percentages developed by the sample and revising them to allow for the inclusion of those over 60 years of age (who were eliminated from the sample), the employability status thus becomes: Definitely employable, 27.5 percent of the white women, 47.3 percent of the colored; employable with limitations, 18.3 percent of the whites, 4.6 percent of the colored; and doubtfully or definitely not employable, 54.2 percent of the whites, 48.1 percent of the colored.

Employment of Women in Clerical Work, 1931-32

CLERICAL work as an occupation for women was shown by the census of 1930 as ranking second in importance, exceeded only by domestic and personal service. By 1930 it had also become an occupation in which women predominate. Approximately 4,000,000 clerical workers were enumerated in the census of that year, of whom 51.5 percent were women.

Recognizing the increasing importance of office work as a field of employment for women, and the need of more definite information concerning it, the Women's Bureau of the Department of Labor during 1931 and the first 3 months of 1932 made a survey of woman office workers in 7 cities.³

The cities selected were New York, Hartford, Philadelphia, Atlanta, Chicago, Des Moines, and St. Louis. The study was limited to office workers engaged in advertising, banking, insurance, investment, mail order, and publishing companies, and in public utilities. The total number of offices covered by the survey was 314, considerably more than half of which (185) were those of banks, insurance companies, and public utilities. Records were secured for nearly 43,000 women. In the large offices, a representative sample of all occupations was selected; in others the entire female staff was included. The report points out that job terminology for office occupations is indefinite and not comparable from office to office, but about four-fifths of the

³U. S. Department of Labor. Women's Bureau. Bulletin No. 120: The Employment of Women in Offices. Washington, 1934.

women in the survey are in occupations classed by the Women's Bureau as the stenographic group, machine operators, and general clerks.

The data collected came primarily from three sources:

1. Personnel records showing occupation, experience, education, age, and marital status of women workers.
2. Salary records.
3. General interviews with the management on numbers of men and women employed, policies and practices as to hours of work, overtime, vacations, promotions, and welfare activities, restrictions based on age or marital status, kinds of office machines used, and effect of mechanization on employment in the preceding 5-year period.

Age and Marital Status

FOR THE entire group—over 41,000 women—for whom age was reported, the average (median) age was 25 years. In advertising, banking, and investment companies, and in public utilities, the average age was 26 or 27; in insurance and publishing offices, 25; and in the mail-order group, 21 years. Almost two-thirds of the women were between 20 and 30.

Apparently there has been more prejudice against women's employment in office work after marriage than in other general lines of work. Occupational statistics of the 1930 census showed that of the women employed in trade, 35.3 percent were married; in domestic service, 35 percent; in manufacturing and mechanical industries, 32.4 percent; but in clerical work, only 18.3 percent.

In this study 84.8 percent of the women were single, 11.8 percent were married, and 3.4 percent were widowed, separated, or divorced. The below-average proportion reported as married may be due partly to failure to notify employers of a change in marital status in firms where there are restrictions against the retention of married women. Also, many of the offices included in the study are large, and generally these had the most definite and drastic policies barring married women.

Earnings

THE report gives earnings in terms of monthly salary rates. Where weekly rates were recorded these were converted to their monthly equivalents. As the office workers in this survey rarely suffered deductions for lost time or short absences due to illness or unavoidable emergency needs, salary rates were considered as representative of earnings for the vast majority of the women.

Size of office and policies of management have a direct bearing on salary schedules. Specialization and division of work are not so great in small offices, and the proportions of secretaries and stenographers are relatively high, with fewer routine clerks, which condition tends to raise the median. For example, the largest publishers, with the greatest proportion of clerks on routine jobs, were in New York and Philadelphia, and the median for this type of offices in these cities—\$81 in both cases—was the lowest in any city for any type of office except mail-order houses. In Chicago, a significant proportion of the publishers included were branch offices of eastern publishing houses,

and as they were smaller offices and much of their activity was of a sales-correspondence nature, salaries were much better than those paid in the home offices. The same was true of publishers in Atlanta. Similarly, home offices in the insurance field paid less than branch offices, and in this survey home offices predominated.

A distribution of salaries at \$25 intervals shows that about one-fifth of the women (19.4 percent) earned less than \$75 a month. In advertising and investment firms there were fewer than 2½ percent with salaries as low as this, but in mail-order houses more than one-half (54.7 percent) were massed here.

Distribution of salaries by occupation is given in table 1, while salary ranges for the 4 principal occupations in 3 types of office are shown in table 2.

Experience and length of service had a marked effect upon earnings. Relatively few women (25.3 percent) who had been employed 5 years or more were paid less than \$100 a month. Of the women whose services with their present employers ranged from 10 to 14 years, seven-eighths were earning \$100 or more, and well over a fourth were on salaries of \$150 or more. Of those with 15 years' service or over, about one-half were receiving at least \$150. Approximately 900 women in the survey had salary rates of at least \$200, and of these about seven-tenths had worked 10 years or more with their present employers.

TABLE 1.—PERCENTAGE DISTRIBUTION OF SALARIES OF WOMAN OFFICE WORKERS, BY OCCUPATION

Occupation	Number of women	Median monthly salary rate	Percent of women with monthly salaries of—				
			Under \$75	\$75 and under \$100	\$100 and under \$125	\$125 and under \$150	\$150 and over
All occupations.....	42,127	\$99	19.4	31.6	25.5	13.4	10.1
Secretary.....	1,893	156	3	4.2	12.5	24.9	58.0
Stenographer.....	6,146	114	6.0	26.1	31.3	24.3	12.4
Typist.....	6,453	93	19.4	41.3	29.3	8.4	1.5
Clerk-typist.....	674	95	13.6	44.2	28.3	10.5	3.3
Dictating-machine transcriber.....	924	103	8.4	35.5	35.9	18.0	2.2
Other.....	4,855	90	22.3	42.0	28.2	6.3	1.2
Correspondent.....	398	105	14.8	30.7	21.1	16.6	16.8
File clerk.....	2,569	81	36.5	39.9	18.5	3.9	1.2
Hand bookkeeper.....	983	111	7.6	23.6	31.3	24.1	13.3
Cashier, teller.....	444	123	7.9	18.9	26.1	21.4	25.7
General clerk.....	14,614	90	27.3	34.9	22.2	10.2	5.4
Machine operator.....	5,166	98	14.1	38.2	35.0	10.8	2.0
Bookkeeping or billing.....	2,110	104	8.9	30.8	41.1	16.9	2.3
Calculating.....	1,440	94	11.9	47.8	31.4	6.5	2.4
Tabulating or key punch.....	637	89	22.9	46.4	26.3	3.8	0.6
Addressing.....	609	94	23.5	34.3	33.0	7.6	1.6
Duplicating.....	182	93	23.6	39.6	24.2	11.5	1.1
Other.....	138	102	18.8	26.1	43.5	8.7	2.9
Telephone operator.....	967	109	5.0	26.1	42.0	20.3	6.6
Messenger.....	372	56	94.1	5.4	5	—	—
Supervisor.....	1,543	153	2.1	6.8	14.5	23.0	53.6
Other.....	275	166	2.2	6.5	11.6	17.1	62.5
Merchandising (mail order).....	364	61	83.8	12.1	1.9	.8	1.4

¹ This small group is composed of professional and semiprofessional women such as personnel directors, underwriters, etc.

TABLE 2.—SALARY RANGES OF SPECIFIED OCCUPATIONS IN CLERICAL EMPLOYMENT IN 7 SELECTED CITIES, BY TYPE OF OFFICE

City	Usual salary range			City	Usual salary range		
	Banks	Insurance companies	Public utilities		Banks	Insurance companies	Public utilities
Stenographers:				General clerks:			
New York	\$100-\$165	\$85-\$160	\$95-\$160	New York	\$80-\$160	\$70-\$135	\$75-\$145
Hartford		75- 140		Hartford		65- 125	
Philadelphia	75- 145	75- 135	90- 160	Philadelphia	70- 135	65- 130	75- 140
Atlanta	90- 150	75- 140	85- 155	Atlanta	65- 130	55- 130	70- 140
Chicago	95- 155	75- 140	80- 155	Chicago	85- 155	65- 130	65- 145
Des Moines		75- 130		Des Moines		70- 130	
St. Louis	85- 145	65- 120	75- 125	St. Louis	60- 130	60- 115	60- 115
Typists:				Machine operators:			
New York	90- 135	75- 125	75- 130	New York	90- 135	80- 125	80- 130
Hartford		65- 115		Hartford		65- 110	
Philadelphia	75- 120	65- 110	70- 120	Philadelphia	80- 115	75- 115	75- 120
Atlanta		55- 110		Atlanta			80- 130
Chicago	80- 125	70- 120	75- 140	Chicago	80- 130	80- 135	75- 125
Des Moines		65- 115		Des Moines		70- 125	
St. Louis	60- 110	60- 100		St. Louis	60- 125	65- 110	80- 115

Salaries of those who had been with the office less than a year indicate to some extent beginning rates, though of course these are not exclusively inexperienced women. In advertising in New York early in 1931, women with service of less than a year showed a median of \$113; in Chicago, surveyed 9 or 10 months later, the median was \$107. In banks, \$101 in New York, \$103 in Chicago, and \$82 in Philadelphia were the medians for the beginning group. In insurance offices, \$65 in Hartford to \$77 in Chicago was the range in medians for the first-year group. In investment houses the medians for so little experience were \$104 in New York and \$105 in Chicago. Publishing houses in Philadelphia showed a median of \$64, in New York \$69, and in Chicago \$88. In public utilities the medians for the first year were \$76 for Chicago, \$78 for Philadelphia, \$79 for Atlanta, and \$89 for New York. Mail-order offices showed medians of \$43 in Atlanta and \$66 in Chicago.

