UNITED STATES DEPARTMENT OF LABOR
JAMES J. DAVIS, Secretary
BUREAU OF LABOR STATISTICS
ETHELBERT STEWART, Commissioner

# MONTHLY
# LABOR REVIEW

VOLUME 30 NUMBER 6




JUNE, 1930

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON: 1930

For sale by the Superintendent of Documents, Washington, D. C. - - - - - - Price 15 Cents Per Copy
Subscription Price Per Year, United States, Canada, Mexico, $1.50; Other Countries, $2.25

CERTIFICATE

This publication is issued pursuant to the provisions of the sundry civil act (41 Stats. 1430) approved March 4, 1921.

## Contents

## This Issue in Brief

*That excessive noise reduces efficiency has been shown by numerous studies and experiments.* The practical effect of the use of quieting treatment for workrooms or the elimination or lowering of the disturbing noises has been shown to be an increase in output or a reduction in the number of errors. Experiments carried out by Dr. Donald A. Laird, of Colgate University, in which the effect of noise on the working efficiency of four expert typists was measured, showed that under quieted conditions the increase in speed amounted to 7.4 per cent for the fastest typist, while the average energy expenditure of the four persons was reduced nearly 30 per cent. Page 1.

*The family-budget survey of employees of the Ford Motor Co. in Detroit, just completed by the Bureau of Labor Statistics, constitutes the first step in the first comprehensive survey ever attempted of international real wages.* The Detroit study shows the standard of living maintained by the families of Ford employees who are receiving, approximately, the $7 per day minimum wage paid by that company. The International Labor Office, using the Detroit study as a basis, will seek to determine just how much it would cost a family to maintain an equivalent standard of living in various European cities. Page 11.

*An increase in the number of industrial disputes in the year 1929, but a decrease in the number of employees affected, is shown in the annual review of industrial disputes for 1929,* as prepared by the Bureau of Labor Statistics. The number of employees concerned in disputes was, indeed, smaller in 1929 than in any other year since the beginning of the bureau's records in 1916. The principal causes of strikes were concerned with wages, hours, and union recognition, and nearly 80 per cent of the workers involved were members of trade-unions. Page 130.

*The first comprehensive study of wages and hours of labor in the airplane and aircraft-engine industries of the United States, made by the Bureau of Labor Statistics, is published in summary form on page 169.* The data are for the latter part of 1929. Earnings per hour in airplane plants were found to average 66.9 cents for males and 38 cents for females, average full-time earnings per week being $32.05 for males and $17.97 for females. Average full-time weekly hours of males were 47.9 and of females, 47.3. In the manufacture of aircraft engines, earnings of males averaged 70.6 cents per hour and $34.52 per week; full-time weekly hours averaged 48.9. Only eight females were employed in the plants covered in the latter industry.

*Unemployment remedies proposed by the American Federation of Labor include:* (1) Fact finding on unemployment through Federal agencies; (2) establishment of standards and practices for local employment offices by an adequate Federal employment service; (3) deferred programs for public construction; (4) vocational counsel and training opportunities for workers dismissed as a result of technological changes; (5) job analysis with a view to finding suitable

employment for older workers; (6) regularization of production, and when seasonal fluctuations can not be overcome, the payment of wages on an annual basis, the suggestion also being made that hours be reduced and the work distributed among the personnel; (7) unemployment insurance in industry; (8) higher wages to expand purchasing power of workers; and (9) the general adoption of the 5-day week. Page 57.

*The saving of eyesight through the use of goggles was the subject of a recent inquiry by organizations interested in the extension of safety measures.* The study was based on the assumption that total loss of sight or serious injury would certainly have resulted in cases in which a goggle lens was hit with sufficient force to be pierced or shattered or was spattered with molten metal or injurious chemicals. It was found that over a period of two years in industries employing about 580,000 workers there were 7,411 accidents in which loss of vision in one or both eyes or very serious injury to the eyes was averted. Page 92.

*Fatality and injury rates for railroad maintenance-of-way and structures employees in 1928 were higher than for any other group of railroad workers except train and engine crews,* according to a study made by the Brotherhood of Maintenance of Way Employees. Maintenance-of-way employees formed 23.8 per cent of all railroad workers, but their fatality rate was 33.2 per cent and their injury rate 28.5 per cent of the respective totals. Page 90.

*In California Filipinos are being substituted for native white workers and others,* particularly in hotels, restaurants, and domestic service. These Islanders are competing with Mexicans and other immigrant labor groups in agricultural work in this State, in some occupations taking the places of white wage earners. A special report of the California Department of Industrial Relations attributes the recent riots in Exeter and Watsonville to the displacement of white workers by the Filipinos and to the widespread racial prejudice against these orientals. Page 72.

*New York became the eleventh State to provide a pension system for aged residents of the State upon the approval of an act by Governor Roosevelt on April 10, 1930.* The law provides old-age relief to citizens of the United States 70 years of age who for 10 years have been residents of the State. The system is to be administered by the public welfare districts under the general supervision of the State department of social welfare. Page 82.

MONTHLY
# LABOR REVIEW
U. S. BUREAU OF LABOR STATISTICS

VOL. 30, NO. 6 WASHINGTON JUNE, 1930

## Effect of Noise Upon Efficiency

NOISE is so steady an accompaniment of modern conditions of living and working that it is accepted by the majority of persons without much protest even though they are more or less conscious of its unpleasant or harmful effects. The fact that unnecessary noise presents a serious problem, however, is receiving increasing recognition from various individuals and organizations, and numerous investigations and studies are being made of the extent and nature of the deleterious noises, and of their effect upon the human system as well as upon the efficiency and energy expenditure of workers.

While studies of the psychological and physiological effects of noise are of fundamental importance, the question of the effect of noise under actual conditions of employment is also of great practical interest. A few examples are cited to show the improvement which has followed a reduction in the noise in the work place: The noise level was reduced from 45 decibels[1] to 35 decibels among a group of workers in an insurance office who were engaged in a variety of machine operations. Although no other changes were made in the office a 12 per cent increase in output followed the reduction in the noise intensity. This improvement was so great that the officials were inclined to attribute a portion of it to added skill from practice, although the workers were experienced at the time the change was made. Moving the assembly department of a temperature-regulator company from next a boiler shop to a quieter room resulted in a reduction of rejections at inspection from 75 per cent to 7 per cent, while in the same department the output increased from 80 to 110 assembled units per unit of time. In another department a 12 per cent increase in output resulted from removing the noise of a large ventilating fan. Lowering the noise level from 50 decibels to 35 decibels in the telephone operating room of a telegraph company resulted in a 42 per cent reduction in errors and a 3 per cent reduction in the cost per message. The noise was reduced by means of acoustical treatment of the room.

[1] A decibel, the unit used in noise measurement, has been described approximately as the smallest change which the ear can detect in the power level of a sound. More accurately the decibel is defined as follows: If the intensities of two sounds are in the ratio 10:1, the sounds differ in level by 10 decibels; if the intensities are in the ratio $10^2$:1—that is 100:1—the sounds differ by 20 decibels; and in general, the number of decibels measuring the difference between two sounds is ten times the common logarithm of the intensity ratio—that is, the power ratio. Any noise level expressed in decibels means decibels above the threshold of hearing. Thus when the noise level at a place is given as 60 decibels, the intensity of the noise is $10^6$ times—that is, one million times—the least intensity which the normal ear can hear. (This definition is given in he preliminary report on noise measurement by the New York City Noise Abatement Commission.)

These practical results of the reduction of noise in specific instances might be multiplied, but those cited together with the typing experiments described later, by Doctor Laird, show that tangible results in the reduction of errors or the increase of output may be secured through the lessening of reducible noise. These figures, too, do not take into account the gain to the workers themselves from the relief following the improved noise conditions.

It is possible to attain a lower level of noise in work places if equipment and machinery are designed to produce only the minimum of noise in operation, i. e., by the use of silent chains, noiseless gears, insulation of heavy machinery, etc., and if sound-absorbing materials are used which do not reflect but cause sounds to die out. The problem varies naturally with different industries and the varying conditions of each project. Although special construction to minimize sound and the use of sound-absorbing materials are expensive, the results of the installation of quieting treatment will frequently be found to justify the outlay.

An example of this type of construction is that of a new office building erected in New York City by one of the large life-insurance companies. This building has some 400,000 square feet of space which has been insulated against noise. The extra-heavy windows rest on cushioned bases and an air circulatory system allows most of the windows to remain closed at all times. The ceilings and walls have been treated to absorb sound, and the typewriters rest on insulated desk tops.

In regard to the question as to whether or not the noise problem is of practical importance in industry or whether the agitation for the suppression of noises is the work of a few hypersensitive individuals who are agitators by nature, Dr. Donald A. Laird states that it has been demonstrated that the quietly operated work place is more productive in the long run and that "although some individuals are more sensitive to noises than others we are forced to admit that a reasonable degree of quietness is desirable for personal or industrial welfare."

## Present Status of Research on the Effects of Noise

Among the organizations which are interested in one or more of the specific phases of the problem of noise may be mentioned the American Society of Safety Engineers which has a research committee on noise in its relation to accidents. The committee has been in existence several years but has been hampered by lack of money for the needed statistical studies. Individual members of the committee, however, are actively interested in the subject, including psychology professors in Columbia, Colgate, Ohio Wesleyan, and Northwestern Universities, each of whom is engaged in special studies of some phase of the subject.

Engineers on the staff of the Bell Telephone Laboratories are engaged in highly technical research on the physics of sound and the science of audition, and, in addition to their work in developing various types of apparatus for the actual physical analysis of sounds, have developed a device for measuring the deafening due to either acoustical or electrical noise.

In dealing with the question of the reduction or elimination of noise, it is of fundamental importance to determine what constitutes a harmful noise, and the purpose of many of the investigations, therefore, has been to determine the physical effects of various sounds or combinations of sounds. Although for many years medical experts have asserted that noise is detrimental to the nervous system, it is only within the past few years that research has been undertaken definitely to prove or disprove the assertion.

Prof. F. C. Dockeray, of Ohio Wesleyan University, has recently begun work to ascertain the effect of noise upon certain factors having to do with the mind, including studies of fatigue, attention, physical and mental activity, emotions, etc. Prof. John J. B. Morgan, of Northwestern University, has experimented with the electro-cardiograph as a detector of electrical changes on the external surface of the human body when noise was present and absent, and he has also studied the response of infants to a number of relatively pure tones. In the latter experiment he found that pure tones of great intensity and short duration were more disturbing than pure tones of either low intensity or low frequency, while with continuous stimulation high frequencies were more disturbing than high intensities. Prof. A. T. Poffenberger, of Columbia University, is studying the effect of noise upon metabolism; that is, upon the energy expenditure of the worker under noisy and quieted conditions, a question also dealt with by Dr. Donald A. Laird, of Colgate University. Professor Poffenberger states that the human being has a most remarkable capacity for adapting himself to changed conditions and that under adverse noise conditions it has been shown that the individual could keep the quantity and quality of the work performed the same, although earlier experiments indicated that it cost the individual more to produce that same quantity and quality. The questions he is endeavoring to solve, therefore, include the actual harm, if any, caused by excessive noise, and whether, although the noise is harmful when first introduced, we are able to adapt ourselves to it so that it does not cause any trouble later on. As an example, he says, the workman in training expends much energy but after a certain amount of experience is gained it appears that under the same noise conditions less expenditure of energy is required to produce the same amount of output. Therefore, it may be possible, he considers, that after living under certain noise conditions the energy expenditures would be reduced and would not exhaust the individual more than working under quieted conditions. These researches, it was expected would require at least five years' experimental study before any decisive answer could be given to the questions.

### Studies Carried Out in Psychological Laboratory of Colgate University

Dr. Donald A. Laird of the psychological laboratory of Colgate University has conducted various tests upon different phases of the effects of noise. These studies are carried out with the assistance and cooperation of his students, who have made much of the apparatus used in the experiments, great ingenuity being evidenced in the utilization of available materials. The course is an intensely practical one, being designed to train the young men taking it to meet the prob-

lems which they will be required to solve later when they enter business and industrial life, and the students are accordingly encouraged to contribute to the solution of the problems being investigated. The students concerned in the researches meet once a week for a "works council" at which problems that develop in the course of the experiments are discussed and worked out.

Average office conditions in a large city expose the workers to about 50 units of noise intensity, while 85 units are not uncommon in many factory operations and in some cases the noise may approach an intensity of 100 units. In recording the output and errors under noisy and quiet conditions in the laboratory, the effect of sounds upon typing at top speed, mental multiplication, learning nonsense syllables, sustained attention, and fine muscular coordination is determined.

Among the earlier studies undertaken in Doctor Laird's laboratory was one in which the effect of noise on working efficiency was measured. In the experiments connected with this study, the energy expenditure under noisy and quieted conditions was measured by the collection and analysis of exhaled air, and from these analyses the total calories expended were computed. For the noise experiments a special room about 10 feet in each dimension has been constructed which is fitted with demountable panels of acousti-celotex of a type which absorbs about 50 per cent of the sound. The ventilation ducts, which are angled, are also lined with sound-absorbent material, so that all but a minimum of outside noise is excluded. By means of a suction fan the air in the test chamber can be changed every two minutes. A noise machine in which the sounds produced simulated those of the usual busy office was used in the first experiments, but as the pitch and intensity of sound could be only approximately determined, an electrical device is now used which gives full control of the pitch and intensity of the sound in the room. When the walls of the test room are uncovered, the effects of the noises are actually increased through reverberation from the hard plaster walls, but when the sound-absorbent panels are in place the noise is softened. The intensity of each pitch or combination of pitches is measured in the test chamber by an audiometer which can be used to measure the intensity of either a pure tone or a complex noise and is calibrated in units of "sensation" or "audibility" now known technically as decibels.

The subjects of the typing experiments wear a mask placed over the mouth and nose and the exhaled air is collected and analyzed every 15 minutes. In this test, in which a standard letter was typed over and over by four expert typists, the increase in speed under quieted conditions amounted to 7.4 per cent for the fastest typist, 3.6 per cent for the second fastest, and 0.8 per cent for the next to the slowest; there was no change in the speed of the slowest. The energy expenditure under noisy conditions showed an average increase for all four subjects of 71 per cent during typing as compared with the resting period, while under quieted conditions the average increase was only 51 per cent. The fatigue effect was shown by the fact that under quieted conditions the average time for the last 5 letters at the close of the 2-hour typing period required 7 seconds less than for the first 5 letters, while in the noisy phase the average time for the last 5 letters was 5 seconds more. The latest experiments have shown that

with a reduction from 55 decibels to 43 decibels there was a 4.3 per cent increase in typing speed in a 3-hour test. It was concluded from the test that 43 decibels was as good for practical results as 15 decibels, the degree of noise when all other noise was excluded and a noiseless typewriter used. The more recent experiments undertaken in the laboratory have been based upon the "fear-reaction hypothesis," and in the typing experiment this hypothesis gains support from the fact that the difference in energy expenditure appeared as early as 10 minutes after beginning typing, which was too soon to be accounted for by fatigue, the theory being that the more intense noise dissipates energy by increasing muscular tension.

The reduction of noise from approximately 50 to 40 units—a reduction of 20 per cent—which was effected entirely by sound-absorbing walls and which had such markedly beneficial effects may indicate, it is said, the existence of a "breaking point" in the effect of sounds of about 50 units of intensity. There is evidence, also, that complicated noises of less than 30 units in intensity are without measurable effects, although it has not yet been determined just where the breaking point or points lie in the scale of intensity and how they vary with combinations of pitches.

Another experiment showing the effect of noises upon successive generations of albino rats has not been carried out to completion because of the necessity for continuous care of the rats over many months, this being particularly difficult to secure through the summer vacation period. The experiment was made with 200 rats, those in the control group being kept in cubicles in comparative quietness while the others were subjected to continuous or to intermittent noises. Among the group living in an even mixture of noise of 60, 500, and 1,500 vibrations per second at an intensity of 50 decibels, it was shown that there was a lessening of about 5 per cent in food consumption and a retardation of about 10 per cent in the rate of bodily growth as compared with those kept in comparative quietness. This experiment was also based on the fear-reaction theory, it being assumed that noise does not significantly affect the nerve cells of the ear but that it is a natural stimulus to the fear-reaction and increases the tonus in all body muscles.

The effect of noise upon muscular coordination and sense perception and its effect under conditions of fatigue are being studied. Some of these tests include (1) the use of a dotting machine in which a perforated sheet is carried over an opening, the subject touching the dots as they pass before him; (2) following a line between two rulers, any deviation from the line causing the ringing of an electric bell; and (3) a "lag of attention" test in which a numbered dial revolves below a small electric bulb, the subject of the test calling the number at which he sees the light. In the memory test, accuracy in immediate memory for nonsense syllables was increased 15 per cent and delayed memory increased 8 per cent when a complex noise was reduced from 50 decibels to 40 decibels.

A fatigue experiment is now being carried out in which the effect of bromides in relieving extreme fatigue is tested. In this test the subjects are kept awake all night every other Saturday night for a series of weeks. A questionnaire filled out by the persons undergoing the tests gives a rough indication of the degree of fatigue suffered

by them. Cancellation and simple addition tests are used. The sedative effect of the bromides, which appear to be without effect on blood pressure and respiration, is indicated in the improvement in the mental tests under their use. It has been indicated, also, that the delayed effects of the bromide are more marked than the immediate effects.

An experiment which tends to eliminate the personal factor in that it shows the effect of noise upon involuntary muscles is one in which the contractions of the stomach under the influence of noise are recorded. The apparatus for registering these contractions is briefly as follows: A rubber balloon, which measures about 1½ by 7 inches when uninflated, is attached to the end of a Rhefus stomach tube and swallowed by the subject before the balloon is inflated. After the balloon is comfortably in the stomach, the free end of the tube is attached to an intermediate chamber and the balloon is inflated until the pressure of the balloon is equal to that exerted by a column of water 10 centimeters high. The intermediate chamber contains a similar balloon which expands when the balloon in the stomach is contracted by the movements of the stomach; the expansion of the balloon in the intermediate chamber displaces air from the flask which causes a column of water in a U-shaped tube to rise; and a cork float in the open end of the U-shaped tube which carries an aluminum writing point marks the course of the stomach contractions by removing a light coating of soot from the glazed paper fastened to a kymograph drum. Accompanying illustrations show (fig. 1) the apparatus, and the son of Doctor Laird just after he has swallowed the balloon; and (fig. 2) an enlarged record obtained from the writing point showing the inhibiting effect of noise upon the contractions of the stomach.

Other studies based upon the fear-reaction hypothesis include one on the effect of complex natural noises upon blood pressure during sleep and another on the effect of such noises upon muscular tension during sleep. Sleep was chosen rather than waking states in order to eliminate conscious bias on the part of the subjects and because of the fact that blood pressure varies during the day due to psychic stimuli and muscular tension is greatly lessened during sleep. It was found that outside noises which enter a sleeping room without awakening the sleeper raise the blood pressure to nearly waking level and that the same is true of the increase in the muscular tension.

The charts show (fig. 3) the effects of noise upon blood pressure during sleep and (fig. 4) upon muscular tension. The broken lines on chart 3 represent gaps in the record of the systolic and diastolic blood pressure due to extraneous causes which interfered with recording the pressure.

The psychological measurement of annoyance as related to pitch and loudness, made by Doctor Laird with the assistance of a group of trained observers, showed that the high pitches are intrinsically more annoying than low or medium pitches but that those pitches which man makes himself in speech are least annoying to him. It appears, it is said, that the low annoyance values of the common speech sounds may represent a biological adaptation. A relatively increased annoyance from low tones was shown but it is suggested

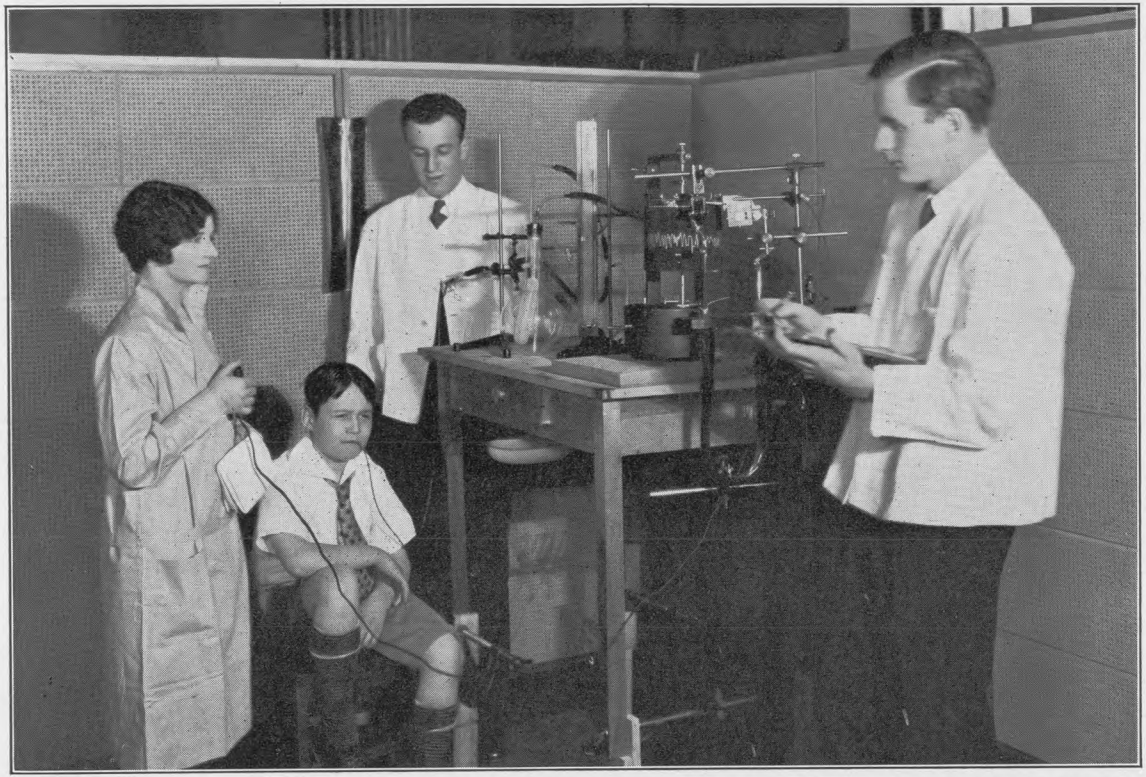


FIGURE 1.—THE APPARATUS USED TO RECORD THE EFFECT OF NOISE UPON THE CONTRACTIONS OF THE STOMACH

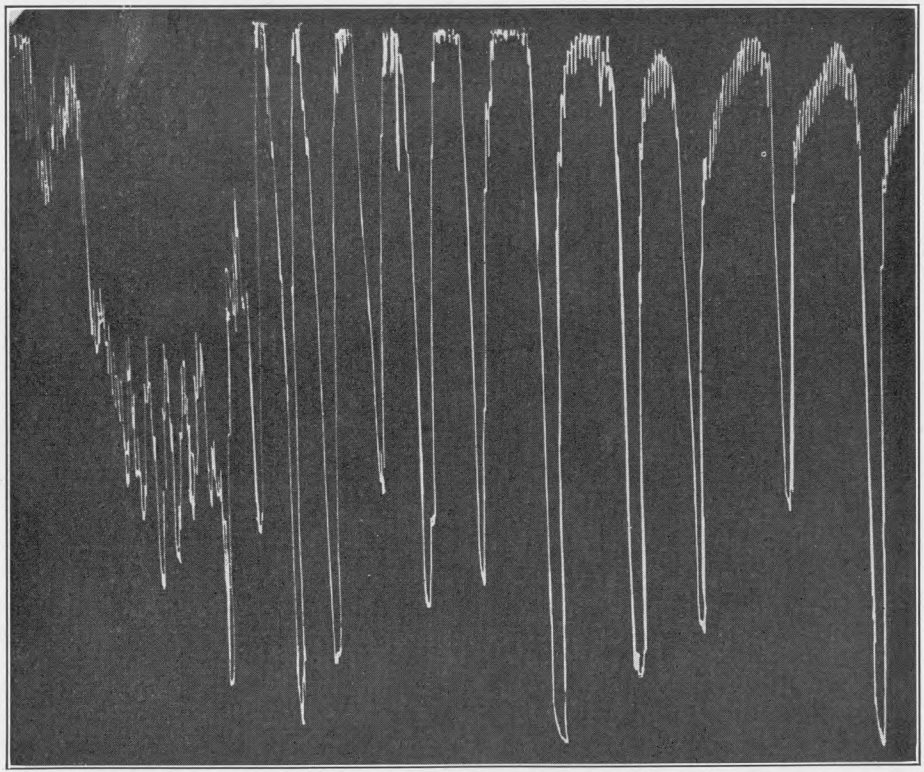


FIGURE 2.—RECORD OF STOMACH CONTRACTIONS (PERISTALSIS) OBTAINED FROM THE WRITING POINT (FIG. 1) SHOWING THE INHIBITING EFFECT OF NOISE AT RIGHT END OF CHART

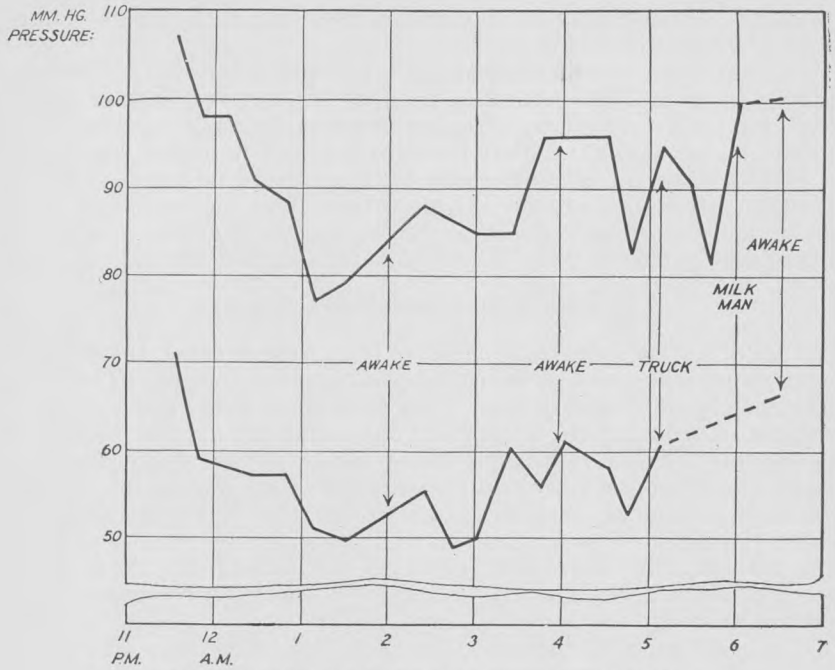



FIGURE 3.—The effect of noise upon blood pressure during poor sleep

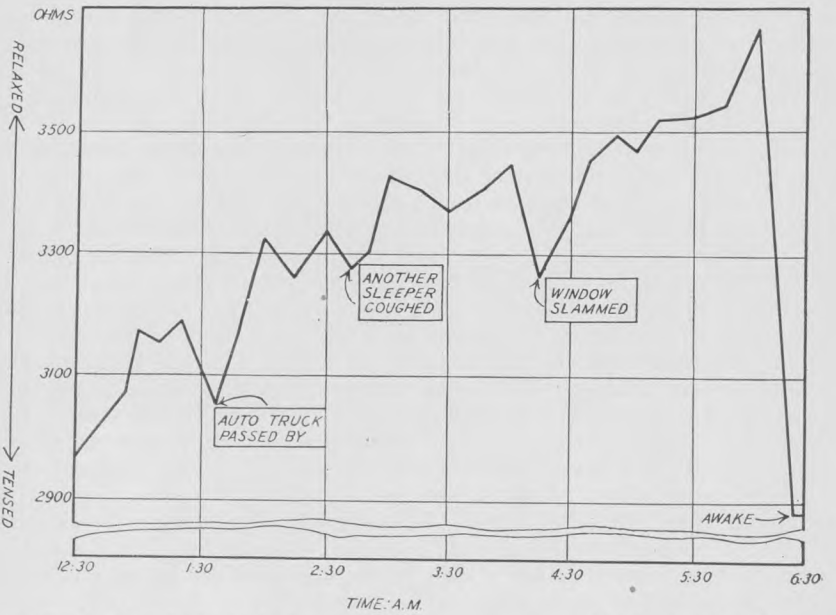



FIGURE 4.—Muscular tension in sleep. Data from one person on one night showing effect of noise

that this increase may be due to the association of these low tones with physical vibrations.

In a summary of experimental literature published by Doctor Laird in the Journal of the Acoustical Society of America, January, 1930, experiments by various investigators on the effects of noise on motor functions, on simple and more complex cerebral functions, on respiratory functions, on cardiovascular functions, and on feeling-tone and emotional functions are cited to show that noise, as commonly understood, has widespread effects on the living organism which in general are not desirable.

### Work of Noise Abatement Commission

VARIOUS civic organizations have, from time to time, taken up the question of what may be called external or public noises. The Noiseless Society organized in New York City some years ago was instrumental in securing the passage of laws and ordinances resulting in considerable noise reduction; these included the establishment of quiet zones around hospitals and control of the noise from tugboat whistles, street vendors' cries, and other disturbing elements. In other cities such organizations have dealt with one or more phases of the problem, the reform most generally instituted being the establishment of areas in the vicinity of hospitals in which unnecessary noises are prohibited.

The most recent addition to the list of agencies formed to combat the production of unnecessary noise is the Noise Abatement Commission organized on October 30, 1929, by the commissioner of the Department of Health of the City of New York. The committee is made up of acoustical and other technical engineers and physicians and other experts and is actively engaged in charting the intensity and deafening effect of the din in New York streets. Some of the more important noises listed by the director of the commission in tracing the development of city noises in the last 50 years include the noise of riveting which came with the advent of the steel-frame building; the use of the pneumatic drill in excavation and street work; the invention and use of the steam and electric pile driver; the radio loudspeaker in homes and the front of shops; automobile horns and sirens; ash can and garbage collection; and the noise of elevated trains.

A preliminary investigation was undertaken by the commission in December, 1929, for the purpose of determining the major sources of noise and of obtaining a general idea of the extent of unnecessary noise. In this work the facilities of the Bell Telephone Laboratories are being employed with the assistance of the director of acoustical research of the laboratories and members of the technical staff. For the measurement of the city's noise two methods of measurement are used, namely, an ear method and a meter method. The first measures the deafening effect of the noise and consists of a record carrying three bands or ranges of tones. These are produced by a record on a turntable with an electrical pick-up, the observer hearing the sound through an off-set receiver which permits the noises being measured to be heard at the same time. The sound produced from the record can be graduated in volume so that a reading can be taken at the level that the noises observed mask or drown the test tone. In the second method, the noise is picked up by a microphone and is recorded on a

meter dial, the instrument being calibrated so that the sensation level of the noise can be read. The noise-recording apparatus is mounted upon a truck, and the noise conditions in different localities are recorded.

The preliminary report of the commission issued March 21, 1930, states that noise measurement representing a wide range of noise conditions had been made at 113 points in the city of New York. Of a total of about 7,000 observations out of doors, 5,500 showed the aggregate effect of all sources of noise at the particular place and time, while in about 1,500 cases the noise produced by individual sources, such as the noise due to a motor truck, to a police whistle, an automobile horn, etc., was measured. The minimum noise level obtained in the noise determinations was 45 decibels and the maximum 98 decibels, the deafening effect of noise in the middle band of the noise meter (750–1,500 cycles) being found to average about 16 decibels less than the noise level. The noise level in various rooms was also measured. The amount of noise from outside sources depends in any room upon the position of the room with respect to the street, upon whether or not the windows are open, and upon the size, shape, and absorptive material which characterize the room. In general, in a third-story room the noise level due to the street sounds was found to be 10 to 20 decibels below the level of the street if the windows were open and 15 to 30 if the windows were closed. The sensation level in a noisy office with many typewriters, street noise, and people moving about was 80 decibels, with a hearing loss of 50 to 55 per cent, while in a quiet office the sensation level was 40 to 45 decibels, with a hearing loss amounting only to 20 to 25 per cent.

A tabulation of more than 11,000 complaints made to the commission showed that traffic noises caused by trucks, automobile horns, brakes, buses, traffic signals, etc., accounted for 36.3 per cent of the complaints; transportation (including elevated and street cars and the subway) for 16.3 per cent; and radios in homes, streets, and stores for 12.3 per cent, while the remaining 35 per cent were scattered among the following causes—collections and deliveries of such things as ashes, garbage, and milk; whistles and bells of fire department, locomotives, tugs, and steamships; construction, principally riveting and pneumatic drills; and vocal noises, including noisy parties and calls of vendors.

An attempt was made to correlate the over-all noise level of each specific source and the frequency of complaints against the source. Only about nine specific sources were covered by the two sets of data, but the comparison shows, it is stated, "that the level of the noise is not the sole factor which determines its annoyance as noted by the number of complaints. In a broad way, it does seem that a factor combining the noise level and the frequency of the occurrence is definitely correlated with the annoyance. However, the degree of annoyance seems to depend at least to an equally great extent upon other factors, such as the character of the noise itself—possibly its component frequencies and its character—whether steady or intermittent, and whether or not the noises are commonly regarded as quite unnecessary, such as squeaking brakes of automobiles, or as relatively necessary, such as police whistles."

The question of dealing with the noises of a city presents various problems. Many of the noises complained of can not be eliminated, although frequently they can be minimized or certain ones can be restricted to the hours of daylight. Police enforcement of minor violations of restrictive ordinances is difficult since under the present system policemen must leave their regular duties to attend court. Also, the complaints of cranks or of people with a grudge against their neighbors must be discounted.

The committee suggests certain practical remedies, such as amendments to the city ordinances which would permit the regulation of some of the more unnecessary sources of noise, insure greater flexibility in the handling of violations, and establish a fine for minor violations which would not be out of proportion to the offense.

## Standard of Living of Employees of Ford Motor Co. in Detroit

IN MAY, 1929, the Ford Motor Co. requested of the International Labor Office information as to the minimum wage rates which that company would need to pay in 17 European cities where the Ford Co. had or contemplated having automobile plants, in order that the employees in each of these cities would be able to maintain the same general standard of living as that of the company's employees in Detroit. The 17 cities for which information was desired were: Manchester, London, Cork, Paris, Marseilles, Berlin, Frankfort, Antwerp, Rotterdam, Helsingfors, Copenhagen, Stockholm, Trieste, Genoa, Barcelona, Warsaw, and Istanbul (Constantinople).

The International Labor Office replied that a special inquiry would be necessary to obtain this information. The United States Bureau of Labor Statistics agreed, upon request, to make the basic survey in Detroit, the results of which are here presented.

The survey was made by the Bureau of Labor Statistics in the early part of 1930. The purpose was to secure detailed data regarding the living conditions and expenses of a representative number of Ford Motor Co. employees in Detroit who were maintaining a family on the company's minimum wage of $7 per day. The report gives not only the average cost of each item in the family budget but also, as far as possible, gives a description of each item and the quantity purchased, so that the cost of this budget in each of the foreign cities may be obtained by "pricing" each of the quantity items, and totaling the results. Certain substitutions will be necessary, of course, to meet the conventional habits of different peoples, and certain statistical adjustments will be inevitable. The object, however, will be accomplished when the cost of a standard of living equivalent in comfort to that of the Detroit workers is ascertained for the other cities. This latter task is to be carried out by the International Labor Office.

### Selection of Families

IN MAKING the study it was believed by the bureau that budgets from 100 families, covering the full year 1929, would be a sufficiently representative sample, provided the families selected were of approximately similar type. With this in mind the families canvassed were restricted to those which met the following requirements:

The husband must have earned approximately $7 per day during the year 1929.

He must have been in the employ of the Ford Motor Co. throughout the year and have worked at least 225 days.

He must have been the breadwinner in the family, and the family must have had no material income other than the earnings of the husband.

The family must have consisted of a husband, a wife, and not less than two, nor more than three children. No child must have been more than 16 years of age on the birthday occurring in 1929.

There must have been no other person living in the family. This excludes boarders and lodgers and relatives.

There must have been no expenditures for the benefit of persons living outside the family.

The family must have kept house in a single house, flat, or apartment throughout the year.

Families buying homes could be included when the payment on the home was fairly comparable to the rental value of a similar house.

In the case of families owning their homes the rental value of the home was considered equivalent to a payment of rent. Any payment in excess of the rental value was considered a surplus and any amount less than the rental value was considered a deficit.

It was very difficult to find families that met or even closely approached these requirements. All told, 1,740 married men receiving about $7 per day were selected by the company as prospects. These men were interviewed in the factory by trained agents of the bureau. The great majority of the prospects had to be rejected for various reasons—the average wage for the year was too high or too low, or the men worked less than 225 days in the year. Many families had boarders and lodgers, or dependents in or outside the family other than the wife and children. Often it was found that families had more or fewer children than the number decided on for the standard, or had children above the age limit. In many families the wife or children worked and contributed money to the family fund and many families lived considerably above or below the wage income of the husband.

The whole purpose of the study was to determine how a selected type of natural family lived on approximately a $7 per day wage. Therefore, if the family spent any material income other than the $7 per day, it was not living at the $7 per day standard. If the family undertook to support others than those in the natural family such charge was outside the support of a family proper. If the family kept boarders and lodgers it is assumed that they did so to supplement the family income, and if the wife and children were working and bringing in any appreciable amount of money the family was not living on the husband's $7 wage.

A list was finally secured of families that appeared to meet the requirements. The bureau agents then visited these families and obtained the desired data. Despite the care exercised in the preliminary interview in the factory, close questioning of the family in the home sometimes showed that it did not meet the requirements after all, due to incomplete or incorrect statements made by the husband at the factory.

The amount of the income was obtained from the husband and the factory records, but the information as to expenditures was obtained mainly from the wife. The questionnaire used contained 480 items. As had been found in former family budget studies made by the bureau, few families kept a record of expenditures during the year and few families had any definite plan for spending their money. Also, as in former studies, the memory of the housewife was the principal source of information. Use was made of such bills or other records as the housewife had.

It is believed that the facts reported as to the cost of living of these families are fairly accurate and dependable. While there may be minor defects in the returns, it is believed that collectively the figures show very thoroughly and concisely the way these selected

families of semiskilled and unskilled wage earners of the Ford Motor Co. in Detroit are living.

The families were conscientious in supplying the information and willingly cooperated in furnishing data to the agents. Only two families refused to furnish information. A considerable number of families barred from the study by the limitations stated manifested a great interest in the study and were disappointed because they could not be included.

The days worked by the husbands ranged from 225, the minimum set for the study, to 279, and averaged 250 for all husbands. Only 6 per cent of the men in this study worked fewer than 230 days; 17 per cent worked 230 and less than 240 days; 28 per cent worked 240 and less than 250 days; 28 per cent worked 250 and less than 260 days; 12 per cent worked 260 and less than 270 days; while 9 per cent worked 270 and less than 280 days. In 1926 a five-day week was instituted by the Ford Motor Co., and therefore a man employed full time would work 260 days a year. This study included 18 men who worked more than full time during 1929.

It was found not to be practicable to adhere absolutely to a $7 daily rate. It was not until December, 1929, that the $7 minimum was established in the plant. All of the men for whom the family budget was obtained received increases in wage rates during the year.

The daily factory earnings of the husbands in these families throughout the year ranged from $6.40 to $7.23 and averaged $6.78 per day. Seven men earned less than $6.50 per day; 20 earned $6.50 and less than $6.70 per day; 64 earned $6.70 and less than $6.90 per day; 4 earned $6.90 and less than $7.10 per day; and 5 earned $7.10 and less than $7.30 per day. The average year's earnings in 1929 for all husbands was $1,694.63.

As before stated, families who reported an appreciable amount of income other than the earnings of the husband were eliminated from the study. The schedule, however, called for the sources and type of any additional income even though it was an insignificant factor in the family budget. For all families the additional income averaged only $17.24 and constituted only 1 per cent of the total income. A few of the husbands in the families covered earned a little money for work done outside the factory, in various lines such as carpenter work, painting, repairing automobiles, repairing shoes, or working in a store. A small amount of money was earned by wives in sewing and washing. Eight of the families were reported as raising a little garden truck, two received a small amount from the temporary rental of garages on the home properties, and four families reported some fuel picked up. A few families raised chickens which netted a little income. Small gifts from persons outside the family constituted most of the supplementary income. These gifts were mainly of clothing, although there were some small gifts of food, money, wood, toys, etc.

### Summary of Incomes and Expenditures

As above stated, the average earnings of the husband in the families canvassed was $1,694.63, and the average income from all other sources was $17.24, making a total average income of $1,711.87. The average expenditures of the 100 families was $1,719.83. This leaves an average deficit for all families of $7.96.

Table 1 shows the expenditures of the families during the year, distributed among the principal classes of items. As would be expected, food constituted the principal item of expense, forming 32.3 per cent of the total expenditure. Housing was next in importance, forming 22.6 per cent of the year's expenditures, while 12.2 per cent went for clothing. No other single item required as much as 10 per cent.

TABLE 1.—AVERAGE AMOUNT AND PER CENT OF EXPENDITURE FOR EACH GROUP OF ITEMS

[Number of families, 100; average persons per family, 4.5; average equivalent adult males, 3.27; average income per family, $1,711.87]

| Item | Average yearly expense | Per cent of yearly expense | Item | Average yearly expense | Per cent of yearly expense |
|---|---|---|---|---|---|
| Food | $556.12 | 32.3 | Furniture and house furnishings | $88.55 | 5.2 |
| Clothing of— | | | Life insurance | 59.16 | 3.4 |
| Husband | 63.59 | 3.7 | Street-car and bus fares | 37.40 | 2.2 |
| Wife | 59.21 | 3.4 | Expenses of sickness | 64.73 | 3.8 |
| Children | 87.87 | 5.1 | School expenses | 6.41 | .4 |
| Total, clothing | 210.67 | 12.2 | Cleaning supplies | 16.64 | 1.0 |
| | | | Barber | 12.37 | .7 |
| Housing | 388.81 | 22.6 | Miscellaneous expenses | 175.77 | 10.2 |
| Fuel and light | 103.20 | 6.0 | Total expenses | 1,719.83 | 100.0 |

Table 2 shows the number of families living on, above, or below their income. Here it is seen that 19 families came out even at the end of the year. They lived on their income but saved nothing. A total of 44 families had living expenses above their income and closed the year with an average deficit of $130.74. There were 37 families that lived on less than their income and were able to make a saving of $133.96 per family. All 100 families considered, the average deficit was $7.96 per family.

TABLE 2.—FAMILIES LIVING ON, ABOVE, AND BELOW INCOME

| Class of family | Number of families | Average persons in family | Average income | Average expenditure | Average surplus | Average deficit |
|---|---|---|---|---|---|---|
| Families living on income | 19 | 4.5 | $1,718.97 | $1,718.97 | | |
| Families living above income | 44 | 4.5 | 1,698.28 | 1,829.01 | | $130.74 |
| Families living below income | 37 | 4.4 | 1,724.40 | 1,590.44 | $133.96 | |
| All families | 100 | 4.5 | 1,711.87 | 1,719.83 | | 7.96 |

## Food

DETAILED data regarding the quantity and cost of each item of food purchased during the year were obtained from each of the 100 families scheduled.

*Equivalent adult male.*—Food requirements vary according to sex and age, and in order to secure comparability between families of different composition it is necessary to ascertain the food requirements of individuals of different sex and age and convert them into terms of a common unit of measurement, namely, the equivalent adult male.

Several such scales of equivalents have been proposed, but as there is no general agreement on any one of them, the bureau has used in this study the same scale it has used in previous budgetary studies. This scale, using the food requirements of an adult male, engaged at moderate muscular labor, as a basis of 1.00, expresses the requirements of other persons as percentages thereof, as follows: Adult female, 0.90; child 11 to 14 years, 0.90; child 7 to 10 years, 0.75; child 4 to 6 years, 0.40; child 3 years or under, 0.15.

On this basis the 100 Detroit families covered in the present inquiry contained an average of 3.27 "equivalent adult males. Other tables of equivalents, when applied to these same families, give averages ranging from 3.01 to 3.51 equivalent adult males.

As regards the laboriousness of the work done by the husbands in these families, it is evident that on the average they fall in the class of those engaged in "moderate muscular labor." Many occupations were represented, but few if any required any unusually hard muscular work.

### Character, Cost, and Quantity of Food Purchased

Food is the most expensive item in the family budget of the wage earner, and in the case of these Detroit families represented 32.3 per cent of the average expenditures for all purposes.

The average expenditure for each of the principal food items in the budgets of these families, together with its percentage importance in the total, are shown in Table 3.

TABLE 3.—AVERAGE COST PER FAMILY AND PERCENTAGE OF TOTAL COST OF PRINCIPAL ITEMS OF FOOD

| Item | Average expenditure | Per cent of total expenditure | Item | Average expenditure | Per cent of total expenditure |
|---|---|---|---|---|---|
| Milk and milk products | $120.83 | 21.7 | Flour and meal | $10.37 | 1.9 |
| Meat | 104.37 | 18.8 | Poultry | 10.16 | 1.8 |
| Bread | 54.20 | 9.8 | Sea food | 9.50 | 1.7 |
| Vegetables, fresh | 36.59 | 6.6 | Fruits, dried and canned | 6.99 | 1.3 |
| Eggs | 36.57 | 6.6 | Ice | 6.94 | 1.2 |
| Fruits, fresh | 32.90 | 5.9 | All other items | 79.61 | 14.3 |
| Lunches and meals bought outside | 19.68 | 3.5 | Total | 556.12 | 100.0 |
| Vegetables, dried and canned | 14.59 | 2.6 | | | |
| Coffee | 12.82 | 2.3 | | | |

As shown in this table milk and milk products constituted the most expensive group of items (21.7 per cent), with meat, not including poultry and seafood, second (18.8 per cent), and bread, including rolls, buns, and similar products, third (9.8 per cent).

Lunches and meals bought outside the home constituted 3.5 per cent of the aggregate food cost. The lunches were for the most part purchased by the father, only an occasional schedule of the 63 families having this expense reporting lunches for school children. Sometimes the father carried his lunches from home and bought only coffee, soup, or pie to supplement his lunch.

Ice is classed under food and cost 1.2 per cent of the total. Only 86 of the 100 families used ice. The majority of these families used ice only a part of the summer. Cellars were used in place of refrigeration in a number of cases.

The food data that were collected cover the quantity and cost of each article consumed. Food furnished from a garden, a poultry yard, or received as a gift was entered in the food expenditures as though it had been purchased by the family and was also shown in the budget under supplementary income from other sources.

The prices reported by the families were checked with the average retail prices of the articles of food as reported to the bureau during 1929 by representative grocers, bakers, and meat dealers in Detroit.

There were 4 exceptional cases of high expenditure for food, 2 families spending 42 per cent and 2 families spending 41 per cent of their expenditures for this item. In 4 instances the expenditure for food was rather low, 2 families spending 24 per cent, 1 family 23 per cent, and the other family spending 22 per cent of their expenditures for this item.

More detailed data regarding the average quantity and cost of each of the articles of food consumed by the 100 families are given in Table 4. The average size of the family was 4.5 persons. The second column of this table shows the average quantity of food consumed per equivalent adult male. The fifth column shows the number of families using each specified article of food, while the sixth and seventh columns show the average quantity and cost for the families using such article. The table thus presents two sets of figures of consumption per family, the first an average based upon all families included in the study, and the other an average based upon the number of families using the article specified.

TABLE 4.—AVERAGE QUANTITY AND COST OF SPECIFIED ARTICLES OF FOOD CONSUMED PER FAMILY AND PER EQUIVALENT ADULT MALE IN ONE YEAR IN 100 FAMILIES

[Average size of family—4.5 persons, equivalent to 3.27 adult males]

| Article | All families | | | | Families using articles | | | |
|---|---|---|---|---|---|---|---|---|
| | Average quantity consumed per— | | Average cost per— | | Number | Average for these families | | Price per pound |
| | Family | Equivalent adult male | Family | Equivalent adult male | | Quantity | Cost | |
| Meats: | *Pounds* | *Pounds* | | | | *Pounds* | | *Cents* |
| Beef, fresh, steak | 38.3 | 11.71 | $14.97 | $4.57 | 92 | 41.7 | $16.28 | 39.1 |
| Beef, fresh, roast | 49.6 | 15.14 | 16.47 | 5.03 | 90 | 55.1 | 18.29 | 33.2 |
| Beef, fresh, stew | 43.0 | 13.13 | 9.83 | 3.00 | 84 | 51.2 | 11.70 | 22.9 |
| Beef, salt, corned | 2.4 | .73 | .57 | .17 | 17 | 14.0 | 3.34 | 23.8 |
| Beef, salt, dried | .4 | .13 | .25 | .08 | 8 | 5.1 | 3.08 | 60.0 |
| Veal | 16.4 | 4.99 | 5.49 | 1.68 | 55 | 29.7 | 9.99 | 33.6 |
| Pork, fresh | 66.5 | 20.30 | 17.85 | 5.45 | 96 | 69.2 | 18.60 | 26.9 |
| Pork, salt bacon | 30.4 | 9.30 | 10.25 | 3.13 | 87 | 35.0 | 11.79 | 33.7 |
| Pork, salt, ham and shoulder | 22.6 | 6.91 | 5.74 | 1.75 | 81 | 27.9 | 7.08 | 25.4 |
| Pork, salt, other | 1.4 | .44 | .27 | .08 | 16 | 8.9 | 1.69 | 19.0 |
| Mutton, chops | .2 | .06 | .07 | .02 | 2 | 10.0 | 3.45 | 34.5 |
| Mutton, roast | 3.8 | 1.17 | 1.34 | .41 | 9 | 42.4 | 14.87 | 35.0 |
| Mutton, stew | 3.5 | 1.06 | .87 | .27 | 20 | 17.4 | 4.35 | 25.0 |
| Poultry, hens | 24.2 | 7.40 | 9.22 | 2.82 | 87 | 27.9 | 10.60 | 38.0 |
| Poultry, other | 2.6 | .79 | .94 | .29 | 29 | 8.9 | 3.24 | 36.2 |
| Sausage | 18.7 | 5.70 | 5.26 | 1.61 | 79 | 23.6 | 6.66 | 28.2 |
| Liver | 8.3 | 2.54 | 1.91 | .58 | 66 | 12.6 | 2.90 | 23.0 |

TABLE 4.—AVERAGE QUANTITY AND COST OF SPECIFIED ARTICLES OF FOOD CONSUMED PER FAMILY AND PER EQUIVALENT ADULT MALE IN ONE YEAR IN 100 FAMILIES—Continued

| Article | All families | | | | Families using articles | | | |
|---|---|---|---|---|---|---|---|---|
| | Average quantity consumed per— | | Average cost per— | | Number | Average for these families | | Price per pound |
| | Family | Equivalent adult male | Family | Equivalent adult male | | Quantity | Cost | |
| Meats—Continued. | *Pounds* | *Pounds* | | | | *Pounds* | | *Cents* |
| Soup bones | 12.0 | 3.66 | $1.50 | $0.46 | 42 | 28.5 | $3.56 | 12.5 |
| Other meat, not canned | 17.8 | 5.42 | 3.86 | 1.18 | 57 | 31.1 | 6.77 | 21.7 |
| Canned and potted meats | .5 | .14 | .15 | .05 | 6 | 7.8 | 2.47 | 31.8 |
| Cooked meat, ham | 4.1 | 1.24 | 2.48 | .76 | 44 | 9.2 | 5.65 | 61.2 |
| Cooked meat, other | 16.7 | 5.10 | 5.24 | 1.60 | 69 | 24.2 | 7.60 | 31.4 |
| **Total** | **383.4** | **117.06** | **114.53** | **34.99** | ------ | **581.4** | **173.96** | ------ |
| Sea food: | | | | | | | | |
| Fish, fresh | 17.4 | 5.30 | 4.98 | 1.52 | 86 | 20.2 | 5.79 | 28.7 |
| Fish, salt | 3.9 | 1.20 | 1.09 | .33 | 20 | 19.6 | 5.44 | 27.8 |
| Fish, canned, salmon | 10.5 | 3.22 | 2.94 | .90 | 73 | 14.4 | 4.03 | 28.0 |
| Fish, canned, other | 1.2 | .38 | .35 | .11 | 20 | 6.2 | 1.75 | 28.1 |
| Oysters | .3 | .09 | .13 | .04 | 10 | 3.0 | 1.29 | 43.7 |
| Other sea food | .02 | .01 | .01 | .004 | 1 | 1.8 | 1.45 | 80.6 |
| **Total** | **33.32** | **10.20** | **9.50** | **2.904** | ------ | **65.2** | **19.75** | ------ |
| Milk and milk products: | | | | | | | | |
| Milk, fresh | 1,117.8 | 341.49 | 69.90 | 21.35 | 100 | 1,117.8 | 69.90 | 6.3 |
| Milk, condensed and evaporated | 68.9 | 21.04 | 7.05 | 2.15 | 62 | 111.1 | 11.37 | 10.2 |
| Buttermilk | 25.5 | 7.78 | 1.18 | .36 | 49 | 52.0 | 2.42 | 4.7 |
| Cream | 4.4 | 1.33 | 1.31 | .40 | 45 | 9.7 | 2.92 | 30.2 |
| Ice cream | 7.8 | 2.38 | 2.72 | .83 | 91 | 8.6 | 2.99 | 34.9 |
| Butter | 66.1 | 20.21 | 33.24 | 10.16 | 95 | 69.6 | 34.99 | 50.3 |
| Cheese, ordinary American | 11.0 | 3.36 | 4.00 | 1.22 | 84 | 13.1 | 4.76 | 36.4 |
| Cheese, other | 5.0 | 1.52 | 1.43 | .44 | 38 | 13.1 | 3.75 | 28.7 |
| **Total** | **1,306.5** | **399.11** | **120.83** | **36.91** | ------ | **1,395.0** | **133.10** | ------ |
| Fats and oils: | | | | | | | | |
| Butter substitutes | 25.5 | 7.79 | 5.79 | 1.77 | 42 | 60.7 | 13.78 | 22.7 |
| Lard | 48.8 | 14.90 | 7.98 | 2.44 | 88 | 55.4 | 9.07 | 16.4 |
| Lard substitutes | 3.1 | .94 | .64 | .20 | 8 | 38.5 | 8.04 | 20.9 |
| Vegetable cooking and table oils | 4.7 | 1.42 | 1.11 | .34 | 23 | 20.2 | 4.81 | 23.8 |
| **Total** | **82.1** | **25.05** | **15.52** | **4.75** | ------ | **174.8** | **35.70** | ------ |
| **Eggs** | **121.3** | **37.07** | **36.57** | **11.17** | **100** | **121.3** | **36.57** | **30.1** |
| Cereals and starch: | | | | | | | | |
| Flour, wheat | 191.7 | 58.56 | 9.25 | 2.83 | 100 | 191.7 | 9.25 | 4.8 |
| Flour, other | 7.0 | 2.13 | .64 | .19 | 31 | 22.5 | 2.05 | 9.1 |
| Corn meal | 8.1 | 2.46 | .49 | .15 | 51 | 15.8 | .96 | 6.1 |
| Hominy or grits | .3 | .09 | .02 | .01 | 5 | 5.8 | .42 | 7.2 |
| Cornstarch | 2.7 | .81 | .27 | .08 | 69 | 3.9 | .39 | 10.1 |
| Breakfast foods— | | | | | | | | |
| Wheat | 14.0 | 4.29 | 2.46 | .75 | 67 | 21.0 | 3.67 | 17.5 |
| Oats | 21.3 | 6.51 | 1.95 | .60 | 84 | 25.4 | 2.32 | 9.1 |
| Corn | 10.9 | 3.33 | 2.11 | .65 | 74 | 14.7 | 2.86 | 19.4 |
| Other | .7 | .22 | .35 | .11 | 9 | 7.8 | 3.90 | 49.8 |
| Bread, wheat | 520.5 | 159.02 | 42.44 | 12.96 | 97 | 536.6 | 43.75 | 8.2 |
| Bread, rye | 112.2 | 34.28 | 10.18 | 3.11 | 40 | 280.5 | 25.44 | 9.1 |
| Bread, other | 1.8 | .56 | .16 | .05 | 1 | 183.0 | 16.47 | 9.0 |
| Rolls and buns | 11.7 | 3.58 | 1.42 | .44 | 32 | 36.6 | 4.45 | 12.2 |
| Crackers | 19.1 | 5.83 | 3.18 | .97 | 88 | 21.7 | 3.62 | 16.7 |
| Cakes and cookies | 32.6 | 9.96 | 6.84 | 2.09 | 84 | 38.8 | 8.15 | 21.0 |
| Macaroni, spaghetti, and noodles | 14.8 | 4.52 | 2.18 | .66 | 81 | 18.3 | 2.69 | 14.7 |
| Rice | 12.3 | 3.77 | 1.26 | .38 | 94 | 13.1 | 1.34 | 10.2 |
| Tapioca and sago | 1.3 | .41 | .29 | .09 | 24 | 5.5 | 1.22 | 22.0 |
| Pastries—Pies | 10.2 | 3.11 | 1.44 | .44 | 26 | 39.1 | 5.55 | 14.2 |
| **Total** | **993.2** | **303.44** | **86.93** | **26.56** | ------ | **1,481.8** | **138.50** | ------ |

TABLE 4.—AVERAGE QUANTITY AND COST OF SPECIFIED ARTICLES OF FOOD CONSUMED PER FAMILY AND PER EQUIVALENT ADULT MALE IN ONE YEAR IN 100 FAMILIES—Continued

| Article | All families | | | | Families using articles | | | |
|---|---|---|---|---|---|---|---|---|
| | Average quantity consumed per— | | Average cost per— | | Number | Average for these families | | Price per pound |
| | Family | Equivalent adult male | Family | Equivalent adult male | | Quantity | Cost | |
| Sugars: | *Pounds* | *Pounds* | | | | *Pounds* | | *Cents* |
| Sugar | 195.4 | 59.70 | $12.67 | $3.87 | 100 | 195.4 | $12.67 | 6.5 |
| Molasses, syrup, and honey | 7.7 | 2.34 | .80 | .25 | 57 | 13.4 | 1.41 | 10.5 |
| Candy | 10.4 | 3.19 | 2.74 | .84 | 92 | 11.3 | 2.98 | 26.3 |
| **Total** | **213.5** | **65.23** | **16.21** | **4.96** | | **220.1** | **17.06** | |
| Fruits, fresh: | | | | | | | | |
| Apples | 186.6 | 57.01 | 10.10 | 3.09 | 99 | 188.5 | 10.20 | 5.4 |
| Peaches | 23.4 | 7.16 | 1.24 | .38 | 79 | 29.7 | 1.57 | 5.3 |
| Bananas | 67.4 | 20.60 | 5.24 | 1.60 | 99 | 68.1 | 5.29 | 7.8 |
| Lemons | 10.7 | 3.27 | 1.36 | .42 | 97 | 11.1 | 1.41 | 12.7 |
| Oranges | 101.8 | 31.09 | 9.56 | 2.92 | 100 | 101.8 | 9.56 | 9.4 |
| Grapes | 33.3 | 10.17 | 1.39 | .43 | 87 | 38.3 | 1.60 | 4.2 |
| Berries | 11.1 | 3.39 | 1.26 | .38 | 74 | 15.0 | 1.70 | 11.3 |
| Cantaloupes | 8.5 | 2.59 | .61 | .19 | 48 | 17.7 | 1.26 | 7.2 |
| Watermelons | 36.3 | 11.07 | .73 | .22 | 42 | 86.3 | 1.74 | 2.0 |
| Grapefruit | 6.3 | 1.93 | .54 | .17 | 30 | 21.0 | 1.82 | 8.6 |
| Other | 12.5 | 3.82 | .86 | .26 | 49 | 25.6 | 1.76 | 6.9 |
| **Total** | **497.9** | **152.10** | **32.89** | **10.06** | | **603.1** | **37.91** | |
| Fruits, dried: | | | | | | | | |
| Prunes | 9.1 | 2.77 | 1.43 | .44 | 78 | 11.6 | 1.83 | 15.7 |
| Raisins | 10.0 | 3.04 | 1.16 | .35 | 84 | 11.9 | 1.38 | 11.6 |
| Peaches | .3 | .10 | .07 | .02 | 9 | 3.6 | .77 | 21.3 |
| Other | 1.6 | .49 | .35 | .11 | 25 | 6.4 | 1.39 | 21.9 |
| **Total** | **21.0** | **6.40** | **3.01** | **.92** | | **33.5** | **5.37** | |
| Fruits, canned and preserved: | | | | | | | | |
| Peaches | 11.1 | 3.39 | 1.88 | .57 | 69 | 16.1 | 2.72 | 16.9 |
| Pineapples | 6.5 | 2.00 | 1.21 | .37 | 59 | 11.1 | 2.05 | 18.4 |
| Other | 4.7 | 1.44 | .90 | .27 | 36 | 13.1 | 2.50 | 19.1 |
| Jellies, preserves, marmalade and fruit butter | 9.4 | 2.86 | 2.41 | .74 | 61 | 15.4 | 3.95 | 25.7 |
| **Total** | **31.7** | **9.69** | **6.40** | **1.95** | | **55.7** | **11.22** | |
| Vegetables, fresh: | | | | | | | | |
| Potatoes, white | 591.4 | 180.67 | 14.94 | 4.56 | 100 | 591.4 | 14.94 | 2.5 |
| Potatoes, sweet and yams | 11.9 | 3.62 | .59 | .18 | 52 | 22.8 | 1.13 | 5.0 |
| Cabbage | 65.3 | 19.94 | 2.65 | .81 | 96 | 68.0 | 2.77 | 4.1 |
| Spinach and kale | 6.9 | 2.10 | .69 | .21 | 45 | 15.2 | 1.54 | 10.1 |
| Peas | 4.5 | 1.37 | .53 | .16 | 48 | 9.4 | 1.10 | 11.7 |
| Beans, string | 20.4 | 6.22 | 1.92 | .59 | 85 | 24.0 | 2.26 | 9.4 |
| Tomatoes | 76.5 | 23.37 | 3.10 | .95 | 98 | 78.1 | 3.16 | 4.1 |
| Onions | 3.4 | 1.03 | .65 | .20 | 55 | 6.1 | 1.18 | 19.2 |
| Corn | 39.2 | 11.97 | 1.64 | .50 | 91 | 43.1 | 1.80 | 4.2 |
| Lettuce | 13.8 | 4.21 | 3.27 | 1.00 | 95 | 14.5 | 3.45 | 23.7 |
| Celery | 17.9 | 5.47 | 1.70 | .52 | 86 | 20.8 | 1.97 | 9.5 |
| Beets | 15.7 | 4.80 | .56 | .17 | 51 | 30.8 | 1.10 | 3.6 |
| Carrots | 47.8 | 14.61 | 1.82 | .56 | 88 | 54.4 | 2.07 | 3.8 |
| Turnips | 9.4 | 2.87 | .33 | .10 | 37 | 25.4 | .89 | 3.5 |
| Sauerkraut | 4.6 | 1.42 | .27 | .08 | 25 | 18.6 | 1.09 | 5.9 |
| Asparagus | .2 | .06 | .05 | .02 | 10 | 1.9 | .53 | 27.6 |
| Peppers | 5.6 | 1.71 | .55 | .17 | 41 | 13.7 | 1.33 | 9.7 |
| Other | 22.7 | 6.92 | 1.34 | .41 | 50 | 45.3 | 2.67 | 5.9 |
| **Total** | **957.2** | **292.36** | **36.60** | **11.19** | | **1,083.5** | **44.98** | |
| Vegetables, dried: | | | | | | | | |
| Beans, navy | 12.6 | 3.85 | 1.38 | .42 | 70 | 18.0 | 1.97 | 10.9 |
| Onions | 44.2 | 13.51 | 1.74 | .53 | 96 | 46.1 | 1.82 | 3.9 |
| Other | 6.7 | 2.06 | .77 | .24 | 47 | 14.3 | 1.64 | 11.5 |
| **Total** | **63.5** | **19.42** | **3.89** | **1.19** | | **78.4** | **5.43** | |

TABLE 4.—AVERAGE QUANTITY AND COST OF SPECIFIED ARTICLES OF FOOD CONSUMED PER FAMILY AND PER EQUIVALENT ADULT MALE IN ONE YEAR IN 100 FAMILIES—Continued

| Article | All families | | | | Families using articles | | | |
|---|---|---|---|---|---|---|---|---|
| | Average quantity consumed per— | | Average cost per— | | Number | Average for these families | | Price per pound |
| | Family | Equivalent adult male | Family | Equivalent adult male | | Quantity | Cost | |
| Vegetables, canned: | *Pounds* | *Pounds* | | | | *Pounds* | | *Cents* |
| Beans, baked | 29.5 | 9.00 | $2.83 | $0.86 | 88 | 33.5 | $3.21 | 9.6 |
| Peas | 20.1 | 6.15 | 2.57 | .78 | 80 | 25.2 | 3.21 | 12.8 |
| Corn | 12.3 | 3.75 | 1.49 | .45 | 67 | 18.3 | 2.22 | 12.1 |
| Tomatoes | 23.4 | 7.13 | 2.36 | .72 | 71 | 32.9 | 3.32 | 10.1 |
| Other | 14.1 | 4.30 | 1.46 | .45 | 51 | 27.6 | 2.87 | 10.4 |
| **Total** | **99.4** | **30.33** | **10.71** | **3.26** | ------ | **137.5** | **14.83** | ------ |
| Miscellaneous vegetable foods: | | | | | | | | |
| Chocolate | .1 | .04 | .06 | .02 | 8 | 1.8 | .74 | 42.3 |
| Peanut butter | 3.2 | .97 | .68 | .21 | 51 | 6.2 | 1.33 | 21.5 |
| Cocoa | 4.6 | 1.42 | 1.50 | .46 | 81 | 5.7 | 1.86 | 32.4 |
| Nuts | 4.0 | 1.23 | 1.15 | .35 | 87 | 4.6 | 1.32 | 28.7 |
| **Total** | **11.9** | **3.66** | **3.39** | **1.04** | ------ | **18.3** | **5.25** | ------ |
| Miscellaneous items: | | | | | | | | |
| Gelatin | 3.0 | .91 | 1.24 | .38 | 61 | 4.9 | 2.03 | 41.5 |
| Canned soup | 14.8 | 4.53 | 2.26 | .69 | 70 | 21.2 | 3.23 | 15.3 |
| Tea | 5.1 | 1.56 | 3.75 | 1.15 | 80 | 6.4 | 4.69 | 73.5 |
| Coffee | 32.7 | 9.99 | 12.82 | 3.92 | 94 | 34.8 | 13.64 | 39.2 |
| Coffee substitutes | .4 | .12 | .25 | .08 | 5 | 8.0 | 4.94 | 61.8 |
| **Total** | **56.0** | **17.11** | **20.32** | **6.22** | ------ | **75.3** | **28.53** | ------ |
| Chow-chow, pickles, olives, etc | 3.3 | 1.01 | 1.73 | .53 | 64 | 5.2 | 2.70 | 52.3 |
| Baking powder, soda, yeast, etc | [1] | ---------- | 2.63 | .80 | 100 | [1] | 2.63 | ------ |
| Condiments and extracts | [1] | ---------- | 6.83 | 2.09 | 100 | [1] | 6.83 | ------ |
| Soft drinks, fruit juices, etc | 2.6 | .79 | .83 | .25 | 43 | 6.0 | 1.94 | 32.1 |
| Other food | [1] | ---------- | .18 | .06 | 7 | [1] | 2.70 | ------ |
| **Total** | **[2] 5.9** | **[2] 1.80** | **12.20** | **3.73** | ------ | **[2] 11.2** | **16.80** | ------ |
| **Lunches and meals bought** | **[3] 93.0** | **28.41** | **19.68** | **6.01** | **63** | **147.6** | **31.23** | **.212** |
| **Total all food** | **[4] 4,970.82** | **[4] 1,518.44** | **549.18** | **167.81** | ------ | **[4] 6,283.7** | **756.19** | **.109** |
| Average per day | [4] 13.62 | [4] 4.16 | 1.50 | .46 | ------ | [4] 17.2 | 2.07 | ------ |
| Ice | 1,293.0 | 395.01 | 6.94 | 2.12 | 86 | 1,503.5 | 8.07 | .005 |
| **Grand total including ice** | ---------- | ---------- | **556.12** | **169.93** | ------ | ---------- | **764.26** | ------ |
| Average per day including ice | ---------- | ---------- | 1.52 | .47 | ------ | ---------- | 2.09 | ------ |

[1] Quantity not reported and not significant.
[2] Not including items for which quantities are not reported and not significant.
[3] Estimated pounds based on 113.6 lunches and other meals per family.
[4] Not including insignificant items for which quantities are not reported.

An explanation of the first line of the table will make plain the reading of the remainder of the table. The 100 families as a whole consumed 38.3 pounds of fresh beefsteak in the year, which was equivalent to 11.71 pounds per adult male. This fresh beefsteak for the year cost $14.97, or $4.57 per adult male. Eight families did not buy fresh beefsteak. The 92 families that did buy this article consumed 41.7 pounds per family. The average cost for these families was $16.28 and the average cost per pound was 39.1 cents. These averages are all computed from the unpublished aggregates. Because of decimals dropped in the table a division of average cost by average quantity as

printed may give an average price per unit slightly different from the price per pound as given in the table.

For most of the food items purchased, the quantities were reported on a pound basis. Where this was not the case (as, for example, with eggs, milk, and bananas), conversion to a pound basis has been made by the bureau, according to the conversion scale prepared by the Bureau of Home Economics of the United States Department of Agriculture.

### Food Analysis

The analysis of food values, as presented in Table 6, is based on a table of equivalents, prepared by the Bureau of Home Economics of the Department of Agriculture, giving the number of calories and the amount of protein, calcium, phosphorous, and iron, in each pound of each food item. Table 5 brings into comparison the average contents of the budgets of these families in calorie value and in the four elements specified, with the standards set up by scientific students of the subject (such as Sherman, Hawley, and Rose).

TABLE 5.—ANALYSIS OF FOOD CONTENT PER EQUIVALENT ADULT MALE, PER DAY

| Item | Calories | Protein (grams) | Calcium (grams) | Phosphorous (grams) | Iron (grams) |
|---|---|---|---|---|---|
| Average of 100 Detroit families | 3, 236. 5 | 96. 9 | 0. 957 | 1. 58 | 0. 016 |
| Standard | 3, 000–3, 500 | 70–101 | 0. 70–1. 02 | 1. 32–275 | 0. 015–. 023 |

It would appear from these comparisons that the food consumption of the Detroit families was, on the average, sufficient in quantity and well balanced as regards the important constituents of protein, calcium, phosphorous, and iron.

*Lunches purchased outside the home.*—Lunches bought away from home averaged, in cost, $19.68 per family. Entirely satisfactory data could not be obtained regarding the character of the food items entering into these lunches. It was necessary, therefore, for the bureau to make some more or less arbitrary assumptions as to the contents of such lunches in order to incorporate them into the food analysis study given in Table 6. In doing this, two assumptions were made. In the first place, it was assumed that the lunches contained the same relative numbers of calories, and grams of protein, calcium, phosphorus, and iron as the food purchased at home. In the second place, it was assumed, as is known to be substantially true, that bought lunches, on the average, represented only about one-half the weight, per dollar of expenditure, as food bought for the home. On this latter assumption, the lunches purchased for $19.68 would represent 93 pounds of food. Various estimates made of the weight and composition of lunches bought gives an average of about 630 calories per lunch.

This method of handling the problem of lunches is recognized as being crude, but it was the only available method.

TABLE 6.—ANALYSIS OF FOOD CONSUMED BY 100 FAMILIES, 1929

| Article | Average quantity per family in year (pounds) | Calories | | Protein | | Calcium | | Phosphorus | | Iron | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Per pound | Total calories per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year |
| Meats: | | | | | | | | | | | |
| Beef, fresh, steak | 38.3 | | 36,959.5 | | 2,604.40 | | 1.4937 | | 28.0739 | | 0.39066 |
| Beef, fresh, roast | 49.6 | | 47,864.0 | | 3,372.80 | | 1.9344 | | 36.3568 | | .50592 |
| Beef, fresh, stew | 43.0 | | 41,495.0 | | 2,924.00 | | 1.6770 | | 31.5190 | | .43860 |
| Beef, salt, corned | 2.4 | 965 | 2,316.0 | 68.0 | 163.20 | 0.039 | .0936 | 0.733 | 1.7592 | 0.0102 | .02448 |
| Beef, salt, dried | .4 | | 386.0 | | 27.20 | | .0156 | | .2932 | | .00408 |
| Veal | 16.4 | | 15,826.0 | | 1,115.20 | | .6396 | | 12.0212 | | .16728 |
| Pork, fresh | 66.5 | | 110,722.5 | | 3,258.50 | | 1.8620 | | 35.1120 | | .49210 |
| Pork, salt, bacon | 30.4 | | 50,616.0 | | 1,489.60 | | .8512 | | 16.0512 | | .22496 |
| Pork, salt, ham and shoulder | 22.6 | 1,665 | 37,629.0 | 49.0 | 1,107.40 | .028 | .6328 | .528 | 11.9328 | .0074 | .16724 |
| Pork, salt, other | 1.4 | | 2,331.0 | | 68.60 | | .0392 | | .7392 | | .01036 |
| Mutton, chops | .2 | | 203.0 | | 11.80 | | .0068 | | .1272 | | .00178 |
| Mutton, roast | 3.8 | 1,015 | 3,857.0 | 59.0 | 224.20 | .034 | .1292 | .636 | 2.4168 | .0089 | .03382 |
| Mutton, stew | 3.5 | | 3,552.5 | | 206.50 | | .1190 | | 2.2260 | | .03115 |
| Poultry, hens | 24.2 | 751 | 18,174.2 | 62.1 | 1,502.82 | .036 | .8712 | .669 | 16.1898 | .0093 | .22506 |
| Poultry, other | 2.6 | 1,043 | 2,711.8 | 73.0 | 189.80 | .042 | .1092 | .787 | 2.0462 | .0110 | .02860 |
| Sausage | 18.7 | 2,052 | 38,372.4 | 59.0 | 1,103.30 | .034 | .6358 | .636 | 11.8932 | .0088 | .16456 |
| Liver | 8.3 | 584 | 4,847.2 | 92.5 | 767.75 | .081 | .6723 | .998 | 8.2834 | .0367 | .30461 |
| Soup bones | 12.0 | 435 | 5,220.0 | 54.6 | 655.20 | .032 | .3840 | .578 | 6.9360 | .0082 | .09840 |
| Other meat, not canned | 17.8 | 1,215 | 21,627.0 | 58.7 | 1,044.86 | .034 | .6052 | .632 | 11.2496 | .0088 | .15664 |
| Canned and potted meats | .5 | 1,230 | 615.0 | 64.9 | 32.45 | .038 | .0190 | .670 | .3350 | .0097 | .00485 |
| Cooked meat, ham | 4.1 | 1,230 | 5,043.0 | 35.7 | 146.37 | .021 | .0861 | .385 | 1.5785 | .0054 | .02214 |
| Cooked meat, other | 16.7 | 1,215 | 20,290.5 | 58.7 | 980.29 | .034 | .5678 | .632 | 10.5544 | .0088 | .14696 |
| Total | 383.4 | | 470,658.6 | | 22,996.24 | | 13.4447 | | 247.6946 | | 3.64425 |
| Sea food: | | | | | | | | | | | |
| Fish, fresh | 17.4 | 469 | 8,160.6 | 83.0 | 1,444.20 | .090 | 1.5660 | .954 | 16.5996 | .0044 | .07656 |
| Fish, salt | 3.9 | 515 | 2,008.5 | 125.7 | 490.23 | .137 | .5343 | 1.443 | 5.6277 | .0069 | .02691 |
| Fish, canned, salmon | 10.5 | 660 | 6,930.0 | 88.5 | 929.25 | .096 | 1.0080 | 1.016 | 10.6680 | .0049 | .05145 |
| Fish, canned, other | 1.2 | 912 | 1,094.4 | 106.8 | 128.16 | .608 | .7296 | 1.227 | 1.4724 | .0059 | .00708 |
| Oysters | .3 | 222 | 66.6 | 27.2 | 8.16 | .235 | .0705 | .679 | .2037 | .0198 | .00594 |
| Other sea food | .02 | 210 | 4.2 | 29.5 | .59 | .481 | .00962 | .210 | .0042 | .0204 | .000408 |
| Total | 33.32 | | 18,264.3 | | 3,000.59 | | 3.91802 | | 34.5756 | | .168348 |
| Milk and milk products: | | | | | | | | | | | |
| Milk, fresh | 1,117.8 | 314 | 350,989.2 | 14.9 | 16,655.22 | .546 | 610.3188 | .421 | 470.5938 | .0011 | 1.22958 |
| Milk, condensed and evaporated | 68.9 | 1,119 | 77,099.1 | 41.7 | 2,873.13 | 1.397 | 96.2533 | 1.086 | 74.8254 | .0030 | .20670 |
| Buttermilk | 25.5 | 162 | 4,131.0 | 13.6 | 346.80 | .476 | 12.1380 | .439 | 11.1945 | .0011 | .02805 |
| Cream | 4.4 | 881 | 3,876.4 | 11.3 | 49.72 | .441 | 1.9404 | .388 | 1.7072 | .0009 | .00396 |

[1210]

TABLE 6.—ANALYSIS OF FOOD CONSUMED BY 100 FAMILIES, 1929—Continued

| Article | Average quantity per family in year (pounds) | Calories | | Protein | | Calcium | | Phosphorus | | Iron | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Per pound | Total calories per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year |
| Milk and milk products—Continued. | | | | | | | | | | | |
| Ice cream | 7.8 | 955 | 7,449.0 | 13.6 | 106.08 | 0.168 | 1.3104 | | | | |
| Butter | 66.1 | 3,488 | 230,556.8 | 4.5 | 297.45 | .070 | 4.6270 | 0.070 | 4.6270 | 0.0010 | 0.06610 |
| Cheese, ordinary American | 11.0 | 1,994 | 21,934.0 | 130.6 | 1,436.60 | 4.227 | 46.4970 | 3.111 | 34.2210 | .0060 | .06600 |
| Cheese, other | 5.0 | 498 | 2,490.0 | 94.7 | 473.50 | 1.360 | 6.8000 | 2.270 | 11.3500 | | |
| Total | 1,306.5 | | 698,525.5 | | 22,238.50 | | 779.8849 | | 608.5189 | | 1.60039 |
| Fats and oils: | | | | | | | | | | | |
| Butter substitutes | 25.5 | 3,410 | 86,955.0 | 5.4 | 137.70 | .068 | 1.7340 | .077 | 1.9635 | .0009 | .02295 |
| Lard | 48.8 | 4,080 | 199,104.0 | | | | | | | | |
| Lard substitutes | 3.1 | 4,080 | 12,648.0 | | | | | | | | |
| Vegetable cooking and table oils | 4.7 | 4,080 | 19,176.0 | | | | | | | | |
| Total | 82.1 | | 317,883.0 | | 137.70 | | 1.7340 | | 1.9635 | | .02295 |
| Eggs | 121.3 | 595 | 72,173.5 | 53.8 | 6,525.94 | .268 | 32.5084 | .726 | 88.0638 | .0122 | 1.47986 |
| Cereals and starch: | | | | | | | | | | | |
| Flour, wheat | 191.7 | 1,603 | 307,295.1 | 50.8 | 9,738.36 | .091 | 17.4447 | .417 | 79.9389 | .0045 | .86265 |
| Flour, other | 7.0 | 1,627 | 11,389.0 | 60.3 | 422.10 | .177 | 1.2390 | 1.651 | 11.5570 | .0168 | .11760 |
| Cornmeal | 8.1 | 1,613 | 13,065.3 | 41.7 | 337.77 | .082 | .6642 | .862 | 6.9822 | .0041 | .03321 |
| Hominy or grits | .3 | 1,608 | 482.4 | 37.6 | 11.28 | .050 | .0150 | .653 | .1959 | .0041 | .00123 |
| Cornstarch | 2.7 | 1,632 | 4,406.4 | | | .082 | .2214 | .263 | .7101 | | |
| Breakfast foods: | | | | | | | | | | | |
| Wheat | 14.0 | 1,545 | 21,630.0 | 60.9 | 852.60 | .322 | 4.5080 | 3.047 | 42.6580 | .0195 | .27300 |
| Oats | 21.3 | 1,803 | 38,403.9 | 75.7 | 1,612.41 | .307 | 6.5391 | 1.785 | 38.0205 | .0173 | .36849 |
| Corn | 10.9 | 1,696 | 18,486.4 | 38.1 | 415.29 | .079 | .8611 | .839 | 9.1451 | .0039 | .04251 |
| Other | .7 | 1,657 | 1,159.9 | 54.9 | 38.43 | .182 | .1274 | 1.475 | 1.0325 | .0204 | .01428 |
| Bread, wheat | 520.5 | 1,174 | 611,067.0 | 42.2 | 21,965.10 | .129 | 67.1445 | .411 | 213.9255 | .0041 | 2.13405 |
| Bread, rye | 112.2 | 1,153 | 129,366.6 | 40.8 | 4,577.76 | .104 | 11.6688 | .669 | 75.0618 | .0073 | .81906 |
| Bread, other | 1.8 | 1,155 | 2,079.0 | 42.0 | 75.60 | .159 | .2862 | .842 | 1.5156 | .0093 | .01674 |
| Rolls and buns | 11.7 | 1,174 | 13,735.8 | 42.2 | 493.74 | .129 | 1.5093 | .411 | 4.8087 | .0041 | .04797 |
| Crackers | 19.1 | 1,875 | 35,812.5 | 44.4 | 848.04 | .100 | 1.9100 | .463 | 8.8433 | .0068 | .12988 |
| Cakes and cookies | 32.6 | 1,670 | 54,442.0 | 25.9 | 844.34 | .095 | 3.0970 | .204 | 6.6504 | .0023 | .07498 |
| Macaroni, spaghetti, and noodles | 14.8 | 1,624 | 24,035.2 | 60.8 | 899.84 | .097 | 1.4356 | .650 | 9.6200 | .0054 | .07992 |
| Rice | 12.3 | 1,591 | 19,569.3 | 36.3 | 446.49 | .041 | .5043 | .435 | 5.3505 | .0041 | .05043 |
| Tapioca and sago | 1.3 | 1,608 | 2,090.4 | 1.8 | 2.34 | .104 | .1352 | .408 | .5304 | .0073 | .00949 |
| Pastries, pies | 10.2 | 1,068 | 10,893.6 | 22.9 | 233.58 | .071 | .7242 | .259 | 2.6418 | .0040 | .04080 |
| Total | 993.2 | | 1,319,409.8 | | 43,815.07 | | 120.0350 | | 519.1882 | | 5.11629 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sugars: | | | | | | | | | | | |
| Sugar | 195.4 | 1,814 | 354,455.6 | | | | | | | | |
| Molasses, syrup, and honey | 7.7 | 1,441 | 11,095.7 | 4.2 | 32.34 | .408 | 3.1416 | .111 | .8547 | .0125 | .09625 |
| Candy | 10.4 | 1,814 | 18,865.6 | | | | | | | | |
| Total | 213.5 | | 384,416.9 | | 32.34 | | 3.1416 | | .8547 | | .09625 |
| Fruits, fresh: | | | | | | | | | | | |
| Apples | 186.6 | 260 | 48,516.0 | 1.4 | 261.24 | .028 | 5.2248 | .048 | 8.9568 | .0012 | .22392 |
| Peaches | 23.4 | 205 | 4,797.0 | 1.8 | 42.12 | .064 | 1.4976 | .096 | 2.2464 | .0012 | .02808 |
| Bananas | 67.4 | 300 | 20,220.0 | 3.6 | 242.64 | .027 | 1.8198 | .094 | 6.3356 | .0018 | .12132 |
| Lemons | 10.7 | 120 | 1,284.0 | 2.7 | 28.89 | .101 | 1.0807 | .062 | .6634 | .0017 | .01819 |
| Oranges | 101.8 | 165 | 16,797.0 | 2.7 | 274.86 | .147 | 14.9646 | .069 | 7.0242 | .0007 | .07126 |
| Grapes | 33.3 | 270 | 8,991.0 | 5.0 | 166.50 | .067 | 2.2311 | .110 | 3.6630 | .0011 | .03663 |
| Berries | 11.1 | 240 | 2,664.0 | 4.3 | 47.73 | .204 | 2.2644 | .182 | 2.0202 | .0032 | .03552 |
| Cantaloupes | 8.5 | 60 | 510.0 | 1.4 | 11.90 | .041 | .3485 | .036 | .3060 | .0007 | .00595 |
| Watermelons | 36.3 | 65 | 2,359.5 | .9 | 32.67 | .023 | .8349 | .006 | .2178 | | |
| Grapefruit | 6.3 | 130 | 819.0 | 1.4 | 8.82 | .063 | .3969 | .060 | .3780 | .0009 | .00567 |
| Other | 12.5 | 215 | 2,687.5 | 2.1 | 26.25 | .061 | .7625 | .096 | 1.2000 | .0015 | .01875 |
| Total | 497.9 | | 109,645.0 | | 1,143.62 | | 31.4258 | | 33.0114 | | .56529 |
| Fruits, dried: | | | | | | | | | | | |
| Prunes | 9.1 | 1,161 | 10,565.1 | 8.2 | 74.62 | .230 | 2.0930 | .448 | 4.0768 | .0128 | .11648 |
| Raisins | 10.0 | 1,407 | 14,070.0 | 10.4 | 104.00 | .267 | 2.6700 | .535 | 5.3500 | .0086 | .08600 |
| Peaches | .3 | 923 | 276.9 | 8.1 | 2.43 | .288 | .0864 | .432 | .1296 | .0054 | .00162 |
| Other | 1.6 | 1,260 | 2,016.0 | 21.3 | 34.08 | .299 | .4784 | .531 | .8496 | .0064 | .01024 |
| Total | 21.0 | | 26,928.0 | | 215.13 | | 5.3278 | | 10.4060 | | .21434 |
| Fruits, canned and preserved: | | | | | | | | | | | |
| Peaches | 11.1 | 307 | 3,407.7 | 1.3 | 14.43 | .045 | .4995 | .067 | .7437 | .0008 | .00888 |
| Pineapples | 6.5 | 323 | 2,099.5 | .9 | 5.85 | .050 | .3250 | .077 | .5005 | .0014 | .00910 |
| Other | 4.7 | 349 | 1,640.3 | 1.9 | 8.93 | .039 | .1833 | .069 | .3243 | .0008 | .00376 |
| Jellies, preserves, marmalade, and fruit butter | 9.4 | 1,038 | 9,757.2 | 1.5 | 14.10 | .040 | .3760 | .044 | .4136 | .0006 | .00564 |
| Total | 31.7 | | 16,904.7 | | 43.31 | | 1.3838 | | 1.9821 | | .02738 |
| Vegetables, fresh: | | | | | | | | | | | |
| Potatoes, white | 591.4 | 304 | 179,785.6 | 8.2 | 4,849.48 | .049 | 28.9786 | .210 | 124.1940 | .0047 | 2.77958 |
| Potatoes, sweet, and yams | 11.9 | 447 | 5,319.3 | 6.3 | 74.97 | .072 | .8568 | .165 | 1.9635 | .0018 | .02142 |
| Cabbage | 65.3 | 121 | 7,901.3 | 6.4 | 417.92 | .173 | 11.2969 | .111 | 7.2483 | .0042 | .27426 |
| Spinach and kale | 6.9 | 108 | 745.2 | 9.5 | 65.55 | .303 | 2.0907 | .308 | 2.1252 | .0163 | .11247 |
| Peas | 4.5 | 251 | 1,129.5 | 16.3 | 73.35 | .065 | .2925 | .319 | 1.4355 | .0041 | .01845 |
| Beans, string | 20.4 | 176 | 3,590.4 | 9.5 | 193.80 | .194 | 3.9576 | .222 | 4.5288 | .0047 | .09588 |
| Tomatoes | 76.5 | 103 | 7,879.5 | 4.8 | 367.20 | .052 | 3.9780 | .116 | 8.8740 | .0018 | .13770 |
| Onions | 3.4 | 199 | 676.6 | 6.4 | 21.76 | .137 | .4658 | .185 | .6290 | .0020 | .00680 |
| Corn | 39.2 | 178 | 6,977.6 | 5.4 | 211.68 | .011 | .4312 | .182 | 7.1344 | .0014 | .05488 |
| Lettuce | 13.8 | 72 | 993.6 | 4.5 | 62.10 | .161 | 2.2218 | .161 | 2.2218 | .0026 | .03588 |
| Celery | 17.9 | 68 | 1,217.2 | 4.1 | 73.39 | .286 | 5.1194 | .137 | 2.4523 | .0018 | .03222 |
| Beets | 15.7 | 167 | 2,621.9 | 5.9 | 92.63 | .107 | 1.6799 | .140 | 2.1980 | .0022 | .03454 |
| Carrots | 47.8 | 159 | 7,600.2 | 4.1 | 195.98 | .197 | 9.4166 | .161 | 7.6958 | .0021 | .10038 |

TABLE 6.—ANALYSIS OF FOOD CONSUMED BY 100 FAMILIES, 1929—Continued

| Article | Average quantity per family in year (pounds) | Calories | | Protein | | Calcium | | Phosphorus | | Iron | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Per pound | Total calories per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year | Grams per pound | Total grams per family in year |
| Vegetables, fresh—Continued. | | | | | | | | | | | |
| Turnips | 9.4 | 124 | 1,165.6 | 4.1 | 38.54 | 0.200 | 1.8800 | 0.145 | 1.3630 | 0.0016 | 0.01504 |
| Sauerkraut | 4.6 | 121 | 556.6 | 6.4 | 29.44 | .173 | .7958 | .111 | .5106 | .0042 | .01932 |
| Asparagus | .2 | 101 | 20.2 | 8.2 | 1.64 | .123 | .0246 | .179 | .0358 | .0045 | .00090 |
| Peppers | 5.6 | 118 | 660.8 | 7.3 | 40.88 | .040 | .2240 | .171 | .9576 | .0026 | .01456 |
| Other | 22.7 | 156 | 3,541.2 | 7.5 | 170.25 | .147 | 3.3369 | .179 | 4.0633 | .0031 | .07037 |
| Total | 957.2 | ------- | 232,382.3 | ------- | 6,980.56 | ------- | 77.0471 | ------- | 179.6309 | ------- | 3.82465 |
| Vegetables, dried: | | | | | | | | | | | |
| Beans, navy | 12.6 | 1,564 | 19,706.4 | 102.1 | 1,286.46 | .726 | 9.1476 | 2.137 | 26.9262 | .0318 | .40068 |
| Onions | 44.2 | 597 | 26,387.4 | 19.2 | 848.64 | .411 | 18.1662 | .555 | 24.5310 | .0060 | .26520 |
| Other | 6.7 | 1,586 | 10,626.2 | 82.1 | 550.07 | .317 | 2.1239 | 1.523 | 10.2041 | .0317 | .21239 |
| Total | 63.5 | ------- | 56,720.0 | ------- | 2,685.17 | ------- | 29.4377 | ------- | 61.6613 | ------- | .87827 |
| Vegetables, canned: | | | | | | | | | | | |
| Beans, baked | 29.5 | 583 | 17,198.5 | 31.3 | 923.35 | .209 | 6.1655 | .676 | 19.9420 | .0095 | .28025 |
| Peas | 20.1 | 276 | 5,547.6 | 17.9 | 359.79 | .072 | 1.4472 | .351 | 7.0551 | .0045 | .09045 |
| Corn | 12.3 | 445 | 5,473.5 | 12.7 | 156.21 | .150 | 1.8450 | .510 | 6.2730 | .0032 | .03936 |
| Tomatoes | 23.4 | 103 | 2,410.2 | 4.8 | 112.32 | .052 | 1.2168 | .116 | 2.7144 | .0018 | .04212 |
| Other | 14.1 | 188 | 2,650.8 | 9.8 | 138.18 | .089 | 1.2549 | .186 | 2.6226 | .0037 | .05217 |
| Total | 99.4 | ------- | 33,280.6 | ------- | 1,689.85 | ------- | 11.9294 | ------- | 38.6071 | ------- | .50435 |
| Miscellaneous vegetable foods: | | | | | | | | | | | |
| Chocolate | .1 | 2,772 | 277.2 | 58.5 | 5.85 | .417 | .0417 | 2.064 | .2064 | .0123 | .00123 |
| Peanut butter | 3.2 | 2,741 | 8,771.2 | 132.9 | 425.28 | .322 | 1.0304 | 1.811 | 5.7952 | .0100 | .03200 |
| Cocoa | 4.6 | 2,256 | 10,377.6 | 98.0 | 450.80 | .508 | 2.3368 | 3.216 | 14.7936 | .0123 | .05658 |
| Nuts | 4.0 | 1,420 | 5,680.0 | 32.5 | 130.00 | .308 | 1.2320 | .802 | 3.2080 | .0062 | .02480 |
| Total | 11.9 | ------- | 25,106.0 | ------- | 1,011.93 | ------- | 4.6409 | ------- | 24.0032 | ------- | .11461 |
| Miscellaneous items: | | | | | | | | | | | |
| Gelatin | 3.0 | 1,662 | 4,986.0 | 414.6 | 1,243.80 | 1.215 | 3.6450 | ------- | ------- | ------- | ------- |
| Canned soup | 14.8 | 103 | 1,524.4 | 4.8 | 71.04 | .052 | .7696 | .116 | 1.7168 | .0018 | .02664 |
| Tea | 5.1 | ------- | (1) | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| Coffee | 32.7 | ------- | (1) | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| Coffee substitutes | .4 | ------- | (1) | ------- | ------- | ------- | ------- | ------- | ------- | ------- | ------- |
| Total | 56.0 | ------- | 6,510.4 | ------- | 1,314.84 | ------- | 4.4146 | ------- | 1.7168 | ------- | .02664 |

[1222]

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Chowchow, pickles, olives, etc | 3.3 | 281 | 927.3 | 5.1 | 16.83 | .147 | .4851 | .114 | .3762 | .0038 | .01254 |
| Baking powder, soda, yeast, etc | (2) | | (1) | | | | | | | | |
| Condiments and extracts | (2) | | (1) | | | | | | | | |
| Soft drinks, fruit juices, etc | 2.6 | 345 | 897.0 | 1.8 | 4.68 | .050 | .1300 | .050 | .1300 | .0014 | .00364 |
| Other food | (2) | | | | | | | | | | |
| Total | 5.9 | | 1,824.3 | | 21.51 | | .6151 | | .5062 | | .01618 |
| Lunches | [3] 93.0 | 777 | 72,261.0 | 23.3 | 2,166.90 | .230 | 21.3900 | .380 | 35.3400 | .0038 | .35340 |
| Average per family per year [4] | 4,970.82 | | 3,862,893.9 | | 116,019.20 | | 1,142.27882 | | 1,887.7243 | | 18.653448 |
| Average per family per day | 13.52 | | 10,583.3 | | 317.86 | | 3.12953 | | 5.1718 | | .051105 |
| Average per equivalent adult male per year | 1,518.44 | | 1,181,313.1 | | 35,479.88 | | 349.32074 | | 577.2857 | | 5.704418 |
| Average per equivalent adult male per day | 4.16 | | 3,236.5 | | 96.93 | | .95704 | | 1.5816 | | .015629 |

[1] No food value.
[2] Quantity not reported and not significant.
[3] Estimated pounds based on 113.6 lunches and other meals.
[4] Not including 1,293 pounds of ice used in refrigeration.

## Clothing

THE average outlay for clothing per year per family was $210.67, representing 12.2 per cent of the total family expenditures.

### Clothing of Husband and Wife

Table 7 enumerates all of the clothing purchased by the husband and by the wife, and in connection with each article it shows the average number of articles purchased for all families, the average expenditure per family, and the average expenditure per article. It also shows similar averages for the families which purchased each specified article.

In the case of some items such as cleaning and pressing, shoe repairing, jewelry, ribbons, and other clothing, the number of articles is not reported.

An explanation of the first item of Table 7 will help to make clear the method of presentation. Only 54 of the 100 husbands actually bought felt hats during the year. They bought 56 such hats, making an average in round figures of 1 hat per husband buying. The average expenditure per family was $3.82 and the average cost per hat was $3.68. However, the more common inquiry is, How many felt hats are consumed per man per year and what do felt hats cost per year? The first two columns of the table show that the average man buys 0.56 felt hats per year and pays out an average of $2.06 per year for felt hats. The other items are analyzed in like manner.

The average expenditure for clothing for the 100 husbands, $63.59 for the year, absorbed 3.7 per cent of all the family expenditures. Of the husbands' clothing expense, 43 per cent was for outer garments, 25 per cent for footwear, 7 per cent for underwear, and 6 per cent for headgear.

On an average the husband appears to buy a felt hat once in about every 2 years, a wool suit every 2½ years, an overcoat every 7 years, and a sweater or "lumberjack" every 3 years. Five shirts, 2 ties, 2 cotton union suits, 14 pairs of cotton socks and 1 pair of silk or rayon socks, 1 pair of garters, 2 pairs of shoes, 2 pairs of leather work gloves, and 9 pairs of cotton work gloves were purchased by each husband, on the average, during the year. The husband usually buys shirts with collars attached; the replacement on separate collars was only 1 every 2½ years.

The men's felt hats cost on an average $3.68 each, the caps $1.41, the wool suits $27.43, overcoats $23.75, cotton shirts $1.14, cotton union suits $1.34, cotton socks 24 cents, and silk or rayon socks 54 cents a pair. High shoes averaged $4.23 and low shoes averaged $4.56 a pair, leather work gloves 39 cents, and cotton gloves 21 cents. The quantity and cost of other accessories and the upkeep and repair of clothing are shown in the table.

The value of clothing for the 100 wives, $59.21 per year, absorbed 3.4 per cent of all expenditures. For the wives, 44 per cent of their clothing expenditures was for outer garments, 26 per cent for footwear, 15 per cent for underwear, and 6 per cent for headgear. From the standpoint of replacement of the principal articles of clothing, the wife purchased, on an average, a wool coat every 2½ years, 3 hats every 2 years, a pair of cotton gloves every 2 years, and a corset and bras-

sière every 2 years. During the year she purchased 2 dresses, 4 pairs of cotton stockings, 4 pairs of silk or rayon stockings, 2 pairs of shoes, 3 house dresses, 2 petticoats or slips, 2 pairs of bloomers, a nightgown, and a pair of house slippers.

The wife's wool coat averaged in cost $25.09, the hat $2.55, cotton gloves $0.89, corset $2.63, and brassière $0.53. The cotton dress had an average cost of $1.74 and the silk or rayon dress $7.51, the cotton stockings $0.35, and the silk or rayon stockings $1.01 a pair. The shoes averaged $4.27 for the low and $5.25 for the high shoes, the house dresses $1.04, the cotton petticoats or slips $0.76, and the silk or rayon petticoats or slips $1.31. The cotton bloomers averaged $0.57 and the silk or rayon bloomers $0.85, the cotton nightgowns $0.87, and the house slippers $0.98.

TABLE 7.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING PURCHASED PER FAMILY IN ONE YEAR

*Clothing of 100 husbands*

| Article | All families | | Families purchasing | | | | |
|---|---|---|---|---|---|---|---|
| | Average number of articles per family | Average expenditure per family | Number of families | Number of articles purchased | Average number of articles per family | Average expenditure per family | Average cost per article |
| Headgear: | | | | | | | |
| Hats, felt | 0.56 | $2.06 | 54 | 56 | 1.04 | $3.82 | $3.68 |
| Hats, straw | .18 | .44 | 17 | 18 | 1.06 | 2.58 | 2.44 |
| Caps | .86 | 1.22 | 62 | 86 | 1.39 | 1.96 | 1.41 |
| Outer garments: | | | | | | | |
| Suits, wool | .41 | 11.25 | 40 | 41 | 1.03 | 28.12 | 27.43 |
| Coats (separate) | .02 | .14 | 2 | 2 | 1.00 | 6.75 | 6.75 |
| Trousers— | | | | | | | |
| Wool | .73 | 2.10 | 40 | 73 | 1.83 | 5.25 | 2.88 |
| Cotton | 1.39 | 2.82 | 62 | 139 | 2.24 | 4.55 | 2.03 |
| Overcoats | .14 | 3.33 | 14 | 14 | 1.00 | 23.75 | 23.75 |
| Mackinaws | .03 | .37 | 3 | 3 | 1.00 | 12.17 | 12.17 |
| Raincoats | .02 | .15 | 2 | 2 | 1.00 | 7.38 | 7.38 |
| Sweaters and lumberjacks | .32 | .97 | 30 | 32 | 1.07 | 3.24 | 3.04 |
| Overalls | .35 | .60 | 18 | 35 | 1.94 | 3.34 | 1.72 |
| Jumpers | .08 | .11 | 5 | 8 | 1.60 | 2.16 | 1.35 |
| Shirts (work or dress): | | | | | | | |
| Cotton | 4.50 | 5.14 | 98 | 450 | 4.59 | 5.25 | 1.14 |
| Wool | .12 | .31 | 8 | 12 | 1.50 | 3.84 | 2.56 |
| Underwear: | | | | | | | |
| Undershirts— | | | | | | | |
| Cotton | .45 | .40 | 17 | 45 | 2.65 | 2.35 | .89 |
| Wool | .02 | .03 | 2 | 2 | 1.00 | 1.50 | 1.50 |
| Drawers— | | | | | | | |
| Cotton | .45 | .37 | 16 | 45 | 2.81 | 2.34 | .83 |
| Wool | .01 | .02 | 1 | 1 | 1.00 | 1.50 | 1.50 |
| Union suits— | | | | | | | |
| Cotton | 2.28 | 3.05 | 81 | 228 | 2.81 | 3.77 | 1.34 |
| Wool | .15 | .35 | 7 | 15 | 2.14 | 5.04 | 2.35 |
| Pajamas | .18 | .25 | 11 | 18 | 1.64 | 2.30 | 1.41 |
| Nightshirts | .08 | .09 | 4 | 8 | 2.00 | 2.31 | 1.16 |
| Footwear: | | | | | | | |
| Socks— | | | | | | | |
| Cotton | 14.09 | 3.41 | 99 | 1,409 | 14.23 | 3.44 | .24 |
| Wool | .57 | .36 | 21 | 57 | 2.71 | 1.69 | .62 |
| Silk or rayon | .98 | .53 | 30 | 98 | 3.27 | 1.77 | .54 |
| Shoes— | | | | | | | |
| High | .87 | 3.68 | 51 | 87 | 1.71 | 7.21 | 4.23 |
| Low | 1.44 | 6.57 | 84 | 144 | 1.71 | 7.82 | 4.56 |
| Shoe repairing | ------- | 2.88 | 92 | ------- | ------- | 3.13 | ------- |
| Shoe shines | .19 | .02 | 4 | 19 | 4.75 | .48 | .10 |
| House slippers | .36 | .52 | 36 | 36 | 1.00 | 1.45 | 1.45 |
| Rubbers | .54 | .78 | 48 | 54 | 1.13 | 1.63 | 1.45 |
| Arctics | .06 | .22 | 6 | 6 | 1.00 | 3.67 | 3.67 |

TABLE 7.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING PURCHASED PER FAMILY IN ONE YEAR—Continued

*Clothing of 100 husbands*—Continued

| Article | All families | | Families purchasing | | | | |
|---|---|---|---|---|---|---|---|
| | Average number of articles per family | Average expenditure per family | Number of families | Number of articles purchased | Average number of articles per family | Average expenditures per family | Average cost per article |
| Gloves and mittens: | | | | | | | |
| Leather, dress | 0.12 | $0.21 | 11 | 12 | 1.09 | $1.87 | $1.71 |
| Leather, work | 2.06 | .81 | 12 | 206 | 17.17 | 6.78 | .39 |
| Cotton | 9.34 | 1.97 | 60 | 934 | 15.57 | 3.28 | .21 |
| Wool | .04 | .04 | 4 | 4 | 1.00 | 1.11 | 1.11 |
| Collars | .39 | .10 | 12 | 39 | 3.25 | .85 | .26 |
| Ties | 1.89 | 1.52 | 84 | 189 | 2.25 | 1.81 | .81 |
| Handkerchiefs | 5.73 | .60 | 70 | 573 | 8.19 | .86 | .11 |
| Mufflers and scarfs | .21 | .33 | 19 | 21 | 1.11 | 1.73 | 1.57 |
| Garters | 1.18 | .33 | 71 | 118 | 1.66 | .46 | .28 |
| Belts | .48 | .37 | 44 | 48 | 1.09 | .85 | .78 |
| Suspenders | .19 | .11 | 15 | 19 | 1.27 | .72 | .57 |
| Umbrellas | .02 | .05 | 2 | 2 | 1.00 | 2.25 | 2.25 |
| Pocketbooks | .09 | .06 | 9 | 9 | 1.00 | .66 | .66 |
| Watches | ---- | .88 | 7 | ---- | ---- | 12.53 | ---- |
| Other clothing | ---- | .23 | 12 | ---- | ---- | 1.91 | ---- |
| Cleaning, pressing, and repairing | ---- | 1.46 | 52 | ---- | ---- | 2.81 | ---- |
| Total, husbands' clothing | ---- | 63.59 | ---- | ---- | ---- | ---- | ---- |

*Clothing of 100 wives*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Headgear: hats | 1.49 | $3.80 | 94 | 149 | 1.59 | $4.04 | $2.55 |
| Outer garments: | | | | | | | |
| Waists and blouses— | | | | | | | |
| Cotton | .02 | .03 | 1 | 2 | 2.00 | 3.00 | 1.50 |
| Silk or rayon | .01 | .02 | 1 | 1 | 1.00 | 2.25 | 2.25 |
| Dresses— | | | | | | | |
| Cotton | 1.02 | 1.77 | 50 | 102 | 2.04 | 3.55 | 1.74 |
| Wool | .05 | .48 | 5 | 5 | 1.00 | 9.59 | 9.59 |
| Silk or rayon | 1.03 | 7.73 | 76 | 103 | 1.36 | 10.18 | 7.51 |
| House dresses and bungalow aprons | 3.20 | 3.33 | 94 | 320 | 3.40 | 3.55 | 1.04 |
| Aprons | .63 | .21 | 25 | 63 | 2.52 | .85 | .34 |
| Coats— | | | | | | | |
| Cotton | .01 | .12 | 1 | 1 | 1.00 | 12.00 | 12.00 |
| Wool | .42 | 10.54 | 40 | 42 | 1.05 | 26.35 | 25.09 |
| Fur | .01 | 1.00 | 1 | 1 | 1.00 | 100.00 | 100.00 |
| Raincoats | .04 | .27 | 4 | 4 | 1.00 | 6.63 | 6.63 |
| Sweaters— | | | | | | | |
| Cotton | .02 | .04 | 2 | 2 | 1.00 | 1.99 | 1.99 |
| Wool | .09 | .30 | 9 | 9 | 1.00 | 3.32 | 3.32 |
| Furs | .01 | .30 | 1 | 1 | 1.00 | 29.75 | 29.75 |
| Underwear: | | | | | | | |
| Petticoats and slips— | | | | | | | |
| Cotton | 1.56 | 1.19 | 67 | 156 | 2.33 | 1.77 | .76 |
| Silk or rayon | .42 | .55 | 27 | 42 | 1.56 | 2.04 | 1.31 |
| Corsets | .51 | 1.34 | 46 | 51 | 1.11 | 2.92 | 2.63 |
| Brassières | .51 | .27 | 23 | 51 | 2.22 | 1.17 | .53 |
| Chemises— | | | | | | | |
| Cotton | .05 | .04 | 2 | 5 | 2.50 | 1.75 | .70 |
| Silk or rayon | .17 | .21 | 9 | 17 | 1.89 | 2.38 | 1.26 |
| Union suits— | | | | | | | |
| Cotton | .70 | .68 | 30 | 70 | 2.33 | 2.25 | .96 |
| Wool | .02 | .06 | 2 | 2 | 1.00 | 2.79 | 2.79 |
| Shirts and vests— | | | | | | | |
| Cotton | 1.65 | .65 | 48 | 165 | 3.44 | 1.36 | .40 |
| Silk or rayon | .37 | .28 | 18 | 37 | 2.06 | 1.53 | .74 |
| Bloomers, step-ins and drawers— | | | | | | | |
| Cotton | 1.40 | .80 | 48 | 140 | 2.92 | 1.66 | .57 |
| Silk or rayon | 1.28 | 1.08 | 49 | 128 | 2.61 | 2.21 | .85 |
| Night gowns, cotton | 1.31 | 1.14 | 62 | 131 | 2.11 | 1.84 | .87 |
| Pajamas— | | | | | | | |
| Cotton | .01 | .01 | 1 | 1 | 1.00 | .80 | .80 |
| Silk or rayon | .01 | .03 | 1 | 1 | 1.00 | 2.95 | 2.95 |
| Kimonos and bathrobes— | | | | | | | |
| Cotton | .07 | .16 | 7 | 7 | 1.00 | 2.27 | 2.27 |
| Wool | .02 | .10 | 2 | 2 | 1.00 | 5.00 | 5.00 |
| Silk or rayon | .01 | .03 | 1 | 1 | 1.00 | 2.95 | 2.95 |

TABLE 7.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING PURCHASED PER FAMILY IN ONE YEAR—Continued

*Clothing of 100 wives*—Continued

| Article | All families | | Families purchasing | | | | |
|---|---|---|---|---|---|---|---|
| | Average number of articles per family | Average expenditure per family | Number of families | Number of articles purchased | Average number of articles per family | Average expenditure per family | Average cost per article |
| Footwear: | | | | | | | |
| Stockings— | | | | | | | |
| Cotton | 3.74 | $1.30 | 68 | 374 | 5.50 | $1.91 | $0.35 |
| Wool | .06 | .06 | 4 | 6 | 1.50 | 1.38 | .92 |
| Silk or rayon | 4.01 | 4.03 | 93 | 401 | 4.31 | 4.33 | 1.01 |
| Shoes— | | | | | | | |
| High | .02 | .10 | 2 | 2 | 1.00 | 5.25 | 5.25 |
| Low | 1.87 | 7.99 | 100 | 187 | 1.87 | 7.99 | 4.27 |
| Shoe repairing | | 1.15 | 73 | | | 1.58 | |
| House slippers | .82 | .80 | 55 | 82 | 1.49 | 1.46 | .98 |
| Rubbers | .08 | .08 | 8 | 8 | 1.00 | 1.01 | 1.01 |
| Arctics | .34 | .76 | 34 | 34 | 1.00 | 2.23 | 2.23 |
| Gloves and mittens: | | | | | | | |
| Kid | .12 | .30 | 12 | 12 | 1.00 | 2.49 | 2.49 |
| Cotton | .52 | .46 | 46 | 52 | 1.13 | 1.00 | .89 |
| Wool | .02 | .02 | 2 | 2 | 1.00 | .98 | .98 |
| Silk | .02 | .02 | 2 | 2 | 1.00 | .88 | .88 |
| Collar and cuff sets | .02 | .01 | 2 | 2 | 1.00 | .60 | .60 |
| Handkerchiefs | 4.49 | .50 | 60 | 449 | 7.48 | .83 | .11 |
| Scarfs | .14 | .23 | 14 | 14 | 1.00 | 1.64 | 1.64 |
| Garters | .80 | .15 | 49 | 80 | 1.63 | .30 | .18 |
| Belts | .04 | .01 | 2 | 4 | 2.00 | .28 | .14 |
| Hairpins, fancy combs, ornaments, nets, etc | | .20 | 63 | | | .31 | |
| Sanitary supplies | | .71 | 41 | | | 1.72 | |
| Umbrellas | .08 | .18 | 8 | 8 | 1.00 | 2.22 | 2.22 |
| Hand bags and purses | .48 | .93 | 46 | 48 | 1.04 | 2.03 | 1.95 |
| Watches and jewelry | | .13 | 10 | | | 1.32 | |
| Other clothing | | .01 | 2 | | | .74 | |
| Cleaning, pressing, and repairing | | .52 | 24 | | | 2.17 | |
| Total, wives' clothing | | 59.21 | | | | | |

## Children's Clothing

The average expenditure for clothing for children amounted to $87.87 per year for the 100 families and constituted 5.1 per cent of all expenditures. This expenditure clothed an average of 2.45 children per family.

In the detailed analysis of the cost of children's clothing the data have been divided according to age groups for each sex. These age groups, together with the number of children in each age group and the average age of these children, are given in Table 8:

TABLE 8.—DISTRIBUTION OF CHILDREN IN FAMILIES STUDIED, BY AGE GROUP

| Age group | Boys | | | Girls | | |
|---|---|---|---|---|---|---|
| | Number of families having | Number of children | Average age | Number of families having | Number of children | Average age |
| Under 4 years | 27 | 28 | 1.9 | 23 | 25 | 1.9 |
| 4 and under 8 years | 28 | 29 | 5.1 | 40 | 48 | 5.4 |
| 8 and under 12 years | 34 | 38 | 9.5 | 35 | 40 | 9.4 |
| 12 and under 15 years | 10 | 11 | 12.7 | 12 | 14 | 13.2 |
| 15 and 16 years | 3 | 3 | 15.7 | 8 | 9 | 15.6 |

These age groups are arbitrary, but represent the ages at which the demands for clothing tend to change most markedly. The kind of article, as well as the cost price, changes with the age. Boys were found in 76 families and girls in 83 families. Fifty-nine families had both boys and girls.

In Table 9, which shows in detail the clothing of the children in the families canvassed, two sets of figures are given, the first set, as in Table 4, spreads the quantity and expense over the entire 100 families, while the second set of figures applies only to the families who purchased the articles in question.

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS

*Boys*

[Age groups have been omitted in cases where no entries occurred]

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Headgear: | | | | | | | | | |
| Hats, straw | Under 4 years | 0.01 | [1] | 1 | 1 | 1 | 1.00 | $0.25 | $0.25 |
| | 4 and under 8 years | .01 | [1] | 1 | 1 | 1 | 1.00 | .25 | .25 |
| Hats, other | Under 4 years | .04 | $0.03 | 3 | 3 | 4 | 1.33 | .92 | .69 |
| | 4 and under 8 years | .06 | .05 | 5 | 6 | 6 | 1.00 | .89 | .89 |
| | 8 and under 12 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.00 | 1.00 |
| | 15 and 16 years | .02 | .07 | 2 | 2 | 2 | 1.00 | 3.48 | 3.48 |
| Caps | Under 4 years | .26 | .18 | 18 | 19 | 26 | 1.37 | .97 | .71 |
| | 4 and under 8 years | .36 | .30 | 27 | 28 | 36 | 1.29 | 1.09 | .85 |
| | 8 and under 12 years | .59 | .56 | 32 | 36 | 59 | 1.64 | 1.55 | .95 |
| | 12 and under 15 years | .17 | .19 | 9 | 10 | 17 | 1.70 | 1.90 | 1.12 |
| | 15 and 16 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 2.00 | 2.00 |
| Outer garments: | | | | | | | | | |
| Suits, wool | Under 4 years | .07 | .14 | 4 | 4 | 7 | 1.75 | 3.62 | 2.07 |
| | 4 and under 8 years | .16 | .76 | 13 | 14 | 16 | 1.14 | 5.42 | 4.74 |
| | 8 and under 12 years | .21 | 2.07 | 18 | 21 | 21 | 1.00 | 9.87 | 9.87 |
| | 12 and under 15 years | .07 | .90 | 6 | 7 | 7 | 1.00 | 12.79 | 12.79 |
| | 15 and 16 years | .04 | .61 | 3 | 3 | 4 | 1.33 | 20.50 | 15.38 |
| Suits, cotton | Under 4 years | .78 | .73 | 18 | 19 | 78 | 4.11 | 3.82 | .93 |
| | 4 and under 8 years | .66 | .71 | 18 | 18 | 66 | 3.67 | 3.94 | 1.08 |
| | 8 and under 12 years | .12 | .32 | 6 | 6 | 12 | 2.00 | 5.33 | 2.67 |
| | 12 and under 15 years | .02 | .11 | 2 | 2 | 2 | 1.00 | 5.48 | 5.48 |
| Trousers, wool | Under 4 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 4 and under 8 years | .08 | .09 | 4 | 5 | 8 | 1.60 | 1.87 | 1.17 |
| | 8 and under 12 years | .34 | .70 | 14 | 15 | 34 | 2.27 | 4.64 | 2.05 |
| | 12 and under 15 years | .05 | .11 | 3 | 3 | 5 | 1.67 | 3.62 | 2.17 |
| | 15 and 16 years | .04 | .16 | 2 | 2 | 4 | 2.00 | 7.90 | 3.95 |
| Trousers, cotton | Under 4 years | .03 | .01 | 1 | 1 | 3 | 3.00 | 1.50 | .50 |
| | 4 and under 8 years | .23 | .19 | 10 | 10 | 23 | 2.30 | 1.94 | .85 |
| | 8 and under 12 years | .81 | .93 | 23 | 27 | 81 | 3.00 | 3.45 | 1.15 |
| | 12 and under 15 years | .24 | .47 | 8 | 9 | 24 | 2.67 | 5.25 | 1.97 |
| Overcoats | Under 4 years | .13 | .49 | 13 | 13 | 13 | 1.00 | 3.75 | 3.75 |
| | 4 and under 8 years | .17 | 1.01 | 17 | 18 | 17 | .94 | 5.60 | 5.92 |
| | 8 and under 12 years | .11 | .70 | 11 | 12 | 11 | .92 | 5.83 | 6.36 |
| | 12 and under 15 years | .05 | .42 | 5 | 5 | 5 | 1.00 | 8.38 | 8.38 |
| | 15 and 16 years | .02 | .31 | 2 | 2 | 2 | 1.00 | 15.50 | 15.50 |
| Mackinaws | 8 and under 12 years | .04 | .21 | 4 | 4 | 4 | 1.00 | 5.23 | 5.23 |
| | 12 and under 15 years | .02 | .13 | 2 | 3 | 2 | .67 | 4.28 | 6.43 |
| Raincoats | 8 and under 12 years | .03 | .07 | 2 | 3 | 3 | 1.00 | 2.33 | 2.33 |
| | 12 and under 15 years | .01 | .06 | 1 | 1 | 1 | 1.00 | 6.00 | 6.00 |
| Sweaters and lumberjacks. | Under 4 years | .12 | .18 | 11 | 12 | 12 | 1.00 | 1.46 | 1.46 |
| | 4 and under 8 years | .25 | .39 | 20 | 21 | 25 | 1.19 | 1.86 | 1.56 |
| | 8 and under 12 years | .35 | .83 | 22 | 26 | 35 | 1.35 | 3.20 | 2.38 |
| | 12 and under 15 years | .08 | .26 | 8 | 9 | 8 | .89 | 2.88 | 3.24 |

[1] Less than 1 cent.

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Boys*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Outer garments—Contd. | | | | | | | | | |
| Overalls | Under 4 years | 0.25 | $0.17 | 10 | 10 | 25 | 2.50 | $1.73 | $0.69 |
| | 4 and under 8 years | .37 | .29 | 12 | 12 | 37 | 3.08 | 2.47 | .80 |
| | 8 and under 12 years | .23 | .22 | 9 | 10 | 23 | 2.30 | 2.23 | .97 |
| | 12 and under 15 years | .06 | .06 | 4 | 5 | 6 | 1.20 | 1.20 | 1.00 |
| Shirts, cotton | Under 4 years | .23 | .08 | 5 | 6 | 23 | 3.83 | 1.36 | .35 |
| | 4 and under 8 years | .73 | .39 | 18 | 19 | 73 | 3.84 | 2.03 | .53 |
| | 8 and under 12 years | 1.98 | 1.30 | 32 | 36 | 198 | 5.50 | 3.60 | .65 |
| | 12 and under 15 years | .63 | .51 | 10 | 11 | 63 | 5.73 | 4.65 | .81 |
| | 15 and 16 years | .11 | .13 | 3 | 3 | 11 | 3.67 | 4.33 | 1.18 |
| Shirts, wool | 4 and under 8 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 1.78 | .89 |
| | 8 and under 12 years | .10 | .15 | 4 | 5 | 10 | 2.00 | 2.94 | 1.47 |
| | 12 and under 15 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 2.00 | 1.00 |
| Underwear: | | | | | | | | | |
| Undershirts, cotton | Under 4 years | .25 | .07 | 7 | 7 | 25 | 3.57 | .95 | .27 |
| | 4 and under 8 years | .08 | .03 | 2 | 2 | 8 | 4.00 | 1.30 | .33 |
| | 15 and 16 years | .02 | .01 | 1 | 1 | 2 | 2.00 | 1.00 | .50 |
| Undershirts, wool | Under 4 years | .15 | .10 | 6 | 6 | 15 | 2.50 | 1.67 | .67 |
| Drawers, cotton | 4 and under 8 years | .06 | .02 | 1 | 1 | 6 | 6.00 | 2.10 | .35 |
| | 15 and 16 years | .02 | .01 | 1 | 1 | 2 | 2.00 | 1.00 | .50 |
| Union suits, cotton | Under 4 years | .54 | .32 | 15 | 16 | 54 | 3.38 | 1.97 | .58 |
| | 4 and under 8 years | 1.01 | .70 | 27 | 28 | 101 | 3.61 | 2.52 | .70 |
| | 8 and under 12 years | 1.14 | 1.01 | 33 | 37 | 114 | 3.08 | 2.73 | .89 |
| | 12 and under 15 years | .35 | .35 | 10 | 11 | 35 | 3.18 | 3.21 | 1.01 |
| | 15 and 16 years | .05 | .06 | 2 | 2 | 5 | 2.50 | 2.77 | 1.11 |
| Union suits, wool | 4 and under 8 years | .02 | .04 | 1 | 1 | 2 | 2.00 | 3.96 | 1.98 |
| | 8 and under 12 years | .04 | .06 | 2 | 2 | 4 | 2.00 | 3.10 | 1.55 |
| | 12 and under 15 years | .04 | .05 | 2 | 2 | 4 | 2.00 | 2.62 | 1.31 |
| Pajamas | Under 4 years | .15 | .10 | 9 | 9 | 15 | 1.67 | 1.06 | .64 |
| | 4 and under 8 years | .19 | .15 | 9 | 10 | 19 | 1.90 | 1.52 | .80 |
| | 8 and under 12 years | .19 | .14 | 8 | 10 | 19 | 1.90 | 1.41 | .74 |
| | 12 and under 15 years | .06 | .05 | 4 | 4 | 6 | 1.50 | 1.22 | .81 |
| | 15 and 16 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| Nightshirts | Under 4 years | .21 | .09 | 6 | 7 | 21 | 3.00 | 1.27 | .42 |
| | 4 and under 8 years | .03 | .01 | 2 | 2 | 3 | 1.50 | .60 | .40 |
| | 8 and under 12 years | .04 | .03 | 2 | 2 | 4 | 2.00 | 1.39 | .70 |
| Footwear: | | | | | | | | | |
| Socks, cotton | Under 4 years | 2.02 | .45 | 23 | 24 | 202 | 8.42 | 1.87 | .22 |
| | 4 and under 8 years | 3.35 | .78 | 28 | 29 | 335 | 11.55 | 2.69 | .23 |
| | 8 and under 12 years | 4.44 | 1.32 | 34 | 38 | 444 | 11.68 | 3.48 | .30 |
| | 12 and under 15 years | 1.91 | .56 | 10 | 11 | 191 | 17.36 | 5.07 | .29 |
| | 15 and 16 years | .18 | .05 | 3 | 3 | 18 | 6.00 | 1.53 | .26 |
| Socks, wool | Under 4 years | .12 | .05 | 4 | 4 | 12 | 3.00 | 1.38 | .46 |
| | 4 and under 8 years | .03 | .02 | 1 | 1 | 3 | 3.00 | 2.25 | .75 |
| | 8 and under 12 years | .08 | .05 | 4 | 4 | 8 | 2.00 | 1.21 | .60 |
| | 12 and under 15 years | .05 | .04 | 2 | 3 | 5 | 1.67 | 1.17 | .70 |
| Socks, silk or rayon | 15 and 16 years | .09 | .03 | 3 | 3 | 9 | 3.00 | 1.13 | .38 |
| Shoes, high | Under 4 years | .40 | .68 | 21 | 22 | 40 | 1.82 | 3.09 | 1.70 |
| | 4 and under 8 years | .54 | 1.19 | 23 | 24 | 54 | 2.25 | 4.97 | 2.21 |
| | 8 and under 12 years | 1.05 | 2.45 | 32 | 36 | 105 | 2.92 | 6.80 | 2.33 |
| | 12 and under 15 years | .28 | .63 | 10 | 11 | 28 | 2.80 | 6.29 | 2.25 |
| Shoes, low | Under 4 years | .26 | .43 | 16 | 17 | 26 | 1.53 | 2.54 | 1.66 |
| | 4 and under 8 years | .44 | .97 | 25 | 26 | 44 | 1.69 | 3.72 | 2.20 |
| | 8 and under 12 years | .59 | 1.51 | 31 | 34 | 59 | 1.74 | 4.45 | 2.57 |
| | 12 and under 15 years | .18 | .62 | 8 | 9 | 18 | 2.00 | 6.93 | 3.46 |
| | 15 and 16 years | .08 | .31 | 3 | 3 | 8 | 2.67 | 10.33 | 3.88 |
| Shoe repairing | Under 4 years | ------ | .03 | 4 | 4 | ------ | ------ | .69 | ------ |
| | 4 and under 8 years | ------ | .19 | 14 | 15 | ------ | ------ | 1.27 | ------ |
| | 8 and under 12 years | ------ | .58 | 25 | 28 | ------ | ------ | 2.09 | ------ |
| | 12 and under 15 years | ------ | .28 | 10 | 11 | ------ | ------ | 2.54 | ------ |
| | 15 and 16 years | ------ | .06 | 3 | 3 | ------ | ------ | 2.02 | ------ |
| Rubber boots | Under 4 years | .01 | .03 | 1 | 1 | 1 | 1.00 | 3.00 | 3.00 |
| | 8 and under 12 years | .02 | .05 | 2 | 2 | 2 | 1.00 | 2.49 | 2.49 |

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Boys*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Footwear—Continued. | | | | | | | | | |
| House slippers | Under 4 years | 0.02 | $0.01 | 2 | 2 | 2 | 1.00 | $0.55 | $0.55 |
| | 4 and under 8 years | .07 | .06 | 7 | 7 | 7 | 1.00 | .80 | .80 |
| | 8 and under 12 years | .08 | .07 | 6 | 7 | 8 | 1.14 | .95 | .83 |
| | 12 and under 15 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.18 | 1.18 |
| | 15 and 16 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.45 | 1.45 |
| Rubbers | 4 and under 8 years | .08 | .07 | 8 | 9 | 8 | .89 | .76 | .85 |
| | 8 and under 12 years | .27 | .29 | 22 | 24 | 27 | 1.13 | 1.19 | 1.06 |
| | 12 and under 15 years | .10 | .12 | 8 | 9 | 10 | 1.11 | 1.39 | 1.25 |
| | 15 and 16 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.13 | 1.13 |
| Arctics | Under 4 years | .03 | .05 | 3 | 3 | 3 | 1.00 | 1.58 | 1.58 |
| | 4 and under 8 years | .13 | .25 | 13 | 14 | 13 | .93 | 1.79 | 1.93 |
| | 8 and under 12 years | .01 | .03 | 1 | 1 | 1 | 1.00 | 2.95 | 2.95 |
| Gloves and mittens, leather, dress. | Under 4 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .75 | .75 |
| | 4 and under 8 years | .06 | .05 | 6 | 6 | 6 | 1.00 | .77 | .77 |
| | 8 and under 12 years | .13 | .12 | 11 | 13 | 13 | 1.00 | .91 | .91 |
| | 12 and under 15 years | .05 | .05 | 4 | 5 | 5 | 1.00 | 1.09 | 1.09 |
| | 15 and 16 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 2.25 | 2.25 |
| Gloves and mittens, cotton | Under 4 years | .06 | .02 | 5 | 5 | 6 | 1.20 | .39 | .33 |
| | 4 and under 8 years | .29 | .09 | 17 | 18 | 29 | 1.61 | .49 | .30 |
| | 8 and under 12 years | .39 | .15 | 22 | 25 | 39 | 1.56 | .60 | .39 |
| | 12 and under 15 years | .03 | .01 | 3 | 3 | 3 | 1.00 | .38 | .38 |
| | 15 and 16 years | .01 | (1) | 1 | 1 | 1 | 1.00 | .20 | .20 |
| Gloves and mittens, wool | Under 4 years | .10 | .06 | 7 | 8 | 10 | 1.25 | .73 | .58 |
| | 4 and under 8 years | .07 | .04 | 5 | 5 | 7 | 1.40 | .75 | .54 |
| | 8 and under 12 years | .04 | .02 | 2 | 2 | 4 | 2.00 | 1.23 | .61 |
| | 12 and under 15 years | .04 | .03 | 4 | 5 | 4 | .80 | .52 | .65 |
| Ties | 4 and under 8 years | .23 | .05 | 10 | 10 | 23 | 2.30 | .50 | .22 |
| | 8 and under 12 years | .64 | .20 | 27 | 31 | 64 | 2.06 | .63 | .31 |
| | 12 and under 15 years | .22 | .09 | 7 | 8 | 22 | 2.75 | 1.06 | .39 |
| | 15 and 16 years | .08 | .03 | 2 | 2 | 8 | 4.00 | 1.38 | .34 |
| Handkerchiefs | Under 4 years | .18 | .01 | 3 | 3 | 18 | 6.00 | .23 | .04 |
| | 4 and under 8 years | .91 | .05 | 14 | 15 | 91 | 6.07 | .35 | .06 |
| | 8 and under 12 years | 1.79 | .12 | 24 | 26 | 179 | 6.88 | .47 | .07 |
| | 12 and under 15 years | .61 | .05 | 7 | 8 | 61 | 7.63 | .61 | .08 |
| | 15 and 16 years | .14 | .01 | 2 | 2 | 14 | 7.00 | .70 | .10 |
| Mufflers and scarfs | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .50 | .50 |
| | 8 and under 12 years | .03 | .02 | 3 | 3 | 3 | 1.00 | .58 | .58 |
| | 12 and under 15 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.25 | 1.25 |
| | 15 and 16 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| Garters | Under 4 years | .32 | .05 | 15 | 16 | 32 | 2.00 | .33 | .17 |
| | 4 and 8 years | .56 | .07 | 24 | 25 | 56 | 2.24 | .28 | .13 |
| | 8 and under 12 years | .61 | .07 | 24 | 27 | 61 | 2.26 | .24 | .11 |
| | 12 and under 15 years | .23 | .02 | 9 | 10 | 23 | 2.30 | .21 | .09 |
| | 15 and 16 years | .03 | .01 | 2 | 2 | 3 | 1.33 | .43 | .28 |
| Belts | 8 and under 12 years | .21 | .06 | 15 | 17 | 21 | 1.24 | .37 | .30 |
| | 12 and under 15 years | .07 | .04 | 5 | 6 | 7 | 1.17 | .67 | .57 |
| | 15 and 16 years | .02 | .01 | 2 | 2 | 2 | 1.00 | .50 | .50 |
| Suspenders | 4 and under 8 years | .02 | .01 | 2 | 2 | 2 | 1.00 | .43 | .43 |
| | 8 and under 12 years | .06 | .03 | 4 | 5 | 6 | 1.20 | .58 | .48 |
| Pocketbooks | Under 4 years | .01 | (1) | 1 | 1 | 1 | 1.00 | .10 | .10 |
| | 8 and under 12 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 12 and under 15 years | .01 | (1) | 1 | 1 | 1 | 1.00 | .10 | .10 |
| Watches and jewelry | 8 and under 12 years | ------ | .08 | 3 | 3 | ------ | ------ | 2.75 | ------ |
| | 12 and under 15 years | ------ | .03 | 1 | 1 | ------ | ------ | 3.00 | ------ |
| Cleaning, pressing, and repairing. | 8 and under 12 years | ------ | .10 | 5 | 6 | ------ | ------ | 1.75 | ------ |
| | 15 and 16 years | ------ | .07 | 2 | 2 | ------ | ------ | 3.25 | ------ |
| Infants' wear (not specified above): | | | | | | | | | |
| Dresses | Under 4 years | .19 | .17 | 4 | 4 | 19 | 4.75 | 4.31 | .91 |
| Rompers | Under 4 years | .26 | .16 | 6 | 6 | 26 | 4.33 | 2.73 | .63 |
| Underwaists | Under 4 years | .07 | .02 | 3 | 3 | 7 | 2.33 | .83 | .36 |
| | 4 and under 8 years | .02 | .01 | 1 | 1 | 2 | 2.00 | .50 | .25 |
| Petticoats | Under 4 years | .16 | .06 | 5 | 5 | 16 | 3.20 | 1.11 | .35 |
| Other infants' wear | Under 4 years | ------ | .29 | 6 | 6 | ------ | ------ | 4.79 | ------ |

[1] Less than 1 cent.