Negro Woman Office Workers

EFFORT was made in both Chicago and Atlanta to secure information for Negro women employed in the types of offices studied. The 2 races were not employed together in any office visited, but 5 insurance companies and 1 publisher in Chicago and 2 insurance offices in Atlanta, all controlled and managed by Negro ownership, were found to employ Negroes. In both cities several banks and other types of offices employing Negroes were visited, but they had too few woman employees to form a representative group.

In the 6 Chicago offices 101 colored women, 90 in insurance and 11 in publishing, were included. In insurance their median monthly salary was \$80 as compared to \$94 for white women. In Atlanta insurance offices the median monthly salary for the colored women was \$55 in contrast to \$94 for white women. About one-third of the Negro women (including 11 in publishing) in Chicago and about seven-eighths in Atlanta were on salaries of less than \$75 a month.

Four-fifths in Chicago and 98 percent in Atlanta were on salaries of less than \$100.

The groups were too small to lend themselves to occupational distribution. As was true of all small offices, the proportion on stenographic jobs was high and the others tended to be in the general clerical group.

The amount of general schooling and the attendance at business schools among these colored workers were higher than for the study as a whole. Of 100 women in Chicago who reported education, 50 had completed high school and 34 more had some advanced training. Of 56 in Atlanta, 16 were high-school graduates and 23 more had some advanced training.

The colored women were somewhat older than the white women. The median age for the white women was 25 in both Atlanta and Chicago, but for the colored women the median was 31 in Atlanta and 28 in Chicago. Larger proportions of the colored than of the white women were married. The chief finding seemed to be the much lower salaries paid, with the interesting fact that this was true even though the employers were Negroes.

WORKMEN'S COMPENSATION

Bureau of Labor Statistics Bulletin No. 616
Handbook of Labor Statistics: 1936 edition

Workmen's Compensation in the United States, as of January 1, 1936

UNDER the American system of government each State is a field for experimentation in meeting social problems, and extremely wide experimentation has been made on the subject of compensation for industrial injuries. The laws differ not only in the primary factors of the scope of coverage and the amount of compensation payable, but also in such matters as making the law compulsory or voluntary, the securing or not securing the payments of the benefits, and the methods of administration.

The following analysis of the workmen's compensation systems in effect in the United States is based on the laws and practices as they were on January 1, 1936. A brief account of the development of workmen's compensation in the United States was given in the 1931 Handbook of Labor Statistics (Bul. No. 541).

Forty-six States of the Union have enacted workmen's compensation laws, leaving only Arkansas and Mississippi with no legislation on this subject. In addition to the State laws, Territorial acts have established workmen's compensation in Alaska, Hawaii, Philippine Islands, and Puerto Rico. The Federal Congress has enacted a law covering the District of Columbia; and Federal acts have also been made applicable to all United States civil employees and to longshoremen and harbor workers. For the sake of convenience these 53 acts will be referred to as "State" acts, although they include those applying to the Territories and to subject matter not within the control of the States.

Insurance

WORKMEN'S compensation is based upon the principle that injury to employees is an insurable risk. Therefore the insurance of workmen's compensation risks has become a fixed policy among practically all of the States, although Alaska makes no provision regarding insurance and under the Alabama law insurance is optional.

The laws provide for three general schemes for insuring the risk of liability based on industrial accidents: (a) State insurance fund, (b) private insurance companies, and (c) self-insurance. Approximately 41 State laws permit the employer to be a self-insurer. It is usually required that an employer must be able to satisfy the compensation board that he is financially able to carry his own risks before he is allowed to carry his own insurance.

All States except Nevada, North Dakota, Ohio, Oregon, Washington, West Virginia, and Wyoming allow the employer to insure through private insurance companies. In these States an exclusive State fund is maintained and employers coming under the coverage of the compensation act are required to insure their risk in the State fund, although in Ohio and West Virginia self-insurance is permitted under certain circumstances.

Other States maintain competitive State funds in which the employers may insure their risks, although insurance therein is not compulsory.

Table 1 presents an analysis by States of the provisions in the compensation laws regarding insurance methods and also shows for each compensation State whether the law is compulsory or elective. The table relates only to private employments, as public employees are covered in most States and compulsorily in some where the law is elective as to private employments.

TABLE 1.—COMPENSATION AND INSURANCE SYSTEMS (IN PRIVATE EMPLOYMENTS)

State	Compensation compulsory or elective	Insurance required in--	
		State fund: Exclusive or competitive	Private companies or by self-insurance
Alabama.....	Elective.....	.....	Either.
Alaska.....	do.....	.....	(1)
Arizona.....	Compulsory ²	Competitive.....	Either.
California.....	do.....	do.....	Do.
Colorado.....	Elective.....	do.....	Do.
Connecticut.....	do.....	.....	Do.
Delaware.....	do.....	.....	Do.
District of Columbia.....	Compulsory.....	.....	Do.
Florida.....	Elective.....	.....	Do.
Georgia.....	do.....	.....	Do.
Hawaii.....	Compulsory.....	.....	Do.
Idaho.....	do.....	Competitive.....	Do.
Illinois.....	do.....	.....	Do.
Indiana.....	Elective ³.....	.....	Do.
Iowa.....	do ³.....	.....	Do.
Kansas.....	do.....	.....	Do.
Kentucky.....	do.....	.....	Do.
Louisiana.....	do.....	.....	Do.
Maine.....	do.....	.....	Do.
Maryland.....	Compulsory.....	Competitive.....	Do.
Massachusetts.....	Elective.....	.....	Private companies.
Michigan.....	do.....	Competitive.....	Either.
Minnesota.....	do.....	.....	Do.
Missouri.....	do.....	.....	Do.
Montana.....	do.....	Competitive.....	Do.
Nebraska.....	do.....	.....	Do.
Nevada.....	do.....	Exclusive.....	.....
New Hampshire.....	do.....	.....	Self-insurance.
New Jersey.....	do.....	.....	Either.
New Mexico.....	do.....	.....	Do.
New York.....	Compulsory.....	Competitive.....	Do.
North Carolina.....	Elective.....	.....	Do.
North Dakota.....	Compulsory.....	Exclusive.....	.....
Ohio.....	do.....	do.....	Self-insurance. ⁴
Oklahoma.....	do.....	.....	Either.
Oregon.....	Elective.....	Competitive.....	.....
Pennsylvania.....	do.....	Exclusive.....	.....
Philippine Islands.....	Compulsory.....	Competitive.....	Do.
Puerto Rico.....	do.....	.....	Do.
Rhode Island.....	Elective.....	Exclusive.....	.....
South Carolina.....	do.....	.....	Do.
South Dakota.....	do.....	.....	Do.
Tennessee.....	do.....	.....	Do.
Texas.....	do. ⁵.....	.....	Private companies.
Utah.....	Compulsory.....	Competitive.....	Either.
Vermont.....	Elective.....	.....	Do.
Virginia.....	do.....	.....	Do.
Washington.....	Compulsory.....	Exclusive.....	.....
West Virginia.....	Elective.....	do.....	Self-insurance. ⁴
Wisconsin.....	Compulsory.....	.....	Either.
Wyoming.....	do.....	Exclusive.....	.....
United States: Longshoremen's Act.....	do.....	.....	Do.

¹ No security is required, but in case beneficiary files notice of death claim employer may deposit \$9,000 with clerk of district court or give bond for that amount. In other cases claimant may have a writ of attachment issued unless employer files an undertaking in an amount double that sued for.

² As to employers.

³ Compulsory as to public employees and coal mining.

⁴ Employers accepting the act must furnish proof of solvency or give bond; no other provision as to insurance.

⁵ Compulsory as to motor-bus companies.

Of the 52 compensation acts listed in table 1 (the United States Civil Employee's Act is not listed) 18 are compulsory and 34 are elective. A State insurance system exists in 19 of the States listed. Eight of these funds are monopolistic and 11 are operated on a competitive basis. The provisions of the Idaho statute seem to contemplate an exclusive State fund, but with an option for self-insurance and the deposit of a surety bond or guaranty contract as one means of satisfying the industrial accident board as to the security of payment. The reports of the board indicate however that the system is competitive in practice and that approved private companies are admitted to do business in the State. The laws of Ohio and West Virginia also provide for self-insurance as well as for the State fund, but those States are listed as having monopolistic State funds, as no other means of insurance is provided.

Scope of Coverage

IN NO case does a State compensation law cover all employments in the State. Certain employees are exempt specifically by the act or because the State has no jurisdiction over them. Employees engaged in interstate commerce are not covered by State workmen's compensation laws because such employees are engaged in work which comes under the jurisdiction of the Federal Congress even though the Federal law creates liability but does not provide for compensation. Certain types of employees are not covered by the various laws, as for instance some laws cover only employees engaged in hazardous work. Casual employees are usually exempt, and those engaged in certain occupations, such as agriculture and domestic service, are also excluded from the benefits of most workmen's compensation legislation. Each of these exemptions is covered below.

Numerical exemptions.—The workmen's compensation laws of 27 States provide that employers of less than a stipulated number of employees are exempt from the operation of the acts. Such employers may under most of the laws voluntarily elect to come within the coverage of the acts, as is also the case in regard to employments not classed as hazardous when the law covers only hazardous occupations. Table 2 lists the States in which the number of employees determines the coverage.

TABLE 2.—STATES MAKING NUMERICAL EXEMPTIONS, BY MINIMUM REQUIREMENTS

Employers are exempt who have less than—								
2 employ-ees	3 employ-ees	4 employees	5 employees	6 employees	10 employ-ees	11 employ-ees	15 employ-ees	16 employ-ees
Oklahoma.	Arizona. Florida. ¹ Kentucky. Ohio. Texas. Utah. Wisconsin.	Colorado. New Mexico. New York. ² Puerto Rico.	Alaska. Connecticut. Delaware. Kansas. New Hampshire. North Carolina. ³ Tennessee.	Maine. Rhode Island.	Georgia.	Mis-souri. ² Vermont. Virginia.	South Carolina.	Alabama.