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Boys*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Other clothing | Under 4 years | ------ | $0.01 | 2 | 2 | ------ | ------ | $0.70 | ------ |
| | 4 and under 8 years | ------ | .05 | 4 | 5 | ------ | ------ | .97 | ------ |
| | 8 and under 12 years | ------ | .02 | 1 | 1 | ------ | ------ | 1.50 | ------ |
| | 15 and 16 years | ------ | .02 | 1 | 1 | ------ | ------ | 2.00 | ------ |
| Total, boys' clothing | Under 4 years | ------ | 5.29 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 4 and under 8 years | ------ | 9.11 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 8 and under 12 years | ------ | 16.67 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 12 and under 15 years | ------ | 6.20 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 15 and 16 years | ------ | 2.05 | ------ | ------ | ------ | ------ | ------ | ------ |

*Girls*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Headgear: | | | | | | | | | |
| Hats | Under 4 years | 0.06 | $0.06 | 5 | 7 | 6 | 0.86 | $0.89 | $1.04 |
| | 4 and under 8 years | .31 | .45 | 20 | 36 | 31 | 1.19 | 1.73 | 1.45 |
| | 8 and under 12 years | .49 | .76 | 27 | 32 | 49 | 1.53 | 2.37 | 1.55 |
| | 12 and under 15 years | .17 | .31 | 10 | 12 | 17 | 1.42 | 2.60 | 1.83 |
| | 15 and 16 years | .15 | .30 | 7 | 8 | 15 | 1.88 | 3.79 | 2.02 |
| Caps | Under 4 years | .24 | .20 | 19 | 20 | 24 | 1.20 | .99 | .83 |
| | 4 and under 8 years | .43 | .31 | 27 | 31 | 43 | 1.39 | 1.00 | .72 |
| | 8 and under 12 years | .27 | .22 | 20 | 22 | 27 | 1.23 | .99 | .81 |
| | 12 and under 15 years | .08 | .06 | 6 | 8 | 8 | 1.00 | .69 | .69 |
| | 15 and 16 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .75 | .75 |
| Outer garments: | | | | | | | | | |
| Ensembles, cotton | 4 and under 8 years | .02 | .03 | 1 | 2 | 2 | 1.00 | 1.50 | 1.50 |
| | 8 and under 12 years | .04 | .08 | 4 | 4 | 4 | 1.00 | 1.94 | 1.94 |
| | 12 and under 15 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.49 | 1.49 |
| Ensembles, silk or rayon | 12 and under 15 years | .01 | .05 | 1 | 1 | 1 | 1.00 | 5.00 | 5.00 |
| Skirts, cotton | 8 and under 12 years | .02 | .03 | 2 | 2 | 2 | 1.00 | 1.49 | 1.49 |
| | 15 and 16 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 2.00 | 2.00 |
| Skirts, wool | 4 and under 8 years | .05 | .06 | 5 | 6 | 5 | .83 | 1.08 | 1.29 |
| | 8 and under 12 years | .12 | .22 | 11 | 12 | 12 | 1.00 | 1.82 | 1.82 |
| | 12 and under 15 years | .05 | .13 | 4 | 5 | 5 | 1.00 | 2.65 | 2.65 |
| | 15 and 16 years | .03 | .07 | 3 | 3 | 3 | 1.00 | 2.47 | 2.47 |
| Waists and blouses, cotton | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .90 | .90 |
| | 8 and under 12 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.25 | 1.25 |
| | 12 and under 15 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 15 and 16 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 1.50 | .75 |
| Waists and blouses, wool | 12 and under 15 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| Waists and blouses, silk or rayon | 8 and under 12 years | .01 | .03 | 1 | 1 | 1 | 1.00 | 3.00 | 3.00 |
| Dresses, cotton | Under 4 years | 1.19 | .69 | 23 | 25 | 119 | 4.76 | 2.77 | .58 |
| | 4 and under 8 years | 2.53 | 2.01 | 40 | 48 | 253 | 5.27 | 4.19 | .79 |
| | 8 and under 12 years | 1.72 | 1.83 | 34 | 39 | 172 | 4.41 | 4.71 | 1.07 |
| | 12 and under 15 years | .47 | .53 | 11 | 13 | 47 | 3.62 | 4.07 | 1.13 |
| | 15 and 16 years | .21 | .29 | 7 | 8 | 21 | 2.63 | 3.58 | 1.36 |
| Dresses, wool | Under 4 years | .04 | .07 | 4 | 4 | 4 | 1.00 | 1.81 | 1.81 |
| | 4 and under 8 years | .17 | .34 | 10 | 14 | 17 | 1.21 | 2.41 | 1.99 |
| | 8 and under 12 years | .17 | .50 | 11 | 13 | 17 | 1.31 | 3.85 | 2.94 |
| | 12 and under 15 years | .02 | .05 | 2 | 2 | 2 | 1.00 | 2.49 | 2.49 |
| | 15 and 16 years | .02 | .08 | 2 | 3 | 2 | .67 | 2.63 | 3.95 |
| Dresses, silk or rayon | Under 4 years | .04 | .06 | 2 | 3 | 4 | 1.33 | 1.83 | 1.38 |
| | 4 and under 8 years | .09 | .29 | 9 | 10 | 9 | .90 | 2.89 | 3.21 |
| | 8 and under 12 years | .22 | .77 | 14 | 18 | 22 | 1.22 | 4.27 | 3.49 |
| | 12 and under 15 years | .10 | .55 | 7 | 8 | 10 | 1.25 | 6.91 | 5.53 |
| | 15 and 16 years | .16 | .80 | 8 | 9 | 16 | 1.78 | 8.85 | 4.98 |
| House dresses and bungalow aprons | Under 4 years | .03 | .01 | 1 | 1 | 3 | 3.00 | 1.20 | .40 |
| | 4 and under 8 years | .03 | .02 | 1 | 1 | 3 | 3.00 | 1.80 | .60 |
| | 8 and under 12 years | .03 | .02 | 1 | 1 | 3 | 3.00 | 2.00 | .67 |
| | 15 and 16 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 2.00 | 1.00 |

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Girls*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Outer garments—Continued. | | | | | | | | | |
| Aprons | 8 and under 12 years | 0.02 | $0.01 | 2 | 2 | 2 | 1.00 | $0.38 | $0.38 |
| | 12 and under 15 years | .01 | (1) | 1 | 1 | 1 | 1.00 | .39 | .39 |
| | 15 and 16 years | .08 | .05 | 2 | 2 | 8 | 4.00 | 2.25 | .56 |
| Coats, cotton | Under 4 years | .02 | .07 | 2 | 3 | 2 | .67 | 2.33 | 3.50 |
| | 4 and under 8 years | .07 | .32 | 6 | 9 | 7 | .78 | 3.55 | 4.56 |
| | 8 and under 12 years | .03 | .18 | 3 | 3 | 3 | 1.00 | 6.00 | 6.00 |
| Coats, wool | Under 4 years | .11 | .53 | 11 | 13 | 11 | .85 | 4.07 | 4.81 |
| | 4 and under 8 years | .25 | 1.55 | 18 | 22 | 25 | 1.14 | 7.02 | 6.18 |
| | 8 and under 12 years | .19 | 1.58 | 15 | 19 | 19 | 1.00 | 8.34 | 8.34 |
| | 12 and under 15 years | .06 | .75 | 5 | 6 | 6 | 1.00 | 12.49 | 12.49 |
| | 15 and 16 years | .07 | 1.03 | 6 | 7 | 7 | 1.00 | 14.71 | 14.71 |
| Raincoats | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 8 and under 12 years | .02 | .03 | 2 | 2 | 2 | 1.00 | 1.75 | 1.75 |
| | 12 and under 15 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 15 and 16 years | .03 | .13 | 3 | 3 | 3 | 1.00 | 4.31 | 4.31 |
| Sweaters and lumberjacks, cotton. | Under 4 years | .05 | .05 | 5 | 6 | 5 | .83 | .82 | .99 |
| | 4 and under 8 years | .10 | .12 | 9 | 10 | 10 | 1.00 | 1.24 | 1.24 |
| | 8 and under 12 years | .09 | .15 | 9 | 9 | 9 | 1.00 | 1.65 | 1.65 |
| | 12 and under 15 years | .01 | .03 | 1 | 1 | 1 | 1.00 | 2.98 | 2.98 |
| | 15 and 16 years | .04 | .11 | 3 | 4 | 4 | 1.00 | 2.85 | 2.85 |
| Sweaters and lumberjacks, wool. | Under 4 years | .13 | .27 | 11 | 11 | 13 | 1.18 | 2.45 | 2.08 |
| | 4 and under 8 years | .11 | .24 | 10 | 11 | 11 | 1.00 | 2.13 | 2.13 |
| | 8 and under 12 years | .20 | .40 | 16 | 19 | 20 | 1.05 | 2.10 | 2.00 |
| | 12 and under 15 years | .08 | .18 | 6 | 7 | 8 | 1.14 | 2.50 | 2.19 |
| | 15 and 16 years | .04 | .10 | 4 | 4 | 4 | 1.00 | 2.62 | 2.62 |
| Sweaters and lumberjacks, silk or rayon. | 4 and under 8 years | .01 | .01 | 1 | 2 | 1 | .50 | .63 | 1.25 |
| | 8 and under 12 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 2.00 | 2.00 |
| Underwear: | | | | | | | | | |
| Petticoats and slips, cotton. | Under 4 years | .29 | .08 | 11 | 11 | 29 | 2.64 | .71 | .27 |
| | 4 and under 8 years | .96 | .40 | 29 | 35 | 96 | 2.74 | 1.14 | .42 |
| | 8 and under 12 years | .88 | .44 | 28 | 33 | 88 | 2.67 | 1.32 | .50 |
| | 12 and under 15 years | .34 | .23 | 11 | 13 | 34 | 2.62 | 1.78 | .68 |
| | 15 and 16 years | .23 | .18 | 8 | 9 | 23 | 2.56 | 2.04 | .80 |
| Petticoats and slips, wool. | Under 4 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 1.50 | .75 |
| Petticoats and slips, silk or rayon. | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 8 and under 12 years | .07 | .08 | 4 | 4 | 7 | 1.75 | 2.13 | 1.21 |
| | 12 and under 15 years | .04 | .05 | 2 | 2 | 4 | 2.00 | 2.68 | 1.34 |
| | 15 and 16 years | .04 | .04 | 2 | 2 | 4 | 2.00 | 2.05 | 1.03 |
| Corsets | 15 and 16 years | .02 | .02 | 1 | 2 | 2 | 1.00 | .99 | .99 |
| Brassières | 12 and under 15 years | .10 | .03 | 3 | 3 | 10 | 3.33 | 1.00 | .30 |
| | 15 and 16 years | .19 | .06 | 7 | 8 | 19 | 2.38 | .78 | .33 |
| Chemises, cotton | 4 and under 8 years | .09 | .03 | 3 | 3 | 9 | 3.00 | 1.05 | .35 |
| | 12 and under 15 years | .02 | .01 | 1 | 1 | 2 | 2.00 | .75 | .38 |
| | 15 and 16 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 2.00 | 1.00 |
| Chemises, silk or rayon | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 8 and under 12 years | .02 | .03 | 2 | 2 | 2 | 1.00 | 1.50 | 1.50 |
| | 15 and 16 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 1.50 | 1.50 |
| Union suits, cotton | Under 4 years | .25 | .18 | 10 | 12 | 25 | 2.08 | 1.53 | .73 |
| | 4 and under 8 years | .99 | .92 | 32 | 39 | 99 | 2.54 | 2.35 | .93 |
| | 8 and under 12 years | .66 | .66 | 25 | 29 | 66 | 2.28 | 2.28 | 1.00 |
| | 12 and under 15 years | .06 | .06 | 3 | 3 | 6 | 2.00 | 1.83 | .92 |
| | 15 and 16 years | .10 | .08 | 4 | 4 | 10 | 2.50 | 2.00 | .80 |
| Union suits, wool | Under 4 years | .05 | .06 | 2 | 2 | 5 | 2.50 | 3.00 | 1.20 |
| | 4 and under 8 years | .03 | .03 | 1 | 1 | 3 | 3.00 | 3.00 | 1.00 |
| Union suits, silk or rayon | 8 and under 12 years | .02 | .03 | 1 | 1 | 2 | 2.00 | 2.55 | 1.28 |
| Shirts and vests, cotton | Under 4 years | .17 | .06 | 6 | 6 | 17 | 2.83 | 1.02 | .36 |
| | 4 and under 8 years | .27 | .06 | 10 | 10 | 27 | 2.70 | .62 | .23 |
| | 8 and under 12 years | .76 | .20 | 20 | 25 | 76 | 3.04 | .81 | .27 |
| | 12 and under 15 years | .39 | .12 | 8 | 10 | 39 | 3.90 | 1.22 | .31 |
| | 15 and 16 years | .17 | .08 | 5 | 6 | 17 | 2.83 | 1.25 | .44 |
| Shirts and vests, wool | Under 4 years | .11 | .07 | 4 | 5 | 11 | 2.20 | 1.41 | .64 |
| Shirts and vests, silk or rayon. | Under 4 years | .02 | .01 | 1 | 1 | 2 | 2.00 | .50 | .25 |
| | 4 and under 8 years | .06 | .03 | 2 | 3 | 6 | 2.00 | .83 | .42 |
| | 12 and under 15 years | .04 | .01 | 1 | 2 | 4 | 2.00 | .70 | .35 |

[1] Less than 1 cent.

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Girls*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Underwear—Continued. | | | | | | | | | |
| Bloomers, step-ins, and drawers, cotton. | Under 4 years | 0.75 | $0.15 | 13 | 15 | 75 | 5.00 | $1.02 | $0.20 |
| | 4 and under 8 years | 1.80 | .50 | 34 | 40 | 180 | 4.50 | 1.26 | .28 |
| | 8 and under 12 years | 1.85 | .66 | 35 | 40 | 185 | 4.63 | 1.65 | .36 |
| | 12 and under 15 years | .36 | .17 | 10 | 12 | 36 | 3.00 | 1.45 | .48 |
| | 15 and 16 years | .33 | .14 | 8 | 9 | 33 | 3.67 | 1.55 | .42 |
| Bloomers, step-ins and drawers, silk or rayon. | 4 and under 8 years | .04 | .02 | 1 | 2 | 4 | 2.00 | 1.00 | .50 |
| | 8 and under 12 years | .03 | .02 | 1 | 1 | 3 | 3.00 | 1.77 | .59 |
| | 12 and under 15 years | .13 | .09 | 3 | 4 | 13 | 3.25 | 2.13 | .65 |
| | 15 and 16 years | .06 | .05 | 2 | 2 | 6 | 3.00 | 2.58 | .86 |
| Night gowns, cotton | Under 4 years | .32 | .15 | 15 | 17 | 32 | 1.88 | .86 | .46 |
| | 4 and under 8 years | .33 | .18 | 18 | 19 | 33 | 1.74 | .96 | .55 |
| | 8 and under 12 years | .45 | .24 | 18 | 21 | 45 | 2.14 | 1.13 | .53 |
| | 12 and under 15 years | .05 | .03 | 2 | 2 | 5 | 2.50 | 1.40 | .56 |
| | 15 and 16 years | .12 | .08 | 5 | 5 | 12 | 2.40 | 1.69 | .70 |
| Pajamas, cotton | Under 4 years | .03 | .01 | 2 | 2 | 3 | 1.50 | .62 | .41 |
| | 4 and under 8 years | .34 | .22 | 12 | 16 | 34 | 2.13 | 1.40 | .66 |
| | 8 and under 12 years | .15 | .12 | 9 | 9 | 15 | 1.67 | 1.36 | .81 |
| | 12 and under 15 years | .13 | .13 | 6 | 8 | 13 | 1.63 | 1.58 | .97 |
| | 15 and 16 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 1.69 | 1.69 |
| Pajamas, silk or rayon | 8 and under 12 years | .01 | .02 | 1 | 1 | 1 | 1.00 | 2.00 | 2.00 |
| | 15 and 16 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 2.40 | 1.20 |
| Kimonos and bathrobes, cotton. | Under 4 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.00 | 1.00 |
| | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 8 and under 12 years | .03 | .05 | 3 | 3 | 3 | 1.00 | 1.62 | 1.62 |
| | 12 and under 15 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.45 | 1.45 |
| Footwear: | | | | | | | | | |
| Stockings, cotton | Under 4 years | 1.53 | .40 | 23 | 25 | 153 | 6.12 | 1.58 | .26 |
| | 4 and under 8 years | 4.37 | 1.19 | 40 | 48 | 437 | 9.10 | 2.47 | .27 |
| | 8 and under 12 years | 3.60 | 1.13 | 34 | 39 | 360 | 9.23 | 2.90 | .31 |
| | 12 and under 15 years | .58 | .18 | 7 | 9 | 58 | 6.44 | 2.01 | .31 |
| | 15 and 16 years | .39 | .11 | 5 | 5 | 39 | 7.80 | 2.12 | .27 |
| Stockings, wool | Under 4 years | .04 | .02 | 2 | 2 | 4 | 2.00 | .88 | .44 |
| | 4 and under 8 years | .05 | .03 | 3 | 3 | 5 | 1.67 | .98 | .59 |
| | 8 and under 12 years | .16 | .08 | 4 | 4 | 16 | 4.00 | 2.01 | .50 |
| | 12 and under 15 years | .03 | .02 | 1 | 1 | 3 | 3.00 | 1.50 | .50 |
| Stockings, silk or rayon | 4 and under 8 years | .07 | .03 | 3 | 4 | 7 | 1.75 | .75 | .43 |
| | 8 and under 12 years | .24 | .15 | 8 | 9 | 24 | 2.67 | 1.67 | .63 |
| | 12 and under 15 years | .69 | .54 | 9 | 10 | 69 | 6.90 | 5.41 | .78 |
| | 15 and 16 years | .71 | .67 | 8 | 9 | 71 | 7.89 | 7.43 | .94 |
| Shoes, high | Under 4 years | .34 | .70 | 14 | 16 | 34 | 2.13 | 4.36 | 2.05 |
| | 4 and under 8 years | .38 | 1.03 | 21 | 23 | 38 | 1.65 | 4.48 | 2.71 |
| | 8 and under 12 years | .27 | .55 | 16 | 18 | 27 | 1.50 | 3.04 | 2.02 |
| | 12 and under 15 years | .02 | .04 | 1 | 1 | 2 | 2.00 | 3.96 | 1.98 |
| | 15 and 16 years | .02 | .02 | 1 | 1 | 2 | 2.00 | 2.00 | 1.00 |
| Shoes, low | Under 4 years | .23 | .35 | 13 | 14 | 23 | 1.64 | 2.52 | 1.54 |
| | 4 and under 8 years | 1.03 | 2.37 | 37 | 45 | 103 | 2.29 | 5.28 | 2.31 |
| | 8 and under 12 years | .95 | 2.84 | 34 | 39 | 95 | 2.44 | 7.29 | 2.99 |
| | 12 and under 15 years | .34 | 1.25 | 11 | 13 | 34 | 2.62 | 9.63 | 3.68 |
| | 15 and 16 years | .27 | 1.05 | 8 | 9 | 27 | 3.00 | 11.62 | 3.87 |
| Shoe repairing | 4 and under 8 years | ------ | .14 | 13 | 14 | ------ | ------ | 1.03 | ------ |
| | 8 and under 12 years | ------ | .42 | 22 | 26 | ------ | ------ | 1.62 | ------ |
| | 12 and under 15 years | ------ | .17 | 8 | 9 | ------ | ------ | 1.91 | ------ |
| | 15 and 16 years | ------ | .23 | 7 | 8 | ------ | ------ | 2.94 | ------ |
| House slippers | Under 4 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .85 | .85 |
| | 4 and under 8 years | .11 | .08 | 10 | 11 | 11 | 1.00 | .75 | .75 |
| | 8 and under 12 years | .18 | .12 | 16 | 19 | 18 | .95 | .64 | .68 |
| | 12 and under 15 years | .05 | .04 | 5 | 6 | 5 | .83 | .73 | .88 |
| | 15 and 16 years | .08 | .07 | 6 | 7 | 8 | 1.14 | 1.02 | .89 |
| Rubbers | 4 and under 8 years | .05 | .05 | 4 | 4 | 5 | 1.25 | 1.26 | 1.01 |
| | 8 and under 12 years | .02 | .02 | 2 | 3 | 2 | .67 | .55 | .82 |
| | 15 and 16 years | .03 | .04 | 3 | 4 | 3 | .75 | 1.07 | 1.43 |

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Girls*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Footwear—Continued. | | | | | | | | | |
| Arctics | Under 4 years | 0.05 | $0.08 | 5 | 5 | 5 | 1.00 | $1.62 | $1.62 |
| | 4 and under 8 years | .32 | .58 | 29 | 36 | 32 | .89 | 1.61 | 1.82 |
| | 8 and under 12 years | .28 | .53 | 25 | 28 | 28 | 1.00 | 1.89 | 1.89 |
| | 12 and under 15 years | .06 | .11 | 6 | 7 | 6 | .86 | 1.54 | 1.80 |
| | 15 and 16 years | .05 | .12 | 5 | 5 | 5 | 1.00 | 2.47 | 2.47 |
| Gloves and mittens, kid | Under 4 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 4 and under 8 years | .04 | .03 | 3 | 4 | 4 | 1.00 | .75 | .75 |
| | 8 and under 12 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 12 and under 15 years | .02 | .02 | 1 | 2 | 2 | 1.00 | 1.00 | 1.00 |
| Gloves and mittens, cotton | Under 4 years | .06 | .02 | 6 | 6 | 6 | 1.00 | .36 | .36 |
| | 4 and under 8 years | .13 | .05 | 13 | 15 | 13 | .87 | .34 | .39 |
| | 8 and under 12 years | .27 | .13 | 20 | 23 | 27 | 1.17 | .55 | .47 |
| | 12 and under 15 years | .09 | .05 | 6 | 6 | 9 | 1.50 | .87 | .58 |
| | 15 and 16 years | .11 | .08 | 6 | 7 | 11 | 1.57 | 1.15 | .73 |
| Gloves and mittens, wool | Under 4 years | .03 | .01 | 3 | 3 | 3 | 1.00 | .42 | .42 |
| | 4 and under 8 years | .22 | .14 | 17 | 21 | 22 | 1.05 | .66 | .63 |
| | 8 and under 12 years | .15 | .10 | 11 | 13 | 15 | 1.15 | .80 | .69 |
| | 12 and under 15 years | .03 | .03 | 2 | 3 | 3 | 1.00 | .90 | .90 |
| | 15 and 16 years | .02 | .01 | 1 | 1 | 2 | 2.00 | 1.00 | .50 |
| Gloves and mittens, silk | 8 and under 12 years | .01 | .01 | 1 | 1 | 1 | 1.00 | .75 | .75 |
| Ribbons | 4 and under 8 years | ------ | .04 | 5 | 5 | ------ | ------ | .82 | ------ |
| | 8 and under 12 years | ------ | .03 | 4 | 5 | ------ | ------ | .67 | ------ |
| | 15 and 16 years | ------ | .01 | 1 | 1 | ------ | ------ | .50 | ------ |
| Handkerchiefs | Under 4 years | .05 | (1) | 2 | 2 | 5 | 2.50 | .13 | .05 |
| | 4 and under 8 years | .99 | .05 | 15 | 17 | 99 | 5.82 | .29 | .05 |
| | 8 and under 12 years | 2.20 | .16 | 24 | 28 | 220 | 7.86 | .58 | .07 |
| | 12 and under 15 years | .32 | .03 | 4 | 4 | 32 | 8.00 | .63 | .08 |
| | 15 and 16 years | .47 | .04 | 7 | 8 | 47 | 5.88 | .55 | .09 |
| Scarfs | Under 4 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.00 | 1.00 |
| | 4 and under 8 years | .02 | .02 | 2 | 2 | 2 | 1.00 | 1.00 | 1.00 |
| | 8 and under 12 years | .05 | .05 | 5 | 5 | 5 | 1.00 | 1.05 | 1.05 |
| | 12 and under 15 years | .04 | .04 | 4 | 4 | 4 | 1.00 | 1.00 | 1.00 |
| | 15 and 16 years | .09 | .08 | 6 | 7 | 9 | 1.29 | 1.13 | .88 |
| Garters | Under 4 years | .29 | .05 | 12 | 13 | 29 | 2.23 | .41 | .18 |
| | 4 and under 8 years | 1.01 | .15 | 34 | 41 | 101 | 2.46 | .36 | .15 |
| | 8 and under 12 years | .73 | .10 | 26 | 31 | 73 | 2.35 | .31 | .13 |
| | 12 and under 15 years | .30 | .04 | 11 | 13 | 30 | 2.31 | .33 | .14 |
| | 15 and 16 years | .10 | .01 | 5 | 5 | 10 | 2.00 | .25 | .13 |
| Belts | 4 and under 8 years | .05 | .01 | 3 | 3 | 5 | 1.67 | .18 | .11 |
| | 8 and under 12 years | .05 | .01 | 3 | 4 | 5 | 1.25 | .13 | .10 |
| | 12 and under 15 years | .02 | .01 | 1 | 1 | 2 | 2.00 | .50 | .25 |
| | 15 and 16 years | .02 | .01 | 1 | 1 | 2 | 2.00 | .50 | .25 |
| Hairpins, fancy combs, ornaments, nets, etc. | 4 and under 8 years | ------ | (1) | 2 | 2 | ------ | ------ | .10 | ------ |
| | 8 and under 12 years | ------ | .02 | 10 | 11 | ------ | ------ | .14 | ------ |
| | 12 and under 15 years | ------ | .01 | 5 | 5 | ------ | ------ | .25 | ------ |
| | 15 and 16 years | ------ | .02 | 5 | 6 | ------ | ------ | .28 | ------ |
| Sanitary supplies | 12 and under 15 years | ------ | .03 | 2 | 2 | ------ | ------ | 1.50 | ------ |
| | 15 and 16 years | ------ | .07 | 4 | 5 | ------ | ------ | 1.40 | ------ |
| Umbrellas | 4 and under 8 years | .01 | .01 | 1 | 1 | 1 | 1.00 | 1.25 | 1.25 |
| | 12 and under 15 years | .01 | .03 | 1 | 1 | 1 | 1.00 | 3.00 | 3.00 |
| | 15 and 16 years | .01 | .01 | 1 | 2 | 1 | .50 | .73 | 1.45 |
| Handbags and purses | Under 4 years | .01 | (1) | 1 | 1 | 1 | 1.00 | .15 | .15 |
| | 4 and under 8 years | .09 | .02 | 7 | 8 | 9 | 1.13 | .28 | .24 |
| | 8 and under 12 years | .06 | .02 | 5 | 5 | 6 | 1.20 | .50 | .42 |
| | 12 and under 15 years | .04 | .03 | 4 | 4 | 4 | 1.00 | .80 | .80 |
| | 15 and 16 years | .09 | .09 | 8 | 9 | 9 | 1.00 | 1.03 | 1.03 |
| Jewelry | Under 4 years | ------ | (1) | 1 | 1 | ------ | ------ | .10 | ------ |
| | 4 and under 8 years | ------ | .02 | 6 | 6 | ------ | ------ | .32 | ------ |
| | 8 and under 12 years | ------ | .06 | 8 | 10 | ------ | ------ | .56 | ------ |
| | 12 and under 15 years | ------ | .04 | 3 | 4 | ------ | ------ | 1.00 | ------ |
| | 15 and 16 years | ------ | .08 | 2 | 2 | ------ | ------ | 3.80 | ------ |

[1] Less than 1 cent.

TABLE 9.—AVERAGE QUANTITY OF AND EXPENDITURE FOR CLOTHING FOR CHILDREN, BY AGE GROUPS—Continued

*Girls*—Continued

| Article | Age group | All families (100) | | Families purchasing | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Average number of articles per family | Average expenditure per family | Number of families | Number of children | Articles purchased | | Average expenditure | |
| | | | | | | Number | Average per child | Per child | Per article |
| Cleaning, pressing, and repairing | 8 and under 12 years | ------ | $0.06 | 4 | 4 | ------ | ------ | $1.44 | ------ |
| | 12 and under 15 years | ------ | .02 | 2 | 2 | ------ | ------ | 1.08 | ------ |
| | 15 and 16 years | ------ | .15 | 4 | 4 | ------ | ------ | 3.81 | ------ |
| Infants' wear (not specified above): | | | | | | | | | |
| Rompers | Under 4 years | 0.03 | .02 | 1 | 1 | 3 | 3.00 | 1.60 | $0.53 |
| Underwaists | Under 4 years | .18 | .04 | 6 | 6 | 18 | 3.00 | .70 | .23 |
| | 4 and under 8 years | .06 | .01 | 3 | 3 | 6 | 2.00 | .35 | .18 |
| | 8 and under 12 years | .02 | (1) | 1 | 2 | 2 | 1.00 | .20 | .20 |
| Other infants' wear | Under 4 years | ------ | .29 | 5 | 6 | ------ | ------ | 4.84 | ------ |
| Other clothing | Under 4 years | ------ | .10 | 7 | 8 | ------ | ------ | 1.26 | ------ |
| | 4 and under 8 years | ------ | .08 | 4 | 4 | ------ | ------ | 1.88 | ------ |
| | 8 and under 12 years | ------ | .02 | 3 | 4 | ------ | ------ | .57 | ------ |
| | 12 and under 15 years | ------ | .01 | 1 | 1 | ------ | ------ | 1.00 | ------ |
| | 15 and 16 years | ------ | .01 | 1 | 1 | ------ | ------ | 1.00 | ------ |
| Total, girls' clothing | Under 4 years | ------ | 4.93 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 4 and under 8 years | ------ | 14.32 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 8 and under 12 years | ------ | 16.01 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 12 and under 15 years | ------ | 6.36 | ------ | ------ | ------ | ------ | ------ | ------ |
| | 15 and 16 years | ------ | 6.82 | ------ | ------ | ------ | ------ | ------ | ------ |

[1] Less than 1 cent.

## Housing Expenses

THE dwellings occupied by these families have been classified into single houses, flats, and apartments. A single house is a house occupied by one family only. A flat is a building in which each family occupies one whole floor, each flat usually having a separate entrance. An apartment is a building having living quarters for several families with two or more families to a floor and usually a common entrance. The majority of the families covered in the study (61) were living in 1-family houses, 32 families in flats, and 7 in apartments.

Living rooms, bedrooms, and kitchens are counted in the number of rooms in these homes, but bathrooms, pantries, attics, and cellars are not. The kitchen has been included because this room, in the homes of the working-class families, often serves as a dining room and sitting room as well as a room for the preparation of the family meals. In this study, 22 families had dining room and kitchen combined, 3 families had living room and dining room combined, while another family had living room, dining room, and kitchen combined.

Table 10 presents a picture of the construction and equipment of the dwellings occupied, both rented and owned. Among the conveniences reported by these families, bathrooms warrant special comment. This convenience was reported by 72 families.

TABLE 10.—CONSTRUCTION AND EQUIPMENT OF DWELLINGS

| Item | Type of dwelling | | |
|---|---|---|---|
| | House | Flat | Apartment |
| Number of families | 61 | 32 | 7 |
| Average number of rooms per family | 4.8 | 4.6 | 4.1 |
| Average number of persons per family | 4.5 | 4.4 | 4.4 |
| Type of construction: | | | |
| Frame | 59 | 31 | 2 |
| Brick | 2 | 1 | 5 |
| Interior: | | | |
| Plaster | 49 | 32 | 7 |
| Wallboard | 12 | | |
| Rooms in addition to living rooms: | | | |
| Pantry | 14 | 11 | |
| Attic | 33 | 8 | |
| Cellar | 27 | 23 | 7 |
| Bathroom | 39 | 26 | 7 |
| Sanitation: | | | |
| Running water, inside | 58 | 32 | 7 |
| Running hot water | 33 | 25 | 7 |
| Running water, in yard | 25 | 15 | 3 |
| Water-closet— | | | |
| Inside | 49 | 30 | 7 |
| Privy | 12 | 2 | |
| Stationary laundry tubs | 20 | 12 | 6 |
| Sink | 58 | 32 | 7 |
| Sewer connection | 51 | 31 | 7 |

Table 11 shows the number of families living in rented dwellings, the average size of the families, the number of rooms per family, the number of families living in dwellings having a specified number of rooms, and the average rent paid during the year. For the families living in apartments and flats, the cost of heat was included in the rent in 7 cases and the light in 2 instances. In order to include these families in the housing and the fuel and light tables, it was necessary to estimate the cost of heat and light and deduct this amount from the rent. These estimates were based on the cost of heat and light to other families who occupied flats and apartments of the same number of rooms and the same type of heating system. The rent of a garage was included in the house rent of 18 families.

The cost of rent for the families occupying rented homes averaged $394.03 for the 29 families living in houses, $381.64 for the 32 families living in flats, and $425.76 for the 7 families living in apartments. The average for all rentals was $391.47.

TABLE 11.—NUMBER OF FAMILIES LIVING IN RENTED DWELLINGS WITH SPECIFIED NUMBER OF ROOMS, AND AVERAGE ANNUAL RENT

| Item | Type of dwelling | | | Total |
|---|---|---|---|---|
| | House | Flat | Apartment | |
| Number of families | 29 | 32 | 7 | 68 |
| Average number of persons per family | 4.6 | 4.4 | 4.4 | 4.5 |
| Average rooms per family | 4.7 | 4.6 | 4.1 | 4.6 |
| Number of families occupying dwellings having— | | | | |
| Less than 3 rooms | | | 1 | 1 |
| 3 rooms | 2 | 2 | | 4 |
| 4 rooms | 9 | 14 | 3 | 26 |
| 5 rooms | 15 | 11 | 3 | 29 |
| 6 rooms | 3 | 5 | | 8 |
| Bathroom | 19 | 26 | 7 | 52 |
| Inside water-closet | 23 | 30 | 7 | 60 |
| Average number of rooms equipped for heating | 3.1 | 3.8 | 3.9 | 3.5 |
| Average rent per year— | | | | |
| Per dwelling | $394.03 | $381.64 | $425.76 | $391.47 |
| Per room | 84.64 | 83.08 | 102.77 | 85.59 |
| Per person | 86.57 | 86.61 | 96.14 | 87.57 |

The housing payment for the 32 families purchasing their homes was $512.10 per family, distributed as follows:

| | |
|---|---|
| Paid on principal | $233. 90 |
| Paid on interest | 137. 05 |
| Taxes | 79. 39 |
| Special assessments | 4. 53 |
| Repairs and improvements | 42. 12 |
| Water rent | 8. 05 |
| Insurance | 7. 06 |
| Total | 512. 10 |
| Rental value of owned home | 375. 31 |
| Payments above rental value of owned home | 136. 79 |

It will be observed that the average rental value of these owned homes was $375.31, as compared with $391.47—the rent paid by the families that rented. These families thus not only paid the equivalent of a rental charge but paid in addition an average of $136.79 on their homes. This latter sum may be regarded as representing savings and has been so treated in balancing the several budgets.

The number of persons per family for the home-owning families averaged 4.4 and the average number of rooms was 4.8, as compared with an average of 4.6 rooms per family reported by the renting families. Regarding the number of rooms in the owned homes, 13 families lived in dwellings of 5 rooms, 8 in 4 rooms, 7 in 6 rooms, and 3 in 3 rooms, while 1 family lived in a 7-room house. Twenty of the 32 owned homes had bathrooms and 26 had inside water-closets. The number of rooms equipped for heating averaged 3.4 for the families owning their homes.

### Housing Characteristics

Preceding tables have shown the average cost and average conditions of housing among the 100 families covered by this survey. The average, however, is to some extent an abstraction, and for the purpose of visualizing better the housing of these families the outstanding characteristics of the housing situation have been isolated as well as possible, bringing out the fact that the homes of the great majority of these 100 families tend toward a definite "type," which is fairly representative of the group as a whole and which is subject to quite precise description.

Thus, the "typical" house of these 100 families may be described as having the characteristics listed below:

(1) The family occupies a separate house or a whole floor in a 2-family house. Almost all of the buildings, other than the 7 apartment buildings included, were detached frame structures (86 detached, 5 semidetached, 2 row), this being the type prevailing in Detroit.

(2) The house has four or five rooms and bath, all plastered. There were 34 houses with 4 rooms, 42 with 5 rooms; only 16 with more than 5 rooms and only 8 with less than 4 rooms. Attics, pantries, cellars were frequent but not typical.

(3) The house is equipped with bathroom, inside toilet, running water inside (65 had hot running water), kitchen sink, and sewer connection (stationary laundry tubs were frequent but not typical).

(4) All rooms have outside exposure and there are no dark rooms.

(5) The house has one room or more per person. (This was the situation in 77 of the 100 houses.) The usual arrangement of a 4 or 5 rooms house for 4 or 5 persons, consisting of husband, wife, and 2 or 3 children, consists of 2 bedrooms, a living room or a living-dining room, and a kitchen or a kitchen-dining room.

(6) The house faces an improved street, with street lights (only 15 families lived on unimproved streets).

(7) The house has individual stoves, with half of the rooms equipped for heating. Central heating, all the rooms being heated, is frequent but in the minority (44 families). The averages for all rented dwellings were: Average rooms per family, 4.6; average number of rooms equipped for heating, 3.5.

(8) The house is rented. Of the 100 families, 68 were renting, while 32 were acquiring ownership at the time of the study.

## Expenditure for Fuel and Light

THE COST of fuel and light depends upon the type of house as well as the type of heating plant. This class of expense includes coal, coke, wood, gas, kerosene, electricity, matches, and candles.

A general distribution of the several items of fuel and light over all of the 100 families regardless of the number of families using these articles, results in the following averages:

TABLE 12.—AVERAGE CONSUMPTION AND EXPENDITURE OF FUEL AND LIGHT FOR 100 FAMILIES

| Item | Unit | Average consumption | Average expenditure |
|---|---|---|---|
| Anthracite coal | Ton | 0.6 | $8.59 |
| Bituminous coal | do | 4.1 | 34.98 |
| Coke | do | 1.3 | 10.41 |
| Wood | do | .4 | 1.59 |
| Gas | 1,000 cu. ft | 28.6 | 22.69 |
| Electricity | Kilowatt-hour. | 407.6 | 20.43 |
| Kerosene | Gallon | 15.7 | 2.90 |
| Matches and candles | | | 1.61 |
| Total | | | 103.20 |
| Average number of rooms per family | | 4.7 | |
| Average annual cost of heat and light per room | | | 22.15 |

Anthracite coal was somewhat of a luxury for these families, as only 18 used it. For these 18 families the average quantity was 3.2 tons, at a cost of $14.81 per ton. Bituminous coal and coke were used principally, most of it having been purchased from the Ford Motor Co. at less than market prices. For the 81 families using bituminous coal, the amount used averaged 5.1 tons at a cost of $8.47 a ton and for the 29 families using coke, the amount used averaged 4.5 tons at a cost of $7.94 a ton.

It was necessary to estimate the weight of the wood used by these families. For the most part it was kindling wood, composed of sticks, slabs, blocks, etc., and sold by the load. It also was in most cases

obtained from the employing company at less than market prices. Wood was used by only 33 families and averaged $4.83 per family.

The average quantity of gas used by 88 families in this study was 32.5 thousand cubic feet, costing $25.78. Although chiefly used for cooking, some gas was used for heating water during the summer months. One family used electricity for cooking, 2 families used coal and wood for cooking, while 9 families used kerosene only.

Electricity was used by all of the 100 families and averaged 407.6 kilowatt-hours per family, at an average cost of $20.43 per year. The average cost of lighting per room per year for all families was $4.38. Bulbs are replaced free by the electric light company.

The total cost of fuel and light combined was $103.20 per family for the entire group of 100 families, and constituted 6 per cent of all expenditures.

The average annual cost of fuel and light per room was $22.15. The winters in Detroit are usually cold and considerable fuel is required for heating, but personal family preferences as to the quantity of heat and light constitute a considerable factor in the cost of fuel. Some of the families kept their rooms very warm during the winter months on account of the small children, while others practiced economy in fuel and light even to the extent of being uncomfortable.

*Cost of various fuels used for heating, cooking, and lighting exclusively.*—Most of the families covered by the study did not and could not apportion among heating, lighting, and cooking the exact amount of fuel used as the same fuel was used for more than one purpose, or several types of fuel were used in combination. In a limited number of cases, however, such apportionment was possible, and these instances are shown in Table 13. This table gives the quantity and cost of heating exclusively by separate types of coal, of cooking exclusively by gas and kerosene, and of lighting exclusively by electricity. While the number of households represented in certain cases is small, the results are believed to be fairly representative.

TABLE 13.—QUANTITY AND COST OF FUEL FOR HEATING, FOR COOKING, AND FOR LIGHTING

| Item | Number of families | Fuel used | | Average cost |
|---|---|---|---|---|
| | | Unit | Amount | |
| Heating exclusively: | | | | |
| Anthracite coal | 4 | Ton | 4.1 | $61.63 |
| Bituminous coal | 51 | do | 6.2 | 52.71 |
| Coke | 13 | do | 6.3 | 50.20 |
| Cooking exclusively: | | | | |
| Gas | 73 | 1,000 cu. ft. | 34.9 | 27.61 |
| Kerosene | 9 | Gallon | 123.6 | 22.83 |
| Lighting exclusively: Electricity | 99 | Kilowatt-hour. | 404.4 | 20.27 |

## Expenditures for Furniture and House Furnishings

THE ANNUAL expense for this purpose for all families averaged $88.55, or 5.2 per cent of all expenditures. In considering this item it should be remembered that these were established families and hence not many were buying much new equipment.

Only the amounts paid during the year were reported for furniture and house furnishings purchased on the installment plan. The value of these purchases is discussed under "Installment buying," page 51.

In 11 families the amounts spent were exceptionally low, being less than 2 per cent of the total expenditures, and in 6 of these cases less than 1 per cent.

In 12 families the expenditures represented new investments rather than replacement of old articles; in these cases the amount spent ranged from 9 to 23 per cent of the total expenditures of these families. These investments included stoves, washing machines, radios, and pianos. In every case except one, these articles were bought on the installment plan.

Of the 36 families owning radios, 14 purchased them in 1929 and expended an average of $44.71. Four families expended $105.31 each on pianos, 2 expended $17 each on phonographs, and 17 families expended an average of $51.90 on washing machines.

Table 14 shows the average quantity and expenditure for all the families of the study as well as for the families which purchased the various items of furniture and house furnishings.

TABLE 14.—QUANTITY OF AND EXPENDITURE PER FAMILY FOR FURNITURE AND HOUSE FURNISHINGS IN ONE YEAR

| Article | Average, all families | | Average, families purchasing | | | |
|---|---|---|---|---|---|---|
| | Number of articles per family | Expenditure per family | Number | Number of articles per family | Expenditure per family | Cost per article |
| Rugs | 0.3 | $3.01 | 16 | 1.6 | $18.78 | $11.56 |
| Grass rugs and matting | .02 | .09 | 2 | 1.0 | 4.49 | 4.49 |
| Linoleum rugs and linoleum | .4 | 2.90 | 28 | 1.3 | 10.36 | 8.06 |
| Suites: | | | | | | |
| Living room [1] | .2 | 3.80 | 7 | 3.0 | 54.30 | 18.10 |
| Dining room [2] | .4 | 2.37 | 7 | 5.9 | 33.82 | 5.77 |
| Bedroom [3] | .2 | 4.62 | 6 | 3.0 | 76.92 | 25.64 |
| Chairs and stools | .6 | 1.48 | 19 | 2.9 | 7.80 | 2.65 |
| Tables | .1 | .36 | 6 | 1.0 | 6.04 | 6.04 |
| Couches, davenports, sofas, and settees | .1 | 2.91 | 9 | 1.0 | 32.28 | 32.28 |
| Bureaus, chiffoniers, and dressing tables | .04 | .63 | 4 | 1.0 | 15.87 | 15.87 |
| Bookcases and magazine racks | .01 | .01 | 1 | 1.0 | 1.00 | 1.00 |
| Clocks | .2 | .38 | 16 | 1.1 | 2.36 | 2.10 |
| Mirrors | .1 | .19 | 6 | 1.2 | 3.10 | 2.66 |
| Pictures, frames, and other ornaments | .1 | .40 | 9 | 1.4 | 4.48 | 3.10 |
| Sideboards, buffets, and china closets | .01 | .10 | 1 | 1.0 | 10.00 | 10.00 |
| Bedsteads and cribs | .2 | 1.64 | 17 | 1.1 | 9.66 | 9.12 |
| Bed springs | .1 | 1.17 | 13 | 1.0 | 9.01 | 9.01 |
| Mattresses | .2 | 3.21 | 22 | 1.1 | 14.58 | 13.36 |
| Pillows | .2 | .24 | 7 | 2.6 | 3.50 | 1.36 |
| Blankets | .6 | 1.79 | 28 | 2.1 | 6.39 | 3.08 |
| Quilts and comforts | .1 | .48 | 9 | 1.4 | 5.31 | 3.67 |
| Sheets | 2.1 | 2.51 | 56 | 3.7 | 4.48 | 1.21 |
| Pillowcases | 2.6 | .93 | 46 | 5.6 | 2.02 | .36 |
| Spreads | .3 | .89 | 28 | 1.2 | 3.17 | 2.69 |
| Dishes and glassware | 12.6 | 1.79 | 88 | 14.3 | 2.04 | .14 |
| Knives, forks, spoons, etc | 2.0 | .35 | 25 | 8.2 | 1.40 | .17 |
| Stoves, ranges, and heaters | .3 | 6.12 | 25 | 1.1 | 24.47 | 22.66 |
| Fireless, waterless, and pressure cookers | .02 | .17 | 2 | 1.0 | 8.25 | 8.25 |
| Kitchen cabinets | .02 | .27 | 2 | 1.0 | 13.50 | 13.50 |
| Kitchen utensils (pots, pans, etc.) | 2.4 | .97 | 74 | 3.2 | 1.32 | .41 |
| Refrigerators | .1 | 2.50 | 11 | 1.0 | 22.73 | 22.73 |
| Brooms and brushes | 2.1 | 1.20 | 93 | 2.3 | 1.29 | .57 |
| Carpet sweepers and vacuum cleaners | .1 | .42 | 5 | 1.0 | 8.40 | 8.40 |
| Mops | .6 | .40 | 42 | 1.5 | .95 | .64 |
| Tablecloths, cotton | .3 | .49 | 27 | 1.2 | 1.82 | 1.49 |
| Tablecloths, linen | .1 | .10 | 5 | 1.2 | 2.06 | 1.71 |
| Napkins, cotton | .3 | .07 | 4 | 7.5 | 1.69 | .23 |
| Towels, cotton | 4.7 | 1.29 | 73 | 6.5 | 1.77 | .27 |

[1] Consists of davenport and 2 chairs in each suite.

[2] Consists of 1 suite of table, 6 chairs, buffet, and china closet; 1 suite of table, 6 chairs and buffet; 1 suite of table, 2 chairs, and buffet; 4 suites of table and 4 chairs.

[3] Consists of 1 suite of bed, dresser, chifforobe, and 1 chair; 3 suites of bed, dresser, and chifforobe; 1 suite of 2 beds and chifforobe; 1 suite of bed and dresser.

TABLE 14.—QUANTITY OF AND EXPENDITURE PER FAMILY FOR FURNITURE AND HOUSE FURNISHINGS IN ONE YEAR—Continued

| Article | Average, all families | | Average, families purchasing | | | |
|---|---|---|---|---|---|---|
| | Number of articles per family | Expenditure per family | Number | Number of articles per family | Expenditure per family | Cost per article |
| Towels, linen | 0.3 | $0.07 | 4 | 8.5 | $1.65 | $0.19 |
| Table oilcloth | 1.3 | .67 | 69 | 1.9 | .98 | .52 |
| Electrical appliances, toasters | .03 | .03 | 3 | 1.0 | 1.06 | 1.06 |
| Lamps, electric bulbs, and lamp shades | .8 | .68 | 31 | 2.6 | 2.19 | .84 |
| Radios, cost | .1 | 6.26 | 14 | 1.0 | 44.71 | 44.71 |
| Radios, upkeep | | 1.09 | 13 | | 8.37 | |
| Pianos, cost | .04 | 4.21 | 4 | 1.0 | 105.31 | 105.31 |
| Phonographs, cost | .02 | .34 | 2 | 1.0 | 17.00 | 17.00 |
| Phonographs, upkeep | | .45 | 19 | | 2.34 | |
| Other musical instruments, cost | .01 | .05 | 1 | 1.0 | 5.00 | 5.00 |
| Other musical instruments, upkeep | | .10 | 3 | | 3.43 | |
| Window shades | .4 | .35 | 7 | 5.9 | 4.99 | .85 |
| Screens, window and door | .5 | .36 | 14 | 3.8 | 2.58 | .68 |
| Curtains, draperies, portières, and sofa pillows | 3.4 | 3.11 | 59 | 5.7 | 5.27 | .92 |
| Laundry utensils: | | | | | | |
| Tubs | .1 | .08 | 5 | 1.2 | 1.67 | 1.39 |
| Boilers | .1 | .24 | 7 | 1.0 | 3.49 | 3.49 |
| Washboards | .2 | .15 | 20 | 1.1 | .76 | .69 |
| Wringers | .02 | .09 | 2 | 1.0 | 4.50 | 4.50 |
| Irons | .1 | .21 | 6 | 1.0 | 3.42 | 3.42 |
| Washing machines | .2 | 8.82 | 17 | 1.0 | 51.90 | 51.90 |
| Others | 6.3 | .12 | 15 | 41.7 | .80 | .02 |
| Trunks, traveling bags, and suitcases | .01 | .12 | 1 | 1.0 | 12.00 | 12.00 |
| Toys, sleds, carts, etc | 5.0 | 5.16 | 89 | 5.6 | 5.80 | 1.04 |
| Baby carriages and gocarts | .04 | .69 | 4 | 1.0 | 17.30 | 17.30 |
| Sewing machines | .1 | 2.12 | 10 | 1.0 | 21.17 | 21.17 |
| Other furniture and furnishings | | .73 | 23 | | 3.22 | |
| Total | | 88.55 | | | | |

## Expenditure for Life Insurance

LIFE insurance, in various forms, was carried by 87 of the 100 families schedules. The average insurance amounts and costs are shown in Table 15.

TABLE 15.—LIFE INSURANCE CARRIED BY FAMILIES STUDIED

| Item | Average for all (100) families | Average for families carrying insurance |
|---|---|---|
| Amount of life insurance carried | [1] $2,076.00 | [1] $2,386.00 |
| Annual expenditure | 59.16 | 68.01 |

[1] These figures are based on detailed reports of 78 families.

The amounts of the insurance premium paid by the 87 families carrying life insurance were distributed as follows:

TABLE 16.—INSURANCE PREMIUMS PAID BY FAMILIES CARRYING INSURANCE

| Amount of premium paid | Families paying classified amount of premium | |
|---|---|---|
| | Number | Per cent of total |
| Under $25 a year | 5 | 5.7 |
| $25 and under $50 a year | 22 | 25.3 |
| $50 and under $75 a year | 22 | 25.3 |
| $75 and under $100 a year | 26 | 29.9 |
| $100 and under $125 a year | 9 | 10.3 |
| $125 and under $250 a year | 3 | 3.5 |
| Total | 87 | 100.0 |

There were 6 families which reported 2 or more policies per person. Three families, with 4 persons in each family, had 8 policies per family. One family of 4 persons had 10 policies. One family of 5 persons had 12 policies, and another of the same number of persons had 13 policies. The premiums in these families ranged from $55.20 to $125.62 and the amounts of insurance from $1,873 to $4,555.

One family, consisting of husband, wife, and three small children, 7, 5, and 3 years old, respectively, living on an income of $1,882 spent 12 per cent of their total annual outlay in insurance premiums.

## Street-Car and Bus Fares

UNDER this head are included street-car, bus, and suburban commuting fares for the husband to and from work, for the children to and from school, and for other purposes, such as shopping by the wife.

The large area covered by the city of Detroit and its suburbs made it necessary for most of the employees to ride to and from work. Operations carried on at the Highland Park plant of the Ford Motor Co. were transferred to the River Rouge plant as rapidly as possible during 1929. Due to this change, the distance to and from work was materially increased for many of the workingmen.

The distance from home to factory, together with the time required to get to work, is given in Table 17. Considering all families, the distance to the factory averaged 8.2 miles. Thirty-six families lived less than 5 miles from the factory, 25 lived 5 but less than 10 miles, 24 lived 10 but less than 15 miles, 13 lived 15 but less than 20 miles, and 2 families lived 20 miles from the husband's working place.

TABLE 17.—TRANSPORTATION OF HUSBAND FROM HOME TO FACTORY, CLASSIFIED BY MODE, DISTANCE, AND TIME REQUIRED

| Mode of transportation | Time required | Distance from home to factory | | | | | |
|---|---|---|---|---|---|---|---|
| | | Under 5 miles | 5 and under 10 miles | 10 and under 15 miles | 15 and under 20 miles | 20 miles | Total |
| Street car | Under 30 minutes | 4 | 1 | | | | 5 |
| | 30 and under 60 minutes | 14 | 4 | 1 | | | 19 |
| | 60 and under 90 minutes | | 4 | 4 | 1 | 1 | 10 |
| | 90 to 105 minutes | | 1 | 9 | 4 | 1 | 15 |
| Bus | Under 30 minutes | 7 | 2 | | | | 9 |
| | 30 and under 60 minutes | 1 | 2 | 1 | 1 | | 5 |
| | 60 and under 90 minutes | | | 2 | 1 | | 3 |
| | 90 to 105 minutes | | | | 2 | | 2 |
| Automobile | Under 30 minutes | 3 | 3 | | | | 6 |
| | 30 and under 60 minutes | 1 | 3 | 1 | | | 5 |
| | 60 and under 90 minutes | | | | 1 | | 1 |
| | 90 to 105 minutes | | | | | | |
| Street car and bus | Under 30 minutes | | | | | | |
| | 30 and under 60 minutes | | | | | | |
| | 60 and under 90 minutes | | | 1 | | | 1 |
| | 90 to 105 minutes | | | 1 | 3 | | 4 |
| Walk | Under 30 minutes | 1 | | | | | 1 |
| | 30 and under 60 minutes | 2 | | | | | 2 |
| | 60 and under 90 minutes | | | | | | |
| | 90 to 105 minutes | | | | | | |
| Other | Varying periods | [1] 3 | [1] 5 | [1] 4 | | | [1] 12 |
| Total | | 36 | 25 | 24 | 13 | 2 | 100 |

[1] Used various modes of transportation at different times of the year requiring varying periods of time.

The number of car and bus rides taken by these families over the period of the year, and the cost thereof, are shown in Table 18. The regular cash fare for adults on the street cars was 6 cents, or 9 tickets for 50 cents. Bus fares were variable, ranging from 10 to 25 cents.

TABLE 18.—EXPENDITURE OF FAMILIES FOR STREET CAR AND BUS FARES

| Item | All families | | Families purchasing | |
|---|---|---|---|---|
| | Average number of rides | Average expenditure per family | Number of families | Average expenditure per family |
| Rides to work | 404.4 | $32.10 | 89 | $36.07 |
| Rides to school | 21.7 | 1.26 | 8 | 15.76 |
| Other rides | 60.4 | 4.04 | 92 | 4.39 |
| All rides | 486.5 | 37.40 | | |

## Expenses of Sickness

THE cost of sickness includes the cost of physician, surgeon, oculist, medicine, nurse, hospital, dentist, and eyeglasses. The average cost of all of these items for the 100 families included in this study was $64.23, the distribution by items being shown in Table 19, to which is added also the expenditure incident to a death in one family.

TABLE 19.—CHARACTER OF EXPENDITURES INCIDENT TO SICKNESS AND DEATH

| Item | Average expenditure per family (all families) | Families having specified expenditure | |
|---|---|---|---|
| | | Number | Average expenditure per family |
| Physician and surgeon | $38.17 | 82 | $46.55 |
| Medicine | 8.99 | 99 | 9.08 |
| Nurse | .40 | 2 | 20.00 |
| Hospital | 4.80 | 7 | 68.57 |
| Dentist | 10.74 | 62 | 17.32 |
| Eyeglasses | 1.13 | 12 | 9.41 |
| Total | 64.23 | | |
| Undertaker | .50 | 1 | 50.00 |

In addition to the averages shown above, it is of interest to note that in 19 of these families serious illnesses occurred in which the cost was over $100 during the year.

The death of a child occurred in one family and the birth of a child in seven other families. In two of these families doctor bills were still owing at the end of the year.

Expenditure for dental work was incurred by 62 families. This work was probably neglected in many of the 38 other families, due to lack of funds or ignorance of the value of dental care. The cost of this service for 29 of these 62 families was less than $10. In one case the dentist bills amounted to $42, for five other families they averaged $63, and another family spent $90 for the care of teeth.

Twelve families bought eyeglasses, averaging $9.41 per family. In eight families the cost was less than $10, in one family it was $14, in another $15, and two families spent an average of $22.50.

Table 20 shows the distribution of health expense for these families.

TABLE 20.—CLASSIFIED EXPENDITURE OF 100 FAMILIES FOR PHYSICIAN, SURGEON, MEDICINE, NURSE, HOSPITAL, DENTIST, AND EYEGLASSES

| Expenditure class | Number of families | Average expenditure per family | Expenditure class | Number of families | Average expenditure per family |
|---|---|---|---|---|---|
| Under $25 | 28 | $11.67 | $200 and under $225 | 1 | 214.00 |
| $25 and under $50 | 29 | 37.21 | $225 and under $250 | 1 | 239.00 |
| $50 and under $75 | 13 | 60.92 | $250 and under $275 | | |
| $75 and under $100 | 11 | 86.81 | $275 and under $300 | 1 | 280.00 |
| $100 and under $125 | 5 | 109.60 | $300 and over | 2 | 305.00 |
| $125 and under $150 | 5 | 139.09 | | | |
| $150 and under $175 | 2 | 160.00 | Total | 100 | 64.23 |
| $175 and under $200 | 2 | 182.00 | | | |

*Unit costs.*—It was not possible to get unit costs of medical services for any considerable number of families. A few instances where this information was available are probably fairly indicative of such costs.

Thus, for a considerable number of families physicians', surgeons', and hospital charges were reported as follows: Office cases, $2, per visit; house calls, $3 per visit; obstetrical cases, $50, $55, and $57; goiter operation, $150; appendix operation, $150; tonsillectomy, $35; use of operating room at hospital, $15 to $18; hospital pay ward with two to six beds, $24.50 to $28 per week, including room and board, general nursing, ordinary dressings and medication.

Dentist charges reported were as follows: Extraction, $1; one crown, $6 ; two fillings at $3 each; and one filling at $1.

As regards eyeglasses, there was one report of a $6 charge for two lenses; one of $8.50 for two lenses; and one of $20 for a finished pair of spectacles, including examination. Inquiry at opticians indicated the usual charge for a pair of spectacles, with spherical or compound lenses, was from $11.50 to $16.50.

The following list gives the prevailing unit costs at retail drug stores of a few medicines of general use:

| | |
|---|---|
| Calomel, ¼ grain, per dozen | $0.10 |
| Aspirin, 5 grains, per dozen | .19 |
| Castor oil, 2 ounces | .16 |
| Quinine pills, 2 grains, per dozen | .20 |
| Liquid prescription, 2 ounces | .65 |
| Liquid prescription, 4 ounces | 1.00 |
| Capsule prescription, 3 grains, per dozen | .65 |

## School Expenses

MOST of the 100 families scheduled had some school expenses as shown in some detail in Table 21. It was impracticable to obtain unit costs for these items. Detroit has free public schools.

TABLE 21.—SCHOOL EXPENSES

| Item | Average expenditure per family (all families) | Families having specified expenditure | |
|---|---|---|---|
| | | Number | Average expenditure per family |
| Tuition | $2.44 | 16 | $15.26 |
| Books | 1.50 | 25 | 6.01 |
| Other | 2.47 | 74 | 3.34 |
| Total | 6.41 | | |

## Expenditures for Cleaning Supplies

ALTHOUGH two of the families covered made at home a large part of the soap used for laundry purposes, household cleaning supplies may be regarded as an unavoidable form of expenditure. The expenditures for this purpose are shown in Table 22.

TABLE 22.—EXPENDITURE FOR CLEANING SUPPLIES

| Item | Average expenditure per family (all families) | Families having specified expenditure | |
|---|---|---|---|
| | | Number | Average expenditure per family |
| Soap | $8.00 | 99 | $8.08 |
| Soap powder | 7.09 | 96 | 7.38 |
| Other cleaning supplies | 1.55 | 75 | 2.07 |
| Total | 16.64 | | |

The number of bars of laundry soap used by the families for whom this information was reported varied from 52 to 208 per year, the large majority using 104 bars a year, or 2 per week. The unit cost ranged from 3½ to 8 cents per bar according to weight and kind of soap, and also according to whether purchases were made in large or small quantities.

## Barber Expenses

CLOSE economy was practiced by several families in the case of barber work, the children's hair cutting and at times the father's being done at home. All families, however, reported some expenditure for this item, the average per family being $12.37 per year.

The usual unit expenditure for the husband's hair cut was 50 cents. Most of the husbands shaved themselves, but when done at the barber shop the customary unit cost was 25 cents. A few wives had their hair trimmed at barber shops, the customary reported unit cost being 50 cents. Very few wives of the families studied patronized beauty shops.

## Miscellaneous Expenses

WITH few exceptions the items listed here as miscellaneous may be regarded as the "optional" items in the family budget. Many of them are, of course, essential to a well-rounded budget, but no in-

dividual item can be so regarded. Thus, recreation of some kind is highly desirable for every one, but whether this is secured by means of an automobile, a bicycle, an annual vacation, or playground activities is largely a matter of individual choice. Again, intellectual stimulus is important, but whether this is obtained through books, or lectures, or concerts, or evening schools is also largely a matter of individual choice.

Radios and musical instruments have been included under furniture and house furnishings (p. 41), but might well be considered as being among the optional miscellaneous items.

The expenditure per family on this group of miscellaneous items was $175.77 per year, or 10.2 per cent of the total budget. By far the largest single item was for automobile purchase and upkeep ($76.78). The distribution of these miscellaneous items is shown in detail in Table 23. For many of the items, information regarding quantity purchased and unit costs could not be ascertained.

TABLE 23.—EXPENDITURE PER FAMILY FOR MISCELLANEOUS ITEMS IN ONE YEAR

| Item | Average expenditure per family (all families) | Families purchasing | | Item | Average expenditure per family (all families) | Families purchasing | |
|---|---|---|---|---|---|---|---|
| | | Number | Average expenditure per family | | | Number | Average expenditure per family |
| Accident insurance | $0.48 | 4 | $12.05 | Music lessons | $2.61 | 9 | $ 28.97 |
| Personal property insurance | .70 | 8 | 8.75 | Tobacco | 19.08 | 84 | 22.72 |
| Church and other religious organizations | 9.62 | 79 | 12.17 | Tools | 1.29 | 21 | 6.15 |
| Lodges, clubs, and societies | 1.05 | 9 | 11.67 | Laundry work sent out | 4.23 | 22 | 19.23 |
| Charity | 1.53 | 63 | 2.43 | Toilet articles | 4.66 | 98 | 4.75 |
| Gifts outside family | 5.66 | 40 | 14.15 | Toilet preparations | 9.02 | 99 | 9.11 |
| Motion pictures | [1] 5.55 | 86 | 6.45 | Telephone | 1.71 | 43 | 3.97 |
| Plays and concerts | [2].03 | 2 | 1.50 | Moving | 2.06 | 19 | 10.82 |
| Dances | .11 | 3 | 3.70 | Bicycle | .36 | 1 | 35.98 |
| Other amusements | .69 | 19 | 3.63 | Automobile, cost | 40.11 | 19 | 211.13 |
| Excursions | .26 | 9 | 2.86 | Automobile, upkeep | 36.67 | 47 | 78.02 |
| Vacation (out of city) | 2.59 | 7 | 37.00 | Garage rent | 1.78 | 6 | 29.67 |
| Travel (not vacation) | 3.32 | 11 | 30.22 | Servant and daywork wages | 1.08 | 5 | 21.56 |
| Newspapers | 12.06 | 100 | 12.06 | Other miscellaneous expense | 4.17 | 79 | 5.26 |
| Magazines and periodicals | [3] 1.46 | 48 | 3.04 | | | | |
| Books | [4].20 | 7 | 2.88 | Total miscellaneous expense | 175.77 | ------ | ------ |
| Postage | 1.63 | 99 | 1.65 | | | | |

[1] Average number of tickets to motion pictures in the 100 families was 33.
[2] Average number of tickets to plays and concerts in the 100 families was 0.1.
[3] Average number of copies of magazines and periodicals in the 100 families was 10.6.
[4] Average number of books purchased in the 100 families was 0.2.

*Church and other religious organizations.*—Of the 100 families, 79 were church supporters, contributing an average of $12.17 during the year. One family contributed $60, the highest by any family, 2 families $52 each, and 1 family $45.40. Spread over all 100 families the average expenditure per family was $9.62.

*Gifts outside the family.*—This item includes presents made to relatives and others and formed an expense for 40 families, whose average outlay was $14.15. Gifts to members of the family are counted as ordinary family expenditures. Gifts in the form of money were sent by several of these families to relatives in Europe. The money expended for gifts, averaged over all the 100 families, was $5.66 per family.

*Motion pictures.*—The motion-picture expenditures were made chiefly by the children and practically all were for afternoon perform-

ances. There was an average of 33 visits by each of the 100 families, the average charge per ticket thus being 16.8 cents.

*Newspapers.*—All families took newspapers. Nine families reported a daily only, 9 families bought a weekly only, 70 families reported a daily and Sunday, 6 families reported a daily and 2 Sunday papers, 1 family reported 2 dailies and 2 Sunday papers, while 5 other families bought 1 or 2 papers in addition to the daily and Sunday issues. The customary charges for newspapers were 3 cents for the weekday editions and 10 cents on Sunday, for individual copies; a slight reduction was obtained on monthly subscriptions.

*Magazines and periodicals.*—There were 48 families in this study which reported magazines and periodicals. The cost for these families averaged $3.04. Public libraries will lend magazines, but it is impossible to state how much these families patronized the public library. The average number of copies of magazines and periodicals in the 100 families visited was 10.6 and the average cost for the 100 families was $1.46.

*Books.*—Very few books were purchased by these families, the average for the year being only one book purchased for each five families.

*Tobacco.*—No expense for this item was reported by 16 families. The cost of tobacco averaged $22.72 for the 84 families reporting it. Just how much of this expense was for the husband only was not stated. In only one family was it specified that the cost, $6.50 was for the use of the wife. The cigarettes purchased usually cost from 12½ to 15 cents per package of 20. Pipe tobacco cost from 10 to 15 cents per box of from 1¾ to 2 ounces.

*Laundry work sent out.*—The housewives in the majority of these families did their own laundry work, but electric washing machines were used in 49 of the homes. For the 22 families reporting laundry expense, the average amount spent was $19.23.

Customary steam-laundry charges for selected items were: Men's collars, 5 cents each; men's shirts, soft cuffs attached, 20 cents each; sheets, 9 cents each, and towels, 5 cents each.

*Telephone.*—Only five families reported a telephone in the home. Three families paid $31.20 telephone rent per year, one family paid $27.80 per year, and the other family paid $15.60 for part of the year. The cost of this utility averaged $3.97 for the 43 families reporting this expense. Pay-station service was the principal charge entered under this heading by 38 families.

The regular monthly rate for a residence telephone on a 4-party line with 65 calls per month, was $2.60. The pay-station call was 5 cents.

*Automobile.*—The automobile is becoming more and more a part of the family equipment for recreation. Forty-seven of these working men's families owned cars. The original purchase price was reported separately from the upkeep of automobiles. Seventeen families purchased automobiles, new or secondhand, during 1929 and two families purchased their cars in 1928 but completed the payments in 1929. Upkeep on cars averaged $78.02 for the 47 families reporting this expense.

One family of five persons living on an income of $1,694 purchased a car costing $602. The automobile expenditure in this case (install-

ment payments on car and upkeep) constituted 27 per cent of the total expenditures. Fourteen families purchased their cars on the installment plan, ranging in price from $135 to $685. Five other families bought used cars ranging in price from $25 to $235. These cars were not purchased on the installment plan.

Although 47 families had automobiles, only 8 used them regularly to go to and from work while 13 other families used their cars for this purpose only a part of the time.

*Garage rent.*—When a rent contract covered both house and garage, no attempt was made to segregate these items. Garage rent for the six families having a separate rental contract covering this item averaged $29.67.

*Servant hire.*—Only five families reported this expense. Low incomes prohibited servant hire in these homes and helpers were hired chiefly for the care of the children and the housework during the illness of the wife. The amount expended for servants was relatively small in every instance, averaging $21.56 for the five families reporting it.

## Home Conveniences

THE following data regarding the home conveniences enjoyed by the 100 families covered in the survey, while not presenting a very vivid picture of the surroundings of these families, do portray in a way some of the factors that enter into the standard of living:

| Families having— | Number |
|---|---|
| Automobile | 47 |
| Radio set | 36 |
| Radio loud speaker | 35 |
| Sewing machine: | |
| Foot | 75 |
| Electric | 5 |
| Vacuum cleaner: | |
| Hand | 2 |
| Electric | 19 |
| Telephone | 5 |
| Piano | 13 |
| Phonograph | 45 |
| Washing machine: | |
| Hand | 2 |
| Electric | 49 |
| Electrical appliances: | |
| Iron | 98 |
| Fan | 4 |
| Toaster | 6 |

The following data present some idea of the appearance of the homes of these workingmen:

| Families having— | Number |
|---|---|
| Screens: | |
| Window | 95 |
| Door | 96 |
| Wall finish: | |
| Living room— | |
| Painted | 7 |
| White plaster | 1 |
| Papered | 91 |
| Rough plaster | 1 |

| Families having—Continued. | Number |
|---|---|
| Wall finish—Continued. | |
| Dining room— | |
| Painted | 11 |
| White plaster | 1 |
| Papered | 87 |
| Rough plaster | 1 |
| Rugs: | |
| Living room | 94 |
| Dining room | 90 |
| Pictures on wall: | |
| Living room | 83 |
| Dining room | 60 |
| Window shades: | |
| Living room | 100 |
| Dining room | 99 |
| Window curtains: | |
| Living room | 99 |
| Dining room | 98 |
| Window draperies: | |
| Living room | 15 |
| Dining room | 12 |
| Heat: | |
| Stove | 56 |
| Hot air | 28 |
| Steam | 13 |
| Hot water | 3 |

The comparatively large number of modern conveniences shown in the above enumerations is interesting, especially for workingmen of the wage group to which these families belonged. The washing machine, in particular, is a great labor saver and eliminates considerable drudgery, while the vacuum cleaner is another modern convenience that not only makes housework more efficient but also provides a new standard of sanitation.

## Installment Buying

THE desire of every family is steadily to improve its standard of living, and installment buying has developed from this desire. Advertisements are constantly urging the public to satisfy their wants on the "easy payment plan."

The term "installment buying" means the purchase and delivery of an article for which the price is to be paid in fixed portions, at stated intervals, and usually with a payment of part of the purchase price at the time of taking possession of the goods.

Articles were being bought on the installment plan by 59 of the 100 families included in this study. The majority of them, 35, were paying on purchases made in 1929. Eleven families were paying installments on articles bought in 1928 and 1929, 10 on 1928 purchases only, 1 on 1927 purchases only, 1 on 1927 and 1929 purchases, and 1 family was still paying on a living-room suite, a dining-room suite, and a phonograph purchased in 1925.

Furniture (in either suites or separate articles) and house furnishings are the commodities most frequently purchased on the installment plan. The articles of furniture and house furnishings on which installment payments were made, by 16 families, were principally separate pieces, such as day beds, chairs, refrigerators, dressers, rugs,

mattresses, and bed springs, but 13 families were purchasing suites of furniture for the living room, dining room, or bedroom.

Automobiles were the next most popular article bought on installment, 14 families having purchased them; 13 families were making installment payments on washing machines.

Table 24 shows the articles being bought on the installment plan, divided into 11 classifications. Since 25 of these families bought more than 1 commodity during the year, the total number of families appearing in the table is greater than the number of families making payments. The table also shows averages of income, expenditure, cost of articles, and amount paid during the year, as well as the number of families who still owed money for such items at the close of the year and the average amount remaining due. Unless otherwise noted, the furniture purchased consisted of individual pieces.

Payments made prior to 1929 on articles carried over into 1929 are not shown in the table.

TABLE 24.—AVERAGE INCOME AND EXPENDITURE OF FAMILIES BUYING ON INSTALLMENT, AVERAGE COST PRICE OF ARTICLE AND AVERAGE AMOUNT PAID

| Item | Families reporting | | | Article purchased | | Owing at end of year | |
|---|---|---|---|---|---|---|---|
| | Number | Average annual income | Average annual expenditure | Average cost price | Average amount paid during year | Number of families | Average amount |
| Furniture (separate pieces) and house furnishings | 16 | $1,738.65 | $1,810.59 | $51.55 | $34.40 | 7 | $14.06 |
| Automobiles | 14 | 1,757.61 | 1,859.76 | 427.00 | 244.75 | 9 | 192.62 |
| Furniture suites | 13 | 1,712.28 | 1,741.52 | 184.78 | 73.97 | 10 | 105.85 |
| Washing machines | 13 | 1,692.25 | 1,745.25 | 133.17 | 48.22 | 9 | 76.04 |
| Radios | 12 | 1,665.98 | 1,732.02 | 146.38 | 44.83 | 11 | 105.59 |
| Stoves | 9 | 1,690.78 | 1,800.14 | 44.61 | 24.64 | 6 | 21.71 |
| Sewing machines | 5 | 1,767.40 | 1,813.30 | 94.00 | 22.14 | 3 | 75.76 |
| Musical instruments | 5 | 1,672.77 | 1,722.27 | 232.40 | 89.05 | 5 | 125.15 |
| Vacuum cleaners | 4 | 1,706.01 | 1,733.51 | 45.00 | 10.00 | 2 | 58.75 |
| Bicycle | 1 | 1,707.00 | 1,782.50 | 35.98 | 35.98 | | |
| Husband's suit | 1 | 1,562.44 | 1,803.91 | 45.00 | 30.00 | 1 | 15.00 |
| *Families paying on one commodity only* | | | | | | | |
| Automobile | 9 | $1,761.89 | $1,850.89 | $419.78 | $263.94 | 5 | $191.51 |
| Furniture suite [1] | 7 | 1,718.00 | 1,712.73 | 172.86 | 88.36 | 5 | 101.60 |
| Furniture (separate pieces) and house furnishings | 5 | 1,753.99 | 1,750.14 | 73.79 | 49.40 | 2 | 18.75 |
| Radio | 4 | 1,610.50 | 1,649.25 | 183.75 | 64.25 | 4 | 119.50 |
| Stove | 4 | 1,673.94 | 1,769.94 | 52.50 | 28.50 | 3 | 28.67 |
| Washing machine | 3 | 1,735.67 | 1,774.00 | 125.75 | 45.00 | 2 | 75.88 |
| Musical instruments [2] | 2 | 1,646.00 | 1,713.00 | 172.50 | 38.00 | 2 | 134.50 |
| Average | 34 | 1,714.40 | 1,759.49 | 206.59 | 112.44 | 23 | 108.17 |

[1] 2 living-room suites of davenport and 2 chairs; 2 bedroom suites of bed and dresser; 1 bedroom suite of bed, dresser, chifforobe, and 1 chair; 1 bedroom suite of bed, dresser, and chest of drawers; 1 bedroom suite of 2 beds and chest of drawers; and 1 dining-room suite of table, buffet, and 2 chairs.

[2] Piano.

TABLE 24.—AVERAGE INCOME AND EXPENDITURE OF FAMILIES BUYING ON INSTALLMENT, AVERAGE COST PRICE OF ARTICLE AND AVERAGE AMOUNT PAID—Continued

*Families paying on two commodities*

| Item | Number of families | Average income | Average expenditure | Article bought | Average cost price of article | Average paid during current year | Owing at end of year | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | Number of families | Average amount |
| Furniture suite and vacuum cleaner. | 1 | $1,748.00 | $1,833.00 | Furniture [3] | $462.00 | $88.00 | 1 | $305.00 |
| | | | | Vacuum cleaner | 68.50 | 5.00 | 1 | 63.50 |
| Total | | | | | 530.50 | 93.00 | 1 | 368.50 |
| Sewing machine and furniture. | 1 | 1,788.00 | 1,953.50 | Sewing machine | 150.00 | 10.00 | 1 | 140.00 |
| | | | | Furniture | 25.50 | 25.50 | | |
| Total | | | | | 175.50 | 35.50 | 1 | 140.00 |
| Furniture and stove | 2 | 1,707.63 | 1,856.25 | Furniture | 72.50 | 52.00 | 2 | 20.50 |
| | | | | Stove | 42.63 | 21.38 | 1 | 10.25 |
| Total | | | | | 115.13 | 73.38 | 2 | 30.75 |
| Washing machine and vacuum cleaner. | 2 | 1,669.23 | 1,669.23 | Washing machine | 137.25 | 10.00 | | |
| | | | | Vacuum cleaner | 50.75 | 12.50 | 1 | 27.00 |
| Total | | | | | 188.00 | 22.50 | 1 | 27.00 |
| Radio and vacuum cleaner. | 1 | 1,737.60 | 1,762.60 | Radio | 169.00 | 15.00 | 1 | 154.00 |
| | | | | Vacuum cleaner | 10.00 | 10.00 | | |
| Total | | | | | 179.00 | 25.00 | 1 | 154.00 |
| Washing machine and radio. | 2 | 1,748.33 | 1,656.33 | Washing machine | 147.25 | 76.00 | 2 | 56.25 |
| | | | | Radio | 115.75 | 26.00 | 2 | 89.75 |
| Total | | | | | 263.00 | 102.00 | 2 | 146.00 |
| Radio and furniture | 1 | 1,668,20 | 1,743.20 | Radio | 129.00 | 49.00 | 1 | 49.00 |
| | | | | Furniture | 39.00 | 20.00 | | |
| Total | | | | | 168.00 | 69.00 | 1 | 49.00 |
| Automobile and sewing machine. | 1 | 1,884.00 | 1,884.00 | Automobile | 450.00 | 420.00 | 1 | 30.00 |
| | | | | Sewing machine | 90.00 | 10.00 | | |
| Total | | | | | 540.00 | 430.00 | 1 | 30.00 |
| Washing machine and stove. | 1 | 1,637.65 | 1,690.65 | Washing machine | 175.00 | 150.00 | | |
| | | | | Stove | 38.50 | 21.00 | | |
| Total | | | | | 213.50 | 171.00 | | |
| Washing machine and furniture. | 2 | 1,716.78 | 1,795.78 | Washing machine | 119.50 | 17.50 | 2 | 102.00 |
| | | | | Furniture | 29.25 | 19.25 | | |
| Total | | | | | 148.75 | 36.75 | 2 | 102.00 |
| Musical instrument and sewing machine. | 1 | 1,670.60 | 1,659.10 | Piano | 117.00 | 49.00 | 1 | 68.00 |
| | | | | Sewing machine | 30.00 | 10.00 | | |
| Total | | | | | 147.00 | 59.00 | 1 | 68.00 |
| Musical instrument and furniture. | 1 | 1,752.25 | 1,877.25 | Piano | 550.00 | 296.24 | 1 | 253.76 |
| | | | | Furniture [4] | 250.00 | 90.00 | 1 | 160.00 |
| Total | | | | | 800.00 | 386.24 | 1 | 413.76 |
| Furniture and musical instrument. | 1 | 1,649.00 | 1,649.00 | Furniture [5] | 225.00 | 36.00 | 1 | 45.00 |
| | | | | Phonograph | 150.00 | 24.00 | 1 | 35.00 |
| Total | | | | | 375.00 | 60.00 | 1 | 80.00 |

[3] Living-room suite of davenport, 2 chairs, and table; 1 bedroom suite of bed, dresser, and chifforobe; and 1 dining-room suite of table, 6 chairs and buffet.
[4] 1 dining-room suite of table, 6 chairs, buffet, and china closet.
[5] 1 dining-room suite of table and 4 chairs; and 1 living-room suite of davenport and 2 chairs.

TABLE 24.—AVERAGE INCOME AND EXPENDITURE OF FAMILIES BUYING ON INSTALLMENT, AVERAGE COST PRICE OF ARTICLE AND AVERAGE AMOUNT PAID—Continued

*Families paying on two commodities*—Continued

| Item | Number of families | Average income | Average expenditure | Article bought | Average cost price of article | Average paid during current year | Owing at end of year: Number of families | Owing at end of year: Average amount |
|---|---|---|---|---|---|---|---|---|
| Radio and stove | 1 | $1,681.00 | $1,931.00 | Radio | $89.00 | $63.00 | | |
| | | | | Stove | 39.75 | 26.00 | 1 | $13.75 |
| Total | | | | | 128.75 | 89.00 | 1 | 13.75 |
| Automobile and furniture | 1 | 1,952.05 | 2,144.05 | Automobile | 600.00 | 227.00 | | |
| | | | | Furniture | 42.00 | 40.00 | 1 | (6) 2.00 |
| Total | | | | | 642.00 | 267.00 | 1 | 2.00 |
| Average | 19 | 1,729.07 | 1,793.82 | | 280.47 | 113.37 | 17 | 113.56 |

*Families paying on three commodities*

| Item | Number of families | Average income | Average expenditure | Article bought | Average cost price of article | Average paid during current year | Owing at end of year: Number of families | Owing at end of year: Average amount |
|---|---|---|---|---|---|---|---|---|
| Automobile and furniture | 2 | $1,648.50 | $1,752.00 | Automobile | $442.50 | $121.50 | 2 | $321.00 |
| | | | | Furniture [7] | 112.83 | 53.08 | 1 | 17.00 |
| | | | | Furniture [8] | 59.70 | 25.50 | 1 | 8.00 |
| Total | | | | | 615.03 | 200.08 | 2 | 346.00 |
| Radio, washing machine, and clothing | 1 | 1,562.44 | 1,803.91 | Radio | 143.00 | 52.00 | 1 | 91.00 |
| | | | | Washing machine | 109.00 | 42.00 | 1 | 67.00 |
| | | | | Clothing | 45.00 | 30.00 | 1 | 15.00 |
| Total | | | | | 297.00 | 124.00 | 1 | 173.00 |
| Automobile, washing machine, and radio | 1 | 1,616.50 | 1,846.50 | Automobile | 265.00 | 161.00 | 1 | 104.00 |
| | | | | Washing machine | 155.00 | 40.00 | 1 | 115.00 |
| | | | | Radio | 115.00 | 20.00 | 1 | 95.00 |
| Total | | | | | 535.00 | 221.00 | 1 | 314.00 |
| Average | 4 | 1,618.99 | 1,788.60 | | 515.51 | 186.29 | 4 | 294.75 |

*Family paying on four commodities*

| Item | Number of families | Average income | Average expenditure | Article bought | Average cost price of article | Average paid during current year | Owing at end of year: Number of families | Owing at end of year: Average amount |
|---|---|---|---|---|---|---|---|---|
| Washing machine, sewing machine, bicycle, and furniture | 1 | $1,707.00 | $1,782.50 | Washing machine | $107.00 | $52.85 | 1 | $34.15 |
| | | | | Sewing machine | 67.00 | 31.71 | 1 | 20.29 |
| | | | | Bicycle | 35.98 | 35.98 | | |
| | | | | Furniture | 17.46 | 17.46 | | |
| Total | | | | | 227.44 | 138.00 | 1 | 54.44 |
| Average | 1 | 1,707.00 | 1,782.50 | | 227.44 | 138.00 | 1 | 54.44 |

*Family paying on five commodities*

| Item | Number of families | Average income | Average expenditure | Article bought | Average cost price of article | Average paid during current year | Owing at end of year: Number of families | Owing at end of year: Average amount |
|---|---|---|---|---|---|---|---|---|
| Radio, sewing machine, furniture, and stove | 1 | $1,787.40 | $1,787.40 | Radio | $145.00 | $30.00 | 1 | $115.00 |
| | | | | Sewing machine | 133.00 | 49.00 | 1 | 67.00 |
| | | | | Furniture [9] | 29.50 | 23.00 | 1 | 6.50 |
| | | | | Stove | 28.00 | 18.00 | 1 | 10.00 |
| | | | | Furniture [10] | 8.95 | 7.00 | 1 | 1.95 |
| Total | | | | | 344.45 | 127.00 | 1 | 200.45 |
| Average | 1 | 1,787.40 | 1,787.40 | | 344.45 | 127.00 | 1 | 200.45 |
| Grand average, 59 families | 59 | 1,713.77 | 1,773.38 | | 254.02 | 118.43 | 46 | 127.22 |

[6] Car returned family; unable to keep up payments.
[7] 2 living-room suites of davenport and 2 chairs.
[8] Separate pieces.
[9] Dining-room suite of table and 4 chairs.
[10] Separate pieces.

# EMPLOYMENT CONDITIONS AND RELIEF

## Report of Employers' Organizations on Solutions for the Unemployment Problem

A JOINT committee of the National Association of Manufacturers and the National Industrial Council has recently made a report on public unemployment insurance, in which various objections are compiled against such a scheme, among them the present lack of data on unemployment, the rejection by State legislatures of proposed measures for this kind of insurance, and the great cost of its adoption, as indicated by statistics on the English and the German experience.

After presenting its objections the committee suggests that before this country has recourse to legislative enactments and taxation for unemployment insurance it would be wise to promote a wide application over a more extended period of other measures for coping with unemployment, and it proceeds to set forth some of these alternative plans. The committee, however, does not wish to be understood as recommending any single one of these measures, but takes the position that the method best suited to a particular set of circumstances can be determined only by careful study in each industry and undertaking. The eight schemes suggested for consideration are given below:

1. *Unemployment insurance in industry.*—Unemployment insurance has been instituted by at least 10 companies in their own establishments and is still in operation in the following 8 concerns: Columbia Conserve Co., Crocker-McElwain Co., Dennison Manufacturing Co., S. C. Johnson & Sons, Leeds & Northrup Co., Manning Paper Co., Procter & Gamble Co., and the United Diamond Works.

Of six employer-union unemployment insurance plans set up, five are still functioning, namely, those covering the Chicago Amalgamated Clothing Workers, the Cleveland Ladies' Garment Workers, and the workers in the lace industry of Kingston, Scranton, and Wilkes-Barre, and in the New York cloth hat and cap industry.

2. *Dismissal wage.*—A growing number of industrial undertakings pay a so-called "dismissal wage" to employees who have served for a long period but who are not old enough or who have not been employed long enough to be eligible for the regular company pension. Their separation may be the result of mergers or changes in location, products, or processes. When it is not possible to transfer such employees to other departments, establishments, or work, provisions such as the following have been made:

(*a*) The payment of a reduced pension.

(*b*) Full or part pay for a restricted period to aid the dismissed worker to adjust himself.

(*c*) The payment of a lump sum in cash, the amount being ordinarily based on wages and service period.

(*d*) Where possible, adequate advance notice of dismissal.

(*e*) The continuance of insurance rights for a specified period.

(*f*) Efforts to secure positions for these workers with other concerns.

(*g*) Unemployment insurance plans to cover various contingencies, such as those referred to above.

3. *Stabilization of industry and employment.*—According to Senate Report 2072, seventieth Congress, second session, submitted February 25, 1929, "the testimony is fairly convincing that stabilization can be accomplished in industries which were once regarded as being seasonal in their every aspect." It was also suggested in the report that "consideration be given to the benefits of stabilized production—the finer morale of the workers, the better workmanship, the increased production, the lowered costs of production, and the elimination of the cost of training the unskilled recruits." Attention is called to the descriptions of the plans of various companies to secure stabilization in H. Feldman's volume, The Regularization of Employment, published in 1925, and to Bulletin No. 37 in the production executive series of the American Management Association.

4. *Planned public works for the stabilization of employment.*—In the Senate committee's report, quoted above, it is urged that Federal, State, city, and other minor governments adopt promptly the plan of ordering public works so that they will constitute a buffer in periods of unemployment.

5. *Stabilization of the dollar.*—A substantial and growing number of economists and financiers hold that business stability would result from the regularization of the purchasing power of the dollar.

6. *Unemployment insurance through insurance companies.*—In 1919 and again in 1923 the Metropolitan Life Insurance Co. urged the New York State Legislature to amend the insurance laws so as to make it possible for that company to write unemployment insurance. The proposed legislation was not enacted, but the company is reported as still willing to do some experimenting in unemployment insurance if the necessary amendments are passed.

In the judgment of the joint committee of the National Association of Manufacturers and the National Industrial Council, it would seem logical to afford insurance companies which are willing to sell unemployment insurance the opportunity to do so. The committee asks, "Why not give them this right instead of trying to force enactment of legislation to provide such insurance through taxes and politically controlled funds?"

7. *Reduction of taxation in industry.*—The memorandum under review refers to the statement made by Hon. James J. Davis, Secretary of Labor, at the meeting of the International Association of Public Employment Services, at Cleveland in 1928, that "every dollar needlessly extracted from industry in taxes cripples business and helps to reduce the funds available for wages." In the judgment of the joint committee, the elimination of local taxes will assist depressed undertakings and those subject to great competition and will reward managerial efficiency in more prosperous plants.

8. *Seasonal wage adjustments.*—In certain industries a higher daily wage is paid to offset seasonal unemployment. This practice is quite general in the building trades in numerous cities.

## Proposals for Dealing with Unemployment, by President of American Federation of Labor

VARIOUS preventive and remedial measures for unemployment were proposed by the president of the American Federation of Labor on April 1, 1930, at the hearings on unemployment in the United States, before the subcommittee of the Senate Committee on Commerce.[1] A résumé of these proposals follows:

1. *Fact finding.*—No basic plans can be developed before actual conditions are known and a complete picture of unemployment obtained. Facts may be secured from three principal sources:

(*a*) The Federal unemployment census already undertaken. The enumeration of the unemployed should also be made a regular part of every decennial census.

(*b*) To supplement the census data there should be a national clearing house for current information on unemployment, such as could only be made available through an adequate Federal employment service. In addition special studies of unemployment should be made from time to time for the discovery of trends.

(*c*) Employment data should be assembled and published by some one Federal agency. Various departments are at present gathering this information for some industries. The compilations now made are based on pay rolls and do not show the full extent of unemployment as part-time employment is not considered nor is the number of man-hours worked given.

2. *Federal employment service.*—An adequate Federal employment service must establish standards and practices for local agencies. This national service should have an advisory council in which both labor and management should be represented.

3. *Deferred programs for public construction.*—These should be planned to offset cyclical unemployment. Although such a program has been before Congress and has been discussed at length for years, the recent 1929 depression "came upon us without provision for initiating a constructive program, together with the machinery for putting it into operation."

4. *Special employment counsel and vocational training opportunities.*—These are needed for workers dismissed because of technological changes.

5. *Job analysis.*—Job analyses should be made to ascertain job requirements, in order to find suitable employment for older workers. There has been discrimination against such workers through hiring policies which favor younger workers and without due regard to needed qualifications.

6. *Stabilization.*—Industry must meet its responsibility for its workers by fair wages and hours. The major responsibility for planning the regularization of production rests upon management;

[1] United States Congress (71st, 2d sess.). Senate. Committee on Commerce. Unemployment in the United States. Hearings before a subcommittee on S. 3059, S. 3060, and S. 3061, Mar. 18, 21, and Apr. 1, 1930. Washington, 1930, pp. 59–72.

unions, however, have aided substantially in such plans. The possibilities of stabilization have been demonstrated by certain progressive industries. The Baltimore & Ohio Railroad and the railway shopmen recently signed an agreement to cooperate in the regularization of employment. In the construction industry, a marked advance has been made along this line, seasonal factors having been offset by new materials and new methods.

(*a*) When, however, seasonal fluctuations can not be completely overcome, arrangements should be made between management and the workers to establish incomes on an annual basis.

(*b*) It is also suggested, in the case of employment irregularities which the industry is unable to eliminate, that hours be still further cut and the work apportioned among the members of the personnel in order that none may be obliged to have recourse to charity. "There is a moral obligation on the part of the employer to tide these men over."

Plants and raw materials are useless without human workers. "Too many managements get from under the consequences of bad management, unwise sales and buying policies, business depression, etc., by charging the losses to workers in the form of wage reduction and lay offs."

7. *Unemployment insurance in industry.*—"If there was not such relentless warfare made upon trade-unions by corporations and large employers of labor there could be developed through collective actions forms of unemployment insurance which would result in tiding the employees over these periods of seasonal unemployment." In certain industries where trade-unions do function, plans of this kind have been jointly worked out and are now in operation.

Referring to Senator Wagner's bills for coping with unemployment (S. 3059, S. 3060, and S. 3061), Mr. Green said "this legislation must be supplemented by patriotic and economic and industrial service on the part of private employment corporations and employers," otherwise "they are headed for what, I think, will proximate the dole that is now in England." He also said that he did not like the so-called dole, which he considered rather demoralizing, as he thought men were better off if they earned money than if it were given to them, and that opportunities should be created for them to earn money.

8. *Steady increases in income.*—Steady increases in wage earners' incomes are necessary in order that there may be purchasers for the greater industrial and agricultural output. "High wages are a sustaining element in prosperity and prevention of unemployment."

9. *General adoption of 5-day week.*—Referring to his various recommendations made for coping with unemployment the president of the American Federation of Labor said: "I think it all ought to be supplemented by a reduction in the hours worked per day and in the days worked per week. I think the 5-day work week ought to be established universally."

## Measuring Employment in St. Paul

AFTER applying relief measures to the acute unemployment situation in St. Paul three years ago, a number of the civic associations of that city proceeded to study local possibilities of

stabilization with a view to eliminating or mitigating such crises in the future. At the request of the United Charities a survey of unemployment fluctuation in that municipality was undertaken. Later on valuable assistance was given in this study by other affiliated agencies of the Welfare Council, notably the St. Paul Association of Public and Business Affairs. Some of the findings of this investigation, which are published in the March 15, 1930, number of the Survey, are presented here.

Figures on actual employment were secured from the pay rolls of 126 local concerns, among them 50 of the largest firms in St. Paul. All industrial and commercial groups were represented. Employment statistics by occupation for each establishment were tabulated by months for the years 1925, 1926, 1927, and part of 1928. A similar tabulation was obtained for all Federal, city, and county employees for these years. In addition, data were secured on applications at 12 employment offices and on the United Charities' case loads.

It was immediately found that during the period studied the upward move of the total employment curve was only very slight. In the same years, however, the working population in the groups covered had increased 10 or 12 per cent. It was clearly brought out that a combination of static employment and an augmenting working population create an employment problem for both the individual and the community.

Marked seasonal variations were shown in the curves for both industrial and public employment. Unemployment was found to be most severe in January, February, and March, and the volume of employment greatest in the fall, the actual peak being in December as a result of the holiday business of a few large industries and the influence of snow-removal work on the municipal pay roll.

## The Search for Causes

In attempting to reach the sources of industrial seasonality, it was found that six firms were to a large extent responsible for the variations in volume of employment. When this group of establishments was segregated, not only did the other 120 concerns show less fluctuation, but the employment peak fell back to the latter part of the summer or early fall. The annual employment variation in the group of 120 firms for the three years was thus brought down to 5 per cent per year, while for the other six establishments the annual swing was from 34 to 40 per cent. Upon further analysis it was found that within the six establishments with great seasonal variations in employment there were certain stable occupations, while among the 120 more stable establishments there were certain seasonal employments. It seemed advisable, therefore, to study the problem from the occupational standpoint. As a preliminary, the 209 occupations included in the survey were classified as follows: 37 with an early winter peak and summer decline, 54 with a summer peak and a winter decline, and 118 with little or no seasonal curves. By classifying all the occupations into six major groups—skilled, semiskilled, unskilled, sales, clerical, and others—some interesting trends were brought out. For example, except for the sharp rises in December, the employment curves for the sales, clerical, and other workers were comparatively

stable in the years covered by the study, the December peak in each case being caused by the additional holiday help. Seasonal variation in employment, therefore, was found to be restricted mainly to factory and construction labor—skilled, semiskilled, and unskilled. The greatest employment stability (approximately 10 per cent fluctuation per annum) was shown for the semiskilled, and the least stability for the unskilled, with yearly variations of 20 to 25 per cent.

It was also discovered that the number of skilled workers had declined and the number of unskilled and semiskilled workers had increased in St. Paul in recent years.

A number of the industrial employers, commenting on this shift, pointed out that they took advantage of the unemployment situation to introduce changes in production methods calling for semiskilled machine operatives or general unskilled help. They stated that they avoided by this means many of the difficulties of laying off veteran workers by failing to rehire them after such a temporary depression. Apparently periods of sharp depression hold an additional threat for the skilled worker—not only is he out of a job for the time being, but he is likely to be permanently displaced by new methods or new machines.

## Correlating Volume of Employment Statistics With Charity Case Records

AN ANALYSIS of the case records of the St. Paul United Charities in which unemployment was the sole reason for needing relief brought out the fact that such cases were mainly among the skilled and unskilled. It was also found that in cases involving skilled workers, such persons were generally in the building and construction trades. According to the United Charities' records, these cases began to increase in November, reached their maximum number in February, and dropped off the following month. This experience checks with the community seasonal unemployment trends. A very wide range of industries and occupations is represented in the United Charities' unskilled unemployment cases, as might be expected from the figures showing high seasonality in nearly all unskilled employment. These records, by which the United Charities are able to check their case load against seasonal variation in employment by occupations, facilitates more reliable budgeting procedure for these federated organizations. Moreover, the statistical charts based on these data make it possible for the community to focus attention on those workers who are reduced to such deplorable conditions by the loss of their jobs that they are compelled periodically to have recourse to relief agencies. St. Paul has been endeavoring to reduce unemployment through the adjustment of municipal work such as the laying of water mains, snow removal, and other necessary activities which require for the most part unskilled labor. To plan these activities effectively it is very important to have more complete data on the rise and fall of employment in different groups of unskilled occupations.

The possibility of materially reducing seasonal unemployment by stabilizing 6 out of 126 firms, or 16 out of 209 occupations—opportunities first pointed out by this survey—has aroused the interest of a group of industrial leaders in the city. The organization of a committee to work quietly with one or two highly seasonal industries and occupations in such an effort is perhaps the most promising of all the results of the study to date. If this effort is successful the need for extensive relief and for elaborate public works programs will be proportionately lessened. The survey material has also been helpful to those organizations seeking to bring new industries into the city, particularly in directing attention to industries offering steady employment, or to those whose seasonal peaks offset existing peaks in the industries of the community.

### Maintenance of a Continuing Employment Index

IN ORDER to have a current statistical record along the lines followed in this survey and to facilitate the study of long-run trends a continuing index of employment for St. Paul is now maintained by the University of Minnesota School of Business Administration. An investigation similar to that carried on for St. Paul has been made for Minneapolis for the purpose of working out and maintaining an occupational index for the Twin City metropolitan area.

Other possibilities of using and supplementing employment statistics have been opened up by this study. For instance, the report on the activities of employment offices "showed little cooperation among the agencies, slight knowledge of industrial conditions, and inadequate facilities for effective placement." A coordination of these bureaus would, of course, be included in a complete stabilization plan for the community. It is pointed out also that in these measurements of seasonal employment the problem of surplus workers at peak periods has not been analyzed. Consequently the amount of unemployment which would still confront the city if the seasonal unemployment were stabilized is not known.

The organization of the Twin City Employment Association has improved the outlook for prompt combined action toward the control of employment both in St. Paul and Minneapolis. At the time the article under review was prepared, the members of the association were meeting on the University of Minnesota campus to organize support for a number of projects growing out of the employment survey.

The study here reported on in brief is declared to be only an initial step in an attempt to analyze St. Paul's employment situation. "The uses of the results in planning relief, in stabilizing employment, and in indicating lines of continued study have been quite as much a source of surprise as of satisfaction to those interested in the initial project."

## Dayton Scheme for Reducing Unemployment

AS A RESULT of a series of conferences held in Dayton, Ohio, over a period of 10 weeks, recommendation was made early in 1930 for the creation in that city of a permanent research bureau and a representative citizens' committee to make the requisite studies for an unemployment prevention program. The conferees at the meetings which led to this recommendation included representatives of the State-city employment office, the city welfare department, the community chest, the Family Welfare Society, the Young Men's Christian Association, the Young Women's Christian Association, the Salvation Army, the chamber of commerce, the public utilities, the Industrial Association, the Retail Merchants' Credit Bureau, the personnel departments of outstanding manufacturing establishments, the Foremen's Club, trade-unions, and others. Prof. William M. Leiserson, of Antioch College, was the discussion leader.

According to the article in the April 15, 1930, issue of the Survey, from which the above information is taken, this discussion group was

constantly hampered by the dearth of reliable material and local data along the line of its inquiry. It was found that Dayton, like most of the municipalities in the United States, had no statistics on the extent of unemployment in any one year, on the extremes of seasonal employment, nor on the fluctuations in seasonal employment in various industries. The conferees could only guess the actual results on the labor market, for instance, of labor-saving machinery, old age, or the efficiency of management. There were, however, convincing indications of the correlation between the shrinkage of Dayton's factory pay rolls and the relief burden of social agencies.

The committee found cumulative evidence that both commerce and industry in the United States are becoming aware of their own responsibility for unemployment prevention, and that "such prevention and employment stabilization are integral parts of the duties of management." The conferees were also brought to the realization that unemployment was a problem deeply affecting the whole urban district—a problem which should be visualized in the same way as other municipal concerns, such as health or education or fire prevention, and jointly solved by various agencies in the community. To facilitate this solution the conference committee made the following recommendations:

1. Organize a permanent agency whose duty it will be to conduct the researches and scientific studies that are essential to working out sound and practical remedies.
2. Create a citizens' unemployment committee, representing all interests in the community, the municipal government and social agencies, and the professions and working people as well as industry, commerce, and the banks. This committee should be attached to the research organization for employment regularization as an advisory board or council, and its main duties would be to spread the results of the investigations and studies among all classes of our population, and to urge the adoption and support of specific remedies that the organization works out.
3. Collect reliable statistics as to the extent and nature of unemployment and employment, prepare indexes and take censuses of the unemployment from time to time.
4. Study all experiments, wherever made, designed to regularize employment, and advise and assist Dayton's industries in their use.
5. Study methods of finding jobs and securing workers in Dayton, and devise methods of improving and extending the work of the public employment bureau.
6. Study the possibility of creating a prosperity reserve of public and private construction and repair work.
7. Study the effects of unemployment on the workers, particularly poverty and deterioration, and inquire into the relation of unemployment to the work and the finances of the city's charitable relief agencies.
8. In cooperation with the school authorities, investigate plans and methods for organizing and administering a comprehensive system of vocational guidance and training.
9. Inquire into part-time work and part-time schooling for children under 18, the 5-day week, and reduced hours of labor for all workers as possible aids in reducing unemployment.
10. Study the problem of the older man who is displaced from industry and can not secure new employment, and inquire into the methods used in handling older workers, so that systematic policies may be devised.

## Improvement in Philippine Unemployment Situation

NEW large-scale production in the Philippines, such as that in the desiccated coconut plants, has given employment to hundreds of workers, according to the 1928 report of the Governor General of

the Islands. The establishment of new sugar centrals and the consequent expansion of the acreage used for the cultivation of sugar cane have absorbed more labor. Unemployment in northern Luzon was relieved by the emigration of 10,000 persons to Hawaii. This exodus is reported as constituting a very considerable reduction in the labor force of the Philippines. A substantial number of home seekers were sent to Mindanao and Mindoro. Building construction in Manila noticeably cut down unemployment in that city. Indeed, the demand for labor, especially for carpenters, was greater than the supply, so that men with trades from Pampanga and Rizal found work in the capital of the islands. Another encouraging feature of the labor market in that city, particularly for those belonging to the seamen's union, was the increase in the number of boats for the interisland trade. In addition, the agencies of the bureau of labor were able to place over 2,000 persons in various occupations. Reports from the officials of 40 labor unions, however, showed that 8,000 (25 per cent) of their 32,000 members were unemployed. No returns had then been received from other labor organizations. The highest percentage of unemployment was, as usual, reported by the seamen's union, despite the additional jobs made available by the new interisland ships. On the whole, however, according to the report under review, the unemployment situation at that time was no longer a serious problem.

## Measures Proposed Against Unemployment in Czechoslovakia, Germany, and Rumania

THE gravity of the unemployment situation in many foreign countries is attracting the attention not only of the Governments and statesmen, but also of the private press, organizations, and persons, as evidenced by the following review based upon the news items in various labor papers and other sources.

### Czechoslovakia

AS A RESULT of an increase of unemployment during the first quarter of this year the Czechoslovakian trade-unions have served upon the Government the following list of the measures suggested to be undertaken against unemployment, embodied in a bill:

*Immediate measures.*—(a) Lengthening of the period of eligibility for unemployment benefit to 26 weeks; (b) an increase in the benefit paid by the State; (c) establishment of an emergency fund, and allocation of special grants to the trade-unions caring for those trade groups which are especially hard hit.

*Permanent measures.*—(a) The repeal of section 82 of the Industrial Code, which empowers an employer to discharge a worker without notice after four weeks' absence due to sickness; (b) better regulation of employment offices; (c) extension of the factory inspection act and reorganization of factory supervision, providing for employment of workers in the capacity of supervisors; (d) establishment of industrial courts; (e) making trade agreements legally binding; (f) bringing the 8-hour day act into harmony with the Washington Hours Convention in respect to the payment of overtime; (g) inclusion of agricultural workers under the workmen's compensation act; (h) inclusion of

occupational diseases in the workmen's compensation act; (i) complete Sunday rest in all commercial establishments.

### Germany

In Germany the Berlin "Vorwärts," a labor daily, has distributed among its readers a questionnaire inviting suggestions as to the measures to be undertaken against unemployment.

The replies can be reduced to the following points:

(1) To introduce a 1-year compulsory labor service, after the model of military service, in order to relieve the unemployment situation and to provide the State with labor for work in the public interest;

(2) To prohibit overtime and home work, and to prohibit the holding of jobs by both husband and wife; to shorten working hours and to provide old-age benefit to all workers of 60 years of age and over;

(3) To allocate funds to the systematic creation of work and to issue immediate orders for work which would otherwise have to be postponed;

(4) To increase the exports;

(5) To expand the vocational schools and reconstruct the school system with a view to training specialists, as to-day it is the specialist who has the best chance of success.

(6) To extend trade-union and cooperative enterprises so as to relieve the unemployment situation.

One return pointed out that during the war it was possible to suspend or convert to other purposes whole branches of industry, in the interest of the public defense, and that it should therefore be possible to-day to intervene for the prevention of unemployment.

### Rumania

As the unemployment situation is steadily growing worse in Rumania, the Rumanian Trade-Union Center has made demands upon the Parliament calling for—

(1) The setting aside of a sum of money in the budget sufficient to provide adequate unemployment benefit; (2) the protection of native workers by placing all Government orders in Rumania by prohibiting the entrance of foreign workers into Rumania; (3) organization of relief work, such as building of dwelling houses, etc.; (4) prohibition of overtime; and (5) introduction of unemployment insurance.

## Unemployment Situation in Germany

UNEMPLOYMENT in Germany during the first quarter of 1930 exceeded the high level of last year, according to a report from Harry L. Franklin, United States consul at Berlin, dated April 19, 1930. At the beginning of January there were 1,774,571 persons in receipt of the unemployment benefit, and 2,378,193 persons on February 1. At the end of the quarter the figure had declined to only

2,053,387 as against 1,899,121 persons drawing the unemployment dole at the end of March, 1929. In addition to the number of regular beneficiaries, some unemployed persons are receiving emergency or "crisis" relief, or contributions from the local governments, so that the total number of persons actually out of employment at the end of March this year is estimated by the semiofficial office for research of economic developments (*Institut für Konjunkturforschung*) as exceeding 3,000,000.

In contrast with the extremely severe weather during February and March last year, which greatly impeded industrial production, the weather was unusually mild during the same months of this year, which makes the high level of unemployment all the more significant. In this connection, however, it should not be overlooked that the increase in persons forming the German labor supply is about 400,000 over the number of a year ago. The declining business curve with regard to the domestic market, however, accounts for a considerable portion of the increase in unemployment.

## Public Employment Offices in Italy[1]

IN ITALY the law requires that employers must engage workers and workers must seek employment through the public employment offices.

### Agricultural Employment Offices

IN ADDITION to the public employment service system for industries, already in operation, 81 provincial agricultural employment offices were established by the Ministry of Corporations by decree of August 20, 1929. These offices started their operation on October 28, 1929. Each provincial office has a number of branch offices, fixed by the decree.

The jurisdiction of agricultural employment offices extends to various groups of workers such as skilled agricultural workers; workers skilled in the cultivation of trees and shrubs, including vine dressers, pruners, etc.; shepherds; woodcutters; manual workers engaged in the transformation of agricultural products, if carried out on the property of the owner and not considered by the trade-unions to be industrial activity; and unskilled workers, including laborers, ditchers, and harrowmen, who are usually engaged in agricultural work but are sometimes temporarily employed on public works.

These agricultural employment offices have to submit to the Ministry of Corporations on the fifth day of each month a report concerning the number of available vacancies and workers. They must also keep a registry of internal migration and of emigration in their respective districts.

Each provincial office is managed by two persons under the direction of a representative of the National Fascist Party.

Besides the above general system of agricultural employment service, two special offices were established to meet the needs of the rice

[1] Industrial and Labor Information, Geneva, Apr. 14, 1930, pp. 75–77.

industry and the olive harvest. A national employment office for rice fields was established under the auspices of the Provincial Fascist Association of Agricultural Workers in Milan by a decree of April 20, 1929. This office, administered by a joint committee, may open sections, attached to the Fascist Union of Agricultural Workers, in 11 Provinces in which rice is grown and in 10 Provinces in which workers for rice fields are recruited. The operation of the office will begin before the next rice season. A public employment office for olive pickers was established under the same auspices in Bari by a decree of May 18, 1929. The jurisdiction of this office includes 6 Provinces.

Intervention by private persons, associations, or institutions in any way for the purpose of placing agricultural workers in employment, even if carried out free of charge, is prohibited by a decree of August 24, 1929. Such intervention in regard to hiring of workers for rice fields or for olive harvesting is forbidden by decrees of May 20, September 13, and October 23, 1929.

How rigidly the compulsory registration is enforced is shown by the following cases: At Nardo, fines varying from 50 to 125 lire ($2.63 to $6.57) have been imposed upon five agricultural employers. At Pavia, an employer had engaged, for the purpose of felling trees, workers not registered with the public employment office. In answer to the protest of the Fascist Agricultural Labor Union he undertook to dismiss these workers and to replace them by workers registered at the public employment office. As he failed to carry out this undertaking, the employer and the 12 illegally engaged workers were reported by the labor unions. Acting under authority of section 14 of the royal decree of March 29, 1928, the magistrate fined the employer 600 lire ($31.56), or 50 lire ($2.63) per worker, and each of the 12 workers 10 lire (53 cents).

### Employment Offices for Commercial Workers

By a decree of the Ministry of Corporations of January 31, 1930, a system of public employment service was established for commercial workers, including shop assistants, hotel employees, licensed guides, and porters. Under this decree 92 provincial public employment offices were opened. Each provincial office is authorized to establish in its district permanent or temporary branch offices, the number of which is fixed by a schedule attached to the decree. These offices are administered and supervised by joint committees under Fascist chairmanship.

# INDUSTRIAL AND LABOR CONDITIONS

## Discussion of Personnel Problems at International Mental Hygiene Congress

MENTAL hygiene principles are essential for effective production in industry, according to a paper presented by V. V. Anderson, M. D., at the First International Congress on Mental Hygiene held in Washington, D. C., May 5–10, 1930. These principles, he declared, are not only fundamental in the equipment of all executives but are of primary importance to the workers for the maintenance of healthy job attitudes and interest in their employment and for life adjustments. Doctor Anderson is the director of employment, placement, and personnel research of the R. H. Macy Co. (Inc.), New York, and, together with a group of psychiatrists, psychologists and psychiatric social workers, has for five years been experimenting in the treatment of this company's problem employees from a mental hygiene viewpoint. So encouraging have been the results, the director reports, that it has been decided to adopt this procedure for the entire personnel of this large department store.

Among the concrete findings during the period of experimentation was the fact that about 20 per cent of the employees were so-called "problem" individuals, the principal causes being: (1) A maladjusted personality, (2) particular job disabilities, (3) defective physical conditions. These workers could, of course, have been thrown back on the labor market, but Doctor Anderson holds that business and industry have a definite social obligation in this matter and claims that his statistics show that "a sufficiently large number of problem cases improve under psychiatric treatment to make the application of such methods profitable, not only in terms of human salvage, but in terms of dollars and cents."

Included in the group of problem individuals making up approximately one-fifth of the working force were employees who were referred to the psychiatric department for various reasons, among them "bad attitude," "poor production," "nervousness," "chronic illness complex," "attendance record," "constant disciplinary problem," "stupid," "error maker," "day dreamer," "upsets morale of department," "damages goods," "resents authority," etc.

The following early findings are declared to be typical of the continued work of the psychiatric division of this department store:

> Taking the last 500 cases that we have studied and worked with, their final status is as follows: 67 per cent of the 500 employees are still in the store, while 23 per cent have been laid off, partly through our own recommendations. Eight per cent have resigned and 2 per cent were pensioned. Of the active cases, 40 per cent have been adjusted and are no longer problems to their departments; 44.7 per cent are still under treatment through this office.

Formerly empirical methods were used in dealing with such cases, but now the psychiatric and psychological staff applies the fundamental principle of careful inquiry and diagnosis before treatment.

### Surveys of Departments

MENTAL hygiene studies of entire departments, including the employees, jobs, wages, and working conditions, put management in close touch with the actual personnel and production problems of such departments. Among the advantages of these surveys are the following:

1. Modification of job and departmental conditions that have affected unfavorably the worker's output, or his work ability, his mental attitude, his physical and mental health, etc.
2. An individual personnel program for each worker.
3. Discovery of problem employees and their treatment, adjustment, transfer, or lay off.
4. Discovery of promotional material and utilization of store facilities for better job placement of these individuals.
5. Reorganization of employment procedure (development of psychological tests for the job in question, and making more purposeful the employment interview through the development of detailed personnel qualifications).
6. Improvement in training.

### Guidance and Placement of Young Workers

THE WORK of Doctor Anderson and his staff with young persons includes vocational and psychiatric study and guidance. Young boys and girls from grammar and high schools are carefully selected from numbers of applicants and placed on simple junior jobs. These newcomers are closely observed for several months and are afterward given well-rounded psychiatric study, upon the findings of which they are transferred to senior jobs. Of the first 100 cases reviewed, it was found that 70 were recommended for transfer to sales jobs and 30 to nonsales jobs. At the close of the year 90 per cent of the sales group were reported as having made good and all of the nonsales group were considered satisfactory.

In connection with the discussion of the preparation of young workers to adapt themselves to the frequently hard conditions of subsequent business and industrial life, Doctor Anderson says:

> Our own experience has justified us in believing that the correct job placement according to abilities and disabilities, and the careful guidance given to certain junior employees in the way of developing good work habits, healthy mental attitudes, proper job and vocational interests, purposeful use of energy output, physical and mental hygiene, and rational insight into personal problems and relationships has laid the basis for their later salary progress, work success, and well-deserved promotion.

### Selection of Executives

A SEARCHING inquiry is made into the record of each candidate for an executive position, including "general health, physical fitness, intelligence, special abilities and disabilities, personality make-up, social background in terms of work career, education, home conditions, etc., and finally a careful and detailed study of his job behavior." Of 100 persons carefully selected by the general manager's office as suitable for a junior merchandising executive job, the psychiatric and

psychological staff rejected 10 per cent and found an additional 15 per cent to be dubious candidates because of personality factors. A follow-up showed that while 92 per cent of those recommended unreservedly by that staff as good promotional material were successful, only 50 per cent of those recommended with reservations made good. While certain personality types and certain mental processes may be determined by tests and paper methods, Doctor Anderson contends that in every instance the final diagnosis and decision depend on individual case studies and their evaluation.

### Psychiatry in Relation to General Health

IN GENERAL hospital work it has been reported that about one-fourth of the patients suffer from psychoneuroses. The experience in the R. H. Macy medical clinic, however, would indicate a much higher proportion. Some of the more common problems noted among the department-store patients were classified as follows: Chronic hospital users; compensation and sick-leave cases; situation reaction cases; fatigue problems; cases where nervous and mental disease is suspected. While this classification is acknowledged as not altogether satisfactory, it evidences, Doctor Anderson thinks, the very urgent need of a psychiatrist in the store's own hospital to deal with the numerous patients falling under the above classifications whose basic difficulty is personality disturbance and for whom ordinary medical and surgical treatment is far from successful.

### Prevention of Automobile Accidents

WITH a force of 450 car operators, the R. H. Macy Co. experienced so many difficulties in the line of personal injury claims, ruined merchandise, damaged or wrecked automobiles, etc., that the following steps were undertaken with a view to eliminating these troubles:

1. A study of the physical and mental processes involved in the operation of an automobile under ordinary road conditions.
2. The development of objective methods—psychological tests—(drivers' tests) for measuring these processes in any given operator.
3. The standardization of the psychological and physiological tests on old drivers.
3. The psychiatric study of the old driver group to determine whether or not there were clinical and constitutional sources of accidents which were not subject to satisfactory evaluation by the psychological tests.
5. The evaluation of the entire material in the light of routine selection employment criteria.
6. The practical application to employment work.

As a result of applying a formal psychiatric and psychological examination in the routine of employment, together with other measures adopted in the company's motor school and the supervision of this group of employees, the accidents were cut down about 50 per cent. Furthermore, there was a decrease of 92 per cent in the employment of drivers and 65 per cent in the employment of helpers, as compared with the record of the preceding 12 months. In brief, better men were hired and they remained with the company.

### Expansion of the Work

IN THE judgment of the author of the paper, the outcome of his work and that of his staff most significant to those interested in the contribution of mental hygiene to industry is the management's decision to make that staff and its technique a part of the routine of personnel as an operating rather than a consulting group, bringing all the employment, placement, and guidance activities of the entire establishment under psychiatric direction.

## Effect of Displacement of Horses Upon Demand for Farm Products

THE substitution of machinery for animal motive power has resulted in a grain surplus and a tremendous reduction in the outlet for farm products, according to Leaflet No. 199, published by the Horse Association of America. It is claimed in this article that the destruction of the normal increase in horses and mules through the substitution of automobiles, trucks, and tractors has cut down the acreage needed for animal-power production and maintenance from 107,162,500 to 52,905,000 acres. The following figures were presented in connection with this conclusion:

ACTUAL AND ESTIMATED NUMBERS OF HORSES AND MULES IN THE UNITED STATES AND ACREAGES REQUIRED OR WHICH WOULD HAVE BEEN REQUIRED TO MAINTAIN THEM

| Item | Actual number in 1930 [1] | Decrease in number, 1920 [2] to 1930 | Estimated number, in 1930, if ratio of horses and mules to population were the same as in 1900 [3] |
|---|---|---|---|
| Horses and mules— | | | |
| On farms | 18, 762, 000 | 6, 437, 000 | 32, 465, 000 |
| In cities | 1, 500, 000 | 600, 000 | 6, 500, 000 |
| Total | 20, 262, 000 | 7, 037, 000 | 38, 965, 000 |
| Acres required or which would have been required to maintain horses and mules— | | | |
| On farms | 46, 905, 000 | 16, 092, 500 | 81, 162, 500 |
| In cities | 6, 000, 000 | 2, 400, 000 | 26, 000, 000 |
| Total | 52, 905, 000 | 18, 492, 500 | 107, 162, 500 |

[1] Estimates of U. S. Department of Agriculture.
[2] Census, Jan. 1, 1920.
[3] Arrived at by dividing the 1928 estimated total population (120,013,000) by the 1900 factor, 3.08; and the estimated urban population (63,229,235) by the 1900 factor, 9.76.

Horses and mules on farms are reported to consume per head per annum the product of 2½ acres of fertile corn-belt land or equivalent feed from less productive land. Young colts and idle animals do not require so much food. Work animals on farms, as a rule, can not be kept employed for more than 50 per cent of the time. The use of salvage material, such as pasturing meadow aftermath, cornstalks, grain stubble, and winter wheat or other fall-sown grains

decreases the acreage (devoted wholly to horse feed) needed per animal.

Horses and mules engaged in nonagricultural work consume the output from about 4 acres. The reduction in horses and mules, therefore, has diverted at least 18,000,000 acres of land from power purposes (rearing and maintaining work animals) to the production of surplus foodstuffs. Destroying the normal increase in horses through substitution by automobiles, trucks, and tractors has reduced the acreage needed for power production and maintenance, from 107,162,500 to 52,905,000 acres.

The writer contends that this reduction has cost the farmer (1) the normal increase in the demand for horses and mules, (2) the normal increase in the demand for hay and grain, and (3) the higher returns he would otherwise be getting for all other farm products.

Basing his calculations on the figures in the above table, the author estimates that if 38,965,000 horses and mules were in use it would mean the sale at good prices of 650,000 horses and mules per annum, to replace the 10 per cent loss occurring among the 6,500,000 horses and mules that might be at work in cities, and a steady market annually for 19,500,000 tons of hay and 1,218,750,000 bushels of oats to feed horses and mules not on farms. These city animals, it is computed, would consume 3 tons of hay and an equal amount of oats or other grain per head per annum, or the products of 20,000,000 additional acres. Moreover, it is estimated that pasture, hay, and grain would be required for 32,465,000 horses and mules on farms or 13,703,000 more than the actual number reported on farms for 1930. Allocating 2½ acres for pasture, hay, and grain per animal (taking into consideration idle horses and mules and growing colts), 34,257,500 additional acres would be used for raising feed for these extra farm animals instead of raising hay and grain to be dumped on the market. In brief, there would be 54,257,500 more acres producing and maintaining animal power.

## Expansion of Grain Acreages

On the eastern slope of the Rockies, including eastern Montana, Wyoming, Colorado, New Mexico, western North and South Dakota, Nebraska, Kansas, Oklahoma, and Texas, there has been a great expansion in tilled acreage. From 1910 to 1929 in the 10 States named the following increases in grain harvested are reported.

EXPANSION IN ACREAGE OF GRAIN HARVESTED, 1910 TO 1929

| Kind of grain | Acres in 1910 | Acres in 1929 | Kind of grain | Acres in 1910 | Acres in 1929 |
|---|---|---|---|---|---|
| Wheat | 22,211,000 | 40,953,000 | Oats | 8,821,000 | 11,298,000 |
| Barley | 2,733,000 | 7,120,000 | Corn | 29,073,000 | 30,816,000 |
| Rye | 170,319 | 1,679,000 | | | |

According to the publication of the Horse Association of America, here summarized, most of the expansion in grain acreage is the result of taking range land for tilled crops.

There are champions of the motor age who argue that the millions of dollars spent, directly and indirectly, in the construction and tranpsortation of automobiles, trucks, and tractors give the farmer better markets by increasing the purchasing power of the wage earner. We answer "Not proved!"

As a matter of fact, the consumption of food per person actually is less, because of the greater number of persons leading sedentary lives. And when a person has had all he wants to eat he is not interested in more food; nor do wage earners who can buy silk and rayon seem interested in wearing cotton. Similarly, the general use of cars has reduced the wear on shoe leather.

### Proposal for Increased Use of Animal Motive Power

ACKNOWLEDGING that neither the city people nor the farmers will forego automobiles to drive horses nor give up the use of trucks, the writer suggests that horses and mules be used wherever and whenever they are found as cheap as substitutes, for example, on short-haul and frequent-stop work in cities, much of which is at present being done with motors. The dairy farmer, the hog raiser, the sheep producer, and the beef raiser find in every acre diverted from animal power production a possible competitor in their own industries.

In the judgment of this advocate of animal power, the preparation of soil, cultivation, and harvesting can be more efficiently and more cheaply done with mules or horses than with tractors. This is admitted, he declares, by those who have purchased and used tractors. They report, however, it is easier to care for a tractor than for an 8 or 10 horse team, and that they have no chores to do.

## The Filipino Problem in California

FILIPINO immigration into California is the subject of a report just completed by the department of industrial relations of that State, which will soon be ready for distribution. The introduction to the publication states that it is not presented as an argument for or against Filipino exclusion but to furnish information not elsewhere available concerning the extent and characteristics of Filipino immigration into California since 1920. The following summary[1] brings together the outstanding facts in this bulletin.

In the decade 1920 to 1929 there were 31,092 Filipinos admitted to California, 82.3 per cent at San Francisco and 17.7 per cent at Los Angeles. Approximately 85 per cent of these newcomers were brought to California from the Philippines and the Territory of Hawaii in vessels operated by two California steamship companies. The marked increase in this immigration to California began in 1923, with the admission of 2,426 Philippine Islanders, in the previous three years the total of such arrivals being only 1,855, or an average of 618 per annum. In the seven years, 1923 to 1929, the average number arriving was 4,177, the greatest influx being in 1929 when 5,795 were admitted—an increase of 139 per cent over the admissions of 1923.

Of the total number of Filipinos arriving in California in the decade reviewed in this report, 35 per cent were from the Philippine Islands, 56 per cent from Hawaii, and 9 per cent from other ports, chief among them Hong Kong, Shanghai, Kobe, and Yokohama.

Since 1920 the number and proportion of Filipinos emigrating to California directly from the Philippines have been constantly in-

[1] From press release of California Department of Industrial Relations, Apr. 10, 1930.

creasing. For example, only 9 per cent of the 2,426 Filipino arrivals in California in 1923 were from Manila, while 84.6 per cent were from Honolulu. In 1929, however, 45 per cent of the 5,795 Filipino arrivals were from Manila and 45.3 per cent from Honolulu.

In 1921 and 1922 from 30 to 34 per cent of the male Filipinos who came to California from the Territory of Hawaii were born in that Territory and from 66 to 70 per cent were born in the Philippine Islands. Since 1923, however, from 81 to 97 per cent of the Filipinos who came from Hawaii to California had been immigrants to the Territory from the Philippine Islands.

### Age and Sex of Filipino Immigrants

THE majority of the female Filipinos arriving in California are natives of the Territory of Hawaii. In the decade 1920–1929 there were 7 females to every 100 Filipinos who came to California. But while 14 males to 1 female are coming to California, the ratio of males to females in the total population of that State is only 1.1 to 1. The great majority of these immigrants (79.4 per cent) are between 16 to 30 years of age, and the total number under 30 years of age is 84.3 per cent. On the other hand, only 22.8 per cent of the total population of California are under 30 years of age. The percentage of female Filipino arrivals under 16 years of age is 35.3, while the proportion of males under that age is only 4.9 per cent. The percentage of female Filipino arrivals under 22 years of age is 57.2, and the corresponding percentage for males is 36.3.

### Marital Status of Filipino Immigrants

OF THE Filipinos coming to California, 77.3 per cent are single, 22.5 per cent are married, and 0.2 per cent are widowed, while 47.9 per cent of the total population of the State are single, 43.7 per cent are married, and 6.7 per cent are widowed. Although approximately 43 per cent of the Filipino female arrivals are married and 21 per cent of the males, only 12 per cent of the Filipino married men bring their wives with them on coming to California. There are fewer married persons among the Filipino arrivals in California than among immigrant alien Mexican or among immigrant aliens (not including Mexicans) admitted into the United States.

### Occupations and Wages

IT IS estimated that in the decade 1920 to 1929 possibly from 2,000 to 3,000 Filipinos left California, but from July, 1929, to the close of that calendar year 891 departed from the State for foreign ports. The probable number now in the State is reported as between 31,000 and 34,000. Among the occupations in which they are found are: Bell boys, bus boys, cooks, dishwashers, door boys, hall boys, house cleaners, janitors, kitchen helpers, and pantry men. There are many employers who would rather have Filipinos than white workers because these Islanders "are considered steadier, more tractable, and more willing to put up with longer hours, poorer board, and worse lodging facilities. Where a white worker may feel restive and dis-

gruntled because of bad working conditions, the Filipino newcomer is satisfied to stay on the job 'without kicking.'"

In 1929 the average weekly wage rates of Filipinos engaged for certain restaurant, hotel, and domestic work were from $11.20, with room and board, to $18.11, without room and board. Their average monthly wage rates for similar work were from $66.68 with room and board to $73.82 without room and board.

The monthly wage rates, with room and board, of 492 Filipinos engaged in 1929 for hotel, restaurant, and domestic occupations ranged from $50 to $150 a month, 21.6 per cent being paid $50; 18.9 per cent, $60; and 13 per cent, $75. Among this whole group 59 per cent were hired at $65 or less per month and only 11.7 per cent at from $100 to $150 per month.

Many Filipinos are being used in agriculture, for example, in celery planting, asparagus cutting, lettuce harvesting, rice harvesting, grape picking, hoeing and topping beets, and general ranch labor. The wages for such work vary according to the nature of the crop, location, and other circumstances. The rates per hour run from 30 to 50 cents and the daily rates from $2.50 to $5, the lower figures more nearly approximating the usual pay for these workers.

A Filipino labor contractor acts as a contact man for the growers and Filipino workers whom he engages as laborers for the growers. He also is the go-between for his workers and the tradesmen who give these laborers credit for the necessaries of life.

The harvesting of the asparagus crop absorbs from 5,000 to 6,000 Filipinos, who constitute over 80 per cent of the laborers on the work. Among the other harvesters are Mexicans, Spaniards, Portuguese, Chinese, Japanese, Koreans, and Turks. It is reported that in March, 1930, there were plenty of Filipinos available in the asparagus fields. The price paid to Filipinos and other workers for 100 pounds of asparagus cut ranges from 90 cents to $1.40, according to the age of the bed, the most common price being probably $1.10.

The advent of the Filipinos in the asparagus-growing districts made it possible to use more laborers per acre and consequently to go over the fields more thoroughly. The use of a larger number of men per acre, however, has tended to reduce the average earnings per day per man.

### Displacement of Other Workers by Filipinos

In California, in many occupations in certain lines of employment, particularly in hotels, restaurants, and domestic service, Filipinos are being substituted for native white workers and others. These Islanders are also displacing white workers in box factories in the northern part of the State. In agricultural occupations there is great competition between the Filipinos and Mexicans and other immigrant labor groups, and in some of these occupations Filipinos are being substituted for white workers. According to the report under review, the recent deplorable anti-Filipino riots in Exeter and Watsonville were the outcome of the displacement of white workers by these Islanders and the widespread racial prejudice against them.

## Adjustment of Claims and Complaints by Philippine Bureau of Labor, 1924 to 1928

THE table below shows the claims and complaints adjusted by the Philippine Bureau of Labor during the five years 1924–1928. The cases involved the payment of wages, money advanced by employers, dismissals without just cause or without notice, the recovery of personal belongings, and other matters connected with industrial relations. Such adjustments would have been quite expensive to the workers if they had had recourse to courts of justice and had paid for legal assistance.[1]

ADJUSTMENT OF CLAIMS AND COMPLAINTS BY PHILIPPINE BUREAU OF LABOR, 1924–1928

[One peso=about 50 cents in U. S. Currency]

| Year | Number of claims and complaints | Number of claimants | Adjustments | | Amount collected |
|---|---|---|---|---|---|
| | | | Favorable | Unfavorable | |
| | | | | | *Pesos* |
| 1924 | 688 | 1,155 | 431 | 257 | 30,339.09 |
| 1925 | 615 | 1,371 | 365 | 250 | 19,209.63 |
| 1926 | 766 | 1,697 | 447 | 319 | 23,575.26 |
| 1927 | 728 | 1,418 | 493 | 235 | 18,171.91 |
| 1928 | 923 | 2,146 | 511 | 412 | 22,912.21 |
| Total | 3,720 | 7,787 | 2,247 | 1,473 | 114,208.10 |

## Condition of English Coal Industry in 1929

IN ITS issue for April 12, 1930, the Economist (London) gives a summary of the reports of the Mines Department for the four quarters of 1929, with some comparative figures for earlier years. For the year immediately preceding the stoppage of 1926, and for the three years following it, the production of coal commercially disposable ranged as follows:

| | Tons | | Tons |
|---|---|---|---|
| 1925 | 214,400,000 | 1928 | 211,500,000 |
| 1927 | 221,800,000 | 1929 | 230,400,000 |

For the same years, the costs and proceeds were as follows:

STATISTICS OF COSTS AND PROCEEDS OF COAL PRODUCTION FOR FOUR YEARS

| Item | 1925 | 1927 | 1928 | 1929 |
|---|---|---|---|---|
| Wages | £137,100,000 | £117,800,000 | £100,200,000 | £105,700,000 |
| Stores and timbers | 20,200,000 | 20,200,000 | 17,000,000 | 18,000,000 |
| Other costs | 29,600,000 | 29,200,000 | 27,400,000 | 26,600,000 |
| Total "net costs" | 192,300,000 | 172,900,000 | 150,000,000 | 156,000,000 |
| Proceeds | 183,100,000 | 167,500,000 | 140,200,000 | 160,200,000 |
| Profit or loss | −9,200,000 | −5,400,000 | −9,800,000 | +4,200,000 |

The net costs include the royalties; deduction is made of the price of miners' coal. In calculating the loss in 1925, no account is taken of

[1] Philippine Islands. Governor General. Annual report, 1928. Washington, 1930, pp. 261–262. (House Doc. No. 133, 71st U. S. Cong. 2d sess.)

the subvention made by the Government to the mine owners. The average number of miners employed during the four years, and the average output per man-shift were as follows;

MINERS EMPLOYED AND OUTPUT PER MAN-SHIFT FOR FOUR YEARS

| Year | Miners employed | Output per man-shift (cwts.) |
|---|---|---|
| 1925 | 1,040,000 | 18.00 |
| 1927 | 961,000 | 20.60 |
| 1928 | 881,000 | 21.29 |
| 1929 | 894,000 | 21.69 |

It will be seen that last year's expansion of 19,000,000 in the disposable tonnage, accompanied by an increase of £20,000,000 in revenue against a rise of only £6,000,000 in net costs, substantially improved the industry's immediate position.

The costs, proceeds, and profit and loss are given by quarters in the following table:

PROCEEDS, COST, AND PROFIT AND LOSS PER TON OF DISPOSABLE COAL

[Conversion on basis of shilling=24.3 cents; penny=2.0 cents]

| Quarter ending— | Proceeds | | Costs | | | | Profit | | Loss | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Wages | | Total | | | | | |
| | English currency | United States currency | English currency | United States currency | English currency | United States currency | English currency | United States currency | English currency | United States currency |
| | s. d. | | s. d. | | s. d. | | s. d. | | s. d. | |
| December, 1927 | 13 9¾ | $3.36 | 10 ¾ | $2.45 | 14 10¼ | $3.61 | | | 1 ½ | $0.25 |
| December, 1928 | 13 5¾ | 3.28 | 9 2¼ | 2.25 | 13 8¾ | 3.34 | | | 3 | .06 |
| March, 1929 | 14 ¼ | 3.41 | 9 0 | 2.19 | 13 3 | 3.22 | 9¼ | $0.19 | | |
| June, 1929 | 13 7 | 3.30 | 9 3¼ | 2.26 | 13 10½ | 3.38 | | | 3½ | .07 |
| September, 1929 | 13 8¾ | 3.34 | 9 3¼ | 2.26 | 13 9 | 3.35 | | | ¼ | .01 |
| December, 1929 | 14 3 | 3.47 | 9 2 | 2.23 | 13 3¾ | 3.24 | 11¼ | .23 | | |

During 1929 the number of miners employed rose from 881,000 in the first quarter to 904,000 in the last, while the output per man-shift fell from 22.13 hundredweight to 21.78 hundredweight.

In the December quarter the rate of output per man-shift was not so good as in the first quarter of the year, but though wage costs rose in consequence by 2d. per ton, there was a satisfactory economy of 1¼d. [2.5 cents] per ton in other costs, and proceeds per ton were 2¾d. [5.5 cents] higher. Disposable tonnage in October–December amounted to 60,000,000 as compared with 59,000,000 in the three months ended March 31, and an average of about 55,500,000 in the two summer quarters.

Figures as to the net costs and proceeds per ton disposable in the principal coal fields show that in the December quarter of 1929 net costs ranged from 12s. 4d. ($3) in Scotland to 16s. 4½d. ($3.98) in Lancashire and North Staffordshire, and the proceeds from 13s. 1¼d. to 17s. ($3.19 to $4.14). Each of the fields showed a profit during that quarter, the amount ranging from 7½d. (15 cents) per ton in Lancashire and North Staffordshire to 1s. 3½d. (31 cents) in Yorkshire.

The greatest reduction of costs during the year has been achieved by Yorkshire, Lancashire and North Staffordshire, but it would be premature on this account to draw conclusions wholly favorable to the working of the five counties scheme, since the dominant figure in the table above is the increase (shared by all districts) in proceeds per ton. The question for 1930 is whether that increase can be maintained in the face of general trade depression and the unemployment of much coal-burning steamer tonnage.

## Miners' Welfare Fund of Great Britain

THE report of the Miners' Welfare Fund for 1929 shows that from the beginning of the work in 1922 to the close of 1929, amounts had been allotted for the various purposes of the fund as follows:

AMOUNTS ALLOTTED FOR SPECIFIED PURPOSES BY MINERS' WELFARE FUND OF GREAT BRITAIN, 1922 TO 1929

[Conversion on basis of pound=$4.87]

| Purpose | 1922 to 1929 | | 1929 | |
|---|---|---|---|---|
| | English currency | United States currency | English currency | United States currency |
| Recreation | £3,471,095 | $16,904,233 | £362,131 | $1,763,578 |
| Pit welfare | 183,707 | 894,653 | 33,022 | 160,817 |
| Health | 2,213,756 | 10,780,992 | 440,065 | 2,143,117 |
| Education | 59,051 | 287,578 | 6,820 | 33,213 |
| Administrative expenses | 64,670 | 314,943 | 11,703 | 56,994 |
| Total | 5,992,279 | 29,182,399 | 853,741 | 4,157,719 |

The money appropriated is derived from a levy, established by an act of 1920, of 1 penny on each ton of coal mined, which, under the direction of a committee appointed by the Board of Trade, is to be applied to purposes connected with the social well-being, recreation, and conditions of living of workers in or about coal mines and with mining education and research. In 1926 an additional levy was imposed for the special purpose of providing pit-head baths.

Special attention is given in the report to the work done in connection with pit-head baths. In 1927 and 1928 experimental installations were being made to determine what type of baths would best meet the needs of the miners. While some questions are still undecided, 50 schemes are already in progress or completed, providing accommodations for 60,190 men and 62 women. Only the cost of installation is provided by the welfare fund, and no plan will be undertaken until the mine owners and miners have made adequate arrangements for meeting the cost of upkeep. Four methods of meeting this cost are considered: (1) The owners may bear it all, leaving the workmen free from responsibility; (2) they may share the cost equally with the workmen; (3) they may supply the water, steam or coal, and electricity needed, leaving the workers to meet the other costs; or (4) they may leave the whole cost of upkeep to the workmen. So far, the second and third methods have been most commonly adopted.

Doubt is sometimes expressed, before baths are installed, as to whether the workers will use them, but invariably when once they have been tested the workers seem to appreciate them to the full. In

one case, where only 75 per cent of the lockers were put in to start with, the committee were appealed to within a fortnight of the opening day to install the remainder. The miners appreciate the comfort and convenience of the showers and abundant hot and cold water as compared with the tub in the kitchen at home, the advantage of leaving their working clothes at the mine and going home in clothes which have been kept in warm, dry lockers all day, and the convenience of the minor arrangements, such as the provisions for cleaning and greasing boots, while their wives greatly appreciate getting rid of the inconvenience and heavy work involved in preparing the baths at home and cleaning up after them.

### Scholarships Granted

As part of the educational work, arrangements have been made to grant from the fund scholarships entitling the holder to a university course leading to a degree. These are of two kinds, class A, for working miners, and class B, for the children of miners. The competition for these is keen, 689 applications having been received—196 for the A and 493 for the B scholarship. The average age of the A candidates was 24.8 years, as compared with 23.9 years in 1928; one of these candidates was 57, and another was 46. The majority of these A applicants were normally employed underground, the number of such candidates being 161 as against 33 normally employed on the surface. Most of them aimed at following occupations connected either with mining or education. Scholarships were awarded to seven of these candidates, whose ages ranged from 23 to 34, three of them being for the study of economics, and one each for English literature, pure science, mining, and music. Three B scholarships were awarded to men and two to women, the men wishing to pursue courses in economic history, electrical engineering, and natural philosophy, and the women in classical studies and education.

## Forced and Convict Labor in Lumber Work in Russia (R. S. F. S. R.)

THE Russian Soviet passed a law on February 13, 1930, which provides that when a general meeting of the electorate of a village has voted to undertake as a "self-imposed" task the execution of certain logging work and has alloted a quota of the latter to each member of the community, the village Soviet shall have the right to impose on peasants who are delinquent in their quotas a fine up to five times the value of the quota, and, in case of nonpayment of fine, to sell their property at public auction. If the delinquent is a kulak,[1] the failure to carry out the quota shall be punishable in addition by confiscation of his team.