¹ Sawmills (other than tractor sawmills) employing 10 or less are excluded.
² Numerical exemption applies only in case of nonhazardous employments.
³ Sawmill operators with less than 15 employees are excluded.

Agriculture and domestic service.—Agricultural employees are either expressly or impliedly excluded from the operation of all workmen's compensation laws except in Hawaii, New Jersey, Ohio, and Puerto Rico. Domestic servants are also excluded in all laws except in New Jersey. Voluntary election to come within the coverage of the compensation law in these occupations is provided for quite generally, although in some States it appears that their exclusion is intended to be absolute. Employees engaged in threshing grain, etc., are specifically included in Kentucky, Minnesota, and South Dakota (by a separate act) and the law of the Philippine Islands specifically covers employees engaged in the operation of mechanical implements in agriculture.

Hazardous employments.—Twelve State laws apply only to hazardous employments. In these States (Illinois, Kansas, Louisiana, Maryland, Missouri (where there are less than 10 employees), Montana, New Hampshire, New Mexico, Oklahoma, Oregon, Washington, and Wyoming) the industries covered are enumerated, but the list is not complete in several States and in some a blanket clause is used, while in others the administrative agency may make additions. The list may be further extended in some States by court decisions. In the State laws which list the hazardous employments the principal industrial employments are uniformly included, with the one exception of interstate transportation.

Public employments.—The provisions in regard to public employees also lack uniformity. Employees in the service of the State and its subdivisions and municipalities are included generally in the following 33 States:

Arizona (if receiving not over \$2,400).	Montana.	Rhode Island.
California.	Nebraska.	South Carolina.
Colorado.	Nevada.	South Dakota.
Connecticut.	New Jersey.	Utah.
District of Columbia.	New York.	Vermont (if receiving not over \$2,000).
Florida.	North Carolina.	Virginia.
Hawaii.	North Dakota.	West Virginia.
Idaho.	Ohio.	Wisconsin.
Illinois.	Oregon.	United States: Federal employees.
Indiana.	Pennsylvania.	
Louisiana.	Philippine Islands (if receiving not over 2,000 pesos).	
Maine.	Puerto Rico.	
Michigan.		

Public employees are partially included in the laws of 13 additional States:

Aabama.	Kentucky.	Oklahoma.
Delaware.	Maryland.	Washington.
Georgia.	Massachusetts.	Wyoming.
Iowa.	Minnesota.	
Kansas.	New Mexico.	

In the laws of Alaska, Missouri, New Hampshire, Tennessee, and Texas public employees are excluded, although in Missouri and Tennessee the law authorizes an affirmative acceptance of its provision by the State, counties, etc.

Other exclusions.—The compensation laws have various other exclusions not included among those listed above. Employees whose employment is casual and not in the usual course of the em-

ployer's trade or business are quite generally excluded, and out-workers are specifically excluded in a few of the laws. In some States employees receiving above a designated wage or salary are also excluded. Clerical and certain other occupations considered nonhazardous are excluded in several States. Questions involving the coverage of loaned employees, casual employees, and independent contractors have been the basis for much dispute and have been settled in various ways by decisions under each compensation law. The common-law rules determining the master-servant relation or the question of agency have been followed in most instances.

Election

ELECTION is presumed in the absence of active rejection, this presumption affecting both employer and employee, in 25 of the 35 elective States. These 25 States are:

Alabama.	Kansas.	Pennsylvania.
Alaska.	Louisiana.	South Carolina.
Colorado.	Minnesota.	South Dakota.
Connecticut.	Missouri.	Tennessee.
Delaware.	Nebraska.	Vermont.
Florida.	New Jersey.	Virginia.
Georgia.	New Mexico.	Wisconsin. ²
Indiana. ¹	North Carolina.	
Iowa.	Oregon.	

In the 10 other elective States the employer must take positive action, but if he acts the employee's acceptance is presumed, except in Kentucky, where he must sign an acceptance. In 7 of these 10 States (Kentucky, Maine, Michigan, Montana, Nevada, New Hampshire, and Rhode Island) the acceptances are filed with designated State authorities, and in the other 3 States (Massachusetts, Texas,³ and West Virginia⁴) the act of securing insurance signifies election.

As an inducement to election, an employer who has rejected the law is, in any suit brought against him by an employee to recover damages for injury or death, deprived of the common-law defenses of negligence of fellow servant, assumption of risk, and contributory negligence. The employer who has accepted the act is not deprived of these defenses where a rejecting employee brings suit for damages.

Extraterritorial Effect of the Law

In 15 of the States, the workmen's compensation law contains no statement as to whether it applies to accidents happening outside the State, but the courts of 10 of these States have interpreted the law as being applicable to such accidents. In about two-thirds of the States, however, the law is clearly applicable to accidents happening without the particular State. Generally the law specifies that the contract of hire shall have been made within the State, and either that the employee be a resident of the State or that the employer's place of business be within the State.

The different States have various other provisions, presumably enacted in an effort to limit the extraterritorial application of the

¹ Compulsory as to coal mining and public employers.

² Compulsory as to all State, county, etc., and private employments (except farming, domestic service, and work not in the course of the trade, business, etc., of employer) in which 3 or more are employed.

³ Compulsory as to motorbus companies.

⁴ Notice must be posted in place of business.

law, but one State declares the law applies to accidental injury occurring in another State or in a foreign country. Among interesting special provisions are the following: Hawaii provides that jurisdiction of the several boards extends to injuries occurring on vessels operated by residents of the Territory; Maryland holds the law applicable to miners working in parts of mines extending underground into another State; Pennsylvania makes the law applicable to employees temporarily outside the State for not more than 90 days, performing service for an employer whose place of business is within the Commonwealth; while the Utah law, after stating that the law applies to injuries received outside the State if the workman was hired in the State, also declares that if a workman hired outside the State is entitled to compensation under the laws of the State in which hired, he shall be entitled to enforce his rights against his employer in the courts of Utah.

Suits for Damages

SUITS for damages are generally forbidden where both parties have accepted the act, but in New Hampshire (an elective State) the employee may, after injury, choose whether he will proceed under the workmen's compensation act or sue for damages at common law. In most of the States having an elective law if the employer has accepted the act, a rejecting employee may sue, with the employer retaining the common-law defenses.

Upon failure of the employer to secure payment of compensation, or to provide the insurance required by the act, or to pay the premiums, the employee may bring action for damages, with the common-law defenses removed, in the 33 following States:

Arizona.	Missouri.	Rhode Island.
California.	Montana.	South Dakota.
Colorado.	Nebraska.	Tennessee.
Connecticut.	Nevada.	Texas.
Delaware.	New York.	Utah.
District of Columbia.	North Carolina.	Virginia.
Florida.	North Dakota. ⁵	Washington.
Indiana.	Ohio.	West Virginia.
Iowa.	Oklahoma.	Wyoming.
Kentucky.	Oregon.	United States: Long-
Maryland.	Puerto Rico.	shoremen's Act.
Michigan.		

Suit may be brought in 10 States if there is "intent" to injure on the part of the employer, or if the injury is due to his gross negligence or willful misconduct:

Arizona.	Oregon.	Washington.
Kentucky. ⁵	Puerto Rico.	West Virginia.
Maryland.	Texas.	
New Hampshire. ⁶	Utah.	

No suits are permitted after both employer and employee have accepted the provisions of the compensation act, in 18 States:

Alabama.	Kansas.	New Mexico.
Alaska.	Louisiana.	Pennsylvania.
Georgia.	Maine.	Philippine Islands.
Hawaii.	Massachusetts.	South Carolina.
Idaho.	Minnesota.	Vermont.
Illinois. ⁵	New Jersey. ⁵	Wisconsin.

⁵ Illegally employed minor may elect after injury.

⁶ Employee has option after injury to sue at law or to collect compensation under the act.

Waiting Time

Most of the States⁷ specify that compensation shall not be paid for a period of time immediately following the injury. This waiting time varies from a minimum of 3 days to a maximum of 14 days in the various States, with the majority requiring a 7-day waiting period. This period for which no compensation is required to be paid has no relation to the requirement to provide medical and hospital care, as the employee is entitled to these immediately. Nearly all of the States provide, however, that if the disability continues a certain number of weeks, the payment of compensation shall be retroactive to the date of injury. This provision eliminates the danger of hardship being worked upon workmen who are permanently or totally disabled. Table 3 shows the number of days of waiting required by each State, and in the last column gives the number of weeks' disability required for the payment of compensation from the date of injury.

TABLE 3.—WAITING TIME REQUIRED BY EACH STATE, AND TERM REQUIRED FOR FULL PAYMENT

No waiting time	3 or 5 days	7 days	10 or 14 days	Compensation paid for waiting period if disability lasts specified time
Oregon.	Maryland (3). Missouri (3). Oklahoma (5). Utah (3). Washington (3). Wisconsin (3). United States: Civil employees (3).	Alaska. Arizona. California. Connecticut. Delaware. District of Columbia. Georgia. Hawaii. ⁴ Idaho. Illinois. Indiana. Kansas. Kentucky. Louisiana. Maine. Massachusetts. Michigan. Minnesota. Nebraska. Nevada. New Hampshire. New Jersey. New Mexico. New York. North Carolina. North Dakota. Ohio. Pennsylvania. ³ Philippine Islands. ⁵ Puerto Rico. Rhode Island. South Carolina. Tennessee. Texas. Vermont. Virginia. West Virginia. Wyoming. United States: Longshoremen.	Alabama (14). Colorado (10). Florida (14). Iowa (14). ¹ Montana (14). ² South Dakota (10). ³	Alaska (8 weeks). Arizona (2 weeks). Connecticut (4 weeks). Delaware (4 weeks). District of Columbia (7 weeks). Florida (4 weeks). Idaho (4 weeks). ⁴ Illinois (30 days). ⁶ Iowa. ⁷ Louisiana (6 weeks). Massachusetts (4 weeks). Michigan (6 weeks). Minnesota (4 weeks). Missouri (4 weeks). Montana (6 weeks). Nebraska (6 weeks). Nevada (1 week). New Hampshire (1 week). New Jersey (7 weeks). New York (6 weeks). North Carolina (4 weeks). North Dakota (1 week). Rhode Island (4 weeks). South Carolina (4 weeks). South Dakota (6 weeks). Tennessee (6 weeks). Texas (4 weeks). Virginia (6 weeks). West Virginia (3 weeks). Wisconsin (10 days). Wyoming (3 weeks). United States: Longshoremen (7 weeks).