In event the method described above fails to produce the desired results, the new law permits the provincial authorities to proclaim logging work a forced service and to commandeer men and teams at rates fixed by the Soviet. Acts described in the new law as "resist-

[1] A term applied to well-to-do peasants.

ance to lumber procurement," as well as group refusal to do logging work, shall be punishable in accordance with the provisions of article 16 of the Criminal Code of Soviet Russia, the text of which, as amended on June 28, 1929, reads as follows: [2]

16. Refusal to do forced service, national tasks, or work of national importance: The first time—fine imposed by the pertinent Government organ up to five times the value of the imposed task, forced service, or work; the second time—imprisonment or compulsory labor for a period not exceeding one year; the same acts committed with preceding conspiracy by a group of persons, accompanied by active resistance to the Government organ in charge of the forced service, tasks, or work—imprisonment not exceeding two years with confiscation of the whole or part of property, with or without expulsion from the locality.

The above legal provisions leave the peasants no alternative but to agree to do logging work for the Soviet Government, since, in case of refusal, they may be sentenced to perform that task as convicts.

The commissariat of justice, by circulars of July 30, 1928,[3] and of August 30 the same year, has instructed the Soviet judiciary authorities to transfer all persons serving terms of imprisonment of less than one year to forced labor without incarceration and to impose the latter form of punishment in preference to short terms of imprisonment. By Circular No. 5 of January 14, 1929, the commissariat of justice instructed that persons imprisoned pending trial for offenses punishable by short terms of confinement should likewise be transferred to forced labor. According to that circular the number of such persons in Russia (R. S. F. S. R.) amounted to 29,216 on December 1, 1928, and of those serving prison sentences of less than one year amounted to 31,026. The commissariat of justice added to its circular that the judges who fail to comply with the new policy will be themselves summoned for trial and "will be made to learn by personal experience what forced labor means."

According to the new text of the Penal Code now in force in Soviet Russia, forced labor without incarceration may be imposed in either of the following three degrees of serverity: (1) Forced labor at place of convict's employment; (2) forced labor in locality of convict's domicile; and (3) forced labor beyond locality of convict's domicile.

On June 1, 1929, the commissariat of agriculture of Soviet Russia issued an instruction concerning the use for lumber work in forests of convicts sentenced to forced labor. Each convict or a group of convicts is given a certain job to perform, and the amount of work done is calculated not by time but by completed job.

The 70,242 convicts whom the Soviet authorities have ordered to be transferred to forced labor are almost equal in number to the total labor requirement of the Soviet Russian (R. S. F. S. R.) lumber industry, which according to the program adopted for 1929–30 was to be brought up to 86,800 persons.[4]

---

[2] Soviet Union. Moscow Izvestia, June 29, 1929, p. 4.
[3] Soviet Union. Bulletin of Financial and Economic Legislation No. 8, 1929, p. 56.
[4] Soviet Union. Moscow Izvestia, Dec. 14, 1929, p. 4.

# CARE OF THE AGED

## National Conference on Old-Age Security

THE third annual conference of the American Association for Old Age Security was held in New York on April 25, the morning session being devoted to the need of old-age pensions, the afternoon to a discussion of their practicability, and the evening to a consideration of America and old-age security. At the morning session Dr. Lucile Eaves, of Massachusetts, stressed the peculiar importance to women of old-age pensions. Women, she pointed out, live longer than men; they are more dependent on family ties which are apt to be broken by death, leaving them alone in their later years, and they have less opportunity to gain control of money or property which could be used for support in old age. Census figures show that after the age of 75 is reached, each 5-year age group contains more women than men, and they also show that widows are considerably more numerous in the higher age groups than are widowers. Of the women 65 years old and over reported in the 1920 census, 63 per cent in urban and 54 per cent in rural communities were widowed, but this was true of only 28 per cent of the urban and 26 per cent of the rural men. A married woman's chance of being left alone in her old age, therefore, seems to be more than twice as great as a man's. Unfortunately, widowhood often means also destitution for the elder women.

Nearly half (47 per cent) of the aged women interviewed in 11 cities by the National Civic Federation investigators were widowed, and an equal proportion (47.7 per cent) of these widows had no property. Only one in six had possessions valued at $10,000 or over, or enough to yield an income sufficient for support. The divorced or separated women were in even worse condition, as 10 per cent more (56.7 per cent) had nothing, and only 1 in 14 (6.9 per cent) had property worth $10,000 or more.

To meet this situation, the old-age pension is a primary necessity, but Doctor Eaves felt that there is also need of a vigorous campaign to train women to realize the need of providing for old age, to secure for them opportunities to make such provision, and to familiarize them with the relative advantages and disadvantages of such forms of investment as are open to persons seeking safety with moderate returns.

Dr. Luther Gulick, secretary of the New York Commission on Old Age Security, stated that the commission's studies had brought out the fact of greater need among the single than among the married, and among aged women than among aged men. A second fact discovered by the commission was that the greatest need for old-age pensions existed in the two population extremes—the largest cities and the smallest rural districts, the decadent rural areas. In these latter there may even be an excess of men over women in

need of assistance. Referring to unemployment as one cause of the need for old-age pensions, Doctor Gulick said that a classification of age and employment of labor union members showed very clearly indeed that up through the age groupings to 45 there was a very large percentage who were receiving more or less regular employment. After 45 there was an increase in unemployment, and when men in this age group were out of work it was for a longer period. By the time 65 was reached almost complete unemployment set in.

At the afternoon session reports were presented dealing with the situation in Canada (particularly Ontario), in Utah, in California, and in Milwaukee, Wis. The California law, the first to make pensions mandatory upon the counties and at the same time to put half the cost of their maintenance upon the State, providing also for State supervision, became operative January 1, 1930. Up to April 1 there had been 3,578 applications for the State aid, of which 1,068 had already been approved. It is estimated that before the end of the year at least 5,000 applications will be registered.

The Wisconsin law makes the adoption of a pension system optional with the county, provides for State supervision, and makes the State liable for one-third of the cost. The first test of this system in a large city came when Milwaukee County decided to establish pensions, the plan becoming effective January 1, 1930. Up to April 1, 645 applications had been received, of which 158 had been approved for pensions, 145 were unfavorably disposed of, and the remainder were under consideration. Of those unfavorably disposed of, only 29 were refused; of the others, some were withdrawn after having been made, some were held up because the applications were incomplete, some were found not to meet the legal qualifications, and a few died before their applications could be acted upon. The most frequent cause of ineligibility was a lack of either the citizenship or the residence qualification.

In reporting upon the progress of the old-age security movement in the United States, Secretary Epstein said that the present year shows the greatest advance yet made. Although it is an off year for legislation, only nine States having had legislative sessions, yet five of these have given attention to the subject, and New York, the wealthiest and most populous State in the Union, enacted a law which, it is estimated, will extend help to over 50,000 aged men and women. In Massachusetts, after over 20 years of effort, a bill was for the first time reported out by a legislative commission. Several bills were presented to the New Jersey Legislature, with the result that a commission to study the situation was created, and in both Rhode Island and Virginia bills were presented and discussed. Moreover, this year has seen considerable Federal activity on the subject. Bills providing for an old-age pension in the District of Columbia and for Federal aid to State pension systems have been introduced in Congress, and the House Committee on Labor held a 3-days' hearing in February on the general principles underlying these bills. A questionnaire sent out by 10 members of the House of Representatives showed that of 120 Congressmen replying, 109 were in favor of Federal action of some kind in regard to pensioning the aged.

## New York Old-Age Pension Act

ON APRIL 10, 1930, the New York old-age pension act became a law with the approval of the governor of the State. This brings the total number of States having old-age pension legislation up to eleven (not including Alaska)—California, Colorado, Kentucky, Maryland, Minnesota, Montana, Nevada, New York, Utah, Wisconsin, and Wyoming.

### Analysis of Act

THE ACT is analyzed below, following a method which may be used in comparing the principal features of the law with other laws already enacted.

*Date of approval.*—April 10, 1930; in effect May 1, 1930; applications receivable September 1, 1930; granting of relief to commence January 1, 1931.

*Establishment of relief.*—Old-age relief shall be given by the city and county public welfare districts and by such other cities as may elect to administer old-age relief, subject to partial reimbursement by the State and to supervision by the State department of social welfare.

*To whom applicable.*—Old-age relief shall be given under this article to any person who—

1. Has attained the age of 70 years;
2. Is unable to support himself, either in whole or in part; and has no children or other person able to support him and responsible under the provisions of this chapter for his support;
3. Is a citizen of the United States;
4. Has been a resident of the State of New York for at least 10 years immediately preceding his application for old-age relief;
5. Has resided in and has been an inhabitant of the public welfare district in which the application is made for at least one year immediately preceding the date of application;
6. Is not at the time an inmate of any public or private home for the aged, or any public home, or any public or private institution of a custodial, correctional or curative character, except in the case of temporary medical or surgical care in a hospital;
7. Has not made a voluntary assignment or transfer of property for the purpose of qualifying for such relief; and
8. Is not, because of his physical or mental condition, in need of continued institutional care.

*Nature of relief.*—Public welfare officials are to determine the nature of the relief to be received and the manner of providing it. Medical and surgical care and nursing may be given.

*Application.*—Applicant must apply to the public welfare official of the district in which he resides, who must make an investigation of the circumstances of the applicant.

*Election of relief by city.*—A city forming part of a county public welfare district may, by resolution of its legislative body adopted by majority vote of all of its members, elect to furnish such old-age relief to the persons eligible thereto residing in the city. A copy of such resolution shall be filed, within 10 days after its adoption, with the clerk of the county in which such city is located and with the

State department. Such a resolution shall take effect on the 1st day of September following its adoption and no relief granted pursuant thereto shall begin before the 1st day of January after the resolution takes effect.

*Appropriations.*—The legislative body of such public welfare district must make annual appropriations to provide for old-age relief and administrative expenses. Additional sums may be appropriated in the event that original sum is exhausted. Expenses are to be paid by county or city in the same manner as other expenses are paid.

*Reimbursement by State.*—The State must reimburse the public welfare district for one-half of the amount expended for relief, also for salaries and traveling expenses. Claims for State reimbursement must be presented to the State department of social welfare semiannually, and the approval of such claims must be made by such department.

*Review of relief.*—The public welfare official, upon the completion of each investigation for old-age relief, must make an award, notify the applicant of his decision in writing, and report to the State department of social welfare. If an application is not acted upon within 30 days after the filing or is denied or the grant is deemed inadequate either by the State department or by the applicant, the latter may enter an appeal to the State department. Upon the receipt of an appeal the State department must review the case; it may also make any additional investigation deemed necessary, and all its decisions are binding on the city or county involved.

*Revocation of relief.*—Any person may file a complaint with the State department in writing if any old-age relief is improperly granted or administered. The State department must make an investigation and if relief has been improperly granted must notify the public welfare official, and approval of payments will not be made.

*Reconsideration of relief.*—Relief granted must be reviewed periodically. Public welfare officials are empowered to cancel and revoke relief for cause.

*Reports.*—Reports as to the number of applications granted, changed, revoked, or suspended must be made to the State department of social welfare.

*Administration.*—The administration of the act is under the supervision of the State department of social welfare.

*Assignability of relief.*—Relief granted under the act is not subject to assignment or transfer and is exempt from levy or execution.

*Violations.*—Violations of the act are deemed misdemeanors, except those which are a violation under the penal law of the State in which case violators are to be punished according to the penalties fixed by such law.

# WOMEN IN INDUSTRY

## Legal Limitations on Women's Working Hours in New York State

THE Bureau of Women in Industry of New York State has recently made a study of the working hours of women in that State in which, among other matters, it took up the question of how extensively the hours of women are controlled by law. The results are given in the issue of the Industrial Bulletin for February, 1930. Only three large groups of women, it is pointed out, come under the protection of laws restricting hours of labor. Two of these groups—those employed in factories and in mercantile establishments—may work 48 hours a week, with a limit of 9 hours in any one day, except for an allowance of 78 hours' overtime per annum. The third protected group is composed of restaurant workers, who in first and second class cities are limited to 9 hours a day and 54 hours a week. In addition to these large groups, women employed as elevator operators (with certain exceptions) and on street railways may not be employed more than 9 hours a day and 54 hours a week; those in telegraph and messenger service are limited to 54 hours a week.

The New York policy, it will be seen, is to apply restrictions only to certain specified groups, reversing the policy of, for instance, California and Pennsylvania, where the hours of all women are limited, with the exception of specified groups. As a result of the New York plan, its hour restrictions apply only to a part, approximately one-third, of the working women of the State. The following table shows, by industry, the approximate number of women whose hours are and are not regulated by law:

NUMBER OF WOMEN IN NEW YORK STATE WHOSE HOURS OF LABOR ARE REGULATED AND NUMBER WHOSE HOURS ARE NOT REGULATED

| Industry group | Hours of labor regulated | Hours of labor not regulated | Total |
|---|---|---|---|
| Manufacturing and mechanical industries | 287,472 | 63,632 | 351,104 |
| Clerical occupations | 1,574 | 262,014 | 263,588 |
| Domestic and personal service | 26,276 | 237,192 | 263,468 |
| Professional service | | 126,569 | 126,569 |
| Trade | 48,643 | 37,437 | 86,080 |
| Transportation | | 33,420 | 33,420 |
| Agriculture, forestry, and animal husbandry | | 9,269 | 9,269 |
| Public service (not otherwise classified) | | 1,683 | 1,683 |
| Extraction of minerals | | 114 | 114 |
| Total | 363,965 | 771,330 | 1,135,295 |

These figures are only approximate, partly because the census tables include, in the term "female," girls as well as women, and those under 16 are protected by the hour law, no matter in what occupation they work; and partly because some of the census classifications include

both restricted and unrestricted occupations. Thus, it is not stated whether the milliners and tailoresses enumerated worked in factories, where their hours would be regulated, or in private establishments, where no regulation prevails, and consequently no matter to which group these workers are assigned an error is possible. It is probable, however, that the table represents fairly well the general situation.

Summing up, then, we find that of the nine main occupational groups into which the Census divides all the employed women of the State there is only one in which a large proportion of the women have their working hours regulated by law. Eighty-two per cent of the women in manufacturing and mechanical industries are prohibited from working long hours. In trade a little more than half are under the hour law, in domestic and personal service about a tenth, in clerical occupations one-half of 1 per cent, and in other occupations none.

## Woman and Child Labor in the Philippines, 1928

THE annual report of the Governor General of the Philippine Islands for 1928 shows that in 1928 there were 542 establishments inspected in Manila, which were employing 9,604 women and 1,252 minors under 18, an increase of 97 establishments and 1,536 woman and child workers over those covered by the 1927 inspections. In 1928 in Malabon and Pasay 18 concerns were employing 973 women and children, a decrease of 5 establishments and 89 workers as compared with the preceding year.

The accompanying table shows the distribution of woman and child workers in industrial establishments in Manila inspected in 1928:

DISTRIBUTION OF WOMEN AND MINORS UNDER 18 IN 542 INSPECTED ESTABLISHMENTS IN MANILA, 1928, BY INDUSTRY

| Industry | Number of establishments | Number of women | Number of children under 18 years of age | Total number of women and minors |
|---|---|---|---|---|
| Aerated water | 7 | 34 | | 34 |
| Asbest sheet | 1 | 10 | 3 | 13 |
| Bag repairing | 10 | 107 | 17 | 124 |
| Buttons | 1 | 100 | 17 | 117 |
| Candles | 1 | 3 | | 3 |
| Candy | 9 | 86 | 19 | 105 |
| Cigars and cigarettes | 40 | 5,552 | 927 | 6,479 |
| Desiccated coconut | 1 | 202 | | 202 |
| Dressmaking | 66 | 372 | 32 | 404 |
| Embroidery | 23 | 1,787 | 107 | 1,894 |
| Glass | 1 | 2 | | 2 |
| Hats | 6 | 39 | 7 | 46 |
| Ice cream | 1 | 2 | 6 | 8 |
| Laundry | 3 | 271 | | 271 |
| Matches | 1 | 53 | 8 | 61 |
| Printing | 24 | 84 | 46 | 130 |
| Refreshments | 318 | 132 | | 132 |
| Reiter and Weidermann | 1 | 49 | | 49 |
| Retazo importing | 2 | 15 | | 15 |
| Shirts | 16 | 435 | 36 | 471 |
| Shoes | 3 | 145 | | 145 |
| Spinning (hemp) | 4 | 77 | 16 | 93 |
| Umbrellas | 3 | 47 | 11 | 58 |
| Total | 542 | 9,604 | 1,252 | 10,856 |

According to inspection records, some minor apprentices receive as little as half a peso ($0.25) a week while some minors receive as much as 7 pesos ($3.50) a week.

# INDUSTRIAL ACCIDENTS AND SAFETY

## Accidents in the Electric-Utility Industry, 1923 to 1928

DATA on the accident experience of member companies of the National Electric Light Association are published for the first time in the March, 1930, issue of the bulletin of the association, although such data have been collected for a number of years and disseminated among the members of the accident-prevention committee of the organization. The figures in Table 1 show the fatal and nonfatal accidents, the days lost due to accidents, and the number of employees reported by these firms for the years 1923 to 1928, together with the estimated total number of employees in the industry.

In regard to the accuracy and the comparability of the figures the following statement is made:

> The accuracy of the returns and their use for direct comparisons are subject to some question, but the degree of correction will hardly influence the general conclusions. Average number of employees is not reported on exactly the same basis by all companies, because part-time employees, absences, etc., are differently recorded. Duration of exposure to hazard will vary in proportion to hours worked—different for office and field groups. Office groups, if a larger proportion of the personnel of an individual company, will reduce the average exposure. The personnel of a comany which contracts its construction should sustain less injuries than one which performs the relatively more hazardous construction work. The number of fatalities should contain no inaccuracies. Lost-time accidents, while defined as those which prevent return to next regular shift following that in which the accident occurred, may not be so recorded by a few companies. Days lost in some cases include Sundays and holidays. The majority report absence only on regular working-days. Some companies return injured men to work at the earliest possible moment, even before complete recovery; others will not allow return until recovery is complete beyond any doubt.

TABLE 1.—FATAL AND NONFATAL ACCIDENTS IN THE ELECTRIC-UTILITY INDUSTRY, 1923 TO 1928

| Year | Total number of employees [1] | Employees covered by report | | Fatalities | | Other lost-time accidents | | Days lost (actual absence) | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number | Per cent of total | Number | Per 1,000 employees | Number | Per 100 employees | Number | Per 100 employees |
| 1923 | 176,000 | 88,389 | 50 | 147 | 1.67 | 8,612 | 9.7 | 129,339 | 146 |
| 1924 | 200,000 | 110,953 | 55 | 176 | 1.59 | 11,153 | 10.0 | 160,681 | 145 |
| 1925 | 225,000 | 112,573 | 50 | 203 | 1.80 | 11,055 | 9.0 | 148,631 | 121 |
| 1926 | 250,000 | 181,102 | 72 | 300 | 1.65 | 16,575 | 9.1 | 299,240 | 165 |
| 1927 | 275,000 | 209,673 | 76 | 299 | 1.43 | 17,199 | 8.2 | 297,284 | 142 |
| 1928 | 290,000 | 236,475 | 82 | 335 | 1.41 | 17,343 | [2] 7.5 | 196,047 | [3] 121 |

[1] Estimated by National Electric Light Association.
[2] Based on 231,793 employees.
[3] Based on 162,400 employees.

Table 2 shows the number of lost-time accidents and the number of days lost on account of such accidents per 100 employees; the fatality rate per 1,000 employees; and the accident cost per employee, by size of company and by geographic division, for the year 1928.

In regard to the matter of cost of accidents, it is stated that many items are not recorded or are intangible, and the totals "therefore fall considerably short of the loss sustained by industry, employees, and society." Practically all of the companies employing 1,000 or more workers reported on the question of cost. The average accident cost per employee in this industry for the United States as a whole is given as $22.50.

TABLE 2.—LOST-TIME ACCIDENTS AND DAYS LOST ON ACCOUNT OF ACCIDENTS PER 100 EMPLOYEES, FATALITY RATE PER 1,000 EMPLOYEES, AND ACCIDENT COST PER EMPLOYEE, IN THE ELECTRIC UTILITY INDUSTRY IN 1928, BY SIZE OF COMPANY AND BY GEOGRAPHIC DIVISION

| Item | Lost-time accidents per 100 employees | Days lost per 100 employees on account of accidents [1] | Fatalities per 1,000 employees | Accident cost per employee |
|---|---|---|---|---|
| United States average | 7.51 | 121 | 1.40 | $22.50 |
| *Size of company* | | | | |
| Over 5,000 employees | 7.92 | 79 | .665 | 18.10 |
| 1,001 to 5,000 employees | 6.53 | 109 | 1.67 | 24.50 |
| 201 to 1,000 employees | 7.86 | 147 | 2.00 | 24.91 |
| Under 200 employees | 6.20 | 118 | 1.97 | 22.20 |
| *Geographic division* | | | | |
| New England | 7.03 | 125 | 1.69 | 22.10 |
| Middle Atlantic | 6.65 | 72 | 1.50 | 15.60 |
| Great Lakes | 6.85 | 124 | 1.41 | 26.40 |
| North Central | 6.96 | 110 | 2.42 | 19.30 |
| Eastern | 5.17 | 74 | 1.02 | 18.20 |
| Southeastern | 5.69 | 76 | 2.34 | 17.35 |
| East Central | 9.87 | 138 | 1.40 | 29.50 |
| Middle Western | 9.80 | 151 | 1.45 | 18.55 |
| Northwestern | 6.84 | 112 | 1.03 | 19.50 |
| Rocky Mountain | 14.12 | 125 | .97 | 11.80 |
| Pacific Coast | 14.65 | 205 | 1.04 | 24.40 |
| Southwestern | 7.86 | 175 | 2.49 | 31.90 |

[1] Not weighted for permanent disabilities.

## Metal-Mine Accidents in the United States in 1928

THE death rate from accidents in metal mines in 1928 was lower than ever before and the injury rate "was probably lower than that of any previous year," according to the latest bulletin (No. 320) of the United States Bureau of Mines on metal-mine accidents in the United States, which covers the calendar year 1928. While injury rates lower than the rate for 1928 were indicated by the figures for 1911, 1912, and 1913, it is believed that nonfatal injuries were not so completely reported by all mining companies in the earlier years as they are now.

As compared with 1927, the death rate for 1928 per thousand 300-day workers (2.50) shows a reduction of 19 per cent and the injury rate (205.61) a reduction of 7 per cent. The fatality rate for underground operations shows a reduction of 18 per cent; for open-pit mining, 46 per cent; and for work at surface shops and yards, 6 per cent. The nonfatal injury rate decreased 22 per cent in open-pit

mining and 8 per cent in underground work, but there was an increase of 6 per cent in surface shops and yards.

The actual number of persons killed or injured in metal mines in 1928 was also the lowest on record with the exception of the year 1921, a year, however, in which mining operations were at a very low ebb. In all of the mines covered there were 273 deaths and 22,483 nonfatal lost-time injuries, which included all injuries involving disability beyond the remainder of the day on which the accident occurred. These figures represent a reduction from those for 1927 of 79 in the number of workers killed and of 2,650 in the number injured. There were 6,397 serious nonfatal injuries in 1928, of which 19 resulted in permanent total disability and 550 in permanent partial disability, as compared with 7,101 in 1927, injuries involving a time loss of more than 14 days being regarded as serious. It is estimated that the 22,756 lost-time accidents occurring in 1928 resulted in a time loss of 2,475,012 days, an average of 109 days per accident.

Tabulations in the report giving number of accidents in metal mines, by cause, for the 10-year period 1919 to 1928, inclusive, show that falls of rock or ore from roof or wall were responsible for 84 (45 per cent) of the 186 deaths resulting from underground accidents in 1928 and also for 1,097 (43 per cent) of the 2,554 deaths from such accidents occurring over the 10-year period. The same cause was likewise responsible for the greatest number of nonfatal injuries from underground accidents, 3,767 (21.6 per cent) of the 17,433 nonfatal injuries in 1928 being due to this cause, and 46,789 (21 per cent) of the 222,274 nonfatal injuries taking place underground in the 10-year period.

The total number of men employed in the mines reported on in 1928 was 113,866 as compared with 119,699 in 1927. Although there were fewer men employed in 1928, the average number of days worked per man was 4 more than in 1927, the average being 288 in 1928 and 284 in 1927.

All of the principal classes of mines showed improvement in accident rates in 1928 as compared with 1927. Copper mines reduced their death rate 12 per cent and their injury rate 15 per cent; in iron mines the reduction in the death rate was 12 per cent and in the injury rate, 14 per cent. Lead and zinc mines in the Mississippi Valley States showed a reduction of 39 per cent in the death rate but less than 1 per cent in the injury rate. Gold, silver, and miscellaneous metal mines had reductions of 34 per cent in their fatality rate and 4 per cent in their injury rate. Mines producing salt, phosphate rock, asbestos, and other nonmetallic minerals (except coal) showed a reduction of 3 per cent in the fatality rate and 2 per cent in the injury rate.

These data cover the entire United States and Alaska and with the exceptions mentioned are based on reports received by the Bureau of Mines from 2,842 operators who worked their mines all or a part of the year. Reports for mines in Alaska were furnished by the Territorial mine inspector; for mines in California, by the State industrial commission; and for mines in Arizona and Idaho, by the companies through the offices of the State mine officials. Reports for all States "cover prospects as well as producing and nonproducing mines," and the figures are believed to be reasonably complete for the metal-mining industry.

Table 1 shows employment, number killed and injured, and fatal and nonfatal accident rates in the different types of metal mines and in nonmetallic mineral mines in 1927 and 1928.

TABLE 1.—EMPLOYMENT, NUMBER KILLED AND INJURED, AND FATAL AND NONFATAL ACCIDENT RATES IN DIFFERENT TYPES OF METAL MINES AND IN NONMETALLIC MINERAL MINES, 1927 AND 1928

| Kind of mine and year | Average days worked | Men employed | | Killed | | Injured | |
|---|---|---|---|---|---|---|---|
| | | Actual number | Equivalent number of 300-day workers | Number | Rate per 1,000 300-day workers | Number | Rate per 1,000 300-day workers |
| Copper: | | | | | | | |
| 1927 | 313 | 30,724 | 32,084 | 111 | 3.46 | 8,379 | 261.16 |
| 1928 | 324 | 30,561 | 33,002 | 100 | 3.03 | 7,293 | 220.99 |
| Gold and miscellaneous metal: | | | | | | | |
| 1927 | 287 | 30,461 | 29,174 | 114 | 3.91 | 8,162 | 279.77 |
| 1928 | 289 | 31,622 | 30,441 | 79 | 2.60 | 8,180 | 268.72 |
| Iron: | | | | | | | |
| 1927 | 267 | 33,386 | 29,737 | 73 | 2.45 | 3,409 | 114.64 |
| 1928 | 267 | 29,145 | 25,956 | 56 | 2.16 | 2,547 | 98.13 |
| Lead and zinc (Mississippi Valley): | | | | | | | |
| 1927 | 254 | 12,499 | 10,589 | 28 | 2.64 | 3,152 | 297.67 |
| 1928 | 251 | 10,334 | 8,659 | 14 | 1.62 | 2,560 | 295.65 |
| Nonmetallic mineral: | | | | | | | |
| 1927 | 282 | 12,629 | 11,863 | 26 | 2.19 | 2,031 | 171.20 |
| 1928 | 277 | 12,204 | 11,287 | 24 | 2.13 | 1,903 | 168.60 |
| Total: | | | | | | | |
| 1927 | 284 | 119,699 | 113,447 | 352 | 3.10 | 25,133 | 221.54 |
| 1928 | 288 | 113,866 | 109,345 | 273 | 2.50 | 22,483 | 205.61 |

Fatality and injury rates in metal and nonmetallic mineral mines per million hours of exposure, classified by length of shift and by character of disability and kind of mine, are given in Table 2 for the years 1926, 1927, and 1928.

TABLE 2.—FATALITY AND INJURY RATES IN METAL AND NONMETALLIC MINERAL MINES, PER MILLION HOURS OF EXPOSURE, CLASSIFIED BY LENGTH OF SHIFT, 1926, 1927, AND 1928

[Underground and shaft only]

| Item | 1926 [1] | | | 1927 [1] | | | 1928 [2] | | |
|---|---|---|---|---|---|---|---|---|---|
| | 8 hours | 9 hours | 10 hours | 8 hours | 9 hours | 10 hours | 8 hours | 9 hours | 10 hours |
| *Character of disability* | | | | | | | | | |
| Fatal | 1.932 | 1.100 | 1.476 | 1.741 | 1.164 | 0.733 | 1.402 | 0.284 | 2.013 |
| Permanent total disability | .078 | | | .050 | | | .096 | .284 | |
| Permanent partial disability | 2.009 | 1.650 | 1.230 | 2.205 | 3.025 | 2.811 | 2.660 | .568 | 3.882 |
| Other serious | 33.861 | 34.477 | 22.505 | 31.410 | 25.602 | 24.568 | 30.397 | 19.335 | 26.022 |
| Slight | 86.955 | 104.897 | 48.207 | 79.657 | 91.701 | 46.326 | 82.027 | 70.515 | 50.750 |
| Total injuries | 122.903 | 141.024 | 71.942 | 113.322 | 120.328 | 73.705 | 115.180 | 90.702 | 80.654 |
| Total fatalities and injuries | 124.835 | 142.124 | 73.418 | 115.063 | 121.492 | 74.438 | 116.582 | 90.986 | 82.667 |

[1] Alaska, Utah, and all placer mines omitted.
[2] All placer mines omitted.

TABLE 2.—FATALITY AND INJURY RATES IN METAL AND NONMETALLIC MINERAL MINES, PER MILLION HOURS OF EXPOSURE, CLASSIFIED BY LENGTH OF SHIFT, 1926, 1927, AND 1928—Continued

*Persons killed*

| Item | 1926 | | | 1927 | | | 1928 | | |
|---|---|---|---|---|---|---|---|---|---|
| | 8 hours | 9 hours | 10 hours | 8 hours | 9 hours | 10 hours | 8 hours | 9 hours | 10 hours |
| *Kind of mine* | | | | | | | | | |
| Copper | 1.803 | | | 1.995 | | | 1.765 | | |
| Gold, silver, and miscellaneous metal | 1.575 | 5.768 | | 2.021 | | | 1.307 | 1.812 | 1.996 |
| Iron | 2.826 | | 2.116 | 1.399 | | 0.871 | 1.200 | | 2.543 |
| Lead and zinc (Mississippi Valley) | 1.490 | .826 | | 1.193 | 2.067 | | .806 | | |
| Nonmetallic mineral | 2.159 | .873 | | 1.631 | .671 | .542 | 1.679 | | .614 |
| Total | 1.932 | 1.100 | 1.476 | 1.741 | 1.164 | .733 | 1.402 | .284 | 2.013 |

*Persons injured*

| *Kind of mine* | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Copper | 150.210 | | | 140.877 | | | 120.183 | | |
| Gold, silver, and miscellaneous metal | 122.740 | 95.176 | 39.373 | 116.704 | 88.989 | 46.820 | 144.493 | 50.732 | 99.777 |
| Iron | 78.556 | 25.438 | 77.953 | 63.501 | 59.998 | 73.192 | 52.178 | 194.012 | 76.288 |
| Lead and zinc (Mississippi Valley) | 134.162 | 165.530 | | 131.623 | 163.785 | | 130.073 | 93.343 | |
| Nonmetallic mineral | 81.046 | 141.883 | 62.116 | 68.310 | 90.634 | 84.016 | 83.727 | 81.440 | 80.483 |
| Total | 122.903 | 141.023 | 71.942 | 113.322 | 120.328 | 73.705 | 115.180 | 90.702 | 80.654 |

## Fatalities and Injuries Among Railway Maintenance-of-Way Employees, 1928

THE Brotherhood of Maintenance of Way Employees has recently issued a report on "Deaths and injuries and casualty rates per million man-hours of railway maintenance-of-way employees, 1928." The data presented are based on reports of the Interstate Commerce Commission covering Class I carriers, that is, those with operating revenues of $1,000,000 or more per year. (Class I carriers, according to the report, cover 91 per cent of the total railway mileage of the country and earn about 97 per cent of the total railway revenues.)

Table 1 shows the number of maintenance-of-way employees killed or injured in 1928 and the percentage they formed of the total number of railroad employees killed or injured. The total number of this class of employees killed during the year was 394, or 33.2 per cent of the total number of fatalities among railroad employees, while the number injured was 19,051, or 28.5 per cent of the casualties classed as injuries.

Under the reporting rules of the Interstate Commerce Commission a person who is so seriously injured in an accident as to die within 24 hours after its occurrence is reported as killed, but if he dies after a lapse of 24 hours from the time of the accident the casualty is reportable as an injury. Other reportable injuries are those which incapacitate the employee for more than 3 days in the aggregate during the 10 days immediately following the accident. Those employees whose injuries do not incapacitate them for performing their usual work for more than 3 days during the 10 days immediately following the accident are not included in the number reported as injured.

TABLE 1.—NUMBER OF MAINTENANCE-OF-WAY EMPLOYEES KILLED OR INJURED IN 1928 AND PER CENT THEY FORMED OF ALL RAILROAD EMPLOYEES KILLED OR INJURED

| District | Railroad employees | | | Killed | | | Injured | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total number | Maintenance-of-way employees | | All railroad employees | Maintenance-of-way employees | | All railroad employees | Maintenance-of-way employees | |
| | | Number | Per cent of total | | Number | Per cent of all railroad employees | | Number | Per cent of all railroad employees |
| Eastern | 727,066 | 143,151 | 19.7 | 588 | 196 | 33.3 | 31,039 | 7,003 | 22.6 |
| Western | 638,441 | 175,578 | 27.5 | 412 | 142 | 34.5 | 26,381 | 9,312 | 35.3 |
| Southern | 314,680 | 81,469 | 25.9 | 187 | 56 | 29.9 | 9,324 | 2,736 | 29.3 |
| United States | 1,680,187 | 400,198 | 23.8 | 1,187 | 394 | 33.2 | 66,744 | 19,051 | 28.5 |

Casualty rates of railway employees per 1,000,000 man-hours of exposure in the eastern, southern, and western districts and in the United States as a whole are shown in Table 2 for six main groups of employees. It will be noted that both the fatality and injury rates of the maintenance-of-way and structures group were higher than for any other group except the train and engine crews. The fatality rate for the maintenance-of-way and structures group per 1,000,000 man-hours worked was 0.40 and the injury rate 19.17, which, in the words of the report, "means that for every 2,500,000 man-hours worked there is one employee killed in the maintenance-of-way and structures department. For each 1,000,000 man-hours worked there is a fraction over 19 injuries (19.17 to be exact) in the maintenance-of-way and structures department." The death and injury rates per 1,000,000 man-hours among the employees of this department were also considerably higher than for all railroad employees combined.

TABLE 2.—CASUALTY RATES PER 1,000,000 MAN-HOURS WORKED, 1928

| Group of employees | Eastern district | Southern district | Western district | Total United States |
|---|---|---|---|---|
| Executives, officials, and staff assistants; and professional, clerical, and general: | | | | |
| Killed | 0.04 | 0.01 | 0.05 | 0.04 |
| Injured | 2.31 | 1.10 | 1.81 | 1.91 |
| Maintenance of way and structures: | | | | |
| Killed | .54 | .29 | .32 | .40 |
| Injured | 19.35 | 14.34 | 21.11 | 19.17 |
| Maintenance of equipment and stores: | | | | |
| Killed | .17 | .13 | .12 | .14 |
| Injured | 16.46 | 9.03 | 15.74 | 14.73 |
| Transportation (other than train, engine, and yard): | | | | |
| Killed | .18 | .11 | .16 | .16 |
| Injured | 17.63 | 9.64 | 11.78 | 14.18 |
| Transportation (yardmasters, switch tenders, and hostlers): | | | | |
| Killed | .32 | .29 | .30 | .31 |
| Injured | 12.41 | 8.45 | 16.58 | 12.89 |
| Transportation (train and engine): | | | | |
| Killed | .66 | .68 | .63 | .65 |
| Injured | 28.56 | 26.35 | 26.74 | 27.53 |
| Total employees on duty: | | | | |
| Killed | .32 | .24 | .26 | .28 |
| Injured | 17.09 | 12.09 | 16.45 | 15.93 |

## Effect of Eye Conservation Measures

THE results of an inquiry by the National Society for the Prevention of Blindness and the National Safety Council concerning the known cases of eyes saved in industry are published in the National Safety News, April, 1930. Although much has been said in regard to the number of eyes lost in industry, the cost of industrial eye injuries, and the extent of blindness resulting from the eye hazards in industrial occupations, the report states that this is the first attempt to secure data from any large number of industries regarding the results of their efforts toward eye conservation.

It was decided, on account of the lack of comparable data as to the frequency and severity of eye accidents and also because of the feeling on the part of many persons that savings based on such rates are more or less theoretical, to secure the actual facts as to the number of eyes saved. For this purpose it was assumed that an object which hit a goggle lens with sufficient force to pierce or shatter the lens would certainly have caused complete or nearly complete loss of vision if goggles had not been worn. To test the validity of this assumption the question was submitted to various men responsible for accident prevention in some of the largest industrial organizations in the country, to the headquarters staff of the National Safety Council, and to several opthalmologists and industrial surgeons. All of these men agreed that the assumption was warranted, and several safety engineers pointed out also that "the goggle lens does not have to be broken to indicate that an eye has been saved."

A questionnaire was sent to about 1,800 industrial concerns in industries in which eye accidents are most frequent, namely, metals, chemical, quarrying, automotive, steam railroad, cement, and mining. These firms were asked to give the number of employees in the plant who had had one lens or both lenses in their goggles shattered or pierced by flying metal while in use, one or both lenses spattered with molten metal or injurious chemicals, and one or both lenses pierced or shattered by flying tools or flying objects other than fragments of metal. Returns which were sufficiently complete to be considered in the analysis were secured for the years 1926 and 1927 from 583 plants, employing an aggregate of 578,396 men. In the two years there was a total of 7,411 accidents, in 4,654 cases one lens of the goggles being pierced or shattered and in 2,757 cases both the lenses being damaged. There can be little doubt, the report states, that in each of these 7,411 instances the injury would have led to the complete loss of vision in one or both eyes or to very serious injury of the eyes.

While the use of goggles shows these results in the reduction of eye hazards, it is pointed out that goggles at the best are a handicap and that wherever possible the hazard itself should be eliminated by revising the manufacturing process, redesigning the machine or tool, or by guarding the machine or tool at the point of operation.

The following table shows the number of accidents which would have resulted in serious injury or blindness in 583 plants in 1926 and 1927:

NUMBER OF PERSONS SAVED FROM INJURY TO ONE OR BOTH EYES THROUGH USE OF GOGGLES IN 583 PLANTS IN 1926 AND 1927

| Industry | Number of plants | Number of employees | Goggles shattered or pierced by flying metal | | | | Goggles spattered by molten metal or chemicals | | | | Goggles pierced or shattered by flying tools or objects other than metal | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | One lens | | Both lenses | | One lens | | Both lenses | | One lens | | Both lenses | | One lens | | Both lenses | |
| | | | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 | 1926 | 1927 |
| Steel and other metals | 166 | 109,577 | 527 | 747 | 20 | 57 | 416 | 587 | 268 | 381 | 47 | 70 | 16 | 11 | 990 | 1,404 | 304 | 449 |
| Miscellaneous manufacturing | 149 | 83,864 | 147 | 190 | 5 | 112 | 47 | 78 | 83 | 718 | 18 | 31 | ------ | 1 | 212 | 299 | 88 | 831 |
| Mining, quarrying, and smelting | 42 | 21,617 | 16 | 18 | ------ | ------ | 7 | 11 | 4 | 137 | 9 | 25 | ------ | 1 | 32 | 54 | 4 | 138 |
| Railroads and allied industries | 35 | 191,600 | 204 | 247 | 86 | 81 | 100 | 129 | 169 | 220 | 62 | 77 | 6 | 11 | 366 | 453 | 261 | 312 |
| Lumber, cement, and building materials | 53 | 7,463 | 9 | 18 | ------ | 2 | 8 | 34 | 7 | 48 | 16 | 24 | 1 | 1 | 33 | 76 | 8 | 51 |
| Chemicals and allied industries | 66 | 34,607 | 14 | 20 | ------ | ------ | 93 | 109 | 67 | 71 | 16 | 14 | ------ | 1 | 123 | 143 | 67 | 72 |
| Auto and allied industries | 25 | 52,828 | 32 | 29 | 7 | 29 | 6 | 18 | 4 | 9 | 7 | 18 | 1 | 48 | 45 | 65 | 12 | 86 |
| Paper and allied industries | 7 | 4,421 | 2 | 3 | ------ | 1 | 3 | 4 | 1 | 2 | 6 | 8 | ------ | ------ | 11 | 15 | 1 | 3 |
| Rubber, batteries, and allied industries | 4 | 3,169 | ------ | ------ | ------ | ------ | 5 | 3 | 2 | 2 | ------ | ------ | ------ | ------ | 5 | 3 | 2 | 2 |
| Foundry and machine works | 10 | 1,685 | 12 | 10 | ------ | ------ | ------ | 1 | 2 | 2 | ------ | 1 | ------ | ------ | 12 | 12 | 2 | 2 |
| Paint and oil industries | 8 | 7,896 | 17 | 13 | ------ | ------ | 6 | 4 | 1 | 2 | 3 | 2 | ------ | ------ | 26 | 19 | 1 | 2 |
| Packing andf ood plants | 1 | 8,000 | ------ | 1 | ------ | ------ | ------ | 1 | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 2 | ------ | ------ |
| Locomotive and car building | 6 | 43,667 | 93 | 53 | 6 | 1 | 17 | 18 | 23 | 21 | 31 | 13 | ------ | 3 | 141 | 84 | 29 | 25 |
| Glass and allied industries | 8 | 6,886 | 2 | 6 | 2 | ------ | 3 | 6 | 2 | 1 | 3 | 8 | ------ | ------ | 8 | 20 | 4 | 1 |
| Building and structural industries | 3 | 1,116 | ------ | 1 | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | ------ | 1 | ------ | ------ |
| Total | 583 | 578,396 | 1,075 | 1,356 | 126 | 283 | 711 | 1,003 | 633 | 1,614 | 218 | 291 | 24 | 77 | 2,004 | 2,650 | 783 | 1,974 |

### Cost of Eye Injuries

ALTHOUGH there is little uniformity in workmen's compensation laws regarding the compensation allowed for loss of eyesight, the average seems to be about $1,800 for loss of sight of one eye and $3,500 for loss of both eyes. On this basis the 583 plants covered by this study saved $18,026,700 in the years 1926 and 1927 by saving the 7,411 men and women from the loss of one or both eyes. An estimate of the money savings to the employees based upon an average weekly wage of $30 for the average compensation period amounts to $10,689,030 for the cases which were saved from partial or total blindness. In addition to the direct losses averted through the saving of these eyes, there are various savings in the indirect costs connected with accidents, such as the cost of lost time of the injured employee and the time lost by other employees, foremen, supervisors, etc., who stop work at the time of the accident; the cost of medical care not covered by insurance; injury to machine or tools or spoilage of material; cost of less efficient work of the employee for the time after his return; and the cost of subsequent injuries which occur in consequence of the excitement or weakened morale due to the original accident. Although it is difficult to arrive at a determination of these costs, it is considered that a conservative estimate of the incidental loss to industry would be at least equal to the direct loss, or $18,000,000. Adding to these figures an estimated cost of $800,000 to the Federal and State agencies for rehabilitation, it is found that there was a net saving to employers, employees, and the Nation of more than $46,000,000. In view of the large number of cases in which the lenses of goggles and masks are struck by large pieces of metal and flying objects without being broken, it is felt that the estimated saving based on these accidents is very conservative.

## Minnesota Safety Code Relating to Wrecking of Buildings

UNDER the authority contained in sections 4141, 4146, 4153 and 4160, of the General Statutes of Minnesota, 1923, the Industrial Commission of Minnesota on April 23, 1930, adopted a safety code relating to building-wrecking operations. The provisions of the code are as follows:

1. When wrecking any building, the floors and walls shall not be disturbed until the roof has been removed.
2. Side walls shall not be removed more than one story at a time, after which the floor of that particular story shall be removed.
3. Chutes shall be provided to lower plaster, bricks, and other loose material. Material shall not be allowed to accumulate on floors.
4. Stairways and passageways shall be kept clear of materials at all times.
5. All floor openings shall be provided with substantial railings, or shall be kept securely covered.
6. Adequate scaffolding shall be provided and maintained for use of employees removing walls and partitions.
7. All boards and other loose material shall be kept free of protruding nails.
8. Employees shall not be allowed to stand or work on the top of walls being removed.
9. Employees shall not be allowed to stand or work underneath steam-shovel dippers or other mechanical devices used for carrying or hoisting materials.

## Accidents in the New York Building Construction Industry, 1929

A REPORT on accidents in the building construction industry in New York City in 1929 has just been issued by the Building Trades Employers' Association of New York as its Bulletin No. 9. The data cover the experience of 298 contracting firms which kept a record of their accidents for 1929 and submitted the information to the association.

The figures in Table 1, taken from the report, show the number of employees and lost-time accidents reported by these firms, together with accident frequency and severity rates for 1929, classified in 26 groups. Frequency and severity rates for 1928 have also been given where available. The total number of man-hours worked by the 18,838 employees listed in the table was 39,962,397.

As noted in footnotes to the table, the accident-frequency rate is based on the number of lost-time accidents per 1,000,000 man-hours worked and the severity rate on the number of days lost per 1,000 man-hours worked.

TABLE 1.—AVERAGE NUMBER OF EMPLOYEES, LOST-TIME ACCIDENTS, AND ACCIDENT FREQUENCY AND SEVERITY RATES, OF 298 FIRMS IN THE NEW YORK BUILDING CONSTRUCTION INDUSTRY IN 1929

| Group | Average number of employees | Number of lost-time accidents | | | | Rates | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Death | Disability | | Total cases | 1928 | | 1929 | |
| | | | Permanent | Temporary | | Frequency [1] | Severity [2] | Frequency [1] | Severity [2] |
| Glass Association, The Stained and Leaded | 38 | | | | | | | 0 | 0 |
| Parquet Flooring Association of New York | 252 | | | 3 | 3 | | | 5.26 | 0.14 |
| Mosaic and Terrazzo Employers' Association | 478 | | | 5 | 5 | | | 8.65 | .18 |
| Lighting Fixture Manufacturers' Council | 737 | | 2 | 15 | 17 | | | 9.20 | .68 |
| Rigging Contractors' Association | 74 | | | 2 | 2 | | | 12.12 | 1.30 |
| Refrigerator Manufacturers' Association | 43 | | | 1 | 1 | | | 13.17 | .55 |
| Marble Industry Employers' Association | 1,153 | | | 49 | 49 | 21.31 | 9.85 | 20.02 | .30 |
| Painters and Decorators, Association of Master | 413 | | 1 | 17 | 18 | 22.84 | 8.36 | 21.51 | 1.23 |
| Heating and Piping Contractors | 676 | | 2 | 32 | 34 | 27.25 | .40 | 22.88 | .58 |
| Plumbing and Piping Contractors' Association | 1,639 | | 5 | 88 | 93 | 48.58 | .49 | 24.53 | .56 |
| Kitchen Equipment Industry | 115 | | | 7 | 7 | | | 26.60 | .07 |
| Cut Stone Contractors' Association | 473 | | 1 | 28 | 29 | 20.26 | .26 | 30.03 | 1.09 |
| Stone Setters' Association, Contracting | 180 | | | 12 | 12 | | | 31.57 | .60 |
| Glass Dealers' Association, The Window and Plate | 42 | | 1 | 2 | 3 | | | 32.29 | .79 |
| Tile Contractor's Association | 169 | | | 13 | 13 | | | 34.43 | .38 |
| Metal Door and Window Association | 110 | | | 8 | 8 | 28.78 | .58 | 35.19 | .32 |
| Metallic Furring and Lathing Association | 304 | | | 24 | 24 | 21.05 | .10 | 35.75 | .18 |
| Allied Building Metal Industries | 1,593 | | 5 | 125 | 130 | 56.06 | 3.65 | 35.78 | .77 |
| Plasterers' Association, Employing | 655 | 1 | | 48 | 49 | 27.04 | 10.94 | 35.83 | 5.00 |
| Composition Roofers and Waterproofers | 351 | | | 28 | 28 | 36.18 | .88 | 37.69 | .57 |
| Roofers and Sheet Metal Workers | 419 | | 1 | 33 | 34 | 13.70 | 5.75 | 37.78 | .90 |
| Carpenters' Association, Master | 426 | 1 | 1 | 33 | 35 | 34.88 | 1.17 | 38.03 | 7.16 |
| Individual members | 590 | | 5 | 55 | 60 | 29.93 | 3.51 | 43.48 | 3.68 |
| Elevator Manufacturers' Association | 1,317 | 4 | 4 | 187 | 195 | 70.80 | 13.44 | 55.07 | 7.83 |
| General contractors | 5,616 | 5 | 29 | 618 | 652 | 59.66 | 6.22 | 59.63 | 5.17 |
| Cement Workers, Masters' League of | 975 | 3 | 3 | 186 | 192 | 131.92 | 9.33 | 102.79 | 13.24 |
| Total | 18,838 | 14 | 60 | 1,619 | 1,693 | 49.67 | 5.74 | 42.36 | 3.49 |

[1] Based on number of lost-time accidents, per 1,000,000 man-hours worked.
[2] Based on number of days lost, per 1,000 man-hours worked.

The report points out that changes in rates from 1928 to 1929 can not be measured satisfactorily by the figures given in Table 1, as the firms covered were not identical for the two years. Therefore a second tabulation was made which gives the experience of identical firms reporting for both 1928 and 1929, so that any change in rate shown for 1929 is "substantially a correct indication of the results of accident-prevention effort." Table 2, which follows, presents data taken from this second tabulation. The figures show that the frequency rate decreased from 51.56 in 1928 to 49.71 in 1929 and the severity rate from 6.38 to 4.78.

TABLE 2.—AVERAGE NUMBER OF EMPLOYEES, LOST-TIME ACCIDENTS, AND ACCIDENT FREQUENCY AND SEVERITY RATES, OF 156 IDENTICAL FIRMS IN THE NEW YORK BUILDING CONSTRUCTION INDUSTRY REPORTING FOR 1928 AND 1929

| Group | Average number of employees | Number of lost-time accidents | | | | Rates | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Death | Disability | | Total cases | 1928 | | 1929 | |
| | | | Permanent | Temporary | | Frequency [1] | Severity [2] | Frequency [1] | Severity [2] |
| Heating and Piping Contractors | 430 | ..... | 1 | 17 | 18 | 23.03 | 0.27 | 19.23 | 0.33 |
| Plumbing and Piping Contractors | 1,142 | ..... | ..... | 49 | 49 | 41.97 | .47 | 19.55 | .30 |
| Marble Industry Employers' Association | 1,013 | ..... | ..... | 49 | 49 | 20.67 | 11.24 | 22.88 | .35 |
| Metallic Furring and Lathing Association | 150 | ..... | ..... | 9 | 9 | 21.05 | .10 | 27.47 | .05 |
| Cut Stone Contractors' Association | 260 | ..... | ..... | 16 | 16 | 20.26 | .26 | 30.41 | 1.27 |
| Painters and Decorators, Association of Master | 227 | ..... | 1 | 13 | 14 | 30.52 | 15.06 | 32.03 | 1.99 |
| Plasterers' Association, Employing | 515 | ..... | ..... | 35 | 35 | 29.68 | 12.01 | 33.92 | .44 |
| Allied Building Metal Industries | 1,070 | ..... | 1 | 81 | 82 | 58.26 | 4.43 | 34.00 | .47 |
| Metal Door and Window Association | 110 | ..... | ..... | 8 | 8 | 28.41 | .21 | 35.19 | .32 |
| Roofers and Sheet Metal Workers | 295 | ..... | 1 | 23 | 24 | 15.50 | 8.07 | 38.49 | 1.12 |
| Individual members | 546 | ..... | 5 | 51 | 56 | 26.42 | 1.48 | 43.78 | 3.96 |
| Composition Roofers and Waterproofers | 118 | ..... | ..... | 12 | 12 | 32.43 | .98 | 46.49 | .77 |
| Carpenters' Association, Master | 232 | 1 | 1 | 22 | 24 | 41.55 | 1.13 | 48.89 | 13.29 |
| Elevator Manufacturers' Association | 1,068 | 4 | 4 | 156 | 164 | 73.72 | 14.19 | 54.79 | 8.95 |
| General Contractors | 4,268 | 5 | 27 | 506 | 538 | 60.17 | 6.61 | 67.33 | 6.87 |
| Cement Workers, Masters' League of | 910 | 3 | 3 | 184 | 190 | 134.04 | 9.48 | 109.71 | 14.24 |
| Total, 1929 | 12,354 | 13 | 44 | 1,231 | 1,288 | ..... | ..... | 49.71 | 4.78 |
| Total, 1928 | 13,652 | 21 | 60 | 1,322 | 1,403 | ..... | ..... | 51.56 | 6.38 |
| Total, both years | 26,006 | 34 | 104 | 2,553 | 2,691 | ..... | ..... | 50.65 | 5.60 |

[1] Based on number of lost-time accidents, per 1,000,000 man-hours worked.
[2] Based on number of days lost per 1,000 man-hours worked.

The report states that 119 firms in 22 different groups, with 2,336 employees who worked 4,720,217 man-hours, completed the year 1929 without a lost-time accident. Thirty-three of the 156 identical firms reporting for the years 1928 and 1929 completed both years without a lost-time accident, the number of employees represented being 1,205, and the number of man-hours worked, 2,337,819.

Table 3 shows, by cause, the frequency and severity of the accidents reported to the Building Trades Employers' Association of New York for 1929.

TABLE 3.—FREQUENCY AND SEVERITY OF ACCIDENTS IN THE NEW YORK BUILDING CONSTRUCTION INDUSTRY, BY CAUSE, IN 1929

| Cause of injury | Frequency | | Severity | |
|---|---|---|---|---|
| | Number of accidents | Per cent | Number of days lost | Per cent |
| Handling objects | 448 | 26.46 | 14,827 | 10.61 |
| Stepping on or striking against objects | 325 | 19.20 | 3,044 | 2.18 |
| Falls of persons | 323 | 19.08 | 52,211 | 37.36 |
| Falling objects | 285 | 16.83 | 37,399 | 26.76 |
| Machinery | 96 | 5.67 | 27,123 | 19.41 |
| Miscellaneous | 87 | 5.14 | 1,173 | .84 |
| Hand tools | 85 | 5.02 | 3,499 | 2.50 |
| Explosives | 30 | 1.77 | 411 | .29 |
| Poisons | 14 | .83 | 74 | .05 |
| Total | 1,693 | 100.00 | 139,761 | 100.00 |

## Industrial Accidents in France in 1928

THE number of industrial accidents occurring in France in 1928 has been reported [1] recently by the Ministry of Labor. The figures cover all industries (except railroads and mines) which are required by law to report accidents entailing disability of more than four days. The figures given in the following table relate only to the number of accidents and do not show the total number of employees nor the exposure in man-hours.

TABLE 1.—NUMBER OF INDUSTRIAL ACCIDENTS LASTING MORE THAN FOUR DAYS IN 1928

| Industry | Number of cases of— | | | | Total |
|---|---|---|---|---|---|
| | Death | Permanent disability | Temporary disability lasting more than 4 days | Results unknown | |
| Fishing | | | 164 | | 164 |
| Forestry, agriculture | 276 | 725 | 40,161 | 333 | 41,495 |
| Extractive | 9 | 20 | 1,349 | 2 | 1,380 |
| Food | 68 | 307 | 42,526 | 236 | 43,137 |
| Chemical | 90 | 252 | 47,075 | 149 | 47,566 |
| Rubber, paper, pasteboard | 26 | 241 | 16,506 | 66 | 16,839 |
| Book | | 73 | 7,243 | 104 | 7,420 |
| Textile manufacturing | 56 | 661 | 57,589 | 181 | 58,487 |
| Clothing | 4 | 59 | 8,661 | 329 | 9,053 |
| Straw, feather, horsehair | | 6 | 958 | 4 | 968 |
| Hides and skins | 14 | 113 | 13,827 | 91 | 14,045 |
| Woodworking | 79 | 1,111 | 52,601 | 301 | 54,092 |
| Smelting and refining | 145 | 371 | 55,638 | 510 | 56,664 |
| Metal manufacturing (ordinary metals) | 222 | 2,134 | 273,614 | 2,156 | 278,126 |
| Metal manufacturing (fine metals) | 3 | 14 | 1,310 | 9 | 1,336 |
| Cutting precious stones | | | 143 | | 143 |
| Stone cutting and grinding | 8 | 21 | 4,225 | 16 | 4,270 |
| Earthwork, stone construction | 568 | 708 | 136,557 | 935 | 138,768 |
| Stone and tile work | 46 | 172 | 29,795 | 75 | 30,088 |
| Warehousing | 36 | 180 | 33,942 | 215 | 34,373 |
| Transportation | 391 | 421 | 71,922 | 443 | 73,177 |
| Commerce | 154 | 306 | 67,945 | 610 | 69,015 |
| Foreign commerce, theaters, agencies, etc | 4 | 7 | 999 | 11 | 1,021 |
| Banks, insurance, etc | 7 | 9 | 967 | 114 | 1,097 |
| Liberal professions | 6 | 6 | 1,702 | 23 | 1,737 |
| Personal service, domestic service | 52 | 129 | 11,757 | 133 | 12,071 |
| Service of the State, departments, and communes | 66 | 100 | 14,549 | 128 | 14,843 |
| Total | 2,330 | 8,146 | 993,725 | 7,174 | 1,011,375 |

[1] Bulletin du Ministère du Travail et de l'Hygiène, Paris, October–November–December, 1929, pp. 388–390.

The following table shows the number of accidents of different degrees of severity, grouped according to age and sex:

TABLE 2.—NUMBER OF INDUSTRIAL ACCIDENTS IN 1928, BY RESULT, AGE, AND SEX

| Accidents resulting in— | Young persons under 18 years of age | | Women | Men | Total |
|---|---|---|---|---|---|
| | Boys | Girls | | | |
| Death | 104 | 19 | 127 | 2,080 | 2,330 |
| Permanent disability | 611 | 139 | 1,022 | 6,374 | 8,146 |
| Temporary disability lasting more than 4 days | 67,735 | 16,463 | 81,846 | 827,681 | 993,725 |
| Results unknown | 480 | 169 | 731 | 5,794 | 7,174 |
| Total | 68,930 | 16,790 | 83,726 | 841,929 | 1,011,375 |

# WORKMEN'S COMPENSATION

## Wisconsin Report on Workmen's Compensation

BULLETIN No. 21 of Wisconsin Labor Statistics, published by the Industrial Commission of Wisconsin, presents an analysis of benefits paid in the 21,818 compensation cases settled during the calendar year 1928, and the duration of temporary disability cases. A summary of the benefits paid, by extent of disability, with average cost per case based on number of cases compensated in each class, is shown in Table 1.

TABLE 1.—AGGREGATE AMOUNT OF BENEFITS PAID IN COMPENSATION CASES IN WISCONSIN IN 1928, AND AVERAGE COST PER CASE, BY EXTENT OF DISABILITY

| Extent of disability | Total number of cases | Compensation cases | | | Medical aid benefits [1] | | | Total benefits paid [1] |
|---|---|---|---|---|---|---|---|---|
| | | Number | Amount paid | Average per case | Number of cases | Amount paid | Average per case | |
| Fatal | 229 | 202 | $877,258 | $4,343 | 100 | $22,110 | $221 | [2] $899,368 |
| Permanent total disability | 3 | 3 | 24,397 | 8,132 | 3 | 1,703 | 568 | 26,100 |
| Permanent partial disability: | | | | | | | | |
| Scheduled injuries | 835 | 835 | 667,026 | 799 | 759 | 99,996 | 132 | 767,022 |
| Relative [3] | 1,112 | 1,112 | 1,165,409 | 1,048 | 988 | 231,741 | 235 | 1,397,150 |
| Temporary disability | 19,639 | 19,639 | 1,151,760 | 59 | 17,584 | 751,278 | 43 | 1,903,038 |
| All cases | 21,818 | 21,791 | 3,885,850 | 178 | 19,434 | 1,106,828 | 57 | [2] 4,992,678 |

[1] Contract medical aid not included.
[2] Not including $43,921 paid as funeral benefits, an average of $192 per case.
[3] Involves loss of use, but no amputation.

Two-thirds of the deceased workers were heads of families, and over one-half of the remainder had dependents. The benefits paid in fatal cases in which there were wholly dependent survivors averaged as follows:

| | |
|---|---|
| Compensation and death benefits | $5,308 |
| Medical aid | 174 |
| Funeral expenses | 194 |
| Total per case | 5,676 |

Under the Wisconsin act no compensation is paid in cases of temporary disability lasting seven days or less, except when the period of disability exceeds three weeks. Compensable temporary disability injuries averaged 24.6 days' time loss per case settled during 1928, as against 24.5 for 1927 and 24.8 over the period 1915 to 1928.

Bulletin No. 22, issued by the industrial commission, contains an analysis, by industry, of the compensation cases settled during 1928 as compared with the former years, with weighted time losses and

costs for 1928. The distribution of compensation cases, by industrial group, for selected years, 1922 to 1928, is shown in Table 2.

TABLE 2.—COMPENSATION CASES SETTLED IN WISCONSIN, 1922, 1923, 1926, 1927, AND 1928, BY INDUSTRIAL GROUPS, AND BENEFITS PAID IN 1928

| Industrial group | Number of compensation cases settled | | | | | Benefits paid in 1928 | |
|---|---|---|---|---|---|---|---|
| | 1922 | 1923 | 1926 | 1927 | 1928 | Compensation | Medical aid (fee cases) |
| Farming | 271 | 275 | 392 | 375 | 413 | $74,127 | $20,569 |
| Mining | 83 | 188 | 200 | 147 | 81 | 44,559 | 3,901 |
| Quarrying | 198 | 250 | 286 | 290 | 346 | 89,457 | 16,534 |
| Chemicals | 212 | 263 | 144 | 144 | 132 | 41,265 | 7,235 |
| Clay, glass, and stone products | 170 | 233 | 269 | 229 | 240 | 55,022 | 10,390 |
| Food, beverages, and tobacco | 1,144 | 1,256 | 1,393 | 1,210 | 1,251 | 175,563 | 61,341 |
| Leather and leather products | 420 | 580 | 373 | 337 | 328 | 51,169 | 15,236 |
| Lumber and lumber products | 2,865 | 3,252 | 3,537 | 3,046 | 3,154 | 413,538 | 160,387 |
| Metals and metal products | 1,600 | 2,372 | 2,572 | 2,175 | 2,302 | 368,180 | 117,277 |
| Machinery manufacturing | 1,257 | 1,992 | 2,209 | 1,769 | 1,868 | 254,222 | 65,129 |
| Paper and paper products | 1,084 | 1,245 | 982 | 925 | 786 | 136,172 | 41,213 |
| Rubber and rubber products | 130 | 211 | 179 | 163 | 162 | 30,860 | 10,948 |
| Textiles | 216 | 296 | 271 | 240 | 215 | 33,141 | 12,284 |
| Vehicles, automobiles | 704 | 983 | 1,085 | 946 | 981 | 151,146 | 24,703 |
| Cleaning, dyeing | 81 | 60 | 58 | 90 | 87 | 24,001 | 9,579 |
| Printing and publishing | 124 | 116 | 137 | 107 | 124 | 17,022 | 6,770 |
| Construction | 2,517 | 2,993 | 3,650 | 3,716 | 4,271 | 897,557 | 261,179 |
| Trade | 1,176 | 1,507 | 1,616 | 1,527 | 1,768 | 291,050 | 78,903 |
| Personal and professional service | 627 | 748 | 912 | 999 | 1,207 | 273,698 | 78,581 |
| Public utilities and transportation | 1,813 | 2,104 | 1,890 | 2,035 | 2,100 | 463,404 | 104,625 |
| Miscellaneous, not classified | 13 | 17 | 22 | 3 | 2 | 697 | 44 |
| All industries | 16,705 | 20,941 | 22,177 | 20,473 | 21,818 | 3,885,850 | 1,106,828 |

While the lumber and lumber products group was responsible in 1922 for the highest percentage of all injuries (17.1 per cent) this declined to 14.4 per cent in 1928. This group was surpassed by the construction industry, which in 1928 was accountable for nearly one-fifth of all compensation cases, one-fourth of all deaths and permanent total disability cases, and between one-fourth and one-fifth of all compensation costs.

Bulletin No. 24 is devoted to occupational diseases and other occupational disabilities of a nonaccidental origin, these being covered by the workmen's compensation act of Wisconsin in the same manner as injuries from accidents. Detailed tables summarize the number of compensable cases, yearly from 1920 to 1929, by extent of disability and cause, showing time lost and the amount of compensation and medical fees paid.

Other tables cover the compensable cases of occupational disease settled in the calendar year 1929, classified by place of occurrence, by industry, and by cause of injury. A summary of the latter is presented in Table 3.

TABLE 3.—COMPENSABLE OCCUPATIONAL DISEASE CASES SETTLED IN WISCONSIN IN 1929, BY CAUSE OF INJURY

| Cause of injury— | Number of cases | | | | Amount of compensation paid | Medical aid (fee cases) | |
|---|---|---|---|---|---|---|---|
| | Fatal | Permanent partial disability | Temporary disability | Total | | Number of cases | Total amount |
| Metallic poisons | | | 33 | 33 | $4,529 | 32 | $2,931 |
| Toxic gases | 1 | | 39 | 40 | 7,895 | 36 | 2,131 |
| Toxic fluids | | | 108 | 108 | 7,523 | 95 | 4,515 |
| Irritant dust and fibers | 4 | | 42 | 46 | 31,847 | 44 | 2,343 |
| Germs | 5 | | 30 | 35 | 32,015 | 31 | 4,669 |
| Miscellaneous irritants | | | 55 | 55 | 2,009 | 51 | 1,838 |
| Air compression | | 1 | 15 | 16 | 1,195 | 16 | 1,024 |
| Extremes of humidity | | | 5 | 5 | 390 | 3 | 85 |
| Extremes of temperature | | | 27 | 27 | 1,757 | 26 | 1,216 |
| Excessive light | | | 4 | 4 | 224 | 4 | 123 |
| Abnormal positions of the body | | | 3 | 3 | 34 | 3 | 94 |
| Conditions causing inflammation of joints, tendons and muscles | | 1 | 36 | 37 | 2,495 | 27 | 1,223 |
| Causing other systematic disorders | | | 1 | 1 | 3 | 1 | 7 |
| Occupational diseases or hazards not otherwise classified | 1 | 1 | 2 | 4 | 5,948 | 4 | 522 |
| All occupational diseases | 11 | 3 | 400 | 414 | 97,864 | 373 | 22,721 |

## Reciprocal Workmen's Compensation Agreement between Argentina and Great Britain [1]

ON NOVEMBER 15, 1929, Argentina and Great Britain signed a convention providing for the reciprocal treatment of their nationals as regards workmen's compensation for industrial accidents.

This agreement provides that citizens of one of the contracting countries suffering from an industrial accident in the other country shall have the same right to compensation which each country concedes to its nationals. This principle applies even though the injured worker or his heirs may have left the country in which the accident took place.

## Belgian Law on Compensation for Accidents to Seamen [2]

A LAW passed in Belgium December 30, 1929, establishing compensation for accidents occurring to seamen and fishermen in the course of their duties either at sea or on shore, becomes effective July 1, 1930. The compensation applies also to sickness which is the direct result of an accident for which compensation is paid under the present law.

The law covers all seamen and other persons who sign a labor contract with the shipowner, even though they do not go to sea, as well as shipowners sailing their own vessels either alone or with a crew. The law includes as fishermen all persons employed upon fishing boats, whether sailboats or boats mechanically propelled. Injured seamen will receive their entire wages under the conditions and within the

[1] Revista de Ciencias Economicas, Buenos Aires, December, 1929, and Pan American Union Bulletin May, 1930.

[2] Belgium. Ministère de l'Industrie, du Travail et de la Prévoyance sociale. Revue du Travail, Feb. 28, 1930, pp. 378–390.

limits prescribed by the maritime contract, but as soon as these provisions cease to be effective compensation will be paid as follows: For temporary total disability, 50 per cent of the daily wages or average daily earnings; but if the temporary incapacity is or becomes partial the compensation is reduced so that it is equal to 50 per cent of the wage loss. If there is total incapacity for work after 28 days the compensation is raised to two-thirds of the average daily salary and if the incapacity is or becomes permanent an annual allowance is made based upon the degree of incapacity.

In case of serious injury necessitating care by another person the allowance may be increased, but not to exceed 80 per cent of the wages. The law provides also for medical, surgical, and hospital care and for the provision of medicines and necessary orthopedic and curative appliances. In case of death an allowance of 750 francs is made for funeral expenses and a pension is paid to the various dependents, the amount being based upon their degree of relationship to the victim of the accident.

The law provides for the establishment of a fund among the shipowners for their mutual insurance against accidents. Affiliation with the fund is compulsory among all members of the merchant marine, the amount of the annual premium of each employer depending upon the number of employees. The fund is administered under the direction of the ministry of marine. A separate fund is established to cover the risks among fishermen, which is maintained by fees of the employer members and is also under governmental supervision.

# LABOR LAWS AND COURT DECISIONS

## Insolvency Held Sufficient Cause for Nonpayment of Seamen's Wages

THE United States Supreme Court recently affirmed the opinion of the United States Circuit Court of Appeals for the Fourth Circuit in a decision holding that the insolvency of the owner and arrest of the vessel was sufficient cause for nonpayment of seamen's wages and would avoid liability for double wages for waiting time. (Collie et al. *v.* Fergusson et al., 50 Sup. Ct. 189.)

From the facts in the case it appears that the *Dola Lawson*, a power boat licensed for coastwise trade, and Fergusson, her owner, were libeled for repairs and materials supplied to the vessel. The vessel was sold by order of the court and the proceeds, insufficient to satisfy the claims allowed, were paid into the registry of the court to the credit of the cause.

The employment of two of the seamen was terminated by the seizure of the vessel. They filed claims for their wages and claimed double wages for waiting time under section 4529 of the Revised Statutes (46 U. S. C. A., sec. 596), which provides in part as follows:

> The master or owner of any vessel making coasting voyages shall pay to every seaman his wages within two days after the termination of the agreement under which he was shipped, or at the time such seaman is discharged, whichever first happens. * * * Every master or owner who refuses or neglects to make payment in the manner hereinbefore mentioned without sufficient cause shall pay to the seaman a sum equal to two days' pay for each and every day during which payment is delayed, * * * which sum shall be recoverable as wages in any claim made before the court.

The district court of eastern Virginia denied the petition of the seamen for double wages for waiting time, but allowed payment of the wages due, with interest, as prior liens. The seamen carried the case first to the United States Circuit Court of Appeals, which affirmed the decree of the lower court, and then to the Supreme Court of the United States. They contended that a claim for double wages, when valid, is by the terms of the statute "recoverable as wages." They argued that the statutory allowance was compensatory, that it accrued upon the mere delay in payment of wages, and should be included in the liens for wages.

Mr. Justice Stone in delivering the opinion of the court said the statute must be determined in the light of the purpose of the act, also that the phrase "without sufficient cause" must be taken to embrace something more than a valid defense to the claim for wages, for otherwise it would have added nothing to the statute.

He concluded the opinion by saying, in part, as follows:

> The words "refuses or neglects to make payment * * * without sufficient cause" connote, either conduct which is in some sense arbitrary or willful, or at least a failure not attributable to impossibility of payment. We think the use

of this language indicates a purpose to protect seamen from delayed payments of wages by the imposition of a liability which is not exclusively compensatory, but designed to prevent, by its coercive effect, arbitrary refusals to pay wages, and to induce prompt payment when payment is possible. Hence we conclude that the liability is not imposed regardless of the fault of the master or owner, or his retention of any interest in the vessel from which payment could be made. It can afford no such protection and exert no effective coercive force where delay in payment, as here, is due to the insolvency of the owner and the arrest of the vessel, subject to accrued claims beyond its value. Together these obstacles to payment of wages must be taken to be a sufficient cause to relieve from the statutory liability.

The decree of the lower court was therefore affirmed.

## Merchant Marine Act Exclusive and Supersedes State Statute

THE United States Supreme Court recently affirmed a decree of the United States Circuit Court of Appeals for the Fourth Circuit and held that an act giving a right of action at law for a seaman's injuries or death is exclusive and supersedes all State statutes dealing with the subject. The court also brought out the fact that a statutory right of action for injuries to seamen may be enforced in admiralty courts or in actions in personam in the law courts. (Lindgren *v.* United States et al., 50 Sup. Ct. 207.)

In 1926, one Barford was a seaman employed as third mate on a merchant vessel owned by the United States, lying in a floating drydock at the port of Norfolk, Va. While working in a lifeboat swinging on the vessel's davits, he was thrown to the dock by the sudden release of one end of the lifeboat and instantly killed. An action was brought by the administrator of the estate of Barford in the United States District Court for Eastern Virginia. This court found that Barford's death was caused by the unseaworthy device used in the lifeboat, and held that—

Although the administrator could not recover under the merchant marine act, applying the rule under the Federal employers' liability act, since the surviving nephew and niece were not dependent, he was entitled to recover under the Virginia death statute [Code of Virginia, sec. 5786] which provided that a personal representative might maintain a suit for damages on account of the death of a person caused by the wrongful act of another—under which dependency was not a necessary condition and the probable earnings of the decedent might be shown; and fixed the damages under this statute at $5,000, for which the administrator was given a decree against the United States.

On appeal the circuit court of appeals denied the right of action of the personal representative and held that the merchant marine act was exclusive and superseded the Virginia statute. The case was then carried by the administrator to the United States Supreme Court.

The United States Supreme Court, speaking through Mr. Justice Sanford, pointed out the modifications in the maritime law by the merchant marine act which gave to personal representatives of seamen, whose death had resulted from personal injuries, the right to maintain an action for damages in accordance with the provisions of the Federal employers' liability act. After citing cases to show the development of the courts' interpretation of the act, the court said in part as follows:

We conclude that the merchant marine act—adopted by Congress in the exercise of its paramount authority in reference to the maritime law and incorporating

in that law the provisions of the Federal employers' liability act—establishes as a modification of the prior maritime law a rule of general application in reference to the liability of the owners of vessels for injuries to seamen extending territorially as far as Congress can make it go; that this operates uniformly within all of the States and is as comprehensive of those instances in which by reference to the Federal employers' liability act it excludes liability, as of those in which liability is imposed; and that, as it covers the entire field of liability for injuries to seamen, it is paramount and exclusive, and supersedes the operation of all State statutes dealing with that subject.

It results that in the present case no resort can be had to the Virginia death statute, either to create a right of action not given by the merchant marine act, or to establish a measure of damages not provided by that act.

The decree of the circuit court was affirmed.

## Violation of Safety-Appliance Statute Bars Assumption-of-Risk Defense

ACCORDING to a recent decision of the Supreme Court of Minnesota, an employer who has violated a statutory requirement regarding safety appliances can not defend an action for injury to an employee's health on the ground that the employee had assumed the risk. (Suess *v.* Arrowhead Steel Products Co., 230 N. W. 125.)

Henry B. Suess brought an action in the district court of Hennepin County against the Arrowhead Steel Products Co. to recover damages for injury to his health, alleging that during his six years' employment by the company it had failed to provide an adequate ventilation system as required by a statute (sec. 4174, G. S. 1923) of the State and as a result thereof he had contracted tuberculosis, a disease which does not come under the Minnesota workmen's compensation act. The act (sec. 4174) provides that—

> In every place of employment the employer shall provide in each workroom thereof proper and sufficient means of ventilation, and shall maintain proper and sufficient ventilation. If excessive smoke, steam, gas, fumes, vapors, dust, or other impurities are created or generated by the manufacturing process or handicraft carried on therein, in sufficient quantities to obstruct the vision, or to be irritating, obnoxious, or injurious to the health or safety of the employees therein, the rooms shall be ventilated in such manner as to remove them or render them harmless, so far as is practicable.

The employee's contention was that metallic dust, poisonous vapors, and gases were constantly generated in the factory, and as a result he contracted the disease, and since the company had notice and knowledge of the condition and failed to remedy it, it was liable under the statute.

The company, on the other hand, contended that Suess had assumed the risk and as superintendent and inspector of the factory had full knowledge of the condition and thus assumed the risk incident to the employment. A judgment was given in the lower court to the company and upon an order denying the motion of Suess for a new trial, the case was appealed to the Supreme Court of Minnesota, which court reviewed the facts in the case, saying in part as follows:

> The doctrine of assumption of risk is not favored, and should be limited rather than extended. The latest Minnesota decision called to our attention, where the doctrine was held to apply in cases based on the violation of a statute requiring an employer to provide safety appliances or safe instrumentalities or places of work for the protection of his employees, is the Glockner case, decided more than

20 years ago. Since then there have been many marked changes in industrial relations between employers and employees and in legislation governing such relations. The first workmen's compensation act was passed in 1913 and abolished the defense of assumption of risk in all workmen's compensation cases based on the failure of the employer to provide and maintain safe premises and suitable appliances for employees. In 1915 the act governing liability of common carriers operating steam railways in this State, for death or injury to employees, was passed. That act, in harmony with the Federal law, abolished the defense of assumption of risk in any case where the violation by the employer of any statute enacted for the safety of employees contributed to the injury or death of such employee. In addition to these acts, there has been a rapid growth and extension of laws providing for the safety and protection of employees in industrial plants and other occupations. The public policy of the State, as gathered from legislation enacted during the last 20 years and more, is to make the employer liable for injury to an employee, caused by the violation by the employer of a statute requiring him to provide and maintain safe premises and appliances for the protection of his employees, and that the defense of assumption of risk should not apply in such cases. This conclusion is in harmony with the line of decisions in this State that a violation of a statute, resulting in injury to one for whose benefit the statute was enacted, is negligence per se, or, as stated in some cases, that the question of negligence is not involved—that, if a violation of the statute is the proximate cause of injury to one for whose benefit the statute was enacted, liability follows, irrespective of any question of negligence in the ordinary sense of that word. [Cases cited.]

The decision of the lower court was reversed and a new trial granted.

## Age Discrimination Barred in Public Employment in New Jersey

THE State of New Jersey recently enacted a law (Acts of 1930, ch. 104) permanently barring any discrimination against persons of the age of 40 years or over applying for employment in the service of the State or any county or municipality. The purpose of the act is to remove discrimination in the employment of persons beyond a certain age, to place opportunity for employment on an even basis, and to bar discriminations now existing. The act does not apply to police and fire departments of any county or municipality or to guards employed in any penal institution of the State, county, or municipality.

The act further provides that any person of the age of 40 years or over accepting any employment in the State, county, or municipality shall not be eligible to join any pension fund maintained by such public body.

## Chinese Factory Law of 1929

THE Chinese factory law passed by the Legislative Yuan on December 21, 1929, and promulgated by the National Government of the Republic on December 30, 1929, prohibits labor by children under 14 years of age and woman and child labor in dangerous or improper employment or during specified hours at night or in the early morning. The new legislation also establishes an 8-hour day for adults and provides for rest periods and holidays, minimum wages based upon local standards of living, equal pay for men and women for equal work, regulations regarding the termination of contracts, including leave of absence to workers to seek new employment, a dismissal wage, and health and safety measures. Under the act

employers must furnish educational facilities for child workers, apprentices, and other employees, and should promote, so far as possible, proper amusements for their labor forces and aid them to save money and to belong to cooperative societies. Provision is made, too, for profit sharing. Pending the enforcement of social insurance laws for workers disabled by accident or disease or who die in the performance of their duty, the factory must meet the medical expenses of such workers and pay pensions to them or their survivors. One of the chapters of the law deals with the selection, functions, and operation of factory councils upon which employers and workers shall have an equal number of representatives. Another chapter is devoted to the subject of apprenticeship. Violations of the act are punishable by fines ranging from $100 to $500.

The text of this new law, as translated by Dju Hsuen Ching, is given below:

CHAPTER 1.—*General provisions*

ARTICLE 1. The law shall apply to all factories using machinery driven by steam, electric, or water power and regularly employing 30 or more workers.

ART. 2. Unless specially provided, the term "Proper authorities" in this law shall mean the municipal government in a municipality and the Hsien Government in Hsien.

ART. 3. All factories must keep full records of the following, concerning each worker: (1) Name, age, domicile, and address; (2) date of entering factory; (3) occupation, hours of work, and remuneration; (4) skill and conduct; (5) efficiency; (6) rewards and penalties; and (7) any injury or illness suffered by him and its causes.

ART. 4. Every six months all factories must submit to the proper authorities a copy of a report including the following: (1) A register showing the ages and addresses of the workers, and the nature of their work; (2) the record of sickness and of the treatment thereof; (3) the record of accidents and of the measures taken for the relief of the injured; and (4) the record of discharges and of the reasons therefor.

CHAPTER 2.—*Woman and child labor*

ART. 5. The employment of children under the age of 14 shall be prohibited in all factories. But exception may be made by the proper authorities in the case of children above the age of 12 and under the age of 14 employed in factories before the promulgation of this law.

ART. 6. Boys and girls in factory employment above the age of 14 and below the age of 16 shall be considered as child labor. Child labor is permitted only in light and easy work.

ART. 7. Children and women shall not be employed: (1) To handle explosive, combustible, or poisonous substances; (2) in places exposed to dust or noxious fumes; (3) to clean, oil, inspect, or repair machines in motion or hazardous parts of power-transmission apparatus, or to repair or adjust belts or ropes or to undertake other dangerous employment; (4) to put up high-voltage wires; (5) to handle minerals in liquid form or mineral refuse; (6) to perform other dangerous or improper work.

CHAPTER 3.—*Working hours*

ART. 8. The regular working-day for adults shall be 8 hours; but in cases of necessity arising from varying local conditions and the nature of the employment, the working-day may be extended to 10 hours.

ART. 9. Factories which adopt a system of day and night shifts must arrange the working schedule in such a way that the shifts for the workers may be interchanged at least once a week.

ART. 10. Furthermore, under the provisions of article 8, the working hours may be extended in cases of force majeure; but must not exceed 12 per day and the total overtime worked must not exceed 36 hours a month.

ART. 11. The regular working-day for child workers shall under no circumstances exceed 8 hours.

ART. 12. Child labor shall not be permitted between 7 p. m. and 6 a. m.

ART. 13. Female workers shall not be employed between 10 o'clock p. m. and 6 a. m.

CHAPTER 4.—*Rest and holidays*

ART. 14. Workers, after being employed continuously for five hours, shall have a rest period of half an hour.

ART. 15. All workers shall have one day of rest in each week.

ART. 16. All factories shall stop work on holidays designated by order and law of the National Government.

ART. 17. All workers who are employed continuously in any factory for a certain period of years shall be granted a special period of rest as follows: (1) Those employed continuously for more than 1 year but less than 3 years shall be granted a vacation of 7 days each year; (2) those employed continuously for more than 3 years but less than 5 years shall be given 10 days' vacation each year; (3) those employed continuously for more than 5 years but less than 10 years shall be given 14 days' vacation each year; and (4) those employed continuously for more than 10 years shall be given 1 additional day for each additional year of service. But the total number of days must not exceed 30 per year.

ART. 18. All workers shall be paid at their regular rate for the holidays and rest days provided in Articles 15, 16, and 17. Additional wages shall be paid if they work on special rest days.

ART. 19. All workers engaged in military and public works may not be given holidays by the proper authorities at times when such works are necessary.

CHAPTER 5.—*Wages*

ART. 20. Minimum wages shall be based upon the standard of living in different localities where factories are established.

ART. 21. Wages shall be paid by the employers to the workers in the local legal currency.

ART. 22. Regular monthly wages as well as piecework earnings shall be paid by the employers to the workers at least twice in a month.

ART. 23. Overtime work, as provided by Articles 10 and 19, shall be paid for at the rate of one and one-third to one and two-thirds of the regular wages calculated by the hour.

ART. 24. Female workers shall be paid at the same rate of wages as the men when they perform the same kind of work with equal efficiency.

ART. 25. Employers are not allowed to make advance deductions from the wages of the workers as compensation, or security for fines in case of breach of contract.

CHAPTER 6.—*Termination of contracts*

ART. 26. Contracts shall be canceled upon the expiration of the specified period for which they were made, but may be renewed by mutual agreement.

ART. 27. Employers desiring to cancel a contract the duration of which was not specified can do so only by giving the workers advance notice. Unless a longer period is provided in the contract the period of notice shall be as follows: (1) Ten days to workers with continuous service of more than 3 months but less than 1 year; (2) 20 days to workers with continuous service of more than 1 year but less than 3 years; and (3) 30 days to workers with continuous service of more than 3 years.

ART. 28. The workers, after receiving such notice, may ask leave of absence during working hours for the purpose of seeking other employment. Employers shall not deduct wages for such leave, but its total length must not exceed two working-days in a week.

ART. 29. If employers desire to terminate the contract in accordance with article 27 they shall give the workers, in addition to their regular wages, an extra sum amounting to half of the regular wage for the period of notice. If employers desire to terminate the contract immediately, not in accordance with article 27, they shall give the workers an extra sum amounting to the full wage for the period of notice provided in the said article.

ART. 30. Employers may dismiss their workers before the expiration of the contract under any one of the following conditions, but notice shall be given in accordance with the provision of article 27: (1) If the factory suspends operation totally or in part; (2) if the factory, owing to force majeure, is obliged to suspend operation for a period of more than a month; and (3) if the worker is incapable of doing his work properly.

ART. 31. Employers may dismiss any worker before the expiration of the contract, without notice, under any of the following conditions: (1) If he violates the factory regulations often; or (2) if he fails to report for work without just cause for more than three consecutive days or absents himself more than six days within one month.

ART. 32. If the workers desire to terminate the contract for which no period of duration is specified, they shall notify the employers one week in advance.

ART. 33. Workers may terminate the contract before its expiration, without notice, under any one of the following conditions: (1) If the employer violates the terms of the contract or important provisions of the labor law; (2) if the employer fails to pay the wages at the proper

time without just cause; or (3) if the employer assaults or maltreats the workers.

ART. 34. Disputes over the interpretation and application of clause (3) of article 30 and clause (1) of article 31 and article 33 may be referred to the factory council for settlement in cases where such a council exists.

ART. 35. Unless the worker violates the provision of article 32 or commits himself under clause 1 or 2 of article 31, he shall be given, upon the termination of the contract, a certificate containing: (1) His name, age, domicile, and address; (2) the kind of work upon which he has been engaged; and (3) his length of service with the factory, and his record.

### CHAPTER 7.—*Welfare work*

ART. 36. Employers shall provide supplementary education of not less than 10 hours per week for child workers and apprentices, and shall bear all the expenses thereby incurred. For other workers employers shall also provide educational facilities outside of working hours.

ART. 37. Female workers shall be given leave with full wages before and after childbirth, such leave amounting altogether to eight weeks.

ART. 38. Employers should cooperate, as far as possible, with workers to promote thrift and cooperative societies.

ART. 39. Employers should promote, as far as possible, proper amusements for their workers.

ART. 40. At the end of each current year, if the account shows a surplus, after deductions of interest on shares and provision for reserves, either a bonus or a share of the actual profit shall be given to those workers who are without demerit.

### CHAPTER 8.—*Safety and health*

ART. 41. The factories shall make provisions: (1) Against life and bodily risks of the workers; (2) regarding the structural details of the plants with a view to safety; (3) to insure the proper installation and guarding of machines; and (4) to prevent fire and flood.

ART. 42. In the interest of the health of their workers factories shall make provision for: (1) Good ventilation; (2) proper drinks; (3) suitable lavatories and toilet facilities; (4) good light; and (5) the prevention of poison and dust.

ART. 43. Employers shall give proper training to workers in accident prevention.

ART. 44. Whenever the safety and health provisions of a factory are inadequate, the proper authorities may require improvements to be made within a definite period. In case of necessity the proper authorities may close the whole or a part of the factory.

### CHAPTER 9.—*Subsidy and pension*

ART. 45. Before the enforcement of social insurance laws, for workers who are injured, or made ill, or who die while in the performance of their duty, the factory shall pay their medical expenses and provide pensions, the standards of which are as follows, deductions being

made with the approval of the proper authorities in case the capital of a factory is less than $50,000:

(1) In case of a worker temporarily disabled the factory shall, in addition to paying the medical expenses, pay him two-thirds of his regular wages for a period of six months and upon the expiration of that period, if the worker is still incapacitated, half of the regular daily wage shall be given for a period of one year.

(2) In case of a worker permanently disabled, either totally or partially, the factory shall provide a pension based upon the loss of earning capacity. The pension must not exceed the average wages for three years nor be less than the average wages for one year.

(3) In case of death, the factory shall, in addition to giving $50 for funeral expenses, pay to the legal heirs of the deceased a pension amounting to $300 and an amount equivalent to a payment for two years' wages at the average rate for the last three months. The funeral expenses and pension shall be paid in a lump sum, while compensation for injury, sickness, and disability may be paid in installments.

ART. 46. Unless definitely stated in the worker's will, the person entitled to pensions is the wife or husband. In cases where there is no husband or wife the order of eligibility to receipt of pension shall be as follows: (1) Sons and daughters, (2) father and mother, (3) grandchildren, (4) brothers and sisters.

ART. 47. Should a worker urgently need money on an occasion of marriage or death he may request the factory to advance him at most one month's wages or refund his savings either totally or in part.

ART. 48. Should an accident occur in a factory resulting in death or grave injury to a worker, the employer must, within five days, report to the proper authorities the occurrence of the accident and the consequent measures taken.

## CHAPTER 10.—*Works councils*

ART. 49. Factory councils shall be composed of equal numbers of representatives of the employer and of the workers. The employer's representatives shall be selected by the employer from those who are familiar with the conditions of the factory and the conditions of the workers, while the workers' representatives shall be elected under the supervision of proper authorities by the employees from among their fellow workers.

ART. 50. The functions of the works council shall be: (1) To promote working efficiency; (2) to improve the relations between employers and employees, and to settle disputes between them; (3) to help in the enforcement of contract and factory regulations; (4) to regulate overtime; (5) to improve safety and health conditions in the factory; (6) to suggest improvements in factories or workshops; and (7) to promote the workers' welfare.

ART. 51. When a dispute arises in a factory it shall first be referred to the works council. Should the council fail to effect a solution, such dispute should then be settled in accordance with the conciliation and arbitration law.

ART. 52. All workers 18 years of age or over shall be entitled to vote in the election of representatives to the works council.

ART. 53. All Chinese citizens 24 years of age or over who have worked in a factory for a period of half a year shall be eligible to serve on the works council.

ART. 54. The representatives of the employers and the workers on the council shall be five to nine in number for each side.

ART. 55. Each group of representatives shall elect a chairman to preside in turn over the factory council. Such council shall have its regular meeting once a month and special meetings if necessary.

## CHAPTER 11.—*Apprenticeship*

ART. 56. Factories may take apprentices by making contracts with apprentices themselves, or their legal guardians. The text of such an agreement shall be in triplicate, one copy for each of the contracting parties and one to be submitted to the proper authorities for registration, and it shall contain the following: (1) The name, age, domicile, and address of the apprentice; (2) the nature of his work; (3) the duration of the contract; and (4) the mutual obligations, such as the amount of tuition and the time for payment, or the amount of compensation and the time for payment.

The said contract shall not in any way prejudice the free practice of an occupation by an apprentice after he has served the full period of his apprenticeship.

ART. 57. Children under the age of 14 shall not be accepted as apprentices, except those under such age who are already in the factory before this law goes into operation.

ART. 58. The hours of training for apprentices shall be the same as the hours of employment provided for workers in chapter 3 of this law.

ART. 59. Except for training purposes, apprentices shall not be engaged in works enumerated in article 7.

ART. 60. Apprentices shall be obedient and faithful to the instructor.

ART. 61. During the whole term of apprenticeship the apprentices shall be supplied with board, lodging, and medical treatment by employers. In addition, apprentices shall be given a proper sum of money for miscellaneous expenses.

ART. 62. Except in cases of grave urgency or great necessity, no apprentice shall leave the factory before the expiration of the term of apprenticeship without the consent of the factory, otherwise the apprentice or his legal guardian shall refund the expenses incurred by the factory during the part of the term of apprenticeship already served.

ART. 63. The total number of apprentices taken by a factory shall in no case exceed one-third of the regular workers.

ART. 64. If the number of apprentices in a factory is so large that adequate training can not be provided, the proper authorities may reduce the number and fix thereafter the maximum number of apprentices for the factory.

ART. 65. During the whole term of apprenticeship the instructor shall give an apprentice all the training provided for in the contract.

ART. 66. The provisions of article 31 shall apply to apprentices, and the factory may terminate the contract under either of the fol-

lowing conditions: (1) If an apprentice revolts against proper instructions; or (2) if he commits theft and does not repent after repeated admonitions.

ART. 67. The provisions of article 33 shall apply to apprentices; the apprentices and their legal guardians may also demand termination of the contract under either of the following conditions: (1) If the factory is not in a position to discharge its obligations stipulated in the contract; or (2) if the conditions in the factory are detrimental to the health of the apprentice or have a demoralizing influence upon him.

## CHAPTER 12.—*Penalties*

ART. 68. Violation of articles 7, 11, 12, or 13 of this law is punishable by a fine amounting to not less than $100 and not more than $500.

ART. 69. Violation of articles 5, 8, 9, 10, 37, or 63 of this law is punishable by a fine amounting to not less than $50 and not more than $300.

ART. 70. Violation of article 45 of this law is punishable by a fine amounting to not less than $50 and not more than $200.

ART. 71. Violation of articles 3, 4, 14, 15, 16, 17, 18, 19, or 36 of this law is punishable by a fine amounting to not more than $100.

ART. 72. Should accident or agitation occur as a result of the negligence or unfaithfulness of a foreman he shall be liable to imprisonment for a period of not more than a year, or a fine amounting to not more than $500.

ART. 73. Workers obstructing the operation of a factory or destroying the property of employers by violence shall be punished in accordance with the maximum limit of the criminal law.

ART. 74. Any worker compelling other workers to strike by force may be discharged and handed over to the proper authorities for punishment in accordance with law.

## CHAPTER 13.—*Appendix*

ART. 75. Factory rules or their amendments shall be approved and promulgated by the proper authorities.

ART. 76. The regulations of the application of this law shall be drawn up separately.

ART. 77. The date of the enforcement of this law shall be announced by the orders of the National Government.

# LABOR TURNOVER

## Labor Turnover in American Factories

THE Bureau of Labor Statistics presents in the following tables the April labor turnover indexes for manufacturing as a whole and for eight separate industries. Indexes for all manufacturing industries combined are made up from the reports received from representative plants in 75 industries. The number of firms reporting to the bureau in the eight industries for which separate indexes are shown equal at least 25 per cent of the wage earners in such industries as shown by the Census of Manufactures of 1927.

The form of average used in the following tables is the unweighted median. In determining a median rate the rates for the several establishments are arranged in order from the lowest to the highest rate, the rate falling in the center of this arrangement of rates is the median or middle rate. In other words, it is the rate which has as many establishments above as below. The size of the different establishments is not considered, nor are the deviations from the median.

The net labor turnover rate means the rate of *replacement* of employees in a plant. It is the number of positions that are vacated and filled during the period per 100 employees. The number of employees used is the average number on the pay roll during the period. Some establishments have very complete records, but generally the only figures available are the number of employees on the pay roll at the beginning of the month and at the end of the month. When only such figures are available, these two numbers are added and the sum divided by two to get the approximate average on the roll during the month.

Table 1 shows for all industries the separation rate subdivided into quit, discharge, and lay-off rates, also the accession rates, all expressed on both a monthly and an equivalent annual basis.

TABLE 1.—AVERAGE LABOR TURNOVER RATES IN SELECTED FACTORIES IN 75 INDUSTRIES [1]

[The rate is per 100 employees on the pay roll. The monthly rate is the rate for the calendar month. The equivalent annual rate is the rate for the month expressed as an annual rate]

**A.—Monthly Rates**

| Month | Separation rates | | | | | | | | Accession rate | | Net turnover rate [3] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quit | | Lay-off | | Discharge | | Total [2] | | | | | |
| | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 |
| January | 2.26 | 1.11 | 0.35 | 1.04 | 0.45 | 0.24 | 3.06 | 2.39 | 4.98 | 2.01 | 3.06 | 2.01 |
| February | 2.28 | 1.23 | .36 | 1.06 | .46 | .25 | 3.20 | 2.53 | 4.36 | 2.06 | 3.20 | 2.06 |
| March | 3.12 | 1.38 | .48 | 1.03 | .57 | .30 | 4.17 | 2.71 | 5.20 | 1.95 | 4.17 | 1.95 |
| April | 3.56 | 1.45 | .45 | 1.16 | .57 | .27 | 4.58 | 2.88 | 5.77 | 2.00 | 4.58 | 2.00 |
| May | 3.46 | ------ | .48 | ------ | .48 | ------ | 4.42 | ------ | 5.09 | ------ | 4.42 | ------ |
| June | 3.25 | ------ | .44 | ------ | .51 | ------ | 4.20 | ------ | 5.01 | ------ | 4.20 | ------ |
| July | 3.03 | ------ | .42 | ------ | .49 | ------ | 3.94 | ------ | 5.21 | ------ | 3.94 | ------ |
| August | 3.26 | ------ | .41 | ------ | .45 | ------ | 4.12 | ------ | 4.61 | ------ | 4.12 | ------ |
| September | 3.14 | ------ | .52 | ------ | .50 | ------ | 4.16 | ------ | 4.91 | ------ | 4.16 | ------ |
| October | 2.42 | ------ | .80 | ------ | .40 | ------ | 3.62 | ------ | 3.91 | ------ | 3.62 | ------ |
| November | 1.59 | ------ | 1.26 | ------ | .30 | ------ | 3.15 | ------ | 1.95 | ------ | 1.95 | ------ |
| December | 1.08 | ------ | 1.21 | ------ | .20 | ------ | 2.49 | ------ | 1.24 | ------ | 1.24 | ------ |
| Average | 2.71 | ------ | .60 | ------ | .45 | ------ | 3.76 | ------ | 4.35 | ------ | 3.76 | ------ |

**B.—Equivalent Annual Rates**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 26.7 | 13.1 | 4.2 | 12.2 | 5.3 | 2.8 | 36.2 | 28.1 | 58.6 | 23.7 | 36.2 | 23.7 |
| February | 31.0 | 16.0 | 4.7 | 13.8 | 6.0 | 3.2 | 41.7 | 33.0 | 56.9 | 26.9 | 41.7 | 26.9 |
| March | 36.8 | 16.3 | 5.7 | 12.1 | 6.7 | 3.5 | 49.2 | 31.9 | 61.2 | 23.0 | 49.2 | 23.0 |
| April | 43.3 | 17.7 | 5.5 | 14.1 | 6.9 | 3.3 | 55.7 | 35.1 | 70.2 | 24.3 | 55.7 | 24.3 |
| May | 40.8 | ------ | 5.7 | ------ | 5.6 | ------ | 52.1 | ------ | 59.9 | ------ | 52.1 | ------ |
| June | 39.5 | ------ | 5.4 | ------ | 6.2 | ------ | 51.1 | ------ | 60.9 | ------ | 51.1 | ------ |
| July | 35.7 | ------ | 5.0 | ------ | 5.8 | ------ | 46.5 | ------ | 61.4 | ------ | 46.5 | ------ |
| August | 38.4 | ------ | 4.8 | ------ | 5.3 | ------ | 48.5 | ------ | 54.3 | ------ | 48.5 | ------ |
| September | 38.2 | ------ | 6.3 | ------ | 6.1 | ------ | 50.6 | ------ | 59.7 | ------ | 50.6 | ------ |
| October | 28.5 | ------ | 9.4 | ------ | 4.7 | ------ | 42.8 | ------ | 46.0 | ------ | 42.8 | ------ |
| November | 19.4 | ------ | 15.3 | ------ | 3.7 | ------ | 38.4 | ------ | 23.7 | ------ | 23.7 | ------ |
| December | 12.7 | ------ | 14.2 | ------ | 2.4 | ------ | 29.3 | ------ | 14.6 | ------ | 14.6 | ------ |
| Average | 32.6 | ------ | 7.2 | ------ | 5.4 | ------ | 45.2 | ------ | 52.3 | ------ | 45.2 | ------ |

[1] The form of average used is the unweighted median of company rates.
[2] Arithmetic sum of quit, lay-off, and discharge rates.
[3] The net turnover rate is the accession rate when it is lower than the separation rate, and the separation rate when it is lower than the accession rate.

It will be noted that in addition to the several separation rates and the accession rates the bureau shows a *net turnover rate*. The net turnover rate is the same as the separation rate in a plant that is increasing the number of its workers. On the other hand, the turnover rate is the same as the accession rate when a plant is reducing its force. For April the net turnover rate is the same as the accession rate, being 2.0.

Table 2 shows the quit, discharge, lay-off, accession, and net turnover rates for automobiles, boots and shoes, cotton manufacturing, iron and steel, sawmills, and slaughtering and meat packing for January, February, March, and April; foundries and machine shops for February, March, and April; and furniture for April, expressed both on a monthly and an equivalent annual basis.

TABLE 2.—AVERAGE LABOR TURNOVER RATES, IN AUTOMOBILES, BOOTS AND SHOES, COTTON MANUFACTURING, FURNITURE, FOUNDRIES AND MACHINE SHOPS, IRON AND STEEL, SAWMILLS, AND SLAUGHTERING AND MEAT PACKING

[The rate is per 100 employees on the pay roll. The monthly rate is the rate for the calendar month, the equivalent annual rate for the month expressed as an annual rate]

| Industry, year and month, 1930 | Separation rates | | | | | | | | Accession rate | | Net turnover rate [1] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Quits | | Discharges | | Lay-offs | | Total | | | | | |
| | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual | Monthly | Equivalent annual |
| Automobiles: | | | | | | | | | | | | |
| January | 1.27 | 15.0 | 0.59 | 7.0 | 2.22 | 26.2 | 4.08 | 48.2 | 8.20 | 96.9 | 4.08 | 48.2 |
| February | 1.10 | 14.3 | .15 | 1.9 | 1.86 | 24.3 | 3.11 | 40.5 | 3.40 | 44.3 | 3.11 | 40.5 |
| March | 1.56 | 18.4 | .42 | 4.9 | 1.95 | 23.0 | 3.93 | 46.3 | 5.31 | 62.6 | 3.93 | 46.3 |
| April | 1.84 | 22.4 | .33 | 4.0 | 2.70 | 32.8 | 4.87 | 59.2 | 4.06 | 49.4 | 4.06 | 49.4 |
| Boots and shoes: | | | | | | | | | | | | |
| January | 1.51 | 17.8 | .46 | 5.4 | .28 | 3.3 | 2.25 | 26.5 | 5.26 | 61.9 | 2.25 | 26.5 |
| February | 1.23 | 16.0 | .39 | 5.1 | .72 | 9.4 | 2.34 | 30.5 | 2.06 | 26.9 | 2.06 | 26.9 |
| March | 1.56 | 18.4 | .36 | 4.2 | .44 | 5.2 | 2.36 | 27.8 | 2.79 | 27.8 | 2.36 | 27.8 |
| April | 1.73 | 21.1 | .32 | 3.9 | 1.01 | 12.3 | 3.06 | 37.3 | 2.11 | 25.7 | 2.11 | 25.7 |
| Cotton manufacturing: | | | | | | | | | | | | |
| January | 1.20 | 14.2 | .11 | 1.3 | .29 | 3.4 | 1.60 | 18.9 | 2.40 | 28.3 | 1.60 | 18.9 |
| February | 1.20 | 15.6 | .19 | 2.5 | .14 | 1.8 | 1.53 | 19.9 | 1.62 | 21.1 | 1.53 | 19.9 |
| March | 1.59 | 18.7 | .28 | 3.3 | .25 | 2.9 | 2.12 | 24.9 | 2.53 | 29.8 | 2.12 | 24.9 |
| April | 1.34 | 16.3 | .09 | 1.1 | .44 | 5.4 | 1.87 | 22.8 | 2.34 | 28.5 | 1.87 | 22.8 |
| Foundries and machine shops: | | | | | | | | | | | | |
| February | .77 | 10.1 | .05 | .7 | .80 | 10.4 | 1.62 | 21.2 | 2.26 | 29.5 | 1.62 | 21.2 |
| March | 1.12 | 13.2 | .16 | 1.9 | 1.21 | 14.2 | 2.49 | 29.3 | 2.33 | 27.4 | 2.33 | 27.4 |
| April | 1.26 | 15.3 | .09 | 1.1 | 1.12 | 13.6 | 2.47 | 30.0 | 2.42 | 29.5 | 2.42 | 29.5 |
| Furniture: | | | | | | | | | | | | |
| April | 1.22 | 14.8 | .10 | 1.2 | 1.29 | 15.7 | 2.61 | 31.7 | 1.33 | 16.2 | 1.33 | 16.2 |
| Iron and steel: | | | | | | | | | | | | |
| January | 1.37 | 16.1 | .23 | 2.8 | 1.63 | 19.2 | 3.23 | 38.1 | 3.87 | 45.6 | 3.23 | 38.1 |
| February | 1.07 | 14.0 | .18 | 2.4 | .74 | 9.7 | 1.99 | 26.1 | 2.97 | 38.7 | 1.99 | 26.1 |
| March | 1.35 | 15.9 | .20 | 2.3 | .45 | 5.3 | 2.00 | 23.5 | 2.54 | 29.9 | 2.00 | 23.5 |
| April | 1.51 | 18.4 | .19 | 2.3 | .30 | 3.7 | 2.00 | 24.4 | 2.43 | 29.6 | 2.00 | 24.4 |
| Sawmills: | | | | | | | | | | | | |
| January | 1.57 | 18.5 | .44 | 5.2 | 1.77 | 20.9 | 3.78 | 44.6 | 2.54 | 29.9 | 2.54 | 29.9 |
| February | 1.77 | 23.1 | .18 | 2.4 | 1.81 | 23.6 | 3.76 | 49.1 | 4.38 | 57.1 | 3.76 | 49.1 |
| March | 1.90 | 22.4 | .11 | 1.3 | 1.10 | 13.0 | 3.11 | 36.7 | 4.86 | 57.2 | 3.11 | 36.7 |
| April | 1.62 | 19.7 | .19 | 2.3 | 1.21 | 14.7 | 3.02 | 36.7 | 4.46 | 54.3 | 3.02 | 36.7 |
| Slaughtering and meat packing: | | | | | | | | | | | | |
| January | 1.60 | 18.9 | .51 | 6.0 | 1.52 | 17.9 | 3.63 | 42.8 | 4.08 | 48.1 | 3.63 | 42.8 |
| February | 1.54 | 20.1 | .45 | 5.9 | 4.33 | 56.5 | 6.32 | 82.5 | 2.92 | 38.1 | 2.92 | 38.1 |
| March | 1.89 | 22.3 | .48 | 5.6 | 2.62 | 30.9 | 4.99 | 58.8 | 2.84 | 33.5 | 2.84 | 33.5 |
| April | 1.90 | 23.1 | .46 | 5.6 | 1.91 | 23.3 | 4.27 | 52.0 | 4.28 | 52.1 | 4.27 | 52.0 |

[1] The net turnover rate is the separation rate when this rate is lower than the accession rate, and the accession rate when it is lower than the separation rate.

# COOPERATION

## Gasoline and Oil Stations of Cooperative Stores[1]

AN INTERESTING development has been taking place among the cooperative societies of the North Central States. Accounts have been carried from time to time in the Labor Review, of the growth of the cooperative oil associations in the Middle West. In all instances, however, these dealt with societies of individuals who combined to purchase their gasoline, motor oil, and sometimes such accessories as tires and tubes. In July, 1928, however, an association was formed in Maple, Wis., which had only four members, but these were all consumers' cooperative societies in the locality. Since that time three similar organizations have been formed on the same basis.

The association at Maple, Wis., has as its members the cooperative stores at Brule, Iron River, Maple, and Wentworth, Wis. The Trico Cooperative Oil Association is owned by the stores at Brookston, Cloquet, Floodwood, Gowan, and Wawina, Minn. The C-A-P Cooperative Oil Association is owned by the stores at Cromwell, East Lake, Lawler, Moose Lake, and Wright, Minn., the initials "C-A-P" being those of the three counties in which it operates. The stockholders of the Range Cooperative Oil Association are the cooperative societies at Angora, Cook, Embarrass, Gilbert, Iron, Little Swan, Markham, Nashwauk, Orr, Virginia, and Zim, Minn.

The societies which own these oil associations have a combined membership of nearly 8,000 persons.

Each cooperative society which joins the oil association must subscribe for capital stock in proportion to the number of its own members, and it is allowed voting privileges at meetings of the oil association on the same basis.

The trade territory of the oil association is divided into districts corresponding to the area served by each of the constituent store societies, and all sales in each district are credited to the local store, through which also the individual consumer receives his patronage dividends.

The Cooperative Pyramid Builder (organ of the Cooperative Central Exchange at Superior, Wis.) describes the advantages accruing as follows:

> The advantages of this plan are many. It links the cooperative stores together in a closer band, saves overhead and organization expense, and makes use of the cooperative foundation laid by the stores. A volume of sales is obtained which would be impossible if each locality were to organize separately. With our good roads and truck service, a larger territory than is ordinarily reached by a single cooperative store can be served more economically. The stores act as the service stations. The management and bookkeeping of the oil association is

[1] Data are from Cooperative Pyramid Builder, Superior, Wis., March, 1930, and information furnished to the Bureau of Labor Statistics by the societies themselves.

done by one of the managers of the stores. The phenomenal success of every one of these group organizations shows the soundness and worth of the plan.

It is needless to say that all of these cooperatives are handling Co-op gasoline and kerosene. The Co-op gasoline emblem is on all the pumps. The equipment and petroleum products handled have been purchased through the Minnesota Co-op Oil Co., which is the cooperative wholesale for the oil associations. All of these associations are members of the Minnesota Co-op Oil Co.

It is stated that the association at Maple, Wis., is planning to become the central purchasing and storing agent for building supplies. "Membership meetings of the affiliated societies have already approved plans for building a joint warehouse in connection with the oil association to take care of wire and nails, roofing, cement, shingles, and dynamite, and in the future to handle lumber and building material."

The table below shows the operations of the four oil associations in 1929.

OPERATIONS OF COOPERATIVE OIL ASSOCIATIONS OWNED BY CONSUMERS' SOCIETIES, IN 1929

| Name and location of society | Date of organization | Membership | | Share capital | Sales, 1929 | Net gain |
|---|---|---|---|---|---|---|
| | | Societies | Individual members | | | |
| Trico Cooperative Oil Association, Floodwood, Minn. | June, 1929 | 6 | 1,864 | $3,300 | [1]$25,000 | $3,340 |
| C-A-P Cooperative Oil Association, Kettle River, Minn. | May, 1929 | 7 | [2]1,193 | 3,500 | [1]26,037 | 4,115 |
| Range Cooperative Oil Association, Virginia, Minn. | June, 1929 | 12 | [3]3,827 | 1,500 | [4]47,000 | 4,400 |
| Cooperative Oil Association, Maple, Wis. | July, 1928 | 4 | 745 | 3,400 | 30,739 | 4,108 |
| Total | | 29 | 7,629 | 11,700 | 128,776 | 15,963 |

[1] 6 months' operation.
[2] 6 stores only; membership of creamery not available.
[3] 11 stores only.
[4] 5 months' operation.

As the table shows, the combined 1929 sales of the four societies (only one of which was in operation the full year) amounted to $128,776. On this business a net gain of $15,963 was realized. The wide margin of profit in this line of business is indicated by the fact that the net gain of these societies amounted to 12.4 per cent of sales.

The Cooperative Oil Association of Maple, Wis., during its five months' operation in 1928 had sales of $14,827.41, on which a net gain of $1,268.13 was realized. Of this, $63 was paid in interest on share capital and $1,021.41 was returned as patronage dividends.

## Cooperative Societies of Small Tradesmen in France

IN VIEW of the difficulties experienced by the small tradesmen and proprietors of small businesses in holding their own in this age of chain-store and large-scale merchandising, an article which recently appeared in the Bulletin du Ministère du Travail, Paris, is of interest.[1]

[1] Bulletin du Ministère du Travail et de l'Hygiène, Paris, July–September, 1929, pp. 236–250: "Les coopératives dans la petite industrie et le petit commerce."

The small proprietors in France have evidently for a long time found themselves at the same disadvantage in competing as do the independent tradesmen in the United States. And they have met the situation in the same way that small dealers—grocers, druggists, and others—have met it here in some cases, by combining their purchasing power. All of the societies described in the article under review were formed because the small dealers experienced difficulties in obtaining their stock in trade at prices they could pay. These independent dealers met the situation by the formation of a cooperative society to act as their wholesaler.

In 1893 the pork butchers of Paris formed a general supply society in order to enable them to obtain supplies at prices sufficiently low to permit them to compete with the large dealers. This society now has 2,700 butchers in membership with it and in 1928 did a business of 25,791,094 francs. The net savings effected through this organization can not be stated, for, unlike most cooperative societies, it does not sell to its members at prevailing wholesale prices and return the profits (above expenses of operation) in patronage dividends; it sells at cost. In 1906 the pork butchers formed a society for smoking hams and other pork products. At first it encountered many difficulties, but as it got under way it grew rapidly. By 1907 it had 68 member butchers, about 300 in 1910, 450 in 1915, 1,200 in 1920, 1,400 in 1925, and 1,850 in 1929. Its business, which amounted to only 42,340 francs during the first eight months of operation, had by 1921 mounted to 5,000,000 francs, and in the latter year the amount saved by this collective enterprise was 1,487,000 francs. In 1927 the member dealers established a plant for making sauerkraut, and this plant in 1928–29 did a business amounting to 1,947,000 francs.

A supply society was started by the small grocers of the Paris district in July, 1919. Starting with about 350 members the first year, the number has risen to 2,516 and, according to the report, is increasing month by month. Its business in 1928–29 amounted to 46,000,000 francs. It also is operated on a cost basis.

Perhaps the most interesting society described in the article is the supply society of the master hairdressers of Paris. The idea of this society dates back to 1887. At that time there were two associations of hairdressers, one of which conceived the idea of pooling the members' orders for the two products principally used in the profession—soap powder and lotions. These goods were left at the establishments of different members to be distributed at prices slightly above cost. This method led to abuses and dissatisfaction.

About this time, however, one of the members received a rather considerable inheritance and he proposed to obtain premises at his own expense and to supply the goods needed, at a reduction of 5 per cent, his profit being half the dues paid by the members to the association. Only members of the association were to be eligible to this service.

His offer was accepted. But about this time the two hairdressers' associations merged and the purchasing privilege was extended to the whole membership. Little by little, however, nonmembers began to make purchases and benefit from the 5 per cent rebate. This led to the formation in 1895, by a certain part of the members, of the present society, which is conducted on strictly cooperative principles.

Each member must subscribe for one 50-franc share, but can hold only one. One-tenth must be paid at the time of subscription and the remainder is paid out of the patronage dividend. After the share is fully paid for, the next 25 francs of dividend are covered into a "development fund." Neither this fund nor the capital bears interest.

From the time of its formation the society experienced difficulty in finding wholesalers who would sell to it, most of them having blacklisted it. It therefore decided to manufacture its own lotions. The other specialties used, which it could not buy in France, it obtained from foreign companies.

The society was not slow to see the advantages which it could obtain through the extension of its manufacturing operations. It found that alcohol could be supplied to its members at 20 per cent below the current price. The society has extended its field until it now manufactures all kinds of perfumery, putting these out under its own brand. As it has grown in strength, opposition to it has faded little by little. To the sale of its special products it has added new lines—"specialties," toilet articles, and the instruments and fittings used in the hairdressing establishments.

The accumulation in the "development fund" has enabled it to purchase its own building, in which are housed not only the offices and showrooms of the cooperative society, but also the headquarters of the hairdressers' associations, and the school where hairdressers are trained. It has in this been assisted by a grant of 600,000 francs from the Government under the law of December 27, 1923.

In 1927, the latest year for which figures are available, it had 3,538 hairdressing establishments in membership, an annual business of 7,478,934 francs, and a net gain of 472,926 francs. Patronage dividends are paid at the rate of 5 per cent.

The society is governed by an administrative council of 15 members (elected for a term of 3 years), of whom 5 are elected each year. Reelection for one additional term is allowed. A trained responsible manager is employed, but the sale prices are fixed by a committee of three members of the council. Other committees look after such matters as warehousing, the traveling salesmen, apprenticeship, etc. There is also a general control committee of seven members chosen by the general assembly.

Sales are made either directly to the member establishments or through the traveling salesmen who visit them periodically.

The society has benefited its members not only in the dividends paid but also through being able to regulate the quality of goods and by enabling the small and medium sized establishments to supply their modest needs on absolutely the same price basis as the very large establishments.

## Notes on Cooperative Developments

*USE of cooperative contract by consumers' societies in Canada.*—The use of the contract has been quite common in farmers' marketing associations, but has hitherto not been used in the consumers' cooperative movement. In the agricultural societies using

the contract the farmer joining the association binds himself to deliver to the association his entire crop.

The same end—the guaranty of an assured volume of business to the cooperative organization—is aimed at in a step recently taken by the Canadian societies which are members of the Alberta Cooperative Wholesale Association. It is reported in the Canadian Cooperator (Brantford, Ont.) for April, 1930, that these societies, in a recent meeting, decided to go on a contract basis and pledge their entire volume of business to the wholesale "in the lines that the wholesale can profitably handle."

The Canadian Cooperator comments as follows on this step:

> We congratulate the societies interested on their decision. It is in line with the policy advocated in these columns. While there may be good reasons from the viewpoint of the movement, as well as of the consumer, why an individual member should not sacrifice his buying independence, no such considerations can apply to the relations between the wholesale society and its constituent units. For all practical purposes, they are, or ought to be, regarded as departments of the same organization, and it should not be necessary for a wholesale society to incur expenses in securing sales to its own members, nor ought the retail societies to go outside for commodities their collectively owned institution handles.

*Increase of interest in cooperation in Illinois.*—The Central States Cooperator (Bloomington, Ill.) states in its issue of April, 1930, that "under the pressure of the present period of unemployment and general economic depression" a new interest is being manifested in consumers' cooperation in Chicago. After the collapse of the fraudulent Cooperative Society of America, whose headquarters were in that city, and in which thousands of working people lost money, cooperative sentiment among Chicagoans waned.

The Central States Cooperative League, after being persistently appealed to, to take advantage of the new tide of cooperative interest, arranged a meeting in Chicago at which were present representatives of various interested organizations, including the Amalgamated Bank, the Farmer Labor Exchange, Illinois Farmers' Union, Chicago Federation of Labor, and the Central States Cooperative League. At the meeting a permanent committee was formed whose first step will be to conduct a survey in Chicago "to ascertain definitely the exact amount of cooperative sentiment now existing and to attempt to bring those groups that show a sufficient amount of interest together in a general meeting to discuss the whole matter of cooperative development."

*Cooperative organization in Russia.*—The systematic way in which the Russian consumers' cooperative movement sets out to attract new members is indicated by an article in the Information Bulletin (issued by the All Russian Central Union of Consumers' Societies, Centrosoyus), for March 1, 1930.

Other countries consider it quite an achievement when the number of cooperators reaches as large a proportion of the total population as 25 per cent. The Russians do not. After noting that the consumers' cooperative societies in the towns of Russia included on October 1, 1929, some 13,008,000 persons, the article points out that this number covered only about 70 per cent of the total town population and that in the rural districts only about 31 per cent of the population are members of cooperative societies.

Not content with this development, the cooperative movement has been giving special attention to organizing cooperative groups among workers not previously included among the cooperators—building workers, timber cutters, farm laborers, and new workers in factories and new industries.

Active work has been done toward interesting the women of the country, and in 1928–29 the female membership of the cooperative societies numbered 3,850,000. The article states in this connection that "The cooperative organization of the women, particularly of the housewives, is gaining special significance in connection with the fact that the consumers' cooperative movement is determined to introduce measures for the reorganization and socialization of the daily life of the people."

The Information Bulletin of the Centrosoyus, for March 25, 1930, states that the consumers' cooperative movement of the Soviet Union discontinued the payment of patronage rebates two years ago. In Russia the cooperative societies do not charge the current prices, as is the practice in most countries. The prices at the cooperative store are much lower than those charged by private merchants. At the end of 1929, cooperative prices, according to the report, were 71.5 per cent lower than those of private traders. It should be pointed out in this connection that the Russian cooperative movement dominates the market in that country, being much stronger than the private merchants, while the reverse is true in other countries. The charging of current prices is a matter of policy on the part of cooperative societies, fulfilling a fourfold purpose: It avoids incurring the enmity of local merchants, as a price-cutting policy would; by the return of the savings, in the form of patronage rebates, the same end is gained as would be attained through price cutting—namely, it insures that the savings effected through cooperative effort shall inure to the members; the patronage rebate serves to emphasize the savings made by cooperation, while under a cost-plus system these can only be guessed at; sale at current prices affords a margin of safety in operation which can not be secured with any degree of definiteness under a cost-plus policy.

There is still some margin of gain even under the low prices charged by the cooperative societies in Russia, and these savings, it is stated, are being used in educational and cultural work and in improving the members' living conditions. In 1926–27 the cooperative movement spent for these purposes the sum of 5,300,000 rubles ($2,729,500); by 1928–29, however, this had amounted to 30,490,000 rubles ($15,702,350).

*Development of Swiss Union of Consumers' Cooperative Societies.*—The 1929 report of the central federation of the consumers' cooperative societies in Switzerland [1] reviews the activities of the union for that year. One of the events that marked the year was the opening of a second summer "vacation colony" at Weggis, early in 1929. During the 28 weeks during which the vacation home was open, 1,270 adults and 62 children spent some time there. The colony is owned by the union, but each society affiliated with the union has the right to nominate a certain number of its members for a week's sojourn at

[1] Verband Schweizerischer Konsumvereine (V. S. K.). Rapports et comptes sur l'activité des organes de l'union en 1929. Basel, 1930.

the colony. The entire cost of board and lodging is borne by the union, which also refunds to the visitors the amount spent for transportation to and from their homes. Persons not sent by member societies pay for board and lodging at a very low rate.

An increasing use of motion-picture films along cooperative lines is noted in the report.

From 1928 to 1929 the number of societies affiliated to the union increased from 516 to 518, the share capital from 1,616,200 francs ($311,927) to 1,622,000 francs ($313,046) and their sales from 149,450,147 francs ($28,843,878) to 157,580,624 francs ($30,413,060); the net profit, however, decreased from 892,787 francs ($172,308) to 865,570 francs ($167,055).

# LABOR ORGANIZATIONS AND CONGRESSES

## Activities of New York Electrical Workers' Union

AN EXAMPLE of the services which labor unions can render their members is afforded by the report made to the 1929 convention of the International Brotherhood of Electrical Workers [1] by Mr. H. H. Broach, at that time vice president [2] of the organization.

His report discussed at length the reorganization of the New York local (No. 3) of the brotherhood in 1926 and its present status.

In addition to its primary concern with the wages and hours of its members—Local No. 3 was the first of the building trades locals in New York City to obtain the 5-day week and the $12 per day rate—the local has concerned itself with raising the standard of work done on electrical construction jobs. At the time the international union undertook the reorganization of the local, conditions were about as bad as they could be, according to the report. Inefficiency, graft, and trade-union politics were prevalent, unqualified helpers were doing journeymen's work, and electrical installations were being made in the quickest and easiest way regardless of safety. Since the reorganization, a great deal of attention has been given to improving work standards and to raising the level of efficiency of the workers.

> The mechanical ability and electrical knowledge of the major portion of our members in New York was at a very low point when we began our campaign for improvement. This proved most embarrassing, and a great handicap to the officers. Many calls came in from members asking that business agents be sent to the job to show them how to connect up certain motors and properly do certain other classes of work. Not very many had ever read even the code book.
>
> In any case, when standards are improved or reduced, our members are vitally affected. We decided to improve them. The results now speak for themselves. But the campaign for improvement was indeed very bitter medicine for most employers and most of our members. It was no easy task to show them what a sickened condition the industry was in—but soon they saw the tonic was very salutary. Now happily, it is all quite different.

In connection with this has gone a campaign for safety in working conditions. Certain conditions of safety are insisted upon on each job. Also, the rules of the local provide that the foreman on each job shall be held responsible for the safety of the men working under him and he must see to it that all necessary precautions are taken and safety appliances provided. He must turn in to the union a written report, and report must be made within 24 hours whenever an accident occurs.

The union has a claims department through which all cases entitled to benefit under the workmen's compensation law are handled and

[1] International Brotherhood of Electrical Workers. Report of officers to the twentieth regular convention, Miami, Fla., Sept. 9, 1929, pp. 66–103.

[2] Now president.

a trained man is detailed to represent the injured before the State compensation referees. Since its inception the department has handled 1,781 such cases, and compensation has been collected in nonfatal cases amounting to $127,937.

Special attention was given to the case of old members. Although incapable of doing the harder electrical work, they could still handle lighter jobs, but were given no chance to do so. The first step taken was to exempt from the payment of union dues all men 65 years or over who had paid dues for 15 years and had been in continuous good standing for 5 years prior to application for relief from paying dues. Appeal to the employers for the use of these men on certain light jobs being without much result, the union announced that in the future the men to be used on certain jobs, such as maintenance work, temporary light work, and telephone and movie-tone work would be selected by the union. "The aged now receive the first consideration from the officers of the organization."

Charity is no longer resorted to for the care of needy cases. Members of one year's continuous good standing who become ill but who are not entitled to compensation under the State workmen's compensation law, receive sick benefits from the union at the rate of $15 per week for journeymen and $10 for helpers. Payments are made from a fund constituted from deposits of 6 per cent of the quarterly membership dues and all fines for violations of rules. Since the organization of this fund $43,750 has been paid in benefits. In addition, members of the local or their families have since the reorganization received insurance to the amount of $262,215 through the group insurance carried by the local in the international's insurance association, the Union Cooperative Insurance Association. The local also provides death benefits of $1,000. The dues-exempt elderly members participate in these benefits even though they no longer pay dues.

The local has its own legal department, headed by a full-time attorney who works on a salary basis.

It also has its own engineering and research department. The considerations which led to the formation of this department are described as follows:

> Our members have known little or nothing about the actual forces playing through the electrical industry. Neither have the contractors. Our opponents in the building industry have often shown they know less about the actual conditions.
>
> Our members have known little of what industrial science has been doing to them, to their families, and to their organization. Lack of knowledge of our own industry has left many unions throughout the country in a serious and uneasy predicament. Changes vitally affecting the bread and butter and the wives and children of our members have been occurring quite rapidly in recent years, and with little or no warning.
>
> We are a part, a very big part, of our industry. As it fares well or poorly, so fares our organization, our employers, and our members. It is our duty to understand our industry thoroughly. We have stated repeatedly that our industry must come first—not the union.
>
> Those administering the affairs of our New York local saw the absolute necessity of having scientific knowledge of industry, of knowing the exact conditions and influences and changes affecting it. They saw that bare hands are not enough; that brute strength, bluster, and bluff do not go; that facts are more valuable than opinions and guesses. They readily saw we are now in a day of scientific organization. * * *

Through this department we have already discovered many facts, unknown generally to the industry, new even to our own employers—facts highly valuable, which have materially aided us in keeping our members at work and constructively building up the industry to a more healthful and stabilized condition. No longer can we confine our interests simply to getting so much wages a day or to certain working conditions.

This department gathers "statistics of the daily job," and through it the union expects soon "to be able to gauge rather accurately the trend of our industry and know definitely in advance how things will be, say, six months or one year ahead, as to the actual conditions of work, employment, new developments, etc., in the electrical field, and the real effect of these on our members, the organization, and the industry in general."

The report concludes with the following observations as to trade-unions and their future:

Our experience in New York has positively shown us that unions must abandon false and useless issues.

Unions—like all man-made institutions—change slowly, painfully, and criminally, largely because such changes are "new" to labor unions. To-day most unions function much the same as they did 40 years ago. The speeches in union halls are pretty much the same. In this auto age they still use their horses and buggies, and many hang on, like the boy who steals a ride, expecting to be bumped or kicked off any minute.

Our experiences and studies ought now to convince us that if labor organizations are to keep pace with rapidly changing conditions; if they want to rest on a solid footing, render worthwhile service to our members, play square with our honest employers, have respect for and confidence in themselves, and at the same time command a reasonable degree of respect from outsiders, then they must quickly modernize themselves.

Sentiment must go. They must act and function in different terms and on different lines. They must discard most of their worn-out machinery and methods of doing business, revamp their laws and untie the hands of their officers, and get rid of bad timber, drunks, and hangers-on. They must turn loose their horses, junk their buggies, throw away their banners and placards, forget petty phrases and slogans, refuse to allow their meetings to be made a playground for sentimentalists, idealists, ladder climbers, and the so-called lovers of democracy.

They must stop much of the speech making and "grand standing" and begin to operate on the same business basis as a successful employer operates his shop or corporation.

Union leaders must use power with great caution. Power is like dynamite. It is highly dangerous. It makes reckless fools of most men who taste it. It will destroy anyone not reasonably sure of his facts, and who does not exercise great caution.

There is opportunity of capturing science and the methods in every department of union work. We believe local union No. 3 has made a profitable move in this direction. The results speak for themselves. We feel so keenly about this point that we have come to believe that future usefulness of labor unions depends upon their willingness to rebuild their organizations to meet the new industrial conditions.

# INDUSTRIAL DISPUTES

## Strikes and Lockouts in the United States in April, 1930

DATA regarding industrial disputes in the United States for April, 1930, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

Table 1 shows the number of disputes beginning in 1927, 1928, and 1929, number of workers involved, and man-days lost for these years, the number of industrial disputes for each of the months, January, 1928, to April, 1930, inclusive, the number of disputes which began in these months, the number in effect at the end of each month, and the number of workers involved. It also shows, in the last column, the economic loss (in man-days) involved. The number of workdays lost is computed by multiplying the number of workers affected in each dispute by the length of the dispute measured in working-days as normally worked by the industry or trade in question.

The figures for 1929 as shown in Table 1 have been revised in accordance with the bureau's policy of making, shortly after the close of each year, a general revision of the year's figures by incorporating data obtained too late for use in the individual monthly reports. (See p. 130 for final report for 1929.)

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1928, TO APRIL, 1930, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS, 1927, 1928, AND 1929

| Month and year | Number of disputes | | Number of workers involved in disputes | | Number of man-days lost during month or year |
|---|---|---|---|---|---|
| | Beginning in month or year | In effect at end of month | Beginning in month or year | In effect at end of month | |
| 1927: Total | 734 | ---------- | 349,434 | ---------- | 37,799,394 |
| 1928: Total | 629 | ---------- | 357,145 | ---------- | 31,556,947 |
| 1929: Total | 903 | ---------- | 230,463 | ---------- | 9,975,213 |
| *1928* | | | | | |
| January | 48 | 63 | 18,850 | 81,880 | 2,128,028 |
| February | 52 | 58 | 33,441 | 103,496 | 2,145,342 |
| March | 41 | 47 | 7,459 | 76,069 | 2,291,337 |
| April | 71 | 48 | 143,700 | 129,708 | 4,806,232 |
| May | 80 | 56 | 15,640 | 133,546 | 3,455,499 |
| June | 44 | 46 | 31,381 | 143,137 | 3,670,878 |
| July | 54 | 42 | 18,012 | 132,187 | 3,337,386 |
| August | 59 | 42 | 8,887 | 105,760 | 3,553,750 |
| September | 52 | 34 | 8,897 | 62,862 | 2,571,982 |
| October | 61 | 42 | 27,866 | 41,474 | 1,304,913 |
| November | 44 | 38 | 37,840 | 38,745 | 1,300,362 |
| December | 23 | 29 | 5,172 | 35,842 | 991,238 |
| *1929* | | | | | |
| January | 48 | 36 | 14,783 | 39,569 | 951,914 |
| February | 54 | 35 | 22,858 | 40,306 | 926,679 |
| March | 77 | 37 | 14,031 | 40,516 | 1,074,468 |
| April | 117 | 53 | 32,989 | 52,445 | 1,429,437 |
| May | 115 | 73 | 13,668 | 64,853 | 1,727,694 |
| June | 73 | 57 | 19,989 | 58,152 | 1,627,565 |
| July | 80 | 53 | 36,152 | 15,589 | 1,062,428 |
| August | 78 | 43 | 25,616 | 6,714 | 358,148 |
| September | 98 | 49 | 20,233 | 8,132 | 244,864 |
| October | 69 | 31 | 16,315 | 6,135 | 272,018 |
| November | 61 | 32 | 10,443 | 6,067 | 204,457 |
| December | 33 | 21 | 3,386 | 2,343 | 95,541 |
| *1930* | | | | | |
| January | 42 | 21 | 8,879 | 5,316 | 182,202 |
| February | 44 | 33 | 37,301 | 6,562 | 436,788 |
| March [1] | 43 | 30 | 14,531 | 5,461 | 287,446 |
| April [1] | 45 | 39 | 6,319 | 6,776 | 182,713 |

[1] Preliminary figures subject to change.

## Occurrence of Industrial Disputes, by Industries

TABLE 2 gives by industry the number of strikes beginning in February, March, and April, 1930, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN FEBRUARY, MARCH, AND APRIL, 1930

| Industry | Number of disputes beginning in— | | | Number of workers involved in disputes beginning in— | | |
|---|---|---|---|---|---|---|
| | February | March | April | February | March | April |
| Auto, carriage, and wagon workers | | | 2 | | | 270 |
| Bakers | 1 | | | 80 | | |
| Barbers | | 1 | | | 48 | |
| Building trades | 3 | 11 | 15 | 108 | 9,270 | 1,976 |
| Car builders | | | 1 | | | 80 |
| Chauffeurs and teamsters | 5 | 3 | 4 | 224 | 93 | 160 |
| Clothing | 10 | 9 | 3 | 30,897 | 2,392 | 57 |
| Farm labor | 1 | | | 2,000 | | |
| Food workers | | | 1 | | | 140 |
| Furniture | 1 | 1 | 1 | 20 | 22 | 53 |
| Hospital workers | | | 1 | | | 41 |
| Hotel and restaurant workers | 1 | | | 31 | | |
| Iron and steel | 1 | | 1 | 44 | | 500 |
| Jewelry workers | 1 | | | 12 | | |
| Leather | 1 | 1 | | 21 | 44 | |
| Longshoremen | | | 2 | | | 240 |
| Metal trades | 1 | | 1 | 35 | | 39 |
| Miners | 7 | 4 | 5 | 2,638 | 1,303 | 1,397 |
| Motion picture operators, actors, and theater employees | 1 | | | 15 | | |
| Paper and paper-goods workers | | 1 | | | 23 | |
| Stone | | | 2 | | | 85 |
| Street-railway workers | | 1 | | | 645 | |
| Textiles | 8 | 9 | 6 | 1,011 | 416 | 1,281 |
| Other occupations | 2 | 2 | | 165 | 275 | |
| Total | 44 | 43 | 45 | 37,301 | 14,531 | 6,319 |

## Size and Duration of Industrial Disputes, by Industries

TABLE 3 gives the number of industrial disputes beginning in April, 1930, classified by number of workers and by industries:

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN APRIL, 1930, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIES

| Industry | Number of disputes beginning in April, 1930, involving— | | | | |
|---|---|---|---|---|---|
| | 6 and under 20 workers | 20 and under 100 workers | 100 and under 500 workers | 500 and under 1,000 workers | 1,000 and under 5,000 workers |
| Auto, carriage, and wagon workers | | 1 | 1 | | |
| Building trades | 2 | 7 | 5 | 1 | |
| Car builders | | 1 | | | |
| Chauffeurs and teamsters | 1 | 3 | | | |
| Clothing | 2 | 1 | | | |
| Food workers | | | 1 | | |
| Furniture | | 1 | | | |
| Hospital workers | | 1 | | | |
| Iron and steel | | | | 1 | |
| Longshoremen | | 1 | 1 | | |
| Metal trades | | 1 | | | |
| Miners | | | 5 | | |
| Stone | | 2 | | | |
| Textiles | 2 | 2 | 1 | | 1 |
| Total | 7 | 21 | 14 | 2 | 1 |

In Table 4 are shown the number of industrial disputes ending in April, 1930, by industries and classified duration:

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN APRIL, 1930, BY INDUSTRIES AND BY CLASSIFIED DURATION

| Industry | Classified duration of strikes ending in April | | | |
|---|---|---|---|---|
| | One-half month or less | Over one-half and less than 1 month | 1 month and less than 2 months | 2 months and less than 3 months |
| Auto, carriage, and wagon workers | 2 | | | |
| Bakers | | | | 1 |
| Building trades | 9 | 2 | | |
| Chauffeurs and teamsters | 2 | | 1 | |
| Clothing | 1 | 1 | 1 | |
| Furniture | 1 | | | |
| Iron and steel | 1 | | | |
| Longshoremen | 2 | | | |
| Miners | 1 | | | 2 |
| Paper and paper-goods workers | 1 | | | |
| Street-railway workers | | 1 | | |
| Textiles | 4 | 1 | | 1 |
| Other occupations | 1 | | | |
| Total | 25 | 5 | 2 | 4 |

## Principal Strikes and Lockouts Beginning in April, 1930

THE month of April this year has been singularly free from large strikes.