¹ Compensation begins on date of injury in case of permanent partial disability.
² Nonresident beneficiary. If a resident beneficiary, waiting period 1 week, but if disability continues for 3 weeks, compensation payable from date of injury. ³ Unless employer's physician certifies otherwise.
⁴ If disability period exceeds 4 weeks, waiting period is to be reduced by 4 days, and by 1 additional day for each week the total disability exceeds 4 weeks.
⁵ Total disability, but compensation payable from first day of disability in case of partial disability.
⁶ Applies only to temporary total incapacity.
⁷ If compensation extends beyond such number of weeks after injury, compensation for 5th, 6th, and 7th weeks is increased by two-thirds.
⁸ No compensation to injured "work-relief employees" during first 26 weeks of disability, except in cases of permanent injuries in specific schedule or death.
⁹ Oregon requires no waiting time.

Provisions Regarding "Second Injuries"

SPECIFIC provisions regarding the payment of compensation in second-injury cases are included in all the compensation laws except those of Alaska, Hawaii, Louisiana, New Hampshire, Pennsylvania,⁸ Philippine Islands, Puerto Rico, and Vermont.

The provisions regarding second injuries involve the employment of physically defective workmen. An employee who has lost an arm or leg is at a disadvantage in obtaining industrial employment. Among the factors which contribute to this discrimination is the fear among employers that the hiring of a handicapped person will lead to a large number of accidents and increase the cost of accident insurance.

When an employee has sustained an accident causing the loss of a member of the body, and subsequently loses another in a second accident, he becomes permanently and totally disabled, increasing the amount to be paid in the form of workmen's compensation. The States have enacted certain second-injury provisions to cope with this situation. About half of the State laws provide that compensation shall be apportioned according to the disability resulting from injury, the last employer paying only that amount which is based upon the second injury, while other States provide that in determining compensation for the second injury the decreased earning power (because of the first injury) shall be used as a basis in rendering the award. The laws of Delaware, Idaho, Indiana, and Massachusetts provide for payment of compensation for second injuries as if no previous accident had occurred.

Several of the States (California, District of Columbia, Idaho, Illinois, Massachusetts, Minnesota, New Jersey, New York, North Carolina, South Carolina, Utah, and Wisconsin) have provided for the creation of a special "second-injuries fund" so that in the case where a second accident occurs the employer will have to pay only for the second injury, yet the employee is compensated for the injury resulting from the combined injuries, the balance of the award being paid from the second-injury fund.

The method of raising revenue to sustain the second-injury fund differs in the several States. One method which appears popular and satisfactory is to place in the fund the amounts awarded in fatal cases in which it has been determined that there is no person under the law entitled to compensation.

Employers who hire a physically disabled employee are in some States protected against the insurance companies charging a higher premium rate. Self-insured employers, however, are not covered by such provisions, and because of the direct relationship between accidents and costs, the self-insured employer might more readily be guilty of discrimination against the injured employee than the privately insured employer.

⁸ The Supreme Court of Pennsylvania, however, in the case of *Lente v. Lucchi* (275 Pa. 217, 119 Atl. 132) has held that where a claimant lost one of his eyes before he entered a subsequent employment he was not entitled to compensation for total disability upon the loss of a second eye.

Compensation Scale

THE amounts actually payable under the various compensation acts are determined by three factors—the rate, usually a percentage of the wages; the term or period of payment; and in most States a fixed maximum weekly or total payment. The amount and method of payment also differ according to the type of injury. The acts prescribe certain payments in case of death and in case of permanent total disability, and also have specific provisions covering permanent partial disability and temporary total disability.

Percent of wages.—Washington and Wyoming are the only two States which do not base the amount of compensation on the wage received by the injured worker. A few States, however, provide fixed lump sums or pensions for certain injuries, but apply the percentage system to all others. A few States have varying percentages for different types of injuries and in some the percentage varies with conjugal condition and number of children, but, in most cases the prescribed percentage remains uniform for all injuries.

Maximum term and amount.—Only a few of the laws prescribe no maximum term or amount payable in the form of compensation. In the great majority of the laws definite maximums are established. It is obvious that the reduction of a workman's income by one-half or even one-third leaves a large proportion of his loss uncompensated. The burden on the employer is restricted further (and transferred necessarily to the injured employee and his family), since the term of payment is not fixed in most States by the period of disability but by an arbitrary maximum; death benefits likewise rarely continue for the period of their probable need as only about 8 or 10 States provide for payment of benefits during widowhood or minority of children.

Table 4 shows for the various States the percent of wages paid, the maximum number of weeks during which benefits are paid, and the limitation of payments as to weekly and total amounts. This information is given in tabular form for injuries causing death, permanent total disability, permanent partial disability, and temporary total disability. The limitations are in many cases more restrictive for temporary total disability than for permanent total disability, though, where the latter is compensated for life, the former is as a rule compensated during its continuance. In a few cases the rates for temporary disability are higher than for permanent disability.

TABLE 4.—MINIMUM AND MAXIMUM BENEFITS UNDER WORKMEN'S

[Compiled as

State	Death				Permanent total disability					
	Percent of wages	Maximum weeks	Limit of payments		Percent of wages	Maximum weeks	Limit of payments			
			Per week				Total maximum ¹	Total maximum ¹		
			Minimum	Maximum						
Alabama.....	25-65	300	² \$5.00	\$18.00	\$5,400	55-65	500	² \$5.00	³ \$18.00	\$9,000
Alaska.....					9,000					9,000
Arizona.....	15-66½	(⁵)				65	(⁶)			
California.....	65		4.17	25.00	5,000	65	240	4.17	25.00	\$5,000
Colorado.....	50	312	5.00	14.00	4,375	50	(⁶)	5.00	14.00	
Connecticut.....	50	312	5.00	21.00	6,552	50	520	5.00	21.00	10,920
Delaware.....	15-60	285	6.00	18.00	5,130	50	475	² 5.00	15.00	4,000
District of Columbia.....	15-66½	(⁵)	² 8.00	25.00	7,500	66½	(⁴)	² 8.00	25.00	7,500
Florida.....	35-60	350	² 4.00	18.00	5,000	50-60	350	² 4.00	18.00	5,000
Georgia.....	42½	300	3.40	12.75	3,825	50	350	² 4.00	15.00	5,000
Hawaii.....	25-60	312	3.00	21.60	5,000	60	312	5.00	20.00	5,000
Idaho.....	10-55	400	² 6.00	12.00	4,800	55-60	400	8.00	16.00	¹¹ 6,400
Illinois.....	50-65	275	7.50	20.00	5,500	50-65	416	14.00	20.00	¹² 4,000
Indiana.....	55	300	² 8.30	16.50	5,000	55	500	² 8.30	16.50	5,000
Iowa.....	60	300	6.00	15.00	4,500	60	400	² 6.00	15.00	6,000
Kansas.....	60	300	6.00	18.00	4,000	60	416	6.00	18.00	7,488
Kentucky.....	65	335	5.00	12.00	4,000	65	416	5.00	15.00	6,000
Louisiana.....	32½-65	300	² 3.00	20.00	6,000	65	400	² 3.00	20.00	8,000
Maine.....	66½	300	6.00	18.00	4,000	66½	500	6.00	18.00	6,000
Maryland.....	66½	416	² 8.00	18.00	5,000	66½	(⁴)	² 8.00	20.00	5,000
Massachusetts.....	66½	500	4.00	14.00	6,400	66½	(⁴)	² 9.00	18.00	
Michigan.....	66½	300	7.00	18.00	5,400	66½	500	7.00	18.00	9,000
Minnesota.....	30-66½	300	² 8.00	20.00	7,500	66½	300	² 8.00	20.00	10,000
Missouri.....	66½	300	6.00	20.00	6,000	66½	300	6.00	20.00	¹⁶ 8,000
Montana.....	30-66½	400	8.00	21.00	8,400	50-66½	500	8.00	21.00	10,500
Nebraska.....	66½	325	² 6.00	15.00	4,875	66½	300	² 6.00	15.00	(¹⁷)
Nevada.....	10-66½	(³)		18.46		60	(⁹)	6.92	13.85	(¹⁸)
New Hampshire.....	(¹⁹)				4,500	50	300	7.00	15.00	4,500
New Jersey.....	35-60	500	² 10.00	20.00	5,000	66½	400	² 10.00	20.00	²⁰ 8,000
New Mexico.....	15-60	300		18.00	5,400	55	550	² 8.00	15.00	8,250
New York.....	15-66½	(⁴)		23.08		66½	(⁹)	² 15.00	25.00	
North Carolina.....	60	350	7.00	18.00	6,000	60	400	7.00	18.00	6,000
North Dakota.....	10-66½	(³)	3.60	20.00	15,000	66½	(⁴)	² 6.00	20.00	15,000
Ohio.....	66½	416		18.75	6,500	66½	(⁹)	² 5.00	18.75	
Oklahoma.....						66½	500	² 8.00	18.00	9,000
Oregon.....		(²¹)	²² 3.46	(²³)		(¹)	6.92	(²³)		
Pennsylvania.....	25-65	²⁴ 300	1.80	15.00	(²⁴)	65	500	² 7.00	15.00	8,500
Philippine Islands.....	25-60	208	²⁵ 4.00	²⁶ 30.00	²⁵ 3,000	60	208	²⁵ 4.00	²⁶ 18.00	²⁵ 3,000
Puerto Rico.....					3,000	50	340	3.00	10.00	3,000
Rhode Island.....	50	300	6.00	14.00	4,200	50	500	7.00	16.00	5,000
South Carolina.....	50	350	5.00	25.00	5,500	50	500	5.00	25.00	5,500
South Dakota.....					3,000	55	(⁴)	² 7.50	15.00	3,000
Tennessee.....	50	400	² 5.00	16.00	5,000	50	550	5.00	³ 16.00	5,000
Texas.....	60	360	7.00	20.00	7,200	60	401	7.00	20.00	8,020
Utah.....	60	312		16.00	5,000	60	260	7.00	16.00	²⁸ 4,160
Vermont.....	15-45	260			3,500	50	260	² 6.00	15.00	4,000
Virginia.....	55	300	6.00	14.00	5,000	55	500	6.00	14.00	5,000
Washington.....	(⁵)	(⁵)	²² 8.08	(²⁷)				8.08	(²⁸)	
West Virginia.....	(⁵)	(⁵)	²² 7.00	(³⁰)		66½	(⁹)	8.00	16.00	
Wisconsin.....	65		13.00	19.50	6,000	70	1,000	14.00	21.00	21,000
Wyoming.....			(³⁴)	(³⁵)	3,600			(³⁶)	(³⁷)	8,000
United States: Civil employees.....	10-66½	(⁶)	13.46	26.92	66½	(¹)	² 13.46	26.92		
Longshoremen.....	15-66½	(⁶)	² 8.00	25.00	7,500	66½	(¹)	² 8.00	25.00	17,500

¹ Total maximum payments computed by Bureau of Labor Statistics, where not stipulated by law.
² Or actual wages, if less than minimum amount listed. ³ \$5 after 400 weeks.
⁴ During period of disability. ⁵ During widowhood or specified minority age of children.
⁶ Life. ⁷ In addition to compensation for temporary total disability.
⁸ Plus \$10 per month for dependents. ⁹ Plus 40 percent of wages thereafter for life.
¹⁰ Plus life pension of 1 to 40 percent for over 60 percent disability. ¹¹ Plus \$6 per week thereafter.
¹² Plus life pension of from 8 to 12 percent of total previous payments.
¹³ Plus 66½ percent of wage loss for maximum of 300 weeks.
¹⁴ If widow alone, \$10 per week, \$2 additional for each child for maximum of 400 weeks.
¹⁵ Includes healing and rehabilitation periods of 25 weeks each.
¹⁶ Plus 25 percent of wages thereafter for life.
¹⁷ Plus 45 percent of wages thereafter, subject to a minimum of \$4.50 or actual wages, if less than minimum, and maximum of \$10.
¹⁸ Plus \$6.92 per week for constant attendant, if necessary.
¹⁹ 150 times the average weekly earnings, not to exceed \$4,500.
²⁰ Plus reduced compensation during rehabilitation period following.
²¹ Plus maximum of \$2,500 for disfigurement, if any.
²² Or 50 percent of previous average monthly support.

COMPENSATION LAWS BY EXTENT OF DISABILITY AND BY STATES

of Jan. 1, 1936]

Permanent partial disability				Temporary total disability					State	
Percent of wages	Maximum weeks	Limit of payments			Percent of wages	Maximum weeks	Limit of payments			
		Per week		Total maximum ¹			Per week			Total maximum ¹
		Minimum	Maximum				Minimum	Maximum		
55-65	400	² \$5.00	³ \$18.00	⁷ \$7,200	55-65	300	² \$5.00	³ \$18.00	⁵ \$4,400	Alabama.
55	240			⁷ 7,200	65	(⁴)				Alaska.
65	240	4.17	25.00	(¹⁰)	65	400				Arizona.
50	208	5.00	14.00	⁷ 4,140	50	(⁴)	5.00	14.00	6,000	California.
50	225	5.00	21.00	⁷ 4,725	50	520	5.00	21.00	10,920	Colorado.
50	194	² 5.00	15.00	² 2,910	50	475	² 5.00	15.00	4,000	Connecticut.
66½	288	² 8.00	25.00	⁷ 7,500	66½	(⁴)	² 8.00	25.00	7,500	Delaware.
50-60	350	² 4.00	18.00	5,000	50-60	350	² 4.00	18.00	5,000	District of Columbia.
50	200	² 4.00	15.00	⁷ 5,000	50	350	² 4.00	15.00	5,000	Florida.
50	312	² 5.00	12.00	5,000	60	312	² 5.00	20.00	5,000	Georgia.
55	237		16.00	⁷ 3,792	55-60	400	8.00	16.00	¹¹ 6,400	Hawaii.
50-65	289	14.00	20.00	⁷ 5,780	50-65	(⁴)	7.50	20.00	4,000	Idaho.
55	500	² 8.80	16.50	5,000	55	500	² 8.80	16.50	5,000	Illinois.
60	225	² 6.00	15.00	3,375	60	300	² 6.00	15.00	4,500	Indiana.
60	210		18.00	3,780	60	416	6.00	18.00	7,488	Iowa.
65	335	5.00	12.00	4,000	65	416	5.00	15.00	6,000	Kansas.
65	400	² 3.00	20.00	8,000	65	300	² 3.00	20.00	6,000	Kentucky.
66½	150	6.00	18.00	(¹³)	66½	500	6.00	18.00	6,000	Louisiana.
66½	200	² 8.00	18.00	³ 7,500	66½	312	² 8.00	20.00	3,750	Maine.
	75		10.00	⁷ 750	66½	500	² 9.00	18.00	4,500	Maryland.
66½	200	7.00	18.00	3,600	66½	500	7.00	18.00	9,000	Massachusetts.
66½	450	² 8.00	20.00	9,000	66½	300	² 8.00	20.00	6,000	Michigan.
66½	400	6.00	20.00	8,000	66½	400	6.00	20.00	8,000	Minnesota.
50-66½	500	8.00	21.00	10,500	50-66½	300	8.00	21.00	6,300	Missouri.
66½	225	² 6.00	15.00	⁷ 3,375	66½	300	² 6.00	15.00	(¹⁷)	Montana.
50	260	6.92	13.85	⁷ 3,600	60	433	6.92	16.62	⁸ 7,200	Nebraska.
50	300	7.00	15.00	4,500	50	300	7.00	15.00	4,500	Nevada.
66½	230	² 10.00	20.00	⁷ 4,600	66½	300	² 10.00	20.00	6,000	New Hampshire.
55	150	² 8.00	15.00	⁷ 3,000	55	550	² 8.00	15.00	8,250	New Jersey.
66½	312	² 8.00	25.00	⁷ 6,240	66½	(⁴)	² 8.00	25.00	5,000	New Mexico.
60	200	7.00	18.00	²¹ 3,600	60	400	7.00	18.00	6,000	New York.
66½	450	6.00	20.00	9,000	66½	(⁴)	² 6.00	20.00		North Carolina.
66½	215	² 5.00	18.75	⁷ 4,000	66½	312	² 5.00	18.75	3,750	North Dakota.
66½	250	² 8.00	18.00	4,500	66½	300	² 8.00	18.00	5,400	Ohio.
			11.54	⁷ 2,400	40-66½	(⁴)	² 6.92	22.38		Oklahoma.
65	215	² 7.00	15.00	3,225	65	500	² 7.00	15.00	6,500	Oregon.
50	208		²³ 10.00	²³ 3,000	60	208	²³ 4.00	²³ 18.00	3,000	Pennsylvania.
50	300	1.50	10.00	2,000	50	104	1.50	10.00	1,040	Philippine Islands.
50	300	4.00	10.00	⁷ 4,200	50	500	7.00	16.00	5,000	Puerto Rico.
50	200	5.00	25.00	5,500	50	500	5.00	25.00	5,000	Rhode Island.
55	200	² 7.50	15.00	⁷ 3,000	55				5,500	South Carolina.
60	400	² 5.00	16.00	6,400	55				3,000	South Dakota.
60	300	7.00	20.00	6,000	60	300	² 5.00	16.00	4,800	Tennessee.
60	200		16.00	⁷ 5,000	60	401	7.00	20.00	8,020	Texas.
60	170	² 6.00	15.00	⁷ 2,550	60	312	² 7.00	16.00	5,000	Utah.
55	200	6.00	14.00	5,600	55	500	6.00	14.00	5,600	Vermont.
				3,000		(⁴)			(²⁴)	Virginia.
66½	³¹ 340	8.00	16.00		66½	78	8.00	16.00	1,248	Washington.
70	³² 500	7.35	21.00	³³ 10,500	70	(⁴)	7.35	21.00	6,000	West Virginia.
		(³⁶)	(³⁵)	⁷ 2,000		(⁴)	(³⁶)	(³⁷)	8,000	Wisconsin.
(⁴⁰)	(⁴)		26.92		66½	(⁴)	² 13.46	26.92		Wyoming.
66½	288	² 8.00	25.00	⁷ 7,500	66½	(⁴)	² 8.00	25.00	⁷ 5,500	United States: Civil employees. Longshoremen.