*Building trades workers, Illinois.*—A general "strike-lockout" of building-trades men in Quincy, involving 550 workers, began on April 1, when a strike of the painters to enforce demands for a 5-day week and a wage increase was followed by a lockout of carpenters, plumbers, sheet-metal workers, etc., by the Associated Building Contractors. This dispute is reported to have ended on April 22, work being resumed under conditions that formerly prevailed.

*Steel workers, Pennsylvania.*—A strike involving 500 workers employed by the Apollo Steel Mills at Apollo, Pa., began on April 5 and ended on April 14, when the men agreed to accept a 10 per cent wage reduction until the present depression in the company's business has passed.

## Principal Strikes and Lockouts Continuing into April, 1930

*Taxicab drivers, Pittsburgh.*—This strike, which began January 12, ended, it is understood, with the return of some of the strikers on May 16 after the men had voted in favor of accepting a proposal from the management which included an offer of 37½ per cent of their gross meter receipts. Also, each driver who reports for work before June 10 is to receive a bonus of $2.50 a day for a week. It was expected that service would be normal or near normal on May 17.

## Strikes and Lockouts in the United States, 1916 to 1929

### Summary

WHILE the year 1929 was productive of more labor disputes than any other year since 1926, the number of employees involved was smaller than for any previous year recorded. The relative number of disputes and number of employees for each year 1916 to 1929, is shown (on the basis of 1916=100) in the table following:

TABLE 1.—RELATIVE NUMBER OF DISPUTES AND OF EMPLOYEES INVOLVED, 1916 TO 1929

| Year | Relative number of— | | Year | Relative number of— | |
|---|---|---|---|---|---|
| | Disputes | Employees | | Disputes | Employees |
| 1916 | 100 | 100 | 1923 | 41 | 47 |
| 1917 | 117 | 77 | 1924 | 33 | 41 |
| 1918 | 88 | 78 | 1925 | 34 | 27 |
| 1919 | 96 | 260 | 1926 | 27 | 21 |
| 1920 | 90 | 91 | 1927 | 19 | 22 |
| 1921 | 63 | 69 | 1928 | 17 | 22 |
| 1922 | 29 | 101 | 1929 | 24 | 15 |

The principal causes of disputes still remain wages, hours, and recognition of unions. Nearly 80 per cent of all workers involved were members of labor unions. Building trades, coal mining, clothing, and textiles continue to be the industrial groups most affected by strikes. As compared with 1928, the number of building trades employees on strike in 1929 was slightly more than double; of clothing workers, nearly the same; of coal miners, a little less than one-third; of textile workers only a small decrease is shown for 1929.

The results of strike settlements in 1929 were almost identical with those of 1928, i. e., in favor of employers, 40 as against 41 per cent; in favor of employees, 29 as against 30 per cent; and compromised, 25 as compared with 24 per cent.

Figures in Table 19 show that 46 per cent of all strikes in 1929 were concluded within 6 days and nearly 70 per cent within 14 days.

### Scope and Method of Obtaining Information

INITIAL information regarding industrial disputes in the United States is obtained by the Bureau of Labor Statistics chiefly from the following sources: Labor papers and trade-union journals; trade periodicals; lists of strikes issued by labor, trade, and other organizations; clipping bureaus; daily papers from the most important industrial cities in the United States; and reports of the Conciliation Service of the United States Department of Labor. All leads obtained are verified either by correspondence or through the conciliators of the Department of Labor or special agents of the Bureau of Labor Statistics. For the years 1926 to 1929, inclusive, data are shown only for disputes involving six or more workers and lasting for one day or more, no distinction being made between strikes and lockouts.

In Table 2 are shown the number of disputes beginning in, and in effect at the end of, each month, the number of workers involved, and the man-days lost for the year 1929. The number of man-days lost is the product of the number of days idle multiplied by the number of workers involved and does not attempt to account for any other employment which may have been obtained during the period of idleness caused by the dispute.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH IN 1929

| Month | Number of disputes | | Number of workers involved in disputes | | Number of man-days lost during month |
|---|---|---|---|---|---|
| | Beginning in month | In effect at end of month | Beginning in month | In effect at end of month | |
| January | 48 | 36 | 14,783 | 39,569 | 951,914 |
| February | 54 | 35 | 22,858 | 40,306 | 926,679 |
| March | 77 | 37 | 14,031 | 40,516 | 1,074,468 |
| April | 117 | 53 | 32,989 | 52,445 | 1,429,437 |
| May | 115 | 73 | 13,668 | 64,853 | 1,727,694 |
| June | 73 | 57 | 19,989 | 58,152 | 1,627,565 |
| July | 80 | 53 | 36,152 | 15,589 | 1,062,428 |
| August | 78 | 43 | 25,616 | 6,714 | 358,148 |
| September | 98 | 49 | 20,233 | 8,132 | 244,864 |
| October | 69 | 31 | 16,315 | 6,135 | 272,018 |
| November | 61 | 32 | 10,443 | 6,067 | 204,457 |
| December | 33 | 21 | 3,386 | 2,343 | 95,541 |

## Month of Occurrence

IN TABLE 3 the number of strikes beginning in each month over the period of 14 years may be compared. This table shows that the period of greatest unrest during the year occurs in the months April and May.

TABLE 3.—NUMBER OF DISPUTES BEGINNING IN EACH MONTH

| Year | Number of disputes beginning in— | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Month not stated. | |
| 1916 | 188 | 206 | 294 | 434 | 617 | 354 | 313 | 326 | 252 | 261 | 197 | 149 | 198 | 3,789 |
| 1917 | 288 | 211 | 318 | 445 | 463 | 323 | 448 | 360 | 349 | 322 | 257 | 197 | 469 | 4,450 |
| 1918 | 191 | 223 | 312 | 321 | 392 | 296 | 288 | 278 | 212 | 145 | 208 | 250 | 237 | 3,353 |
| 1919 | 199 | 198 | 192 | 270 | 431 | 322 | 381 | 417 | 425 | 334 | 165 | 140 | 156 | 3,630 |
| 1920 | 280 | 214 | 288 | 427 | 422 | 317 | 298 | 264 | 231 | 192 | 106 | 108 | 264 | 3,411 |
| 1921 | 238 | 172 | 194 | 292 | 575 | 152 | 167 | 143 | 124 | 90 | 92 | 76 | 70 | 2,385 |
| 1922 | 131 | 96 | 75 | 109 | 104 | 64 | 101 | 95 | 85 | 64 | 64 | 43 | 81 | 1,112 |
| 1923 | 69 | 72 | 123 | 212 | 246 | 133 | 146 | 106 | 93 | 117 | 66 | 59 | 111 | 1,553 |
| 1924 | 102 | 70 | 118 | 144 | 155 | 98 | 89 | 81 | 71 | 74 | 61 | 40 | 146 | 1,249 |
| 1925 | 94 | 89 | 83 | 161 | 161 | 108 | 103 | 123 | 104 | 77 | 63 | 45 | 90 | 1,301 |
| 1926 | 62 | 74 | 84 | 127 | 141 | 73 | 84 | 98 | 85 | 60 | 48 | 33 | 66 | 1,035 |
| 1927 | 37 | 65 | 74 | 87 | 107 | 80 | 65 | 57 | 57 | 50 | 27 | 28 | ..... | 734 |
| 1928 | 48 | 52 | 41 | 71 | 80 | 44 | 54 | 59 | 52 | 61 | 44 | 23 | ..... | 629 |
| 1929 | 48 | 54 | 77 | 117 | 115 | 73 | 80 | 78 | 98 | 69 | 61 | 33 | ..... | 903 |

## Place of Occurrence of Disputes

IN TABLE 4 the number of disputes, by States and geographical groups, is shown for the 14-year period, 1916 to 1929. For the first year since the bureau has been making this compilation, New York

has fallen from first to second place in the number of disputes reported, being supplanted by the State of Pennsylvania, which reported 184 disputes as against 179 reported in New York. Nearly 60 per cent of all disputes reported occurred in the four States, Pennsylvania, New York, Massachusetts, and New Jersey.

TABLE 4.—NUMBER OF DISPUTES BEGINNING IN EACH YEAR, BY STATE AND SECTION OF COUNTRY

| State and section | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 15 | 20 | 13 | 18 | 25 | 15 | 4 | 6 | ---- | 3 | 5 | 1 | ---- | 1 |
| Alaska | 3 | 5 | 3 | 3 | 1 | 1 | ---- | ---- | ---- | 2 | ---- | ---- | ---- | ---- |
| Arizona | 7 | 20 | 4 | 7 | 9 | 4 | 1 | 1 | ---- | ---- | 1 | ---- | 3 | ---- |
| Arkansas | 20 | 36 | 11 | 7 | 15 | 7 | 2 | 2 | 3 | 4 | ---- | ---- | 1 | 2 |
| California | 55 | 112 | 94 | 102 | 120 | 99 | 37 | 47 | 29 | 40 | 34 | 20 | 16 | 28 |
| Colorado | 17 | 48 | 32 | 31 | 22 | 27 | 7 | 3 | 5 | 10 | 5 | 5 | 5 | 1 |
| Connecticut | 326 | 178 | 92 | 135 | 128 | 61 | 30 | 52 | 26 | 46 | 29 | 27 | 11 | 13 |
| Delaware | 12 | 17 | 14 | 11 | 10 | 4 | 1 | 1 | ---- | 4 | 8 | 2 | ---- | 3 |
| District of Columbia | 8 | 14 | 13 | 10 | 14 | 5 | 4 | 6 | 5 | 11 | 6 | ---- | 2 | 6 |
| Florida | 9 | 16 | 20 | 30 | 9 | 19 | 5 | 4 | 2 | 10 | 16 | 6 | 2 | 2 |
| Georgia | 8 | 28 | 40 | 39 | 29 | 21 | 3 | 4 | 4 | 5 | 9 | 1 | 1 | 3 |
| Idaho | 5 | 32 | 10 | 10 | 5 | 3 | ---- | 1 | ---- | ---- | ---- | ---- | ---- | ---- |
| Illinois | 159 | 282 | 248 | 267 | 254 | 164 | 63 | 72 | 80 | 84 | 72 | 44 | 40 | 52 |
| Indiana | 75 | 73 | 76 | 106 | 99 | 61 | 15 | 35 | 28 | 45 | 32 | 16 | 13 | 34 |
| Iowa | 26 | 65 | 41 | 57 | 47 | 42 | 15 | 14 | 15 | 12 | 14 | 6 | 8 | 5 |
| Kansas | 15 | 53 | 41 | 45 | 14 | 21 | 4 | 5 | 6 | 12 | 2 | 1 | 2 | 5 |
| Kentucky | 13 | 38 | 19 | 26 | 22 | 17 | 10 | 11 | 12 | 2 | 12 | 12 | 4 | 7 |
| Louisiana | 8 | 39 | 23 | 51 | 37 | 29 | 8 | 16 | 7 | 3 | 5 | 2 | 3 | 8 |
| Maine | 30 | 40 | 36 | 40 | 22 | 24 | 11 | 7 | 6 | 10 | 1 | 3 | 5 | 7 |
| Maryland | 48 | 59 | 72 | 41 | 57 | 27 | 12 | 19 | 25 | 17 | 7 | 9 | 8 | 13 |
| Massachusetts | 383 | 353 | 347 | 396 | 377 | 201 | 139 | 217 | 97 | 162 | 113 | 70 | 95 | 77 |
| Michigan | 71 | 64 | 60 | 84 | 63 | 71 | 18 | 19 | 10 | 14 | 12 | 7 | 7 | 16 |
| Minnesota | 30 | 53 | 40 | 49 | 50 | 45 | 9 | 14 | 4 | 5 | 9 | 11 | 3 | 9 |
| Mississippi | 4 | 13 | 5 | 2 | 4 | 9 | ---- | 1 | ---- | ---- | ---- | 2 | ---- | 1 |
| Missouri | 97 | 122 | 105 | 69 | 63 | 54 | 26 | 27 | 35 | 11 | 9 | 14 | 8 | 17 |
| Montana | 15 | 77 | 33 | 23 | 16 | 21 | 2 | 7 | 1 | 1 | 4 | 3 | 2 | 4 |
| Nebraska | 21 | 28 | 11 | 17 | 12 | 11 | 3 | 1 | 2 | 2 | 1 | 2 | ---- | 2 |
| Nevada | ---- | 2 | 7 | 5 | 4 | 1 | 3 | 1 | 1 | ---- | ---- | 1 | ---- | ---- |
| New Hampshire | 20 | 20 | 17 | 34 | 32 | 6 | 30 | 6 | 8 | 5 | 8 | 4 | 4 | 3 |
| New Jersey | 417 | 227 | 138 | 183 | 145 | 125 | 71 | 78 | 92 | 92 | 84 | 59 | 46 | 76 |
| New Mexico | ---- | 4 | 2 | 4 | 1 | 2 | ---- | ---- | ---- | ---- | ---- | 1 | ---- | ---- |
| New York | 592 | 711 | 689 | 536 | 600 | 384 | 202 | 403 | 281 | 301 | 216 | 181 | 131 | 179 |
| North Carolina | 8 | 7 | 14 | 22 | 21 | 26 | 6 | 6 | 4 | 7 | 2 | 7 | 1 | 17 |
| North Dakota | ---- | 2 | 3 | ---- | 4 | 8 | 2 | 1 | 1 | ---- | ---- | ---- | ---- | ---- |
| Ohio | 290 | 279 | 197 | 237 | 206 | 167 | 73 | 65 | 68 | 73 | 68 | 21 | 27 | 41 |
| Oklahoma | 24 | 35 | 19 | 32 | 24 | 29 | 9 | 2 | 6 | 10 | 2 | 3 | 3 | 3 |
| Oregon | 23 | 58 | 18 | 38 | 22 | 23 | 8 | 15 | 13 | 5 | 8 | 10 | 6 | 7 |
| Pennsylvania | 574 | 494 | 311 | 280 | 250 | 222 | 101 | 234 | 261 | 184 | 162 | 123 | 113 | 184 |
| Rhode Island | 77 | 105 | 53 | 78 | 89 | 42 | 37 | 25 | 5 | 25 | 28 | 23 | 9 | 17 |
| South Carolina | 5 | 7 | 3 | 11 | 5 | 12 | 2 | 1 | 1 | ---- | 1 | ---- | ---- | 16 |
| South Dakota | ---- | 3 | 3 | 3 | 5 | 3 | ---- | ---- | 1 | ---- | ---- | ---- | ---- | 1 |
| Tennessee | 26 | 42 | 26 | 40 | 27 | 28 | 8 | 7 | 10 | 3 | 7 | 4 | 7 | 6 |
| Texas | 28 | 56 | 41 | 50 | 73 | 64 | 10 | 15 | 16 | 11 | 4 | 9 | 5 | 5 |
| Utah | 3 | 21 | 14 | 22 | 14 | 5 | 1 | 1 | 2 | 2 | ---- | 1 | ---- | 1 |
| Vermont | 10 | 8 | 9 | 13 | 12 | 2 | 13 | ---- | ---- | 4 | 1 | 1 | 1 | 1 |
| Virginia | 16 | 35 | 37 | 28 | 31 | 14 | 5 | 3 | 4 | 1 | 3 | 1 | 3 | 5 |
| Washington | 58 | 294 | 130 | 113 | 69 | 63 | 22 | 36 | 15 | 15 | 5 | 9 | 13 | 10 |
| West Virginia | 40 | 64 | 50 | 63 | 49 | 28 | 8 | 28 | 23 | 20 | 11 | 3 | ---- | 2 |
| Wisconsin | 63 | 57 | 54 | 77 | 68 | 41 | 21 | 10 | 15 | 14 | 8 | 3 | 8 | 6 |
| Wyoming | ---- | 2 | 5 | 4 | 6 | 4 | ---- | 1 | 1 | 1 | ---- | ---- | 3 | ---- |
| Interstate | 4 | 25 | 4 | 21 | 10 | 19 | 27 | 23 | 10 | 12 | 8 | 6 | 10 | 7 |
| United States [1] | 3,758 | 4,443 | 3,347 | 3,571 | 3,291 | 2,381 | 1,088 | 1,553 | 1,240 | 1,300 | 1,032 | 734 | 629 | 903 |
| North of the Ohio and east of the Mississippi | 3,186 | 3,034 | 2,466 | 2,678 | 2,431 | 1,607 | 840 | 1,249 | 1,007 | 1,091 | 869 | 587 | 520 | 728 |
| South of the Ohio and east of the Mississippi | 147 | 309 | 243 | 278 | 227 | 186 | 66 | 71 | 60 | 51 | 66 | 49 | 18 | 60 |
| West of the Mississippi | 421 | 1,075 | 634 | 594 | 623 | 569 | 155 | 210 | 163 | 146 | 89 | 92 | 81 | 108 |
| Interstate | 4 | 25 | 4 | 21 | 10 | 19 | 27 | 23 | 10 | 12 | 8 | 6 | 10 | 7 |

[1] Does not include strikes in Hawaii, Porto Rico, Canal Zone, and Virgin Islands.

New York City continues to show a greater number of disputes than any other city. Nearly one-third (30 per cent) of all strikes reported for the year 1929 occurred in the six cities, New York, Philadelphia, Chicago, Paterson, Boston, and Newark, N. J. In the New England cities a sharp decrease in the number of strikes as compared with 1928 is noted, while other cities throughout the country showed generally a marked increase.

TABLE 5.—NUMBER OF DISPUTES IN CITIES IN WHICH 25 OR MORE DISPUTES OCCURRED IN ANY YEAR

| City | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Baltimore, Md | 39 | 36 | 47 | 26 | 34 | 22 | 9 | 15 | 23 | 15 | 4 | 7 | 7 | 10 |
| Boston, Mass | 62 | 87 | 68 | 98 | 51 | 43 | 22 | 43 | 31 | 49 | 39 | 22 | 24 | 19 |
| Bridgeport, Conn | 38 | 30 | 13 | 25 | 10 | 2 | 3 | 2 | 1 | 4 | 5 | 5 | 3 | 1 |
| Buffalo, N. Y | 41 | 28 | 24 | 20 | 47 | 20 | 8 | 8 | 11 | 8 | 6 | 3 | 8 | 8 |
| Chicago, Ill | 73 | 123 | 100 | 126 | 125 | 89 | 26 | 44 | 29 | 58 | 39 | 29 | 11 | 32 |
| Cincinnati, Ohio | 29 | 33 | 26 | 39 | 31 | 18 | 10 | 10 | 5 | 3 | 5 | ----- | 1 | 4 |
| Cleveland, Ohio | 60 | 76 | 39 | 47 | 41 | 26 | 22 | 13 | 16 | 20 | 15 | 5 | 10 | 11 |
| Denver, Colo | 8 | 26 | 19 | 22 | 15 | 16 | 2 | 2 | 2 | 6 | 3 | 2 | 3 | 1 |
| Detroit, Mich | 31 | 19 | 18 | 40 | 24 | 39 | 12 | 14 | 7 | 9 | 9 | 5 | 3 | 10 |
| Fall River, Mass | 20 | 13 | 18 | 28 | 22 | 10 | 8 | 3 | 2 | 10 | 4 | 8 | 17 | 2 |
| Hartford, Conn | 28 | 21 | 8 | 17 | 19 | 2 | 2 | 1 | 3 | 1 | 3 | 1 | 1 | 2 |
| Holyoke, Mass | 26 | 9 | 17 | 18 | 15 | 3 | 1 | 8 | 1 | 3 | 5 | ----- | ----- | 3 |
| Jersey City, N. J | 28 | 24 | 7 | 25 | 14 | 9 | 9 | 5 | 7 | 6 | 7 | 2 | 3 | 3 |
| Kansas City, Mo | 20 | 36 | 20 | 16 | 13 | 17 | 9 | 6 | 10 | 2 | 3 | 2 | 1 | 2 |
| Lynn, Mass | 8 | 8 | 22 | 11 | 27 | 12 | 14 | 10 | 6 | 12 | 15 | 3 | 15 | 8 |
| Milwaukee, Wis | 30 | 14 | 11 | 27 | 28 | 9 | 11 | 6 | 2 | 4 | 8 | ----- | 2 | 1 |
| Newark, N. J | 55 | 50 | 36 | 33 | 16 | 23 | 6 | 13 | 11 | 15 | 7 | 4 | 9 | 13 |
| New Orleans, La | 7 | 23 | 20 | 40 | 29 | 23 | 7 | 11 | 5 | 2 | 5 | 1 | 2 | 5 |
| New York, N. Y | 363 | 484 | 484 | 370 | 341 | 193 | 140 | 296 | 204 | 228 | 133 | 127 | 90 | 113 |
| Paterson, N. J | 18 | 27 | 20 | 15 | 12 | 17 | 14 | 16 | 21 | 12 | 7 | 5 | 10 | 23 |
| Philadelphia, Pa | 74 | 89 | 80 | 60 | 59 | 61 | 21 | 32 | 54 | 37 | 30 | 23 | 22 | 73 |
| Pittsburgh, Pa | 47 | 37 | 19 | 19 | 15 | 23 | 1 | 5 | 12 | 11 | 8 | 8 | 6 | 11 |
| Providence, R. I | 21 | 46 | 18 | 31 | 32 | 17 | 6 | 5 | 2 | 8 | 14 | 9 | 2 | 4 |
| Rochester, N. Y | 16 | 27 | 35 | 13 | 37 | 36 | 17 | 12 | 13 | 5 | 1 | 11 | 2 | 5 |
| San Francisco, Calif | 23 | 37 | 30 | 34 | 26 | 22 | 7 | 14 | 4 | 11 | 7 | 7 | 2 | 5 |
| St. Louis, Mo | 58 | 53 | 70 | 39 | 40 | 26 | 11 | 19 | 21 | 8 | 4 | 10 | 5 | 12 |
| Seattle, Wash | 15 | 49 | 29 | 24 | 26 | 21 | 5 | 14 | 6 | 4 | 2 | 1 | 4 | 2 |
| Springfield, Mass | 31 | 27 | 12 | 20 | 27 | 6 | 6 | 10 | 4 | 7 | 2 | ----- | ----- | 2 |
| Toledo, Ohio | 16 | 16 | 27 | 24 | 20 | 15 | 3 | 8 | 3 | 2 | 3 | ----- | 1 | 2 |
| Trenton, N. J | 25 | 15 | 11 | 4 | 21 | 5 | 1 | 3 | 3 | 4 | 2 | 2 | 1 | 6 |
| Wilkes-Barre, Pa | 6 | 25 | 8 | 4 | 9 | 10 | 7 | 12 | 7 | 4 | 2 | 8 | 8 | 3 |
| Worcester, Mass | 18 | 12 | 11 | 28 | 18 | 12 | 2 | 9 | 4 | 7 | 3 | 2 | 2 | 1 |
| Youngstown, Ohio | 27 | 1 | 5 | 14 | 4 | 6 | 4 | 5 | 1 | 4 | 6 | ----- | 1 | 1 |

## Sex of Workers Involved

TABLE 6 shows the number of disputes involving males, females, or both sexes, by years, 1916 to 1929.

TABLE 6.—NUMBER OF DISPUTES BEGINNING IN EACH YEAR, BY SEX OF EMPLOYEES

| Sex of persons involved | Number of disputes beginning in— | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Males only | 3,121 | 3,611 | 2,467 | 2,818 | 2,347 | 1,750 | 676 | 983 | 877 | 891 | 831 | 587 | 450 | 590 |
| Females only | 122 | 158 | 90 | 88 | 78 | 30 | 22 | 31 | 23 | 31 | 33 | 15 | 15 | 22 |
| Both sexes | 269 | 190 | 278 | 521 | 343 | 558 | 357 | 445 | 280 | 338 | 150 | 132 | 164 | 291 |
| Not reported | 277 | 491 | 518 | 203 | 643 | 47 | 57 | 94 | 69 | 41 | 21 | ----- | ----- | ----- |
| Total | 3,789 | 4,450 | 3,353 | 3,630 | 3,411 | 2,385 | 1,112 | 1,553 | 1,249 | 1,301 | 1,035 | 734 | 629 | 903 |

## Relation to Labor Unions

APPROXIMATELY 80 per cent of all disputes occurring in 1929 involved union workers. Table 7, which follows, gives the number of strikes in which union, nonunion, and mixed groups of workers were reported.

TABLE 7.—RELATION OF WORKERS TO LABOR UNIONS

| Relation of workers to union | Number of disputes | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Connected with unions | 2,458 | 2,392 | 1,903 | 2,033 | 2,506 | 2,038 | 844 | 1,265 | 1,063 | 1,018 | 823 | 614 | 534 | 711 |
| Not connected with unions | 446 | 209 | 362 | 143 | 137 | 62 | 37 | 77 | 69 | 142 | 93 | 67 | 66 | 157 |
| Organized after dispute began | 71 | 55 | 26 | 30 | 8 | 5 | 5 | 18 | 14 | 16 | 19 | 16 | 4 | 20 |
| Union and nonunion workers | | | | | | | 12 | 29 | 31 | 38 | 15 | 5 | 4 | 15 |
| Not reported | 814 | 1,794 | 1,062 | 1,424 | 760 | 280 | 214 | 164 | 72 | 87 | 85 | 32 | 21 | |
| Total | 3,789 | 4,450 | 3,353 | 3,630 | 3,411 | 2,385 | 1,112 | 1,553 | 1,249 | 1,301 | 1,035 | 734 | 629 | 903 |

While unsatisfactory working conditions and discharge of employees show cause for a large number of disputes, the principal causes of industrial disputes continue to center in the three groups—wages, hours, or recognition of union.

Reference to Table 8 shows that 375 or 42 per cent of all disputes beginning in 1929 involved some question of wages and 683 or 76 per cent were brought about over questions of wages, hours, or recognition of union as prime factors.

In Table 8 are given the principal causes of disputes grouped according to their importance.

TABLE 8.—PRINCIPAL CAUSES OF DISPUTES BEGINNING IN EACH YEAR

| Cause of dispute | Number of disputes beginning in— | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Increase of wages | 1,301 | 1,571 | 1,397 | 1,115 | 1,429 | 120 | 156 | 445 | 255 | 277 | 260 | 142 | 98 | 101 |
| Decrease of wages | 35 | 36 | 36 | 86 | 147 | 896 | 261 | 49 | 125 | 117 | 52 | 57 | 53 | 72 |
| Increase of wages and decrease of hours | 481 | 378 | 256 | 578 | 269 | 34 | 16 | 58 | 30 | 29 | 39 | 43 | 27 | 75 |
| Decrease of wages and increase of hours | | | | | | 77 | 40 | | 7 | 4 | 1 | 1 | 1 | 2 |
| Other causes involving wages | 96 | 115 | 93 | 110 | 121 | 55 | 76 | 144 | 96 | 97 | 101 | 85 | 113 | 125 |
| Decrease of hours | 113 | 132 | 79 | 117 | 62 | 294 | 22 | 16 | 18 | 7 | 19 | 20 | 6 | 16 |
| Increase of hours | 7 | 18 | 6 | 25 | 8 | 18 | 12 | 5 | 5 | 6 | 4 | 3 | 3 | |
| Other causes involving hours | 3 | 18 | 2 | 5 | 2 | 7 | | 4 | 1 | | 2 | 9 | 5 | 23 |
| Recognition of unions | 404 | 333 | 241 | 522 | 308 | 191 | 137 | 153 | 152 | 109 | 117 | 119 | 71 | 92 |
| Recognition and wages | 93 | 132 | 79 | 78 | 87 | 106 | 10 | 37 | 21 | 30 | 11 | 20 | 22 | 50 |
| Recognition and hours | 20 | 27 | 16 | 16 | 6 | 14 | 3 | 6 | 1 | 1 | | 2 | 2 | 1 |
| Recognition, wages, and hours | 56 | 48 | 49 | 76 | 45 | 11 | 8 | 25 | 7 | 4 | 13 | 7 | 14 | 26 |
| Recognition and other conditions | 4 | 13 | 7 | 14 | 6 | 6 | 6 | 8 | 9 | 1 | 4 | 23 | 16 | 100 |
| General conditions | 68 | 116 | 93 | 123 | 116 | 83 | 72 | 80 | 79 | 89 | 66 | 47 | 17 | 95 |
| Discharge of employees | 144 | 246 | 192 | 163 | 170 | 45 | 44 | 79 | 54 | 74 | 61 | 50 | 58 | 41 |
| Unfair products | 7 | 9 | 1 | 5 | 30 | 27 | 18 | 7 | 8 | 4 | 16 | 3 | 7 | 2 |
| Sympathy | 33 | 71 | 35 | 108 | 67 | 36 | 33 | 31 | 22 | 39 | 29 | 23 | 8 | 20 |
| Jurisdiction and protest | 19 | 21 | 16 | 16 | 20 | 10 | 10 | 13 | 23 | 59 | 17 | 13 | 33 | 21 |
| Other conditions | 274 | 374 | 294 | 223 | 213 | 192 | 125 | 310 | 228 | 254 | 175 | | 75 | 41 |
| Not reported | 631 | 792 | 461 | 250 | 305 | 163 | 63 | 83 | 108 | 100 | 48 | 67 | | |
| Total | 3,789 | 4,450 | 3,353 | 3,630 | 3,411 | 2,385 | 1,112 | 1,553 | 1,249 | 1,301 | 1,035 | 734 | 629 | 903 |

## Size of Disputes

THE number of disputes classified according to the number of workers involved is shown in Table 9 by years, while Table 10 shows the total and average number of disputes and the total number of workers, 1916 to 1929. It may be noted that the smallest average number of workers involved was in 1929.

TABLE 9.—NUMBER OF DISPUTES BEGINNING IN EACH YEAR, BY CLASSIFIED NUMBER OF PERSONS INVOLVED

| Number involved | Number of disputes beginning in— | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| 1 to 10 | 210 | 171 | 152 | 186 | 161 | 257 | 80 | 128 | 125 | 142 | 60 | 83 | 61 | 63 |
| 11 to 25 | 355 | 304 | 279 | 297 | 322 | 336 | 128 | 182 | 120 | 167 | 153 | 158 | 155 | 188 |
| 26 to 50 | 427 | 350 | 343 | 353 | 349 | 287 | 156 | 206 | 145 | 195 | 105 | 137 | 126 | 160 |
| 51 to 100 | 420 | 361 | 357 | 404 | 367 | 352 | 159 | 157 | 114 | 166 | 124 | 112 | 82 | 156 |
| 101 to 250 | 399 | 368 | 384 | 494 | 381 | 245 | 144 | 161 | 119 | 147 | 119 | 106 | 71 | 151 |
| 251 to 500 | 354 | 287 | 287 | 356 | 289 | 164 | 91 | 135 | 93 | 97 | 96 | 60 | 47 | 86 |
| 501 to 1,000 | 241 | 194 | 143 | 217 | 145 | 103 | 61 | 78 | 81 | 52 | 66 | 45 | 34 | 46 |
| 1,001 to 10,000 | 238 | 223 | 204 | 332 | 184 | 133 | 61 | 119 | 78 | 43 | 58 | 31 | 49 | 52 |
| Over 10,000 | 23 | 68 | 17 | 54 | 19 | 15 | 16 | 5 | 13 | 3 | 2 | 2 | 4 | 1 |
| Not reported | 1,122 | 2,124 | 1,187 | 937 | 1,194 | 593 | 216 | 382 | 361 | 289 | 252 | ..... | ..... | ..... |
| Total | 3,789 | 4,450 | 3,353 | 3,630 | 3,411 | 2,385 | 1,112 | 1,553 | 1,249 | 1,301 | 1,035 | 734 | 629 | 903 |

TABLE 10.—NUMBER OF DISPUTES BEGINNING IN EACH YEAR FOR WHICH NUMBER OF EMPLOYEES IS REPORTED, AND TOTAL AND AVERAGE NUMBER INVOLVED, 1916 TO 1929

| Year | Disputes in which number of employees is reported | | | Year | Disputes in which number of employees is reported | | |
|---|---|---|---|---|---|---|---|
| | Number of disputes | Number of employees | Average number of employees per dispute | | Number of disputes | Number of employees | Average number of employees per dispute |
| 1916 | 2,667 | 1,599,917 | 600 | 1923 | 1,199 | 756,584 | 631 |
| 1917 | 2,325 | 1,227,254 | 528 | 1924 | 898 | 654,641 | 729 |
| 1918 | 2,151 | 1,239,989 | 576 | 1925 | 1,012 | 428,416 | 423 |
| 1919 | 2,665 | 4,160,348 | 1,561 | 1926 | 783 | 329,592 | 421 |
| 1920 | 2,226 | 1,463,054 | 657 | 1927 | 734 | 349,434 | 476 |
| 1921 | 1,785 | 1,099,247 | 616 | 1928 | 629 | 357,145 | 568 |
| 1922 | 899 | 1,612,562 | 1,794 | 1929 | 903 | 230,463 | 255 |

The bureau has defined "establishment" as a working place and not as a company, since the term company frequently involves several separate and distinct units. Even with this definition, it has proved to be quite difficult to obtain accurate information on this subject, but the best obtainable data are shown in Table 11, which follows.

TABLE 11.—NUMBER OF ESTABLISHMENTS INVOLVED

| Establishments involved | Number of disputes | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| One | 3,078 | 2,541 | 2,136 | 1,989 | 1,071 | 745 | 1,133 | 820 | 898 | 649 | 453 | 427 | 639 |
| Two | 143 | 70 | 142 | 86 | 113 | 28 | 56 | 34 | 60 | 26 | 36 | 24 | 38 |
| Three | 73 | 42 | 99 | 59 | 94 | 17 | 35 | 23 | 25 | 23 | 18 | 20 | 37 |
| Four | 41 | 23 | 59 | 40 | 62 | 17 | 15 | 16 | 24 | 10 | 16 | 18 | 9 |
| Five | 18 | 90 | 52 | 35 | 43 | 9 | 10 | 17 | 12 | 14 | 14 | 17 | 46 |
| Over five | 403 | 327 | 910 | 426 | 584 | 104 | 103 | 84 | 98 | 94 | 163 | 95 | 134 |
| Not reported | 694 | 260 | 232 | 776 | 418 | 192 | 201 | 255 | 184 | 219 | 34 | 28 | ------ |
| Total | 4,450 | 3,353 | 3,630 | 3,411 | 2,385 | 1,112 | 1,553 | 1,249 | 1,301 | 1,035 | 734 | 629 | 903 |

## Industries Involved in Labor Disputes

BUILDING trades, clothing, coal mining, and textiles continue to stand out most prominently in the number of workers involved. Of the 230,463 persons reported on strike during the past calendar year, 195,333 or 85 per cent were employed in the above industry groups. Table 12, which follows, shows the number of workers involved in 1928 and 1929, by industry.

TABLE 12.—NUMBER OF PERSONS DIRECTLY INVOLVED IN INDUSTRIAL DISPUTES 1928 AND 1929, BY SELECTED INDUSTRIES

| Industry | 1928 | 1929 | Industry | 1928 | 1929 |
|---|---|---|---|---|---|
| Building trades | 19,965 | 44,198 | Printing and publishing | 487 | 1,564 |
| Clothing | 65,686 | 60,540 | Shipbuilding | 830 | 300 |
| Furniture | 618 | 2,917 | Slaughtering, meat cutting, and packing | 752 | 623 |
| Iron and steel | 346 | 915 | Stone work | 2,103 | 200 |
| Leather | 196 | 1,403 | Textiles | 35,284 | 26,393 |
| Lumber | 598 | 568 | Tobacco | 59 | 881 |
| Metal trades | 1,266 | 6,340 | Transportation, steam and electric | 364 | 2,124 |
| Mining, coal | 195,876 | 64,202 | | | |
| Paper manufacturing | 1,301 | 102 | | | |

The number of disputes in selected industry groups, by years, 1916 to 1929, is shown in Table 13.

TABLE 13.—NUMBER OF DISPUTES IN SELECTED INDUSTRY GROUPS

| Industry | Number of disputes | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Building trades | 394 | 468 | 434 | 473 | 521 | 583 | 113 | 208 | 270 | 349 | 272 | 194 | 134 | 212 |
| Clothing | 227 | 495 | 436 | 322 | 336 | 240 | 240 | 395 | 238 | 231 | 194 | 129 | 124 | 169 |
| Furniture | 50 | 43 | 26 | 35 | 26 | 17 | 4 | 12 | 35 | 56 | 46 | 41 | 25 | 32 |
| Iron and steel | 72 | 56 | 74 | 76 | 25 | 25 | 10 | 10 | 7 | 7 | 2 | 2 | 2 | 3 |
| Leather | 34 | 19 | 16 | 27 | 32 | 26 | 17 | 17 | 5 | 5 | 11 | 12 | 5 | 11 |
| Lumber | 44 | 299 | 76 | 46 | 38 | 25 | 10 | 19 | 6 | 9 | 3 | 3 | 7 | 3 |
| Metal trades | 547 | 515 | 441 | 581 | 452 | 194 | 83 | 113 | 58 | 48 | 75 | 19 | 28 | 53 |
| Mining, coal | 373 | 355 | 162 | 148 | 161 | 87 | 44 | 158 | 177 | 100 | 78 | 60 | 83 | 77 |
| Mining, other | 43 | 94 | 46 | 28 | 22 | 8 | 5 | 1 | 1 | 4 | ---- | ---- | ---- | ---- |
| Paper manufacturing | 54 | 41 | 40 | 47 | 39 | 42 | 12 | 16 | 6 | 6 | 10 | 1 | 2 | 3 |
| Printing and publishing | 27 | 41 | 40 | 71 | 83 | 506 | 56 | 19 | 12 | 14 | 9 | 22 | 10 | 8 |
| Shipbuilding | 31 | 106 | 140 | 109 | 45 | 20 | 4 | 6 | 1 | ---- | ---- | ---- | 2 | 1 |
| Slaughtering, meat cutting, and packing | 70 | 38 | 42 | 74 | 42 | 30 | 6 | 11 | 14 | 2 | 5 | 5 | 4 | 3 |
| Stone | 61 | 26 | 14 | 13 | 29 | 34 | 61 | 15 | 15 | 17 | 11 | 4 | 8 | 2 |
| Textiles | 261 | 247 | 212 | 273 | 211 | 114 | 115 | 134 | 80 | 139 | 90 | 80 | 65 | 130 |
| Tobacco | 63 | 47 | 50 | 58 | 38 | 19 | 13 | 16 | 12 | 4 | 14 | 3 | 2 | 5 |
| Transportation, steam and electric | 228 | 343 | 227 | 191 | 241 | 37 | 67 | 31 | 18 | 7 | 8 | 1 | 3 | 5 |

The number of disputes by selected occupations is shown in Table 14 by years, 1916 to 1929.

TABLE 14.—NUMBER OF DISPUTES IN SPECIFIED OCCUPATIONS, BY YEARS

| Occupation | Number of disputes | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Bakers | 81 | 106 | 47 | 88 | 75 | 99 | 24 | 35 | 72 | 55 | 14 | 8 | 10 | 7 |
| Boiler makers | 23 | 44 | 28 | 31 | 22 | 16 | 4 | 9 | 3 | 5 | 4 | ----- | ----- | 6 |
| Boot and shoe workers | 45 | 38 | 50 | 54 | 63 | 28 | 55 | 53 | 27 | 31 | 25 | 13 | 34 | 53 |
| Brewery workers | 21 | 22 | 27 | 23 | 25 | 24 | 12 | 4 | 10 | 6 | 2 | 2 | 2 | ----- |
| Brick and tile workers | 23 | 9 | 5 | 16 | 21 | 12 | 14 | 6 | 8 | 13 | 7 | 1 | ----- | 4 |
| Building laborers and hod carriers | 54 | 74 | 27 | 49 | 90 | 10 | 7 | 39 | 19 | 35 | 26 | 22 | 18 | 27 |
| Carpenters | 75 | 101 | 81 | 96 | 73 | 49 | 20 | 22 | 34 | 50 | 27 | 22 | 35 | 48 |
| Chauffeurs and teamsters | 108 | 164 | 129 | 95 | 130 | 43 | 20 | 51 | 39 | 44 | 22 | 25 | 16 | 62 |
| Freight handlers and longshoremen | 158 | 194 | 89 | 58 | 68 | 36 | 18 | 23 | 12 | 10 | 7 | 3 | 1 | 4 |
| Glass workers | 41 | 23 | 13 | 9 | 11 | 2 | 4 | 14 | 7 | 8 | 6 | 10 | 4 | 2 |
| Hat and cap and fur workers | 26 | 52 | 38 | 38 | 51 | 25 | 40 | 25 | 34 | 25 | 32 | 19 | 12 | 17 |
| Inside wiremen | 32 | 33 | 45 | 33 | 51 | 29 | 7 | 9 | 18 | 16 | 17 | 12 | 10 | 46 |
| Machinists | 257 | 204 | 207 | 202 | 127 | 29 | 8 | 13 | 6 | ----- | 15 | ----- | 1 | 5 |
| Metal polishers | 43 | 25 | 29 | 61 | 78 | 8 | 3 | 4 | 10 | 8 | 10 | 3 | 6 | 7 |
| Miners, coal | 373 | 355 | 162 | 148 | 161 | 87 | 44 | 158 | 177 | 99 | 78 | 60 | 83 | 53 |
| Molders | 145 | 156 | 110 | 181 | 145 | 93 | 38 | 54 | 29 | 13 | 21 | 12 | 15 | 14 |
| Painters and paper hangers | 46 | 45 | 61 | 81 | 46 | 62 | 10 | 20 | 25 | 29 | 22 | 23 | 10 | 39 |
| Plumbers and steam fitters | 53 | 53 | 72 | 55 | 81 | 82 | 21 | 25 | 42 | 55 | 38 | 28 | 23 | 57 |
| Rubber workers | 38 | 19 | 15 | 15 | 14 | 3 | 3 | 7 | 2 | 6 | 2 | 2 | 2 | 4 |
| Sheet-metal workers | 23 | 33 | 45 | 19 | 14 | 82 | 8 | 13 | 18 | 9 | 18 | 6 | 3 | 19 |
| Street railway employees | 56 | 118 | 117 | 110 | 81 | 12 | 19 | 21 | 14 | 5 | 8 | 2 | 3 | 2 |
| Structural-iron workers | 23 | 16 | 20 | 15 | 32 | 5 | 6 | 18 | 13 | 16 | 12 | 10 | 13 | 28 |
| Tailors | 38 | 59 | 51 | 70 | 42 | 58 | 19 | 32 | 11 | 22 | 16 | 14 | 6 | 3 |

## Termination of Disputes, by Month, and Result

TABLE 15 shows the number of disputes ending each month, for each year, 1916 to 1929.

TABLE 15.—NUMBER OF DISPUTES ENDING IN EACH MONTH

| Year | Number of disputes ending in— | | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Month not stated | |
| 1916 | 117 | 132 | 176 | 292 | 337 | 216 | 200 | 217 | 223 | 173 | 156 | 78 | 131 | 2,448 |
| 1917 | 111 | 94 | 159 | 198 | 223 | 172 | 157 | 156 | 201 | 177 | 122 | 132 | 172 | 2,074 |
| 1918 | 105 | 125 | 168 | 208 | 261 | 223 | 211 | 207 | 175 | 147 | 117 | 166 | 85 | 2,198 |
| 1919 | 122 | 113 | 128 | 144 | 226 | 195 | 207 | 252 | 239 | 194 | 147 | 120 | 133 | 2,220 |
| 1920 | 84 | 85 | 129 | 197 | 200 | 188 | 191 | 157 | 155 | 117 | 72 | 60 | 237 | 1,872 |
| 1921 | 64 | 61 | 106 | 102 | 222 | 171 | 144 | 141 | 91 | 81 | 65 | 46 | 232 | 1,526 |
| 1922 | 42 | 39 | 37 | 37 | 77 | 52 | 58 | 65 | 70 | 58 | 61 | 53 | 92 | 741 |
| 1923 | 32 | 54 | 78 | 144 | 182 | 114 | 121 | 85 | 85 | 95 | 57 | 36 | 62 | 1,145 |
| 1924 | 69 | 78 | 92 | 90 | 129 | 109 | 83 | 62 | 55 | 69 | 47 | 43 | 33 | 959 |
| 1925 | 68 | 66 | 65 | 110 | 131 | 93 | 71 | 111 | 81 | 92 | 57 | 34 | 10 | 989 |
| 1926 | 33 | 46 | 62 | 76 | 111 | 73 | 60 | 77 | 77 | 59 | 51 | 37 | 18 | 780 |
| 1927 | 19 | 38 | 51 | 64 | 80 | 82 | 88 | 65 | 54 | 37 | 35 | 26 | ----- | 639 |
| 1928 | 41 | 57 | 52 | 70 | 72 | 54 | 58 | 59 | 60 | 53 | 48 | 32 | ----- | 656 |
| 1929 | 43 | 55 | 75 | 101 | 95 | 89 | 84 | 88 | 92 | 87 | 60 | 44 | ----- | 913 |

Table 16 shows the number of disputes ending in each year, classified by result of dispute. Thus, of the 913 disputes ending in 1929, 367, or 40 per cent, were in favor of the employers, 493, or 54 per cent, were compromised or in favor of the employees, and 4 per cent were jurisdictional or protest strikes.

Jurisdictional and protest strikes have increased to such an extent in recent years that it is felt that the number of such disputes may prove interesting, and for this reason has been added to this table. A jurisdictional dispute is one in which trades or occupations are directly involved, one against another. As far as the employer is concerned, they are often more disastrous than the dispute in which he is immediately affected. A protest strike is one which, as its name indicates, simply expresses dislike for some rule, executive, or condition. It is usually of very short duration and frequently is officially unauthorized.

TABLE 16.—RESULTS OF DISPUTES ENDING IN EACH YEAR

| Result | Number of disputes ending in | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| In favor of employers | 748 | 395 | 465 | 687 | 677 | 701 | 248 | 368 | 283 | 253 | 226 | 169 | 272 | 367 |
| In favor of employees | 749 | 631 | 627 | 627 | 472 | 256 | 259 | 403 | 354 | 349 | 288 | 235 | 197 | 267 |
| Compromise | 777 | 720 | 691 | 797 | 448 | 291 | 105 | 168 | 138 | 138 | 147 | 129 | 160 | 226 |
| Employees returned pending arbitration | 73 | 137 | 204 | 50 | 61 | 80 | 16 | 46 | 45 | 51 | 36 | 29 | 3 | 3 |
| Jurisdictional and protest | | | | | | | | | | | | | 14 | 33 |
| Not reported | 101 | 191 | 211 | 59 | 214 | 198 | 113 | 160 | 139 | 198 | 83 | 77 | [1] 10 | [2] 17 |
| Total | 2,448 | 2,074 | 2,198 | 2,220 | 1,872 | 1,526 | 741 | 1,145 | 959 | 989 | 780 | 639 | 656 | 913 |

[1] Results of 7 strikes undetermined
[2] Results of 16 strikes undetermined

## Duration of Disputes

TABLE 17 shows the number of disputes ending each year, 1916 to 1929, and their total and average duration.

TABLE 17.—NUMBER OF DISPUTES FOR WHICH DURATION IS KNOWN, AND TOTAL AND AVERAGE DURATION

| Year in which disputes ended | Number of disputes for which duration is reported | Total duration (days) | Average duration (days) | Year in which disputes ended | Number of disputes for which duration is reported | Total duration (days) | Average duration (days) |
|---|---|---|---|---|---|---|---|
| 1916 | 2,116 | 49,680 | 23 | 1923 | 968 | 23,177 | 24 |
| 1917 | 1,435 | 26,981 | 19 | 1924 | 957 | 28,588 | 30 |
| 1918 | 1,709 | 29,895 | 17 | 1925 | 879 | 23,809 | 27 |
| 1919 | 1,855 | 62,930 | 34 | 1926 | 738 | 18,805 | 25 |
| 1920 | 1,321 | 51,893 | 39 | 1927 | 669 | 15,865 | 24 |
| 1921 | 1,258 | 64,231 | 51 | 1928 | 656 | 17,997 | 27 |
| 1922 | 580 | 21,436 | 37 | 1929 | 913 | 18,507 | 20 |

In Table 18 is shown the number of disputes ending each year, 1916 to 1929, by classified periods of duration.

TABLE 18.—DISPUTES ENDING IN EACH YEAR, BY CLASSIFIED PERIODS OF DURATION

| Duration | Number of disputes ending in— | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1916 | 1917 | 1918 | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 |
| Less than 1 day | 38 | 88 | 84 | 29 | 31 | 32 | 18 | 26 | 23 | 42 | | | | |
| 1 day | 141 | 196 | 145 | 76 | 57 | 27 | 48 | 82 | 42 | 55 | 51 | 61 | 95 | 139 |
| 2 days | 185 | 113 | 171 | 70 | 64 | 44 | 39 | 74 | 46 | 52 | 47 | 38 | 56 | 72 |
| 3 days | 147 | 105 | 127 | 80 | 54 | 44 | 27 | 68 | 31 | 62 | 42 | 49 | 50 | 67 |
| 4 days | 125 | 62 | 111 | 78 | 51 | 47 | 23 | 66 | 46 | 39 | 32 | 22 | 39 | 46 |
| 5 days | 131 | 56 | 72 | 74 | 36 | 35 | 26 | 36 | 27 | 34 | 34 | 29 | 27 | 44 |
| 6 days | 112 | 65 | 67 | 45 | 44 | 32 | 18 | 44 | 30 | 26 | 30 | 45 | 44 | 48 |
| 7 days | 93 | 95 | 115 | 69 | 66 | 45 | 34 | 62 | 47 | 47 | 48 | 17 | 14 | 37 |
| 8 days | 86 | 29 | 60 | 72 | 45 | 30 | 19 | 29 | 21 | 24 | 13 | 18 | 13 | 29 |
| 9 days | 50 | 31 | 38 | 33 | 30 | 19 | 10 | 26 | 14 | 27 | 21 | 19 | 11 | 25 |
| 10 days | 108 | 43 | 58 | 57 | 31 | 44 | 15 | 20 | 17 | 23 | 25 | 18 | 21 | 21 |
| 11 days | 41 | 24 | 24 | 30 | 28 | 19 | 5 | 16 | 17 | 19 | 12 | 24 | 15 | 19 |
| 12 days | 42 | 39 | 26 | 28 | 24 | 12 | 6 | 17 | 6 | 21 | 10 | 29 | 21 | 43 |
| 13 days | 27 | 13 | 16 | 30 | 21 | 14 | 10 | 32 | 12 | 14 | 6 | 16 | 12 | 17 |
| 14 days | 64 | 40 | 49 | 42 | 40 | 25 | 9 | 36 | 26 | 33 | 19 | 10 | 7 | 15 |
| 15 to 18 days | 148 | 75 | 88 | 113 | 83 | 76 | 41 | 54 | 39 | 60 | 34 | 30 | 36 | 42 |
| 19 to 21 days | 83 | 46 | 72 | 95 | 25 | 49 | 27 | 39 | 23 | 47 | 20 | 21 | 13 | 29 |
| 22 to 24 days | 40 | 23 | 40 | 51 | 41 | 16 | 15 | 12 | 17 | 36 | 20 | 18 | 12 | 19 |
| 25 to 28 days | 61 | 35 | 32 | 65 | 56 | 31 | 9 | 33 | 39 | 28 | 25 | 23 | 21 | 28 |
| 29 to 31 days | 53 | 28 | 65 | 74 | 47 | 43 | 9 | 40 | 27 | 23 | 25 | 22 | 14 | 17 |
| 32 to 35 days | 25 | 27 | 31 | 61 | 21 | 36 | 13 | 20 | 23 | 17 | 25 | 26 | 9 | 19 |
| 36 to 42 days | 50 | 38 | 39 | 81 | 46 | 54 | 14 | 14 | 26 | 2 | 24 | 19 | 21 | 26 |
| 43 to 49 days | 24 | 29 | 36 | 78 | 48 | 40 | 14 | 13 | 26 | 18 | 22 | 20 | 11 | 28 |
| 50 to 63 days | 53 | 37 | 48 | 124 | 69 | 86 | 29 | 24 | 43 | 32 | 21 | 28 | 23 | 19 |
| 64 to 77 days | 40 | 22 | 18 | 72 | 51 | 60 | 18 | 24 | 27 | 12 | 15 | 16 | 12 | 19 |
| 78 to 91 days | 27 | 12 | 17 | 57 | 41 | 61 | 14 | 16 | 12 | 9 | 8 | 5 | 14 | 13 |
| 92 to 200 days | 99 | 55 | 35 | 149 | 125 | 186 | 51 | 25 | 55 | 39 | 25 | 15 | 30 | 25 |
| Over 200 days | 23 | 9 | 24 | 22 | 46 | 51 | 15 | 19 | 23 | 15 | 5 | 1 | 15 | 7 |
| Not reported | 332 | 639 | 489 | 365 | 551 | 268 | 165 | 178 | 174 | 114 | 93 | | | |
| Total | 2,448 | 2,074 | 2,198 | 2,220 | 1,872 | 1,526 | 741 | 1,145 | 959 | 989 | 752 | 639 | 656 | 913 |

## Termination of Disputes as Related to Length

OF THE 493 disputes which terminated in favor of employees or which were compromised, 357 or 72 per cent were settled within 14 days and 136 or 28 per cent after that time. Of the 367 settled in favor of employers 234 or 64 per cent were settled within 14 days and 133 or 36 per cent were terminated after that time.

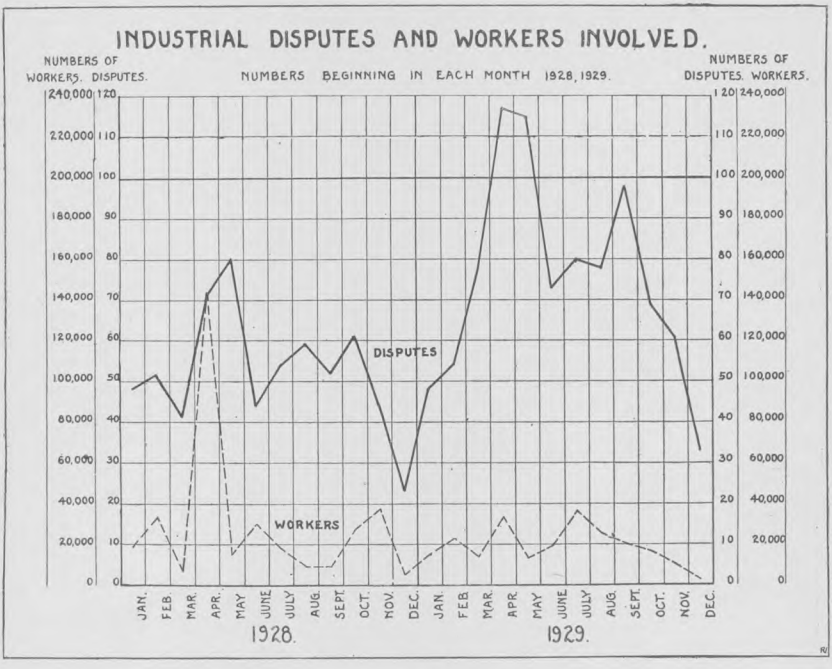
Of the strikes terminating in 1929, 416 or 46 per cent were settled within 6 days and 622 or 68 per cent within 14 days.

Table 19 gives, by classified periods of duration, the number of disputes terminated in favor of employers, in favor of employees, compromised, and otherwise settled.

TABLE 19.—NUMBER OF STRIKES TERMINATED IN 1929, BY PERIOD OF DURATION

| Duration | In favor of employers | In favor of employees | Compromised | Otherwise settled | Total |
|---|---|---|---|---|---|
| 1 to 6 days | 158 | 141 | 95 | 22 | 416 |
| 7 to 14 days | 76 | 66 | 55 | 9 | 206 |
| 15 to 28 days | 49 | 26 | 31 | 12 | 118 |
| 29 days and over | 84 | 34 | 45 | 10 | 173 |
| Total | 367 | 267 | 226 | 53 | 913 |

In order to compare 1928 with 1929 graphically, a chart is herewith submitted giving both the number of disputes and the number of workers involved. This chart is based upon Table 1.




## Conciliation Work of the Department of Labor in April, 1930

By Hugh L. Kerwin, Director of Conciliation

THE Secretary of Labor, through the conciliation service, exercised his good offices in connection with 42 labor disputes during April, 1930. These disputes affected a known total of 14,906 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status and terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

On May 1, 1930, there were 51 strikes before the department for settlement and in addition 15 controversies which had not reached the strike stage. The total number of cases pending was 66.

| Company or industry and location | Nature of controversy | Craftsmen concerned | Cause of dispute | Present status and terms of settlement | Duration | | Workers involved | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Beginning | Ending | Directly | Indirectly |
| American Cyanamid Co., Grasselli Chemical Co., and General Aniline Co., Linden, N. J. | Strike | Lead burners | Wages cut 25 cents per hour | Unable to adjust | 1929 Aug. 1 | 1930 May 10 | 39 | |
| Bakers, Spokane, Wash | Controversy | Bakers | Asked increase and union recognition. | Pending | 1930 Apr. 2 | | 50 | |
| Hulmeville Hosiery Co., Hulmeville, Pa. | Lockout | Hoisery workers | Alleged discrimination and wage cut. | do | Mar. 28 | | 70 | |
| Armion Textile Corporation, Chambersburg, Pa. | Strike | Silk weavers | Discharge of employee for insubordination. | Adjusted. Work resumed after reasons for discharge were explained. | Mar. 31 | Apr. 2 | 74 | |
| Bridge and structural-iron workers, Chicago, Ill. | Controversy | Ironworkers | Asked 12½ cents per hour increase, to $1.75. | Adjusted. Withdrew request for increase. | Apr. 3 | Apr. 18 | 1,400 | |
| John Lowry (Inc.), Yonkers, N. Y. | do | Building crafts | Nonunion drivers delivering building materials. | Adjusted. Union drivers employed | Mar. 13 | Apr. 11 | 30 | 2 |
| Plumbers, Lafayette, Ind | Strike | Plumbers | Asked 5-day week and 12½ cents per hour increase, to $1.37½. | Adjusted. 5-day week allowed without increase in pay. | Apr. 1 | Apr. 8 | 33 | 424 |
| Freeland Overall Co., Dubois, Pa. | do | Overall makers | Proposed wage cut and refusal to continue recognition of union. | Pending | Mar. 24 | | 48 | |
| Oliver Theater, South Bend, Ind | do | Stage hands | Working conditions; wages | do | Apr. 7 | | 5 | 18 |
| Ironworkers, Indianapolis, Ind | do | Ironworkers | Jurisdiction of boiler setting | Adjusted. Returned; jurisdiction determined by officials. | Apr. 2 | Apr. 21 | 30 | 80 |
| Building trades, Quincy, Ill. | do | Building crafts | Asked 5-day week and wage increase. | Adjusted. Returned at same wage till July 31, 1930. Arbitration later | Apr. 1 | Apr. 22 | 550 | 500 |
| Pharmacy building, Purdue University, West Lafayette, Ind. | do | Plumbers | Asked 5-day week | Adjusted. 5-day week and increase in pay. | do | Apr. 8 | 16 | 60 |
| Hoisting engineers, Dayton, Ohio | Threatened strike. | Engineers | Renewal of agreement | Adjusted. Agreement for 1 year with same rates and conditions as 1929. | Apr. 15 | May 2 | 55 | |
| New high school building, Pittsfield, Mass. | Strike | Hod carriers | Hod carriers claimed work being done by common laborers; crafts struck in sympathy. | Adjusted. Satisfactorily adjusted. | Apr. 2 | Apr. 11 | 17 | 173 |
| Gary Theater, Gary, Ind | Lockout | Musicians and stage hands. | Wage cuts and working conditions. | Adjusted. All workers accepted terms offered. | Apr. 11 | Apr. 27 | 11 | 7 |
| Miners, Madisonville, Ky. | Strike | Miners | Asked 1917 wage scale | Unable to adjust | Apr. 1 | Apr. 26 | 1,857 | |
| Knitted Elastic Co., Philadelphia, Pa. | do | Knitters | Alleged 30 per cent wage cut | Adjusted. Accepted 10 per cent cut | Apr. 7 | Apr. 22 | 18 | 22 |

LABOR DISPUTES HANDLED DURING THE MONTH OF APRIL, 1930—Continued

| Company or industry and location | Nature of controversy | Craftsmen concerned | Cause of dispute | Present status and terms of settlement | Duration | | Workers involved | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Beginning | Ending | Directly | Indirectly |
| | | | | | 1930 | 1930 | | |
| Tulip Hoisery Co., Philadelphia, Pa | Strike | Hosiery workers | Asked union recognition and agreement. | Pending | Apr. 10 | | 60 | |
| St. Johns Church, Hammond, Ind. | Threatened strike. | Plumbers | Strike in sympathy with plumbers at Lafayette, Ind., and 5-day week. | Adjusted. Strike order withdrawn when men at Lafayette settled difficulty. | Apr. 4 | Apr. 8 | 3 | 40 |
| Buildings, Louisville, Ind | do | do | do | do | do | do | 16 | |
| Steamfitters, Lafayette, Ind | Strike | Steam fitters | Asked 5-day week and increase | Adjusted. Allowed 5-day week without wage increase. | Apr. 1 | Apr. 12 | 12 | 33 |
| Apollo Steel Mills, Apollo, Pa | do | Steel workers | Wage cut | Adjusted. Men accepted 10 per cent reduction until depression passes. | Apr. 5 | Apr. 14 | 500 | |
| Paul Sojka, Baltimore, Md | do | Pants makers | Discharge, wages, and working conditions. | Adjusted. Worker reemployed and conditions restored as before strike. | Mar. 27 | Apr. 4 | 30 | |
| Knox Consolidated Coal Co., Bicknell, Ind. | Controversy | Miners | Renewal of agreement | Pending | Apr. 12 | | 300 | 1,000 |
| Building, Yonkers, N. Y | Strike | Building | Discharges | Adjusted. 2 other workers employed | Apr. 3 | Apr. 7 | 36 | 4 |
| Pennsylvania Transfer Co., Pittsburgh, Pa. | do | Truck drivers | Discrimination and discharges | Adjusted. Returned by order of union officials. | Apr. 1 | Apr. 14 | 60 | |
| Electric Alloys Co., Elyria, Ohio | do | Molders | Working conditions | Unable to adjust | Apr. 16 | Apr. 21 | 20 | 50 |
| Hays Body Co., Indianapolis, Ind | do | Metal-body finishers | Wages and working conditions | Adjusted. Satisfactory agreement concluded. | Apr. 10 | Apr. 18 | 100 | 3,000 |
| Miners, near Madisonville, Ky | do | Miners | Asked 1917 wage scale and improved conditions. | Unable to adjust | Apr. 1 | Apr. 26 | 635 | |
| Plumbers and steam fitters, Waltham, Mass. | do | Plumbers and steam fitters. | Asked $12 per day and 5-day week instead of $11 per day and 5½-day week. | Adjusted. Allowed $12 per day and 5-day week. | do | Apr. 17 | 16 | |
| Interstate Coal Co., Uniontown, Ky | do | Miners | Asked 1917 wage scale | Adjusted. Conditions improved; miners waived 1917 scale. | Feb. 14 | Apr. 19 | 300 | |
| Mustard & Curry Co., Gary, Ind | do | Plumbers and electricians. | Nonunion labor employed | Adjusted. Returned | Apr. 17 | Apr. 21 | 4 | 12 |
| Starrett Bros., building National Garage Building, Chicago, Ill. | do | Ornamental-iron workers. | Sympathy with ironworkers on Empire Building, New York City. | Pending | Apr. 15 | | 20 | |
| Building trades, Gary, Ind | Threatened strike. | Plasterers | Objection to surety bond of contractors which shuts out journeymen. | do | Apr. 1 | | 110 | |
| Building trades, Waterbury, Conn | Strike | Painters and paper hangers. | Painters asked $10 per day and 5-day week. | Unclassified. Places filled by nonunion men before commissioner's arrival. | Apr. 15 | Apr. 26 | 140 | |
| Board of Trade Building, Chicago, Ill. | do | Electricians | Working conditions | Unclassified. (Terms not available) | Apr. 18 | Apr. 23 | 100 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Glaziers, Chicago, Ill | do | Glaziers | Jurisdiction of glass inclosure for electric fixtures. | Adjusted. Referred to Joint Arbitration Board. | Apr. 25 | Apr. 30 | 16 | |
| Creamery truck drivers, Modesto, Calif. | do | Drivers | Asked 5 to 20 cents per hour increases. | Pending | Apr. 26 | | 155 | 200 |
| Golden Rule Baking Co., Scranton, Pa. | do | do | Working conditions | Unclassified. Places filled by others | Mar. 22 | Apr. 24 | 4 | |
| Building mechanics and laborers, Des Moines, Iowa. | Threatened strike | Building crafts | Asked 5-day week and increases. | Adjusted. Allowed 5-day week without wage increases. | Apr. 17 | May 1 | 2,000 | |
| Glaziers, Baltimore, Md | Controversy | Glaziers | Recognition of glaziers' union | Adjusted. Recognition and 2-year agreement. | Mar. 1 | Apr. 22 | 30 | |
| Frye Packing Co., Portland, Oreg | do | Meat cutters | Sympathy with those on strike in Seattle. | Pending | Mar. 30 | | 11 | 300 |
| Total | | | | | | | 8,981 | 5,925 |

# LABOR AWARDS AND DECISIONS

## Arbitration Awards

### Hosiery Workers—Philadelphia

AN ARBITRATION board composed of Benjamin M. Squires, of the University of Chicago, an umpire in the men's clothing industry of that city, Morris E. Leeds, Philadelphia manufacturer, and Morris L. Cooke, engineer and expert on personnel problems in industry, rendered a decision, April 14, 1930, in the dispute between the H. C. Aberle Co. (Inc.), and its hosiery workers. The dispute, which was over a general wage reduction, resulted in a strike on January 7, 1930.

The board met in Philadelphia March 17, 1930. After several conferences the firm agreed to submit to this board for arbitration the question of wages and related conditions. The board then requested the representatives of the workers to make the same submission and to withdraw the issue of union recognition and the national agreement. This was agreed to by the representatives of the workers.

On March 23 the board recommended to both parties that the workers on strike be returned to work, at the rates of pay in effect at the time of the strike, as rapidly as business conditions would permit, and that the decision of the board as to disputed rates be made retroactive. The firm agreed to reinstate immediately such of its former employees as were not at work at that time. Pending normal business conditions the staff of workers was divided into two squads working alternate half-weeks, the work available being divided equally between the two crews.

The following is the wage decision of the board:

The adjustment set forth below is believed to place this plant on a competitive level with other plants in this area in respect to the operations listed.

| Operation | Adjustment |
|---|---|
| Double leggers | Full reduction justified. |
| Legger helpers | One-half reduction justified. |
| Footers | One-third reduction justified. |
| Footer helpers | Do. |
| Toppers | Reduction not justified.[1] |
| Loopers | Reduction not justified. |
| Seamers | Do. |
| End pullers | Do. |

This decision as to wages is effective as of April 14, 1930, and by agreement is to be made retroactive to March 17, 1930.

An impartial arbiter acceptable to both parties will be chosen and be given the responsibility and authority to pass on any points of dispute that may arise in the interpretation of this decision.

[1] Rate before reduction was low in comparison with other plants. if earnings and production are given due weight.

The board strongly recommended that the improvement of personnel relations be given immediate consideration, and outlined some of the conditions of success for a plan of workers' representation. Among the conditions outlined were the following:

It must be definitely established and its form of organization have the approval of the workers and be made a matter of record.

It must be really representative of the workers and have their confidence.

It is well to have established definite procedures by which the representatives of the management and the workers cooperate to work out their joint problems.

Among the several recommendations made by the board to the management was the following:

As to wage rate determinations there is ample opportunity to practice job analysis and time study with profit both to the management and the workers. As is quite generally the case in this industry, there is a noticeable failure to classify jobs according to the skill required. An unbalanced wage scale results. The first essential of a satisfactory scheme of wage payment is that it shall be easily understood by those affected. Perhaps the most frequent cause of complaint of those employed in the knitting department has been the difficulty in computing earnings. We believe that the present system should be altered so as to meet these objections.