²² \$30 per month for widow or wife, plus \$8 per month for each dependent child.
²⁴ Continued until all dependents attain age of 16 years.
²⁵ Pesos.
²⁶ Plus 45 percent of wages thereafter for life.
²⁷ \$60 per month to widow with 2 children, plus \$5 for each additional child.
²⁸ \$60 per month, if wife and 3 children, plus \$5 for each additional child, plus \$25 for constant attendant if necessary.
²⁹ Same as for permanent disability (see footnote ²⁵), except \$5 per month additional during first 6 months.
³⁰ \$30 per month to widow, plus \$5 for each child.
³¹ Payment for life if disability is over 85 percent.
³² Increased or decreased up to 15 percent for employers or employees violating safety regulations—treble compensation for minors illegally employed.
³³ Plus 70 percent of earnings for healing period.
³⁴ \$120 per year to 1 child.
³⁵ \$45 per month for widow, total \$2,000. Plus \$120 per year for each child, total \$3,600.
³⁶ \$50 per month.
³⁷ \$60 per month, plus \$120 per year for each child.
³⁸ \$60 per month.
³⁹ \$90 per month.
⁴⁰ 66½ percent of wage loss.

Death benefits.—As table 4 clearly shows, the methods provided for determining compensation for death vary considerably and do not in all cases depend upon the fact that the deceased was an actual financial benefit to his dependents. Most of the States have not been very liberal in prescribing the amount of compensation to be paid dependents, although several of the laws have been amended in recent years to increase the amount. In Arizona, Nevada, New York, Oregon, Washington, West Virginia, and United States (Civil Employees Act), the law provides for the payment of benefits to a widow for life or until remarriage, and in the case of children until a specified age is reached. Three other laws (Minnesota, North Dakota, and the Longshoremen's Act) have a similar provision, but limit the total amount payable. In Utah the industrial commission is given authority to pay benefits indefinitely in meritorious cases. Oklahoma pays no death benefits, as to do so would be in violation of the State constitution. A few States limit the death benefits to monthly payments payable for a specified period; others set a total maximum ranging from \$3,000 to \$15,000. The experience of the State compensation commissions as contained in many reports, etc., indicates that a life benefit to the widow, with additional amounts for each child under the age of 18, is the most rational system to adopt in rendering assistance to the dependents following the death of a workman in an industrial accident.

The remarriage of the widow terminates the benefits in about half of the States, although in a few States a lump sum is payable upon remarriage.

Funeral benefits are provided in practically all the laws, but the Puerto Rico and Oklahoma laws make no provision for funeral expenses.

Disability benefits.—Compensation is paid in four designated classes of disability, i. e., permanent total, permanent partial, temporary total, and temporary partial. The term disability has been defined in varying ways by the courts in interpreting State compensation laws. Some hold that it means inability to earn wages, or full wages, at the work in which the employee was working at the time of the injury, other courts hold it means inability to perform any kind of work which may be obtained, and some few courts have interpreted it to mean inability to secure work.

Table 4 shows that there is an apparent tendency to recognize the greater economic loss in case of permanent total disability than in the case of death. Death benefits continue under 10 laws for life or until remarriage of the widow, while under 20 State laws⁹ life benefits are paid for permanent total disability. This provision is qualified in a few States by a limitation on the total amount payable, as \$3,000 in

⁹ Arizona, California, Colorado, District of Columbia, Idaho, Illinois, Maryland, Minnesota, Missouri, Nebraska, Nevada, New York, North Dakota, Ohio, Oregon, South Dakota, Utah, West Virginia, and United States (Civil Employees' and Longshoremen's Acts).

South Dakota or \$5,000 in Maryland. The District of Columbia and the Longshoremen's Act have a maximum of \$7,500. The \$10,000 fixed in Minnesota would be exhausted in 500 weeks at the maximum allowed rate of \$20 per week. A comparative liberality in term of payment is affected by the maximum amount payable.

Fixed Periods for Permanent Partial Disability Payments

IN RENDERING awards of compensation for injuries causing permanent partial disability the awards are made in two ways—one by paying a percentage of the wage loss, the other by payments for fixed periods for specified injuries. These two methods exist side by side in most States, all the laws but that of New Hampshire and the Federal civil employees statute having schedules covering certain specified injuries, while those not included therein are compensated on a percentage basis. In Alaska, Washington, and Wyoming the payments are fixed sums, but in all other States the schedule payments are weekly amounts based on the wages.

The schedule provisions in some States provide for payments in addition to the period of total disability (healing period) or they may cover the entire allowance for injury other than medical aid. Such payments are exclusive in 29 States¹⁰ and are in addition to the healing period in 22 States.¹¹ In Maine the payment prescribed in the schedule is in lieu of temporary total disability payments but subsequent partial disability is compensated for not more than 300 weeks from the date of the injury. Under the Massachusetts law compensation is paid for the term of total disability, and also for partial disability after the schedule period; the same is true in Rhode Island, subject to a maximum term of 300 weeks. Schedule payments are normally in lieu of all other payments under the New York and District of Columbia laws and also the Longshoremen's Act, but if the period of temporary total disability is protracted beyond designated periods the schedule period is extended correspondingly. In Georgia a uniform period of 10 weeks is allowed as healing time. The number of weeks provided by law, during which compensation is payable for specified injuries under the compensation laws of the several States, are shown in table 5.

¹⁰ Alabama, Alaska, California, Delaware, District of Columbia, Florida, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Michigan, Missouri, Montana, New York, North Carolina, North Dakota, Oklahoma, Pennsylvania, Philippines, South Carolina, Tennessee, Texas, Virginia, West Virginia, Washington, Wisconsin, United States Longshoremen's Act.

¹¹ Arizona, Colorado, Connecticut, Georgia, Hawaii, Idaho, Illinois, Maryland, Massachusetts, Minnesota, Nebraska, Nevada, New Jersey, New Mexico, Ohio, Oregon, Puerto Rico, Rhode Island, South Dakota, Utah, Vermont, and Wyoming.

TABLE 5.—NUMBER OF WEEKS FOR WHICH COMPENSATION IS PAYABLE FOR SPECIFIED INJURIES IN THE SEVERAL STATES

State	Loss of—													Hear- ing, 1 ear	Hear- ing, both ears
	Arm (at shoul- der)	Hand	Thumb	In- dex fin- ger	Mid- dle fin- ger	Ring fin- ger	Little fin- ger	Leg (at hip)	Foot	Great toe	Other toe	Sight of 1 eye			
Ala. ¹	200	150	60	45	30	20	15	175	125	30	10	100	-----	150	
Ariz. ²	260	217	65	39	30	22	17	217	173	30	11	108	87	260	
Calif. ¹	246	186	42	34	25	25	16	246	166	34	8	125	42	166	
Colo. ³	208	104	35	18	13	7	9	208	104	18	4	104	35	139	
Conn. ²	225	175	60	38	30	25	20	208	156	38	13	208	52	156	
Del. ¹	194	158	60	35	30	20	15	194	135	30	10	113	-----	-----	
D. C. ⁴	280	212	51	28	18	17	7	248	173	26	8	140	52	200	
Fla. ¹	200	150	60	35	30	20	15	175	125	30	10	100	40	150	
Ga. ²	200	150	30	35	30	20	15	175	125	30	10	100	-----	150	
Hawaii ⁵	312	244	60	46	30	25	15	288	205	38	16	128	60	312	
Idaho ⁶	240	200	40	35	30	20	15	180	125	15	6	120	35	115	
Ill. ²	225	170	70	40	35	25	20	190	135	35	12	120	50	125	
Ind. ¹	250	200	60	40	35	30	20	200	150	60	20	150	-----	200	
Iowa ¹	225	150	40	30	25	20	15	200	125	25	15	100	50	150	
Kans. ¹	210	150	60	37	30	20	15	200	125	30	10	110	25	100	
Ky. ¹	200	150	60	45	30	20	15	200	125	30	10	100	-----	-----	
La. ¹	200	150	50	30	20	20	20	175	125	20	10	100	-----	-----	
Maine ⁶	150	125	50	30	25	18	15	150	125	25	10	100	-----	-----	
Md. ²	200	150	50	30	25	20	15	175	150	25	10	100	50	100	
Mass. ⁷	8 50	8 50	40	20	12	12	12	50	50	12	12	50	-----	-----	
Mich. ¹	200	150	60	35	30	20	15	175	125	30	10	100	-----	-----	
Minn. ²	200	175	60	35	30	20	15	200	150	30	10	100	52	156	
Mo. ¹	232	175	60	45	35	35	22	207	150	40	14	108	44	168	
Mont. ¹	200	150	30	20	15	12	9	200	125	15	6	100	20	120	
Nebr. ²	225	175	60	35	30	20	15	215	150	30	10	125	50	100	
Nev. ²	260	217	65	39	30	22	17	217	173	30	11	108	87	260	
N. J. ²	230	175	65	40	30	20	15	175	125	30	10	100	40	160	
N. Mex. ²	150	110	30	20	15	10	12	140	100	15	8	100	35	135	
N. Y. ⁴	312	244	75	46	30	25	15	288	205	38	16	160	60	150	
N. C. ¹	200	150	60	35	30	20	15	175	125	30	10	100	70	150	
N. Dak. ¹	234	195	45	29½	24¾	15¾	13½	234	136½	19½	7½	100	29¼	156	
Ohio ²	215	165	60	35	30	20	15	190	140	30	10	125	-----	-----	
Okla. ¹	250	200	60	35	30	20	15	175	150	30	10	100	-----	-----	
Oreg. ²	416	329	104	69	39	35	26	381	277	43	17	173	156	416	
Pa. ¹	215	175	60	35	30	20	15	215	150	-----	-----	125	-----	-----	
P. I. ¹	208	160	40	30	25	20	10	190	130	25	10	100	40	208	
P. R. ²	300	200	25	25	20	20	10	250	160	25	10	125	25	200	
R. I. ²	100	80	25	18	13	10	9	100	70	15	5	80	-----	-----	
S. C. ¹	200	150	60	35	30	20	15	175	125	30	10	100	70	150	
S. Dak. ²	200	150	50	35	30	20	15	160	125	30	10	100	-----	-----	
Tenn. ¹	200	150	60	35	30	20	15	175	125	30	10	100	-----	150	
Tex. ¹	200	150	60	45	30	21	15	200	125	30	10	100	-----	150	
Utah ²	200	150	30	20	15	12	9	180	125	15	6	100	-----	-----	
Vt. ²	170	140	40	25	20	15	10	170	120	20	8	100	42½	170	
Va. ¹	200	150	60	35	30	20	15	175	125	30	10	100	50	-----	
W. Va. ²	240	200	80	40	28	20	20	180	140	40	16	132	-----	-----	
Wis. ²	500	333½	100	35	25	15	16	500	250	25	8	250	50	333½	
U. S. ⁹	280	212	51	28	18	17	7	248	173	26	8	140	52	200	

¹ Payments under this schedule are exclusive of or in lieu of all other payments.

² Payments under this schedule are in addition to payments for temporary total disability during the healing period.

³ Compensation varies with occupation and age. Figures given are for laborer, 45 years of age.

⁴ In lieu of other payments unless period of temporary total disability exceeds fixed periods for each class of injury.

⁵ Payments under this schedule are in addition to payments for temporary total disability during the healing period. 99 percent of specific schedule to be paid employee. Employer must pay 2 percent additional to specific indemnity fund.

⁶ Payments cover total disability. Partial disability based upon wage loss may be compensated at end of periods given for not over 300 weeks in all.

⁷ Payments under this schedule are in addition to payments for temporary total and permanent partial disability.

⁸ Right hand, 75 weeks.

⁹ Longshoremen. In lieu of other payments unless period of temporary total disability exceeds fixed period for each class of injury.

Medical Benefits

ALL STATE compensation laws provide for medical aid to injured employees. As table 6 indicates, in 14 State laws neither the amount nor the time during which aid shall be rendered is limited; 10 States place a limitation on the amount but set no limit on the time, while 13 States limit the time but place no restrictions on the amount; and in 15 States both the amount and time are limited.

TABLE 6.—STATES LIMITING TIME AND AMOUNT OF MEDICAL BENEFITS

Neither time nor amount limited	No limitation on amount	No limitation on time	Both amount and time limited
California. Connecticut. District of Columbia. Hawaii. Idaho. Illinois. Minnesota. Nebraska. New York. North Dakota. Philippines. Puerto Rico. Washington. United States.	Alaska. Arizona. Indiana. Massachusetts. Michigan. Nevada. New Hampshire. North Carolina. Oklahoma. South Carolina. ¹ Texas. Virginia. Wisconsin.	Florida. Louisiana. Maryland. New Jersey. New Mexico. Ohio. Oregon. Utah. West Virginia. Wyoming.	Alabama. Colorado. Delaware. ¹ Georgia. ¹ Iowa. ¹ Kansas. ¹ Kentucky. ¹ Maine. ¹ Missouri. ¹ Montana. Pennsylvania. ¹ Rhode Island. South Dakota. Tennessee. Vermont.

¹ Additional services in special cases or in discretion of commission.

In the great majority of State compensation systems medical benefits are without cost to the workmen, but to maintain a medical fund the employer may deduct from the employee's wages \$2.50 per month in Alaska, one-half the cost but not over \$1 per month in Arizona and Nevada, and one-half the cost in Washington. Table 7 presents the facts regarding medical benefits in more detail:

TABLE 7.—MAXIMUM PERIODS AND AMOUNTS OF MEDICAL SERVICE UNDER VARIOUS COMPENSATION LAWS

State	Maximum period	Maximum amount	State	Maximum period	Maximum amount
Alabama	90 days	\$200	New Hampshire	30 days	Unlimited
Alaska	1 year	² Unlimited	New Jersey	Unlimited	¹ \$100
Arizona	90 days ¹	² Unlimited	New Mexico	do	350
California	Unlimited	Unlimited	New York	do	Unlimited
Colorado	4 months	500	North Carolina	10 weeks ¹	Unlimited
Connecticut	Unlimited	Unlimited	North Dakota	Unlimited	Unlimited
Delaware	30 days ¹	¹ 150	Ohio	do	¹ 200
District of Columbia	Unlimited	Unlimited	Oklahoma	60 days ¹	Unlimited
Florida	do	250	Oregon	Unlimited	¹ 250
Georgia	30 days ¹	100	Pennsylvania	30 days	¹ 100
Hawaii	Unlimited	Unlimited	Philippines	Unlimited	Unlimited
Idaho	do	Unlimited	Puerto Rico	do	Unlimited
Illinois	do	Unlimited	Rhode Island	8 weeks	150
Indiana	30 days ¹	Unlimited	South Carolina	10 weeks	Unlimited
Iowa	4 weeks	¹ 100	South Dakota	12 weeks	200
Kansas	60 days	¹ 100	Tennessee	30 days	100
Kentucky	90 days ¹	¹ 100	Texas	4 weeks ¹	Unlimited
Louisiana	Unlimited	250	Utah	Unlimited	¹ 500
Maine	30 days ¹	¹ 100	Vermont	2 weeks	³ 50
Maryland	Unlimited	500	Virginia	60 days ⁴	Unlimited
Massachusetts	2 weeks ¹	Unlimited	Washington	Unlimited ²	Unlimited
Michigan	90 days	Unlimited	West Virginia	do	300
Minnesota	Unlimited	Unlimited	Wisconsin	90 days ¹	Unlimited
Missouri	90 days ¹	750	Wyoming	Unlimited	300
Montana	6 months ¹	500	United States:		
Nebraska	Unlimited	Unlimited	Civil employees	do	Unlimited
Nevada	6 months ¹	² Unlimited	Longshoremen	do	Unlimited

¹ Additional service in special cases or at discretion of commission.

² Also hospital first 30 days, maximum, \$150.

³ Extended in unusual cases. Not to exceed 180 days.

⁴ Employees contribute.

Administration and Settlement of Claims

THERE are two general methods used in administering the workmen's compensation laws—(1) by an administrative commission or board created for the purpose of enforcing the provisions of the law and (2) by the courts of the State. When administration is left to the courts it is usually because no other machinery for administration has been created and this law, like other laws, is enforced in the various State and county courts.

The desirability of an administrative agency charged specifically with the supervision of the compensation laws is recognized by all but seven States (Alabama, Alaska, Louisiana, New Hampshire, New Mexico, Tennessee, and Wyoming). However in Alabama there is a limited supervision by the compensation commissioner, and in Wyoming the workmen's compensation fund is under the supervision of the State treasurer. In these seven States the agreement between the parties may be without supervision or there may be provision for approval by the court. Summary procedure is generally directed, but a jury trial may be demanded in certain cases. The major difficulties of court administration have been summed up as (1) delay of court procedure, (2) the cost of court procedure, and (3) the unfitness of the courts for the settlement of compensation. A complete understanding of industrial conditions is essential in a successful administration of the laws. The vital factors in successful administration are the giving of prompt, honest, and full compensation and immediate medical aid, as required by the law. To achieve these purposes an administrative board or commission is almost essential.

Where the law is administered by a commission or board, appeals to courts are usually limited to questions of law, the determination of facts being left to the exclusive jurisdiction of the commission.

Accident Reporting and Prevention

ONLY 26 State acts¹² require that reports be made of all industrial accidents. In addition 13 acts¹³ require reports of accidents which cause disability of 1 day or more, while Pennsylvania requires reports on all accidents causing disability for more than 2 days, North Carolina and South Carolina on accidents causing disability for more than 3 days, Georgia,¹⁴ Rhode Island, and Tennessee when disability is for 1 week, Illinois when disability is for more than 1 week, and Alabama when the disability is for more than 2 weeks. In Nebraska, New Hampshire, West Virginia, and Wisconsin, accident reports are submitted in the manner and at the times required by the administrative authorities. There is no provision in the workmen's compensation laws of Alaska and Louisiana, but by separate act Alaska provides for the reporting of accidents in coal mines, and in Louisiana reports of records kept on accidents are submitted as required by the commission.

These provisions of the State compensation laws clearly illustrate the lack of uniformity on the subject of accident reporting. The importance of complete reports showing causes, nature, severity, and

¹² Arizona, Colorado, Delaware, District of Columbia, Florida, Maine, Maryland, Massachusetts; Michigan, Missouri, Montana, Nevada, New Jersey, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Puerto Rico, South Dakota, Utah, Virginia, Washington, Wyoming, and the United States (Civil Employees and Longshoremen's Acts).

¹³ 1 day: California, Connecticut, Hawaii, Idaho, Minnesota, Philippine Islands, and Vermont. More than 1 day: Indiana, Iowa, Kansas, Kentucky, New York, and Texas.

¹⁴ Or accident requiring medical aid.

costs has been too little recognized, even among those charged with the administration of the laws, while the employer has been too prone to minimize or disregard the occurrence of accidents except as an unfortunate incident, involving some form of liability.

Existing deficiencies in the compensation laws in regard to accident reporting and prevention are offset to some extent by the fact that most industrial States have inspection agencies which are charged with the duties of prevention, chiefly by way of enforcing safety statutes although some agencies also prescribe standards. Some development has been made in the direction of combining compensation administration with the enforcement of labor laws generally, although the majority of the States distribute the responsibility between several agencies. However in 19¹⁵ States the agency administering the compensation law is also given certain additional powers as to safety devices, inspection, etc.

Cost of Compensation

UNDER the great majority of the laws the cost of compensation falls entirely upon the employer, although in the States having a State fund some small part of the cost is shifted to the public. Those States having laws which allow contributions by the employees are: Oregon, in which deductions of 1 per cent from wages are made to cover cost of compensation; Alaska, Arizona, Nevada, and Washington, where employees contribute to the medical benefit fund; and Colorado, Idaho, Montana, and Oregon, in which States the employees may contribute toward cooperative hospitals, etc.

Nonresident Alien Dependents

WHILE none of the compensation acts make distinction between resident aliens and resident citizens, the question of discriminatory treatment of alien nonresident dependents came with the enactment of compensation laws. Under the liability system, the rule had become almost universal that they should have the same status as residents or citizens of the States; but of the 22 State compensation laws on the statute books at the close of the year 1913 nearly one-third (7) made discriminations unfavorable to such claimants, while in 1916, of 35 States, nearly one-half effected discriminations. At the present time, of 53 laws analyzed, 35 have provisions more or less discriminatory, so that an increasing tendency in the direction of less favorable treatment is recognizable. This may be by way of exclusion, reduced benefits, permitting commutations to lump sums in reduced amounts, restricting possible beneficiaries to persons of designated relationship (a provision that may exist alone or in connection with reduced benefits), not extending the presumption of dependency to aliens who are nonresidents, or excluding payments to beneficiaries in countries with which the United States does not maintain diplomatic relations.

In 6 States nonresident aliens are placed on the same footing as residents, while in 10 they are not mentioned. In 4 of the latter (Indiana, Massachusetts, North Dakota, and Rhode Island) they have been included by administrative or court action, as is the case with the Federal employees' statute.

¹⁵ Arizona, California, Colorado, Florida, Hawaii, Idaho, Maryland, Massachusetts, Montana, New York, North Dakota, Ohio, Oregon, Pennsylvania, Puerto Rico, Utah, Vermont, Washington, and West Virginia.

A number of States except residents of Canada from their discriminatory provisions, or declare such provisions subject to conflicting terms of any treaty, or deny all benefits to aliens whose national laws would exclude citizens of the United States in like circumstances. Table 8 analyzes the provisions regarding nonresident alien dependents.

TABLE 8.—STATES HAVING DISCRIMINATORY PROVISIONS REGARDING NONRESIDENT ALIEN DEPENDENTS¹

Exclusion	Reduced benefits	Permitting commutations to lump sums in reduced amounts	Restricting possible beneficiaries	Presumption of dependency destroyed	Excluding payments to dependents in countries not maintaining diplomatic relations with United States	Placed on same footing as resident dependents	No provision
Alabama. Hawaii. New Mexico. Philippines. South Dakota.	Alaska. Arizona. Colorado. Delaware. Florida. Georgia. Idaho. Illinois. Iowa. ² Kansas. Kentucky. Maine. Michigan. Montana. Nevada. Oregon. Pennsylvania. Utah. Virginia. Washington. Wyoming.	District of Columbia. Kentucky. Maryland. New York. Oklahoma. Pennsylvania. South Carolina. United States. ³	Delaware. District of Columbia. Florida. Illinois. Kentucky. Maryland. Montana. Nebraska. New York. North Carolina. Oregon. Pennsylvania. South Carolina. Texas. Washington. West Virginia. Wyoming. United States. ³	California.	Washington.	Connecticut. ⁴ Minnesota. Ohio. Tennessee. Wisconsin. ⁵ United States. ⁶	Indiana. Louisiana. Massachusetts. Missouri. New Hampshire. New Jersey. North Dakota. Puerto Rico. Rhode Island. Vermont.

¹ The provisions are subject to change by treaties between the United States and foreign countries.

² If foreign government excludes payment to United States citizens, then payments are excluded under State law.

³ Longshoremen's Act.

⁴ If dependents as defined under the law are nonresidents and there are residents who are dependents in fact, compensation may be apportioned between them.

⁵ If parents not wholly dependent, only those residing in United States have a right to definite death benefits.

⁶ Civil employees.

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- *No. 283. History of the Shipbuilding Labor Adjustment Board, 1917 to 1919.
- *No. 287. National War Labor Board: History of its formation and activities, etc. [1921.]
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- *No. 437. Cooperative movement in the United States in 1925 (other than agricultural).
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- *No. 183. Regularity of employment in the women's ready-to-wear garment industries. [1915.]
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- *No. 608. Organization and management of cooperative housing associations (with model bylaws). [1934.]

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- *No. 104. Lead poisoning in potteries, tile works, and porcelain-enameled sanitary-ware factories. [1912.]
- No. 120. Hygiene of the painters' trade. [1913.]
- *No. 127. Dangers to workers from dusts and fumes, and methods of protection. [1913.]
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- *No. 221. Hours, fatigue, and health in British munition factories. [1917.]
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- *No. 340. Chinese migrations, with special reference to labor conditions. [1923.]
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- *No. 361. Labor relations in the Fairmont (W. Va.) bituminous-coal field. [1924.]
- No. 380. Postwar labor conditions in Germany. [1925.]
- No. 383. Works council movement in Germany. [1925.]
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- *No. 229. Wage-payment legislation in the United States. [1917.]
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- *No. 321. Labor laws that have been declared unconstitutional. [1922.]
- No. 322. Kansas Court of Industrial Relations. [1923.]
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- No. 408. Laws relating to payment of wages. [1926.]
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- No. 592. Decisions of courts and opinions affecting labor, 1931 and 1932.
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- *No. 494. Labor legislation of Uruguay. [1929.]
- No. 510. Labor legislation of Argentina. [1930.]
- No. 529. Workmen's compensation legislation of the Latin American countries. [1930.]
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- No. 307. Eighth, New Orleans, La., May 2-6, 1921.
- *No. 323. Ninth, Harrisburg, Pa., May 22-26, 1922.
- *No. 352. Tenth, Richmond, Va., May 1-4, 1923.
- *No. 389. Eleventh, Chicago, Ill., May 19-23, 1924.
- *No. 411. Twelfth, Salt Lake City, Utah, August 13-15, 1925.
- *No. 429. Thirteenth, Columbus, Ohio, June 7-10, 1926.
- *No. 455. Fourteenth, Paterson, N. J., May 31 to June 3, [1927.]
- *No. 480. Fifteenth, New Orleans, La., May 21-24, 1928.
- No. 508. Sixteenth, Toronto, Canada, June 4-7, 1929.
- *No. 530. Seventeenth, Louisville, Ky., May 20-23, 1930.
- *No. 563. Eighteenth, Boston, Mass., May 18-22, 1931.
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- *No. 248. Fourth, Boston, Mass., August 21-25, 1917.
- No. 264. Fifth, Madison, Wis., September 24-27, 1918.
- *No. 273. Sixth, Toronto, Canada, September 23-26, 1919.
- No. 281. Seventh, San Francisco, Calif., September 20-24, 1920.
- No. 304. Eighth, Chicago, Ill., September 19-23, 1921.
- No. 333. Ninth, Baltimore, Md., October 9-13, 1922.
- *No. 359. Tenth, St. Paul, Minn., September 24-26, 1923.
- No. 385. Eleventh, Halifax, Nova Scotia, August 26-28, 1924.
- *No. 395. Index to proceedings, 1914-1924.
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- No. 485. Fifteenth, Paterson, N. J., September 11-14, 1928.
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- No. 536. Seventeenth, Wilmington, Del., September 22-26, 1930.
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- *No. 356. Productivity costs in the common-brick industry. [1924.]
- No. 360. Time and labor costs in manufacturing 100 pairs of shoes, 1923.
- No. 407. Labor cost of production and wages and hours of labor in the paper box-board industry. [1926.]
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- No. 441. Productivity of labor in the glass industry. [1927.]
- No. 474. Productivity of labor in merchant blast furnaces. [1928.]
- No. 475. Productivity of labor in newspaper printing. [1929.]
- No. 550. Cargo handling and longshore labor conditions. [1932.]
- No. 574. Technological changes and employment in the United States Postal Service. [1932.]
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- *No. 121. Sugar prices, from refiner to consumer. [1913.]
- *No. 130. Wheat and flour prices, from farmer to consumer. [1913.]
- *No. 164. Butter prices, from producer to consumer. [1914.]
- *No. 170. Foreign food prices as affected by the war. [1915.]
- *No. 357. Cost of living in the United States. [1924.]
- *No. 369. The use of cost-of-living figures in wage adjustments. [1925.]
- *No. 495. Retail prices, 1890 to 1928.

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- *No. 350. Rules governing the approval of headlighting devices for motor vehicles.
- *No. 351. Safety code for the construction, care, and use of ladders.
- *No. 375. Safety code for laundry machinery and operations.
- No. 382. Code of lighting school buildings.
- No. 410. Safety code for paper and pulp mills.
- *No. 430. Safety code for power presses and foot and hand presses.
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- *No. 159. Short-unit courses for wage earners, and a factory school experiment. [1915.]
- *No. 162. Vocational education survey of Richmond, Va. [1915.]
- *No. 199. Vocational education survey of Minneapolis, Minn. [1917.]
- *No. 271. Adult working-class education in Great Britain and the United States. [1920.]
- No. 459. Apprenticeship in building construction. [1928.]

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- *No. 147. Wages and regularity of employment in the cloak, suit, and skirt industry. [1914.]
- *No. 161. Wages and hours of labor in the clothing and cigar industries, 1911 to 1913.
- *No. 163. Wages and hours of labor in the building and repairing of steam railroad cars, 1907 to 1913.
- *No. 190. Wages and hours of labor in the cotton, woolen, and silk industries, 1907 to 1914.
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- *No. 222. Welfare work in British munition factories. [1917.]
- *No. 250. Welfare work for employees in industrial establishments in the United States. [1919.]
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- *No. 118. Ten-hour maximum working-day for women and young persons. [1913.]
- *No. 119. Working hours of women in the pea canneries of Wisconsin. [1913.]
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- *No. 160. Hours, earnings, and conditions of labor of women in Indiana mercantile establishments and garment factories. [1914.]
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- *No. 176. Effect of minimum-wage determinations in Oregon. [1915.]
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- *No. 326. Methods of procuring and computing statistical information of the Bureau of Labor Statistics. [1923.]
- *No. 479. Activities and functions of a State department of labor. [1928.]
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- *No. 242. Food situation in central Europe, 1917.
- *No. 254. International labor legislation and the society of nations. [1919.]
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- *No. 282. Mutual relief associations among Government employes in Washington, D. C. [1921.]
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