# HOUSING

## Building Permits in Principal Cities, April, 1930

BUILDING permit schedules have been received by the Bureau of Labor Statistics of the United States Department of Labor from 285 comparable cities for March and April, 1930.

The cost shown in the tables below are for buildings in the corporate limits of the cities enumerated. No land costs are included. The States of Illinois, Massachusetts, New Jersey, New York, and Pennsylvania, through their departments of labor, are cooperating with the Bureau of Labor Statistics in the collection of these data.

Table 1 shows the estimated cost of new residential buildings, new nonresidential buildings, total building operations (including alterations and repairs), and the number of families provided for in new dwellings, by geographic divisions, as shown by permits issued in 285 identical cities, together with the percentage of increase or decrease in April, 1930, as compared with March, 1930.

TABLE 1.—ESTIMATED COST OF NEW RESIDENTIAL BUILDINGS, NEW NONRESIDENTIAL BUILDINGS, AND TOTAL BUILDING OPERATIONS IN 285 CITIES OF THE UNITED STATES HAVING A POPULATION OF 25,000 OR OVER, BY GEOGRAPHIC DIVISIONS

| Geographic division | New residential buildings | | | | New nonresidential buildings, estimated cost | | Total construction (including alterations and repairs), estimated cost | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwelling houses | | | | | |
| | March, 1930 | April, 1930 | March, 1930 | April, 1930 | March, 1930 | April, 1930 | March, 1930 | April, 1930 |
| New England | $4,247,725 | $4,967,425 | 647 | 691 | $5,259,369 | $5,102,387 | $12,949,761 | $12,153,511 |
| Middle Atlantic | 15,084,395 | 19,668,372 | 3,355 | 3,633 | 33,747,278 | 41,547,039 | 57,422,019 | 71,846,881 |
| East North Central | 15,068,379 | 12,781,887 | 2,071 | 2,635 | 13,697,404 | 16,160,671 | 33,030,573 | 34,235,500 |
| West North Central | 2,945,970 | 4,317,314 | 593 | 898 | 3,362,759 | 4,913,608 | 7,469,338 | 10,772,349 |
| South Atlantic | 4,871,505 | 4,740,335 | 831 | 881 | 8,726,568 | 10,073,062 | 16,610,174 | 16,731,640 |
| South Central | 5,113,623 | 4,774,946 | 1,424 | 1,348 | 6,782,228 | 7,822,599 | 13,347,146 | 14,563,964 |
| Mountain and Pacific | 8,697,695 | 9,366,621 | 2,748 | 2,610 | 9,198,343 | 7,179,096 | 21,081,573 | 19,587,766 |
| Total | 56,029,292 | 60,616,900 | 11,669 | 12,696 | 80,773,949 | 92,798,462 | 161,910,584 | 179,891,611 |
| Per cent of change | | +8.2 | | +8.8 | | +14.9 | | +11.1 |

In the 285 identical cities from which reports were received for both March and April, there was an indicated expenditure of $179,891,611 during April which was an increase of 11.1 per cent over the $161,910,584 indicated by the March permits in these cities.

There was an increase in the indicated expenditures for residential buildings of 8.2 per cent and in the indicated expenditures for nonresidential buildings of 14.9 per cent.

According to the permits issued during April, 12,696 families were provided with dwelling places in new buildings. The permits issued during the month of March indicated that 11,669 families would be

provided with new dwelling places in new buildings in these 285 cities. This is an increase of 8.8 per cent comparing April with March.

Increases in total building operations were shown in every division except the New England States and the Mountain and Pacific States. There was an increase of expenditures for residential buildings in the New England States, Middle Atlantic States, West North Central States, and Mountain and Pacific States. Decreases in expenditures for residential buildings were shown in the East North Central States, the South Atlantic States, and the South Central States. Indicated expenditures for nonresidential buildings increased in April over March in the Middle Atlantic States, the East North Central States, the West North Central States, the South Atlantic States, and the South Central States, but decreased in the New England States and in the Mountain and Pacific States. Increases in the number of families provided for were shown in every district except the South Central States and the Mountain and Pacific States.

Table 2 shows the estimated cost of additions, alterations, and repairs as shown by permits issued, together with the percentage of increase and decrease in April as compared with March, by divisions.

TABLE 2.—ESTIMATED COST OF ADDITIONS, ALTERATIONS, AND REPAIRS IN 285 CITIES OF THE UNITED STATES HAVING A POPULATION OF 25,000 OR OVER, BY GEOGRAPHIC DIVISIONS

| Geographic division | Estimated cost | | Per cent of increase or decrease, April, compared with March |
|---|---|---|---|
| | March, 1930 | April, 1930 | |
| New England | $3,442,667 | $2,083,699 | −39.5 |
| Middle Atlantic | 8,590,346 | 10,631,470 | +23.8 |
| East North Central | 4,264,790 | 5,292,942 | +24.1 |
| West North Central | 1,160,609 | 1,541,427 | +32.8 |
| South Atlantic | 3,012,101 | 1,918,243 | −36.3 |
| South Central | 1,451,295 | 1,966,419 | +35.5 |
| Mountain and Pacific | 3,185,535 | 3,042,049 | −4.5 |
| Total | 25,107,343 | 26,476,249 | +5.5 |

Reports from the 285 cities show that there was an increase of 5.5 per cent in the indicated expenditures for alterations and repairs comparing the April permits with the March permits. In April the indicated expenditures for this class of building operations was $26,476,249 and in March $25,107,343.

Increases in indicated expenditures, comparing April with March, were shown in the Middle Atlantic division, the East North Central division, the West North Central division, and the South Central division. Decreases were shown in the New England division, the South Atlantic division, and the Mountain and Pacific division. The highest increase, 35.5 per cent, was registered in the South Central division. The greatest decrease, 39.5 per cent, was registered in the New England division. The extraordinary decrease in this division was caused by the falling off in the indicated expenditures for repairs in the city of Boston. In March, permits were issued for over $1,600,000 for repairs to buildings in this city, while the April repairs were to cost less than $400,000.

Table 3 shows the index numbers of families provided for and the index numbers of indicated expenditures for residential buildings, for nonresidential buildings, for alterations and repairs, and for total building operations.

These indexes are worked on the chain system with the monthly average of 1929 equaling 100 per cent.

TABLE 3.—INDEX NUMBER OF FAMILIES PROVIDED FOR; ESTIMATED COSTS OF NEW RESIDENTIAL BUILDINGS; NEW NONRESIDENTIAL BUILDINGS; ALTERATIONS AND REPAIRS; AND TOTAL BUILDING OPERATIONS AS SHOWN BY PERMITS ISSUED IN CITIES OF THE UNITED STATES HAVING A POPULATION OF 25,000 OR OVER

[Monthly average 1929=100]

| Month | Families provided for | Cost of residential buildings | Cost of nonresidential buildings | Cost of additions, alterations, and repairs | Total building operations |
|---|---|---|---|---|---|
| 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 |

The index number of families provided for stood at 62 during April, 1930. This was higher than for any month since October, 1929. The index number of indicated expenditures for residential buildings was 51 for April, 1930. There has been a steady climb in residential buildings since the low point of 29.4 was reached in January, 1930. Nonresidential building during April was slightly higher than for the monthly average of 1929. The index number for this class of building stood at 100.1 in April. This is caused largely by the the amount of public buildings and public works in cities throughout the country.

The index number of the estimated cost of repairs and additions to old buildings was 81.8 in April. This is the highest point during this year. Total building operations also reached a 1930 peak in April. In fact, at no time since October has there been so large an expenditure for building operations as during the month of April. The October index number was 85.7, while the April index number was 73.8. The low point in building operations was reached in February, 1930, when the index number stood at 44.1.

Table 4 shows the estimated cost of new residential buildings, new nonresidential buildings, total building operations (including alterations and repairs), and the number of families provided for in each of the 285 cities from which reports were received for both March and April.

Totals and percentages of increase or decrease in expenditures for each class of buildings and the families provided for are shown by geographic divisions. Reports were received from 45 cities in the New England States, 65 cities in the Middle Atlantic States, 68 cities in the East North Central States, 22 cities in the West North Central States, 31 cities in the South Atlantic States, 27 cities in the South Central States, and 27 cities in the Mountain and Pacific States.

## New England States

In the New England States there was an increase in the estimated expenditures for residential buildings of 16.9 per cent, comparing the permits issued in April with those issued during March. Expenditures for nonresidential buildings in this district decreased 3 per cent, while expenditures for all building operations decreased 6.2 per cent. Families provided for in the new dwellings for which permits were issued during April increased 6.8 per cent over those provided for in the new buildings for which permits were issued during March.

Increases in total building operations were shown in Hartford, Waterbury, Cambridge, Springfield, and Pawtucket; decreases were shown in Stamford, Boston, Lynn, Newport, and Providence.

In Cambridge a permit was issued for a dormitory for Harvard University costing over $700,000. A permit was issued for a public school to cost nearly $600,000 in Springfield.

No reports were received from Bridgeport, Conn.; Bangor, Me.; and Waltham, Mass.

## Middle Atlantic States

In the Middle Atlantic States there was an increase of 25.1 per cent in total building operations, comparing April permits with March permits. Expenditures for both residential and nonresidential buildings showed an increase. In the former case the increase was 30.4 per cent and in the latter, 23.1 per cent. Families provided for in new buildings increased 8.3 per cent. Nearly 40 per cent of the total projected building expenditures in cities of the United States having a population of 25,000 or over was registered in this division during April.

Increases in total building operations were shown in Jersey City, Newark, Albany, White Plains, Altoona, Harrisburg, Schenectady, and Philadelphia. Decreases were shown in Elizabeth, Trenton, Buffalo, Rochester, and Pittsburgh. Large decreases in total building operations were registered in the Borough of the Bronx, a small decrease in the Boroughs of Brooklyn and Richmond. In Manhattan and Queens, however, large increases were registered. The March indicated expenditures in the Borough of Manhattan were about $13,500,000, while the April indicated expenditures were $20,500,000.

In Schenectady permits were issued for two public buildings to cost over $2,000,000. In Jersey City a permit was issued for a building under the heading of public works and utilities to cost $2,200,000. In the Borough of Manhattan permits were issued for 4 factory buildings to cost over $4,000,000, 10 office buildings to cost over $4,000,000, and 1 public building to cost $5,350,000. In Queens permits were issued for 2 public-school buildings to cost $1,089,000 and for 7 institutional buildings to cost over $2,000,000.

Reports were received from all cities in this division having a population of 25,000 or over excepting Reading, Pa.

## East North Central States

In the East North Central States the total indicated building expenditures were greater than in any other division except in the Middle Atlantic States. There was an increase in this division of

3.6 per cent in total building operations. The residential building operations, however, decreased 15.2 per cent; expenditures for nonresidential building operations increased 18 per cent; the number of family dwelling units in new buildings increased 27.2 per cent. The decrease in residential buildings was caused by a large falling off in expenditures for this class of building in the city of Cincinnati, where during March a permit was issued for a hotel building to cost nearly $4,000,000.

The cities of Akron, Cleveland, Youngstown, Milwaukee, Chicago, Rockford, and Flint showed large increases in total building operations. The cities of Cincinnati, Dayton, Lorain, Toledo, Kenosha, Indianapolis, and Detroit showed decreases in total building operations.

A permit was issued for a public utility building in Chicago to cost over $900,000 and for new factory buildings to cost over $1,000,000.

No reports were received from Anderson, East Chicago, Gary, and South Bend, Ind.; Battle Creek and Port Huron, Mich.; Newark, Portsmouth, and Zanesville, Ohio; and Madison, Wis.

### West North Central States

INCREASES were registered in both classes of new buildings and in total building operations in the West North Central States, comparing April permits issued with March permits issued. Indicated expenditures for residential buildings increased 46.5 per cent; for new nonresidential buildings, 46.1 per cent; and for total building operations, 44.2 per cent. The families provided for in new dwelling houses increased 51.4 per cent.

Indicated expenditures for total building operations showed an increase in Cedar Rapids, Sioux City, Hutchinson, Minneapolis, St. Paul, Springfield, and St. Louis. Indicated expenditures for total building operations showed a decrease in Des Moines, Wichita, and Omaha.

A permit was issued for a new hotel to cost $1,250,000 in Sioux City, Iowa; for new school buildings to cost nearly $1,500,000 in St. Louis, Mo.; and for a power plant to cost $550,000 in Hutchinson, Kans.

No reports were received from Davenport, Iowa, and Kansas City, Mo.

### South Atlantic States

IN THE South Atlantic States there was an increase of 0.7 per cent in the total building operations for which permits were issued during the month of April, compared with the building operations for which permits were issued during the month of March. Indicated expenditures for residential buildings decreased 2.7 per cent while those for nonresidential buildings increased 15.4 per cent. The number of families provided with dwelling places in new residential buildings increased 6 per cent in this district, comparing April with March.

Increases in total building operations were shown in the cities of Washington, Baltimore, Winston-Salem, Roanoke, and Wheeling. Decreases were shown in the cities of Wilmington (Del.), Tampa, Atlanta, Charlotte, Columbia, and Norfolk.

A permit was issued for a Scottish Rite Temple in Baltimore to cost $1,250,000. Contracts were let for Government buildings in the city of Washington to cost over $3,000,000.

No reports were received from Pensacola, Fla.; Augusta, Ga.; Spartanburg, S. C.; Lynchburg Va.; and Charleston, W. Va.

### South Central States

IN THE South Central States there was a decrease in the estimated cost of new residential buildings but an increase in the estimated cost of new nonresidential buildings. The former class of buildings decreased 6.6 per cent, comparing April with March, while the latter class increased 15.3 per cent comparing the same two periods. There was an increase of 9.1 per cent in total building operations. Families provided for in new buildings decreased 5.3 per cent.

Increases were registered in total building operations in the cities of Montgomery, Oklahoma City, Memphis, Dallas, and Houston. Decreases were registered in Little Rock, New Orleans, Tulsa, Knoxville, and San Antonio.

In Memphis a permit was issued for an addition to the post-office building to cost over $1,000,000.

No schedules were received from Birmingham, Ala.; Fort Smith, Ark.; Covington, Ky.; and Baton Rouge, La.

### Mountain and Pacific States

IN COMPARING permits issued in the month of April with those issued during the month of March in the Mountain and Pacific States, an increase of 7.7 per cent was shown for indicated expenditures for residential buildings; a decrease of 22 per cent for nonresidential buildings; a decrease of 7.1 per cent for all building operations; and a decrease of 5 per cent for dwelling units provided in new buildings.

There was a decrease in the indicated expenditures for total building operations in the cities of Berkeley, Oakland, San Francisco, Portland, and Seattle. There was an increase in the indicated expenditures for total building operations in the cities of Phoenix, San Jose, Pueblo, Ogden, and Tacoma.

Permits were issued for new office buildings to cost over $1,000,000 in Los Angeles, and for one new office building to cost $650,000 in Phoenix, Ariz.

No report was received from Butte, Mont.

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930

*New England States*

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| Connecticut: | | | | | | | | |
| Greenwich | $226,500 | $330,700 | 12 | 19 | $41,500 | $12,100 | $347,600 | $431,730 |
| Hartford | 161,500 | 101,800 | 7 | 11 | 163,615 | 760,059 | 409,405 | 926,463 |
| Meriden | 14,800 | 35,050 | 1 | 9 | 4,850 | 6,200 | 34,011 | 52,585 |
| New Britain | 38,000 | 31,000 | 1 | 4 | 125,135 | 55,300 | 185,150 | 117,946 |
| New Haven | 33,000 | 258,000 | 5 | 22 | 1,379,255 | 70,885 | 1,514,242 | 400,145 |
| New London | | | | | | | | |
| Norwalk | 96,500 | 226,100 | 15 | 26 | 11,475 | 68,650 | 130,000 | 319,746 |
| Stamford | 299,000 | 58,800 | 12 | 7 | 13,250 | 35,250 | 337,150 | 129,328 |
| Waterbury | 53,000 | 45,000 | 11 | 10 | 41,100 | 528,874 | 123,400 | 634,224 |
| Maine: | | | | | | | | |
| Lewiston | 0 | 26,000 | 0 | 6 | 0 | 94,800 | 4,400 | 120,800 |
| Portland | 33,600 | 18,600 | 8 | 5 | 170,255 | 317,090 | 222,270 | 362,265 |
| Massachusetts: | | | | | | | | |
| Boston [1] | 638,500 | 534,300 | 141 | 121 | 525,580 | 840,230 | 2,780,766 | 1,739,827 |
| Brockton | 29,800 | 22,800 | 6 | 5 | 5,775 | 8,390 | 56,440 | 54,940 |
| Brookline | 203,500 | 110,500 | 19 | 9 | 18,925 | 6,400 | 276,175 | 126,245 |
| Cambridge | 130,000 | 863,000 | 36 | 32 | 260,480 | 189,044 | 621,679 | 1,156,209 |
| Chelsea | 0 | 0 | 0 | 0 | 42,000 | 3,245 | 43,925 | 9,600 |
| Chicopee | 1,400 | 33,500 | 2 | 16 | 3,400 | 4,550 | 6,825 | 48,775 |
| Everett | 9,700 | 29,000 | 3 | 8 | 3,100 | 308,910 | 33,450 | 351,410 |
| Fall River | 12,300 | 16,200 | 3 | 5 | 58,175 | 62,820 | 79,250 | 101,541 |
| Fitchburg | 20,000 | 0 | 1 | 0 | 3,500 | 5,500 | 27,665 | 9,470 |
| Haverhill | 14,200 | 8,400 | 3 | 3 | 3,410 | 12,680 | 24,910 | 25,830 |
| Holyoke | 11,500 | 47,000 | 2 | 9 | 23,545 | 6,150 | 44,445 | 85,200 |
| Lawrence | 13,000 | 0 | 3 | 0 | 3,700 | 17,150 | 27,750 | 24,400 |
| Lowell | 12,000 | 13,350 | 3 | 4 | 9,725 | 7,375 | 188,570 | 47,080 |
| Lynn | 30,600 | 100,600 | 6 | 18 | 1,388,035 | 114,545 | 1,513,965 | 259,170 |
| Malden | 15,800 | 57,500 | 4 | 12 | 12,450 | 10,960 | 54,475 | 83,270 |
| Medford | 122,300 | 161,200 | 21 | 32 | 10,375 | 8,500 | 141,100 | 183,395 |
| New Bedford | 18,000 | 33,000 | 3 | 4 | 8,200 | 14,235 | 44,475 | 66,855 |
| Newton | 290,500 | 443,600 | 23 | 43 | 58,900 | 55,875 | 435,130 | 541,596 |
| Pittsfield | 70,500 | 76,600 | 11 | 14 | 15,250 | 15,375 | 97,775 | 128,525 |
| Quincy | 208,000 | 100,150 | 48 | 20 | 15,659 | 115,680 | 247,032 | 249,832 |
| Revere | 11,300 | 42,900 | 3 | 11 | 10,600 | 3,435 | 40,821 | 68,560 |
| Salem | 42,500 | 60,800 | 7 | 8 | 122,740 | 110,550 | 190,200 | 200,935 |
| Somerville | 5,000 | 0 | 2 | 0 | 46,155 | 40,460 | 71,825 | 79,765 |
| Springfield | 76,200 | 138,300 | 19 | 25 | 31,130 | 727,868 | 136,705 | 926,018 |
| Taunton | 12,600 | 7,100 | 4 | 3 | 4,225 | 2,810 | 47,835 | 32,765 |
| Watertown | 30,000 | 64,000 | 6 | 13 | 11,150 | 7,800 | 46,615 | 82,950 |
| Worcester | 168,175 | 123,500 | 37 | 24 | 93,740 | 41,307 | 376,530 | 465,352 |
| New Hampshire: | | | | | | | | |
| Manchester | 3,950 | 19,600 | 3 | 7 | 27,430 | 5,920 | 52,539 | 49,204 |
| Rhode Island: | | | | | | | | |
| Central Falls | 21,000 | 5,000 | 7 | 2 | 4,700 | 400 | 30,355 | 7,305 |
| Cranston | 131,300 | 112,100 | 28 | 25 | 10,225 | 19,530 | 150,990 | 144,630 |
| East Providence | 126,200 | 90,875 | 23 | 16 | 44,705 | 72,650 | 189,673 | 182,655 |
| Newport | 145,000 | 29,300 | 5 | 6 | 58,750 | 4,550 | 249,300 | 45,150 |
| Pawtucket | 80,000 | 70,400 | 16 | 15 | 9,020 | 121,400 | 113,710 | 216,650 |
| Providence | 565,300 | 416,800 | 72 | 60 | 340,350 | 154,600 | 1,147,750 | 809,400 |
| Woonsocket | 21,700 | 5,000 | 5 | 2 | 23,830 | 32,285 | 51,483 | 53,770 |
| Total | 4,247,725 | 4,967,425 | 647 | 691 | 5,259,369 | 5,102,387 | 12,949,761 | 12,153,511 |
| Per cent of change | | +16.9 | | +6.8 | | −3.0 | | −6.2 |

*Middle Atlantic States*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| New Jersey: | | | | | | | | |
| Atlantic City | $39,500 | $39,000 | 11 | 3 | $68,530 | $13,975 | $252,083 | $300,103 |
| Bayonne | 9,800 | 34,000 | 3 | 12 | 82,100 | 37,700 | 99,300 | 82,550 |
| Bloomfield | 378,000 | 51,000 | 110 | 10 | 20,000 | 486,000 | 533,000 | 569,000 |
| Camden | 9,400 | 118,000 | 1 | 36 | 363,175 | 64,000 | 410,727 | 208,990 |
| Clifton | 85,500 | 112,000 | 20 | 22 | 72,450 | 31,295 | 165,100 | 151,000 |
| East Orange | 59,500 | 17,500 | 7 | 3 | 40,945 | 55,975 | 112,165 | 92,345 |
| Elizabeth | 112,000 | 71,000 | 42 | 21 | 147,000 | 86,000 | 259,000 | 157,000 |
| Hoboken | 7,500 | 0 | 2 | 0 | 2,400 | 2,800 | 32,035 | 22,990 |
| Irvington | 30,000 | 164,400 | 5 | 39 | 72,170 | 32,900 | 109,148 | 205,036 |

[1] Applications filed.

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930—Continued

*Middle Atlantic States*—Continued

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| New Jersey—Contd. | | | | | | | | |
| Jersey City | $99,000 | $66,500 | 36 | 17 | $178,315 | $2,582,745 | $367,660 | $2,710,290 |
| Kearny | 36,500 | 72,000 | 9 | 16 | 49,500 | 144,244 | 87,680 | 222,009 |
| Montclair | 129,000 | 100,400 | 10 | 6 | 15,203 | 8,317 | 150,643 | 140,637 |
| Newark | 172,450 | 171,650 | 34 | 29 | 254,069 | 1,584,034 | 804,267 | 1,947,779 |
| New Brunswick | 14,300 | 5,000 | 3 | 1 | 0 | 16,800 | 45,385 | 66,610 |
| Orange | 50,000 | 53,000 | 4 | 2 | 12,210 | 18,375 | 102,890 | 89,705 |
| Passaic | 13,000 | 10,500 | 2 | 1 | 280,000 | 30,250 | 316,540 | 84,490 |
| Paterson | 49,000 | 95,200 | 13 | 20 | 104,520 | 84,136 | 215,673 | 302,582 |
| Perth Amboy | 11,000 | 8,000 | 3 | 2 | 5,050 | 18,650 | 26,450 | 36,925 |
| Plainfield | 123,000 | 79,974 | 15 | 10 | 29,355 | 112,284 | 180,180 | 213,238 |
| Trenton | 22,000 | 32,000 | 3 | 6 | 307,770 | 39,055 | 391,513 | 214,150 |
| Union City | 0 | 25,000 | 0 | 2 | 11,600 | 59,400 | 36,475 | 107,185 |
| West New York | 0 | 7,500 | 0 | 1 | 60,750 | 750 | 63,485 | 32,625 |
| New York: | | | | | | | | |
| Albany | 124,000 | 299,000 | 17 | 22 | 14,700 | 431,610 | 196,014 | 1,204,841 |
| Amsterdam | 9,500 | 42,500 | 2 | 10 | 41,575 | 2,575 | 51,575 | 45,075 |
| Auburn | 6,550 | 9,500 | 1 | 2 | 20,000 | 8,030 | 32,075 | 25,690 |
| Binghamton | 97,670 | 77,400 | 26 | 19 | 23,406 | 83,736 | 165,321 | 250,242 |
| Buffalo | 226,800 | 241,550 | 93 | 96 | 750,959 | 474,386 | 1,129,160 | 827,110 |
| Elmira | 11,000 | 29,050 | 4 | 7 | 13,385 | 63,601 | 29,490 | 106,826 |
| Jamestown | 20,300 | 39,400 | 4 | 11 | 2,500 | 7,925 | 31,070 | 57,200 |
| Kingston | 13,100 | 23,500 | 3 | 4 | 6,960 | 6,530 | 27,785 | 44,185 |
| Mount Vernon | 195,000 | 203,000 | 41 | 20 | 5,266 | 382,200 | 210,556 | 619,145 |
| Newburgh | 15,000 | 18,000 | 2 | 3 | 2,900 | 7,050 | 59,900 | 26,225 |
| New Rochelle | 244,650 | 222,300 | 16 | 13 | 40,500 | 511,832 | 402,025 | 1,054,044 |
| New York City— | | | | | | | | |
| Bronx [1] | 1,121,600 | 1,758,600 | 275 | 439 | 7,734,819 | 790,050 | 10,108,619 | 2,903,815 |
| Brooklyn [1] | 1,841,400 | 2,185,500 | 376 | 427 | 2,930,315 | 1,081,985 | 5,694,795 | 4,214,500 |
| Manhattan [1] | 2,625,000 | 2,937,000 | 510 | 566 | 8,728,475 | 14,529,545 | 13,444,730 | 20,619,603 |
| Queens [1] | 3,104,900 | 5,498,700 | 799 | 978 | 2,423,789 | 4,750,566 | 6,052,931 | 10,972,187 |
| Richmond [1] | 322,250 | 219,700 | 67 | 51 | 267,338 | 294,109 | 963,548 | 588,056 |
| Niagara Falls | 55,100 | 81,600 | 13 | 18 | 76,670 | 220,370 | 179,108 | 332,779 |
| Poughkeepsie | 5,200 | 29,200 | 1 | 4 | 6,500 | 10,000 | 52,680 | 119,625 |
| Rochester | 97,675 | 210,732 | 18 | 30 | 292,145 | 177,601 | 583,059 | 503,609 |
| Schenectady | 69,000 | 277,000 | 13 | 34 | 39,100 | 2,164,240 | 137,650 | 2,512,591 |
| Syracuse | 154,600 | 427,600 | 30 | 70 | 198,860 | 154,270 | 467,960 | 635,245 |
| Troy | 54,350 | 59,800 | 7 | 10 | 1,161,050 | 491,950 | 1,229,350 | 572,627 |
| Utica | 15,400 | 28,100 | 3 | 5 | 16,750 | 43,300 | 55,545 | 116,610 |
| Watertown | 0 | 17,700 | 0 | 3 | 600 | 8,290 | 2,915 | 40,304 |
| White Plains | 148,500 | 193,000 | 11 | 13 | 107,916 | 663,825 | 285,406 | 869,505 |
| Yonkers | 370,100 | 646,700 | 38 | 49 | 123,988 | 110,610 | 553,528 | 819,810 |
| Pennsylvania: | | | | | | | | |
| Allentown | 67,000 | 90,100 | 9 | 10 | 36,250 | 105,100 | 128,724 | 557,375 |
| Altoona | 31,900 | 130,500 | 6 | 7 | 18,802 | 257,631 | 97,552 | 428,256 |
| Bethlehem | 29,000 | 23,500 | 3 | 3 | 54,300 | 106,000 | 97,610 | 146,100 |
| Butler | 2,475 | 20,500 | 2 | 4 | 56,100 | 2,950 | 62,825 | 25,450 |
| Chester | 35,000 | 31,200 | 9 | 8 | 5,175 | 19,600 | 59,575 | 78,100 |
| Easton | 15,200 | 9,000 | 3 | 1 | 18,800 | 3,759 | 53,782 | 51,213 |
| Erie | 77,200 | 74,500 | 15 | 14 | 29,840 | 35,056 | 190,194 | 174,071 |
| Harrisburg | 44,500 | 89,700 | 9 | 21 | 26,700 | 33,350 | 90,050 | 207,500 |
| Hazleton | 0 | 37,000 | 0 | 1 | 27,369 | 20,520 | 51,312 | 72,789 |
| Johnstown | 7,500 | 0 | 1 | 0 | 8,525 | 25,005 | 56,750 | 54,510 |
| Lancaster | 32,800 | 0 | 8 | 0 | 76,485 | 30,425 | 121,130 | 108,930 |
| McKeesport | 57,300 | 58,500 | 11 | 7 | 7,620 | 9,855 | 95,825 | 87,918 |
| New Castle | 33,600 | 20,850 | 4 | 4 | 5,395 | 18,795 | 55,290 | 45,400 |
| Norristown | 107,700 | 55,000 | 28 | 10 | 58,447 | 8,120 | 190,192 | 81,886 |
| Philadelphia | 1,253,100 | 1,056,550 | 299 | 228 | 5,051,400 | 7,103,625 | 6,776,720 | 9,535,800 |
| Pittsburgh | 756,300 | 707,650 | 218 | 121 | 711,930 | 394,530 | 1,783,623 | 1,330,201 |
| Scranton | 12,525 | 20,265 | 4 | 6 | 24,305 | 106,885 | 71,405 | 191,798 |
| Wilkes-Barre | 0 | 8,200 | 0 | 2 | 105,006 | 60,087 | 134,601 | 102,877 |
| Wilkinsburg | 47,200 | 36,700 | 9 | 5 | 30,955 | 31,014 | 94,990 | 158,256 |
| Williamsport | 33,000 | 25,000 | 7 | 2 | 175,881 | 133,818 | 233,362 | 192,974 |
| York | 42,000 | 63,900 | 7 | 16 | 10,415 | 61,043 | 67,953 | 176,789 |
| Total | 15,084,395 | 19,668,372 | 3,355 | 3,633 | 33,747,278 | 41,547,039 | 57,422,019 | 71,846,881 |
| Percent of change | | +30.4 | | +8.3 | | +23.1 | | +25.1 |

[1] Applications filed.

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930—Continued

*East North Central States*

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| Illinois: | | | | | | | | |
| Alton | $31,025 | $17,840 | 9 | 5 | $71,446 | $72,295 | $191,504 | $101,834 |
| Aurora | 33,000 | 45,125 | 7 | 11 | 38,015 | 11,577 | 114,225 | 87,786 |
| Belleville | 91,000 | 63,500 | 18 | 13 | 750 | 3,580 | 92,025 | 68,030 |
| Bloomington | 39,000 | 23,000 | 9 | 3 | 500 | 6,700 | 40,500 | 36,700 |
| Chicago | 2,069,800 | 1,543,700 | 247 | 233 | 2,622,100 | 5,056,050 | 5,344,560 | 7,239,470 |
| Cicero | 48,000 | 45,000 | 9 | 8 | 43,855 | 11,139 | 98,020 | 70,904 |
| Danville | 31,900 | 27,100 | 9 | 6 | 1,240 | 57,003 | 41,520 | 85,403 |
| Decatur | 43,700 | 61,050 | 8 | 15 | 28,705 | 21,500 | 83,005 | 106,650 |
| East St. Louis | 111,000 | 74,950 | 30 | 24 | 2,475 | 15,500 | 147,605 | 96,862 |
| Elgin | 13,400 | 52,750 | 3 | 10 | 15,062 | 8,665 | 47,962 | 82,924 |
| Evanston | 172,000 | 32,000 | 17 | 2 | 78,000 | 121,750 | 296,750 | 300,750 |
| Joliet | 81,500 | 56,200 | 13 | 8 | 14,000 | 25,500 | 133,290 | 203,050 |
| Moline | 52,500 | 64,400 | 11 | 14 | 411,379 | 10,564 | 478,009 | 93,708 |
| Oak Park | 18,500 | 47,000 | 2 | 2 | 176,960 | 231,595 | 211,785 | 310,070 |
| Peoria | 196,050 | 313,750 | 49 | 81 | 25,920 | 24,750 | 335,645 | 364,200 |
| Quincy | 34,600 | 16,700 | 11 | 7 | 15,070 | 2,555 | 51,120 | 20,855 |
| Rockford | 106,500 | 152,500 | 31 | 39 | 15,645 | 199,575 | 140,495 | 405,375 |
| Rock Island | 58,600 | 94,600 | 21 | 24 | 3,293 | 9,590 | 238,685 | 230,546 |
| Springfield | 38,500 | 104,700 | 8 | 25 | 126,490 | 39,073 | 191,028 | 192,334 |
| Indiana: | | | | | | | | |
| Elkhart | 23,500 | 50,900 | 5 | 9 | 10,797 | 10,660 | 41,987 | 76,283 |
| Evansville | 83,250 | 94,900 | 24 | 25 | 106,120 | 67,991 | 239,133 | 198,747 |
| Fort Wayne | 142,500 | 210,120 | 31 | 43 | 116,642 | 102,530 | 310,914 | 344,776 |
| Hammond | 73,300 | 69,300 | 21 | 17 | 6,865 | 19,812 | 101,750 | 125,483 |
| Indianapolis | 297,650 | 345,200 | 74 | 81 | 359,538 | 233,836 | 816,298 | 674,792 |
| Kokomo | 16,970 | 4,150 | 4 | 2 | 11,435 | 56,590 | 36,862 | 68,240 |
| Marion | 2,000 | 3,450 | 1 | 3 | 1,950 | 80,750 | 9,513 | 92,808 |
| Muncie | 17,100 | 24,350 | 7 | 10 | 4,290 | 8,831 | 38,185 | 48,024 |
| Richmond | 15,900 | 31,800 | 5 | 11 | 8,775 | 18,025 | 32,470 | 64,935 |
| Terre Haute | 30,700 | 33,400 | 8 | 10 | 6,635 | 30,585 | 52,536 | 90,145 |
| Michigan: | | | | | | | | |
| Bay City | 51,000 | 28,500 | 6 | 7 | 12,325 | 310,517 | 83,974 | 373,273 |
| Detroit | 2,844,282 | 2,771,700 | 493 | 572 | 1,573,028 | 1,026,548 | 5,230,080 | 4,556,439 |
| Flint | 197,277 | 268,061 | 47 | 65 | 21,073 | 150,019 | 266,635 | 477,485 |
| Grand Rapids | 87,100 | 159,350 | 25 | 44 | 100,500 | 149,900 | 263,810 | 384,370 |
| Hamtramck | 26,000 | 22,700 | 9 | 5 | 6,950 | 3,100 | 38,850 | 36,700 |
| Highland Park | 12,700 | 0 | 2 | 0 | 2,550 | 15,675 | 20,625 | 69,385 |
| Jackson | 11,300 | 60,800 | 4 | 13 | 4,575 | 13,304 | 34,340 | 179,359 |
| Kalamazoo | 40,800 | 83,650 | 9 | 17 | 1,294 | 84,127 | 54,321 | 187,699 |
| Lansing | 57,200 | 111,300 | 18 | 29 | 170,742 | 283,225 | 251,137 | 482,285 |
| Muskegon | 33,500 | 51,500 | 11 | 20 | 54,362 | 149,000 | 195,759 | 232,674 |
| Pontiac | 30,200 | 13,400 | 9 | 6 | 6,480 | 14,265 | 53,226 | 46,655 |
| Saginaw | 29,250 | 92,870 | 10 | 28 | 23,083 | 17,920 | 85,560 | 160,262 |
| Ohio: | | | | | | | | |
| Akron | 215,200 | 400,000 | 40 | 78 | 289,520 | 73,409 | 597,010 | 606,439 |
| Ashtabula | 0 | 4,500 | 0 | 1 | 1,405 | 83,940 | 4,835 | 100,610 |
| Canton | 33,500 | 109,000 | 7 | 23 | 23,440 | 29,720 | 67,440 | 185,020 |
| Cincinnati | 5,077,615 | 1,130,027 | 197 | 207 | 769,910 | 3,064,290 | 5,965,910 | 4,387,119 |
| Cleveland | 452,000 | 1,000,000 | 92 | 149 | 594,250 | 990,925 | 1,469,925 | 2,868,975 |
| Columbus | 525,800 | 251,900 | 82 | 41 | 99,600 | 95,450 | 680,350 | 445,100 |
| Dayton | 20,635 | 110,762 | 6 | 24 | 1,749,688 | 95,326 | 1,879,327 | 351,909 |
| East Cleveland | 0 | 0 | 0 | 0 | 370 | 11,352 | 2,090 | 21,912 |
| Hamilton | 73,000 | 42,750 | 11 | 11 | 35,815 | 51,190 | 116,390 | 186,502 |
| Lakewood | 36,500 | 155,500 | 9 | 24 | 9,235 | 84,010 | 64,445 | 247,160 |
| Lima | 0 | 24,800 | 0 | 2 | 11,160 | 20,895 | 16,135 | 74,030 |
| Lorain | 23,400 | 64,900 | 8 | 20 | 152,240 | 12,719 | 177,815 | 81,129 |
| Mansfield | 21,350 | 39,200 | 7 | 9 | 16,765 | 11,475 | 52,880 | 56,446 |
| Marion | 12,000 | 12,300 | 2 | 4 | 6,660 | 28,970 | 24,610 | 42,765 |
| Springfield | 31,000 | 100,500 | 6 | 15 | 5,800 | 14,145 | 50,540 | 133,510 |
| Steubenville | 17,800 | 62,500 | 6 | 12 | 42,300 | 2,325 | 63,500 | 79,200 |
| Toledo | 149,000 | 286,950 | 34 | 67 | 2,442,401 | 546,012 | 2,651,561 | 906,142 |
| Warren | 24,275 | 77,770 | 6 | 18 | 3,225 | 14,545 | 42,955 | 104,870 |
| Youngstown | 77,500 | 59,900 | 16 | 14 | 29,375 | 508,654 | 136,555 | 617,569 |

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930—Continued

*East North Central States*—Continued

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| Wisconsin: | | | | | | | | |
| Fond du Lac | $11,300 | $27,300 | 6 | 8 | $186 | $37,692 | $15,242 | $70,742 |
| Green Bay | 28,700 | 70,400 | 7 | 20 | 24,368 | 108,195 | 72,270 | 211,315 |
| Kenosha | 42,300 | 76,000 | 8 | 8 | 223,545 | 45,415 | 285,035 | 129,816 |
| Milwaukee | 667,600 | 1,015,050 | 158 | 267 | 815,257 | 765,101 | 1,760,563 | 2,162,247 |
| Oshkosh | 2,200 | 26,462 | 2 | 8 | 2,825 | 45,420 | 33,635 | 92,518 |
| Racine | 76,050 | 143,500 | 14 | 31 | 33,935 | 77,390 | 172,705 | 253,449 |
| Sheboygan | 49,600 | 95,100 | 10 | 17 | 11,650 | 9,535 | 81,204 | 132,837 |
| Superior | 6,000 | 27,550 | 2 | 10 | 1,565 | 556,400 | 9,948 | 617,899 |
| Total | 15,068,379 | 12,781,887 | 2,071 | 2,635 | 13,697,404 | 16,160,671 | 33,030,573 | 34,235,500 |
| Per cent of change | | −15.2 | | +27.2 | | +18.0 | | +3.6 |

*West North Central States*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Iowa: | | | | | | | | |
| Burlington | $15,000 | $4,500 | 3 | 1 | $156,000 | $4,950 | $175,600 | $36,460 |
| Cedar Rapids | 28,000 | 83,250 | 7 | 20 | 29,355 | 147,800 | 83,949 | 290,134 |
| Council Bluffs | 16,000 | 12,000 | 4 | 4 | 52,200 | 62,300 | 80,400 | 80,800 |
| Des Moines | 93,850 | 134,850 | 18 | 24 | 422,945 | 78,057 | 535,795 | 237,041 |
| Dubuque | 11,450 | 19,000 | 4 | 8 | 3,450 | 94,765 | 20,621 | 127,693 |
| Ottumwa | 9,500 | 30,500 | 3 | 7 | 1,500 | 23,500 | 13,400 | 90,000 |
| Sioux City | 34,000 | 1,351,100 | 12 | 26 | 44,480 | 11,775 | 111,025 | 1,396,905 |
| Waterloo | 30,300 | 50,600 | 8 | 20 | 19,460 | 29,325 | 58,160 | 99,350 |
| Kansas: | | | | | | | | |
| Hutchinson | 38,000 | 65,500 | 14 | 18 | 28,065 | 884,187 | 81,865 | 985,364 |
| Kansas City | 87,800 | 51,000 | 25 | 19 | 5,050 | 192,315 | 104,100 | 255,505 |
| Topeka | 63,700 | 63,800 | 15 | 11 | 35,600 | 88,250 | 106,425 | 171,855 |
| Wichita | 885,100 | 275,825 | 161 | 99 | 52,115 | 56,400 | 937,215 | 378,332 |
| Minnesota: | | | | | | | | |
| Duluth | 6,050 | 10,600 | 3 | 6 | 13,205 | 20,715 | 82,687 | 101,790 |
| Minneapolis | 437,250 | 752,065 | 128 | 208 | 159,340 | 221,840 | 824,655 | 1,247,495 |
| St. Paul | 386,520 | 169,260 | 38 | 45 | 258,164 | 352,756 | 779,692 | 815,712 |
| Missouri: | | | | | | | | |
| Joplin | 9,000 | 14,000 | 1 | 5 | 6,150 | 183,650 | 52,950 | 200,300 |
| Springfield | 15,900 | 41,475 | 7 | 18 | 24,175 | 8,025 | 73,650 | 213,800 |
| St. Joseph | 26,000 | 26,500 | 10 | 18 | 5,975 | 349,210 | 96,525 | 384,985 |
| St. Louis | 559,300 | 708,090 | 147 | 228 | 313,602 | 1,524,685 | 1,168,231 | 2,577,845 |
| Nebraska: | | | | | | | | |
| Lincoln | 27,400 | 119,800 | 5 | 18 | 19,695 | 35,965 | 60,020 | 168,165 |
| Omaha | 72,950 | 80,150 | 17 | 16 | 1,684,227 | 476,868 | 1,881,967 | 572,493 |
| South Dakota: | | | | | | | | |
| Sioux Falls | 92,900 | 253,449 | 23 | 79 | 28,006 | 66,270 | 140,406 | 340,325 |
| Total | 2,945,970 | 4,317,314 | 593 | 898 | 3,362,759 | 4,913,608 | 7,469,338 | 10,772,349 |
| Per cent of charge | | +46.5 | | +51.4 | | +46.1 | | +44.2 |

*South Atlantic States*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Delaware: | | | | | | | | |
| Wilmington | $221,500 | $196,000 | 57 | 32 | $1,617,110 | $35,255 | $1,876,558 | $327,514 |
| District of Columbia: | | | | | | | | |
| Washington | 2,425,950 | 2,146,100 | 178 | 242 | 2,703,382 | 5,383,260 | 6,738,527 | 7,774,582 |
| Florida: | | | | | | | | |
| Jacksonville | 49,600 | 55,800 | 19 | 22 | 80,205 | 105,180 | 270,690 | 226,245 |
| Miami | 25,500 | 123,650 | 8 | 18 | 25,525 | 41,720 | 100,209 | 235,149 |
| St. Petersburg | 37,600 | 50,000 | 8 | 12 | 36,100 | 30,000 | 87,900 | 114,100 |
| Tampa | 5,900 | 8,500 | 6 | 7 | 198,140 | 21,375 | 236,253 | 65,496 |
| Georgia: | | | | | | | | |
| Atlanta | 299,830 | 180,200 | 112 | 64 | 1,700,645 | 464,523 | 2,084,143 | 867,616 |
| Columbus | 1,200 | 26,500 | 3 | 7 | 116,200 | 64,105 | 121,625 | 96,412 |
| Macon | 3,700 | 585 | 4 | 2 | 173,905 | 13,420 | 185,253 | 38,245 |
| Savannah | 23,250 | 36,000 | 10 | 9 | 8,720 | 670 | 32,870 | 43,695 |

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930—Continued

*South Atlantic States*—Continued

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| Maryland: | | | | | | | | |
| Baltimore | $761,000 | $960,000 | 171 | 203 | $708,300 | $2,935,100 | $2,109,300 | $4,605,100 |
| Cumberland | 11,500 | 11,500 | 5 | 3 | 1,275 | 550 | 15,775 | 18,060 |
| Hagerstown | 28,400 | 21,500 | 5 | 5 | 3,082 | 4,728 | 40,082 | 30,008 |
| North Carolina: | | | | | | | | |
| Asheville | 6,500 | 4,100 | 3 | 4 | 28,010 | 4,280 | 51,182 | 31,615 |
| Charlotte | 162,375 | 159,900 | 40 | 32 | 236,560 | 90,610 | 414,935 | 250,510 |
| Durham | 35,750 | 135,650 | 12 | 19 | 128,000 | 4,800 | 166,050 | 146,500 |
| Greensboro | 30,150 | 11,000 | 9 | 6 | 58,835 | 4,033 | 99,340 | 75,101 |
| Wilmington | 19,500 | 11,600 | 6 | 5 | 70,700 | 15,000 | 93,400 | 39,900 |
| Winston-Salem | 100,850 | 107,400 | 16 | 44 | 90,150 | 249,695 | 226,671 | 405,205 |
| South Carolina: | | | | | | | | |
| Charleston | 2,500 | 9,000 | 2 | 3 | 52,000 | 13,000 | 58,925 | 45,405 |
| Columbia | 33,600 | 50,900 | 10 | 16 | 288,915 | 1,125 | 335,540 | 58,450 |
| Greenville | 75,800 | 20,000 | 22 | 6 | 52,800 | 52,070 | 153,409 | 100,865 |
| Virginia: | | | | | | | | |
| Newport News | 32,650 | 36,100 | 11 | 11 | 1,756 | 64,633 | 120,268 | 113,519 |
| Norfolk | 149,000 | 115,000 | 38 | 35 | 213,690 | 8,095 | 385,670 | 145,140 |
| Petersburg | 17,000 | 21,800 | 4 | 5 | 325 | 535 | 20,725 | 23,135 |
| Portsmouth | 13,000 | 69,500 | 5 | 27 | 12,815 | 1,735 | 43,308 | 80,135 |
| Richmond | 193,750 | 87,500 | 44 | 18 | 52,365 | 141,127 | 322,350 | 285,953 |
| Roanoke | 85,650 | 27,450 | 17 | 8 | 16,563 | 250,638 | 119,960 | 301,290 |
| West Virginia: | | | | | | | | |
| Clarksburg | 0 | 14,800 | 0 | 4 | 1,520 | 3,370 | 12,845 | 31,495 |
| Huntington | 12,500 | 13,300 | 5 | 5 | 38,000 | 2,700 | 50,500 | 33,000 |
| Wheeling | 6,000 | 29,000 | 1 | 7 | 10,975 | 65,730 | 35,911 | 122,200 |
| Total | 4,871,505 | 4,740,335 | 831 | 881 | 8,726,568 | 10,073,062 | 16,610,174 | 16,731,640 |
| Per cent of change | | −2.7 | | +6.0 | | +15.4 | | +0.7 |

*South Central States*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Alabama: | | | | | | | | |
| Mobile | $28,700 | $57,350 | 11 | 22 | $10,125 | $2,950 | $59,126 | $78,786 |
| Montgomery | 67,300 | 80,950 | 34 | 28 | 11,150 | 12,375 | 108,985 | 117,033 |
| Arkansas: | | | | | | | | |
| Little Rock | 113,000 | 98,800 | 32 | 23 | 103,672 | 21,008 | 312,877 | 253,884 |
| Kentucky: | | | | | | | | |
| Lexington | 14,475 | 23,200 | 8 | 9 | 53,735 | 39,640 | 95,270 | 101,259 |
| Louisville | 265,750 | 343,500 | 61 | 69 | 211,595 | 313,700 | 555,270 | 743,780 |
| Newport | 0 | 38,500 | 0 | 11 | 35,200 | 9,300 | 38,050 | 55,350 |
| Paducah | 9,600 | 19,030 | 5 | 16 | 5,050 | 69,225 | 16,490 | 88,335 |
| Louisiana: | | | | | | | | |
| New Orleans | 49,050 | 76,300 | 17 | 22 | 661,921 | 88,067 | 846,813 | 283,083 |
| Shreveport | 40,773 | 31,437 | 17 | 18 | 8,720 | 46,383 | 165,415 | 121,915 |
| Oklahoma: | | | | | | | | |
| Muskogee | 0 | 15,000 | 0 | 4 | 800 | 12,710 | 5,100 | 32,560 |
| Oklahoma City | 935,250 | 526,825 | 269 | 191 | 276,325 | 935,520 | 1,268,290 | 1,684,988 |
| Okmulgee | 1,000 | 0 | 1 | 0 | 0 | 0 | 2,350 | 1,200 |
| Tulsa | 453,600 | 517,250 | 98 | 131 | 477,525 | 119,925 | 965,442 | 664,476 |
| Tennessee: | | | | | | | | |
| Chattanooga | 350,055 | 64,600 | 32 | 20 | 34,894 | 330,787 | 446,056 | 446,176 |
| Knoxville | 158,400 | 130,254 | 13 | 47 | 861,794 | 54,515 | 1,040,590 | 220,800 |
| Memphis | 296,400 | 481,950 | 91 | 126 | 270,920 | 1,749,150 | 766,480 | 2,565,200 |
| Nashville | 170,800 | 102,000 | 46 | 35 | 292,425 | 317,640 | 497,203 | 477,969 |
| Texas: | | | | | | | | |
| Austin | 151,307 | 113,830 | 71 | 36 | 415,188 | 20,754 | 591,511 | 168,389 |
| Beaumont | 93,457 | 60,275 | 38 | 23 | 47,145 | 18,216 | 242,394 | 132,716 |
| Dallas | 217,650 | 278,100 | 85 | 124 | 422,202 | 472,885 | 780,770 | 1,021,304 |
| Fort Worth | 202,623 | 277,195 | 64 | 65 | 898,175 | 439,898 | 1,170,978 | 843,298 |
| Galveston | 47,350 | 40,500 | 16 | 9 | 30,600 | 12,707 | 124,473 | 82,658 |
| Houston | 984,450 | 1,063,600 | 268 | 189 | 313,775 | 1,707,525 | 1,333,985 | 2,800,746 |
| Port Arthur | 119,256 | 65,870 | 32 | 25 | 14,500 | 819,006 | 154,252 | 901,351 |
| San Antonio | 264,260 | 197,750 | 94 | 86 | 722,390 | 93,325 | 1,043,050 | 370,105 |
| Waco | 61,867 | 69,080 | 12 | 18 | 16,100 | 93,388 | 95,407 | 189,473 |
| Wichita Falls | 17,250 | 1,800 | 9 | 1 | 586,302 | 22,000 | 620,519 | 117,130 |
| Total | 5,113,623 | 4,774,946 | 1,424 | 1,348 | 6,782,228 | 7,822,599 | 13,347,146 | 14,563,964 |
| Per cent of change | | −6.6 | | −5.3 | | +15.3 | | +9.1 |

TABLE 4.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, MARCH AND APRIL, 1930—Continued

*Mountain and Pacific States*

| City and State | New residential buildings | | | | New nonresidential buildings | | Total construction (including alterations and repairs) | |
|---|---|---|---|---|---|---|---|---|
| | Estimated cost | | Families provided for in new dwellings | | Estimated cost | | Estimated cost | |
| | March | April | March | April | March | April | March | April |
| Arizona: | | | | | | | | |
| Phoenix | $63,550 | $86,300 | 30 | 45 | $14,790 | $659,590 | $92,015 | $783,860 |
| Tucson | 102,288 | 23,600 | 15 | 12 | 200,404 | 21,940 | 324,082 | 69,016 |
| California: | | | | | | | | |
| Alameda | 21,300 | 72,400 | 5 | 28 | 30,085 | 89,890 | 138,845 | 181,113 |
| Berkeley | 154,998 | 246,750 | 35 | 65 | 231,185 | 18,895 | 411,586 | 304,352 |
| Fresno | 25,900 | 61,450 | 9 | 12 | 27,415 | 21,955 | 85,207 | 123,779 |
| Long Beach | 886,950 | 588,000 | 337 | 176 | 244,055 | 369,485 | 1,167,180 | 1,049,945 |
| Los Angeles | 2,688,596 | 3,193,890 | 992 | 1,133 | 3,257,214 | 2,633,485 | 7,045,931 | 7,026,972 |
| Oakland | 536,250 | 356,450 | 181 | 117 | 191,170 | 476,287 | 1,119,425 | 920,394 |
| Pasadena | 111,858 | 163,625 | 14 | 39 | 136,355 | 125,350 | 328,115 | 352,720 |
| Sacramento | 102,400 | 125,350 | 33 | 39 | 175,165 | 283,701 | 307,669 | 452,011 |
| San Diego | 201,650 | 410,850 | 66 | 94 | 203,790 | 105,360 | 461,345 | 572,175 |
| San Francisco | 735,600 | 715,076 | 171 | 192 | 2,549,903 | 181,504 | 3,473,312 | 1,324,998 |
| San Jose | 92,790 | 496,715 | 24 | 43 | 132,790 | 46,320 | 243,095 | 593,735 |
| Stockton | 63,100 | 14,550 | 20 | 5 | 45,470 | 211,010 | 134,275 | 232,970 |
| Valleja | 4,000 | 25,900 | 1 | 6 | 21,687 | 13,629 | 38,692 | 43,094 |
| Colorado: | | | | | | | | |
| Colorado Springs | 25,475 | 13,550 | 19 | 4 | 3,135 | 5,545 | 47,374 | 37,420 |
| Denver | 349,600 | 315,100 | 112 | 34 | 188,250 | 66,300 | 698,650 | 552,800 |
| Pueblo | 11,800 | 19,650 | 5 | 6 | 32,575 | 70,010 | 58,610 | 116,097 |
| Montana: | | | | | | | | |
| Great Falls | 27,000 | 88,960 | 8 | 20 | 23,080 | 93,567 | 73,510 | 213,992 |
| Oregon: | | | | | | | | |
| Portland | 616,345 | 365,275 | 138 | 95 | 530,945 | 370,570 | 1,321,070 | 979,555 |
| Utah: | | | | | | | | |
| Ogden | 17,000 | 43,100 | 10 | 13 | 6,200 | 76,500 | 39,600 | 140,350 |
| Salt Lake City | 131,150 | 276,450 | 32 | 93 | 194,770 | 68,445 | 349,020 | 367,070 |
| Washington: | | | | | | | | |
| Bellingham | 29,300 | 46,350 | 12 | 17 | 8,690 | 60,575 | 59,225 | 121,955 |
| Everett | 15,200 | 16,300 | 6 | 7 | 6,100 | 22,495 | 28,815 | 50,375 |
| Seattle | 1,454,345 | 1,244,630 | 407 | 206 | 640,305 | 647,920 | 2,615,010 | 2,111,845 |
| Spokane | 145,250 | 113,350 | 39 | 37 | 59,525 | 57,948 | 246,890 | 217,918 |
| Tacoma | 84,000 | 243,000 | 27 | 72 | 43,290 | 380,820 | 173,025 | 647,255 |
| Total | 8,697,695 | 9,366,621 | 2,748 | 2,610 | 9,198,343 | 7,179,096 | 21,081,573 | 19,587,766 |
| Per cent of change | | +7.7 | | −5.0 | | −22.0 | | −7.1 |

## Apartment House Construction in American Cities, 1929[1]

DURING 1929 there was a slight decrease in the percentage of homes provided for in apartment houses as compared with the percentage provided for in this class of dwellings during 1928. Reports collected by the Bureau of Labor Statistics are available for 257 identical cities of 25,000 population or over, continuously since 1921, showing the number of families provided for and the class of dwellings with which they were provided. This information is shown in Table 1.

A multifamily dwelling is a dwelling accommodating three or more families. The term is equivalent to the more generally used appellation, apartment house or tenement house. In 1929, 244,197 families were provided for in all classes of dwellings in these 257 cities. This compares with 388,678 provided for in 1928. According to permits issued in these cities, 48.6 per cent of the families provided for in 1929 were accommodated in apartment houses, 40.2 per cent in 1-family dwellings, and 11.2 per cent in 2-family dwellings. In 1928, 53.7 per cent were provided for in apartment houses, 35.2 per cent in 1-family dwellings, and 11.1 per cent in 2-family dwellings.

TABLE 1.—PER CENT OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF DWELLINGS IN 257 IDENTICAL CITIES, 1921 TO 1929

| Year | Number of families provided for in all classes of dwellings | Per cent of families provided for in— | | | Year | Number of families provided for in all classes of dwellings | Per cent of families provided for in— | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings [a] | Multifamily dwellings [b] | | | 1-family dwellings | 2-family dwellings [a] | Multifamily dwellings [b] |
| 1921 | 224,545 | 58.3 | 17.3 | 24.4 | 1926 | 462,214 | 40.7 | 13.9 | 45.4 |
| 1922 | 377,305 | 47.5 | 21.3 | 31.2 | 1927 | 406,095 | 38.3 | 13.4 | 48.3 |
| 1923 | 453,673 | 45.8 | 21.2 | 33.0 | 1928 | 388,678 | 35.2 | 11.1 | 53.7 |
| 1924 | 442,919 | 47.6 | 21.5 | 30.9 | 1929 | 244,197 | 40.2 | 11.2 | 48.6 |
| 1925 | 491,222 | 46.0 | 17.5 | 36.4 | | | | | |

[a] Includes 1-family and 2-family dwellings with stores combined.
[b] Includes multifamily dwellings with stores combined.

During each of the last four years more families have been provided for in apartment houses than in 1-family dwellings in these cities. If this ratio keeps up the time may come in most of the larger cities of the United States when the majority of families will be living in apartment houses.[2]

### Comparison of Conditions in Cities of Over 500,000

IN THE 14 cities of the United States having a population of 500,000 and over, 64.4 per cent of the new family dwelling units for which permits were issued during the calendar year 1929 were in apartment houses, 25.3 per cent in 1-family dwellings, and 10.3 per cent in 2-family dwellings. Dwelling accommodations were provided for 139,007 families during this year. During the calendar year 1928, dwelling places were provided for 232,681 families, of which 67.2 per cent were provided for in apartment houses, 22.1 in 1-family dwellings, and 10.7 in 2-family dwellings.

In New York City 58,320 families were provided for during the year 1929. Of this number, 83 per cent were provided for in apartment houses and only 10.8 per cent in 1-family dwellings. In the

[1] Also, see article on p. 165.
[2] This change in the type of building is causing some change in the building trades employed, with a larger proportion of structural ironworkers and bricklayers. Further, it probably has some effect on the sale of articles usually found in one type of building and not in another.

Borough of Manhattan 99.9 per cent of the 18,067 families provided for were to live in apartment houses. In contrast, in the Borough of Richmond 61.6 per cent of the new family dwelling units were provided in 1-family, and only 16.3 per cent in multifamily dwellings. Chicago ranked next to New York in the percentage of new family dwelling units provided for in apartment houses, as 77.9 per cent of the 18,837 families provided for in 1929 were to dwell in apartment houses.

Baltimore continues to be the outstanding city in the erection of 1-family dwellings. In the Maryland metropolis 3,022 families were provided for in 1929 and 92.7 per cent were to live in 1-family dwellings. Pittsburgh, Philadelphia, and Cleveland are the only other cities in this group which provided more than half of their new family dwelling units in single-family dwellings. In every city in the group except Baltimore fewer families were provided for in 1929 than in 1928.

Buffalo, Detroit, Milwaukee, and Boston erected large numbers of 2-family dwellings. In Buffalo more new housing units were provided for in 2-family dwellings than in either one-family dwellings or apartment houses.

TABLE 2.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF 500,000 OR OVER IN 1921, 1928, AND 1929

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings [1] | Multifamily dwellings [2] |
| Baltimore, Md.: | | | | |
| 1921 | 2,176 | 85.0 | 4.5 | 10.5 |
| 1928 | 2,884 | 86.4 | ------- | 13.6 |
| 1929 | 3,022 | 92.7 | .1 | 9.2 |
| Boston, Mass.: | | | | |
| 1921 | 878 | 15.5 | 30.5 | 54.0 |
| 1928 | 6,805 | 9.5 | 28.0 | 62.5 |
| 1929 | 3,327 | 15.1 | 24.4 | 60.5 |
| Buffalo, N. Y.: | | | | |
| 1921 | 2,405 | 51.6 | 48.0 | .4 |
| 1928 | 3,181 | 22.1 | 44.5 | 33.4 |
| 1929 | 1,769 | 18.9 | 51.5 | 29.6 |
| Chicago, Ill.: | | | | |
| 1921 | 12,252 | 37.9 | 17.6 | 44.6 |
| 1928 | 34,447 | 12.2 | 7.1 | 80.7 |
| 1929 | 18,837 | 14.9 | 7.2 | 77.9 |
| Cleveland, Ohio: | | | | |
| 1921 | 4,084 | 35.5 | 40.5 | 24.0 |
| 1928 | 3,167 | 42.8 | 21.7 | 35.5 |
| 1929 | 2,143 | 54.3 | 19.4 | 26.3 |
| Detroit, Mich.: | | | | |
| 1921 | 6,743 | 46.9 | 17.9 | 35.2 |
| 1928 | 15,929 | 42.7 | 28.4 | 28.9 |
| 1929 | 12,151 | 48.8 | 26.5 | 24.7 |
| Los Angeles, Calif.: | | | | |
| 1921 | 19,572 | 68.0 | 16.9 | 15.2 |
| 1928 | 21,081 | 31.3 | 10.0 | 58.8 |
| 1929 | 15,234 | 34.8 | 11.7 | 53.5 |
| Milwaukee, Wis.: | | | | |
| 1921 | 2,212 | 44.9 | 38.2 | 16.9 |
| 1928 | 4,965 | 19.7 | 22.3 | 58.0 |
| 1929 | 3,848 | 24.3 | 26.0 | 49.7 |
| New York City, N. Y.: | | | | |
| 1921 | 51,360 | 31.6 | 24.2 | 44.2 |
| 1928 | 109,523 | 12.4 | 7.2 | 80.3 |
| 1929 | 58,320 | 10.8 | 6.2 | 83.0 |
| Bronx: | | | | |
| 1921 | 14,037 | 11.7 | 11.9 | 76.4 |
| 1928 | 33,768 | 3.8 | 3.4 | 92.8 |
| 1929 | 13,978 | 4.9 | 3.9 | 91.2 |
| New York City, N. Y.—Cont. | | | | |
| Brooklyn: | | | | |
| 1921 | 16,636 | 24.1 | 44.0 | 31.9 |
| 1928 | 28,938 | 9.1 | 12.5 | 78.4 |
| 1929 | 11,224 | 9.7 | 12.2 | 78.1 |
| Manhattan: | | | | |
| 1921 | 4,837 | .7 | 3.7 | 95.5 |
| 1928 | 15,983 | .1 | .1 | 99.9 |
| 1929 | 18,067 | [3] | [3] | 99.9 |
| Queens: | | | | |
| 1921 | 13,256 | 60.0 | 24.4 | 15.6 |
| 1928 | 28,797 | 29.4 | 9.8 | 60.8 |
| 1929 | 13,861 | 27.2 | 10.4 | 62.4 |
| Richmond: | | | | |
| 1921 | 2,594 | 100.0 | ------- | ------- |
| 1928 | 2,037 | 60.3 | 16.4 | 23.3 |
| 1929 | 1,190 | 61.6 | 22.1 | 16.3 |
| Philadelphia, Pa.: | | | | |
| 1921 | 2,406 | 93.3 | ------- | 6.7 |
| 1928 | 10,576 | 69.2 | 7.3 | 23.4 |
| 1929 | 7,098 | 57.1 | 3.2 | 39.7 |
| Pittsburgh, Pa.: | | | | |
| 1921 | 1,335 | 59.3 | 26.8 | 13.9 |
| 1928 | 2,544 | 62.4 | 10.2 | 27.4 |
| 1929 | 2,153 | 60.1 | 9.5 | 30.4 |
| St. Louis, Mo.: | | | | |
| 1921 | 2,072 | 49.0 | 24.1 | 26.8 |
| 1928 | 7,190 | 23.4 | 18.7 | 57.9 |
| 1929 | 4,364 | 28.5 | 12.1 | 59.4 |
| San Francisco, Calif.: | | | | |
| 1921 | 2,683 | 37.6 | 17.0 | 45.4 |
| 1928 | 6,084 | 36.2 | 5.7 | 58.1 |
| 1929 | 3,518 | 35.1 | 5.9 | 59.0 |
| Washington, D. C.: | | | | |
| 1921 | 2,195 | 75.4 | ------- | 24.6 |
| 1928 | 4,305 | 30.4 | .7 | 68.9 |
| 1929 | 3,223 | 42.3 | .7 | 57.0 |
| Total (14 cities): | | | | |
| 1921 | 112,373 | 44.2 | 21.7 | 34.0 |
| 1928 | 232,681 | 22.1 | 10.7 | 67.2 |
| 1929 | 139,007 | 25.3 | 10.3 | 64.4 |

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.
[3] Less than one-tenth of 1 per cent.

## Comparison of Cities Under 500,000

In Table 3 are shown cities having a population of over 25,000 and under 500,000 which provided for 200 or more families in either 1928 or 1929. The table shows data for 1921, 1928, and 1929 where the information is available for those three years. When such data are not available for 1921 they are shown for the earliest year for which information was collected. A few of the smaller cities which have reached a population of 25,000 since 1921 are shown for 1928 and 1929 only. Most of the cities having a population of under 100,000 provided more of their new family dwelling units in 1-family dwellings than in either of the other classes of dwellings. There are, however, notable exceptions. In Highland Park, Mich., for instance, 99.6 per cent of the families provided for during the calendar year 1929 were to be domiciled in apartment houses. Mount Vernon, N. Y., Brookline, Mass., and Elizabeth, N. J., also provided for the majority of the new family dwelling units in this class of dwellings. Thirty-two cities having a population of 25,000 but less than 500,000 provided for over 90 per cent of the new family dwelling units in 1-family dwellings. Large numbers of 2-family dwellings were erected in Bethlehem, Pa., Bayonne, N. J., East Chicago, Ind., Everett, Mass., Kearny, N. J., New Orleans, La., and Watertown, Mass.

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings [1] | Multifamily dwellings [2] |
| Akron, Ohio: | | | | |
| 1921 | 234 | 100.0 | ------ | ------ |
| 1928 | 2,557 | 80.2 | 5.9 | 13.8 |
| 1929 | 2,171 | 80.2 | 6.3 | 13.5 |
| Alameda, Calif.: | | | | |
| 1921 | 152 | 88.2 | 11.8 | ------ |
| 1928 | 504 | 33.7 | .8 | 65.5 |
| 1929 | 404 | 28.2 | .5 | 71.3 |
| Albany, N. Y.: | | | | |
| 1921 | 302 | 59.3 | 39.7 | 1.0 |
| 1928 | 615 | 48.8 | 28.9 | 22.3 |
| 1929 | 385 | 48.3 | 13.5 | 38.2 |
| Allentown, Pa.: | | | | |
| 1921 | 102 | 90.2 | 2.0 | 7.8 |
| 1928 | 556 | 86.7 | 1.3 | 12.1 |
| 1929 | 397 | 94.2 | 5.8 | ------ |
| Anderson, Ind.: | | | | |
| 1921 | 37 | 100.0 | ------ | ------ |
| 1928 | 268 | 92.5 | 1.5 | 6.0 |
| 1929 | 215 | 86.1 | .9 | 13.0 |
| Asheville, N. C.: | | | | |
| 1921 | 374 | 97.1 | 2.1 | .8 |
| 1928 | 370 | 69.7 | 2.2 | 28.1 |
| 1929 | 120 | 76.7 | ------ | 23.3 |
| Atlanta, Ga.: | | | | |
| 1921 | 1,614 | 78.1 | 3.3 | 18.6 |
| 1928 | 3,170 | 41.6 | 14.2 | 44.2 |
| 1929 | 1,389 | 52.1 | 22.2 | 25.7 |
| Austin, Tex.: | | | | |
| 1929 | 545 | 91.7 | 3.7 | 4.6 |
| Augusta, Ga.: | | | | |
| 1921 | 342 | 96.2 | 2.6 | 1.2 |
| 1928 | 318 | 81.4 | 9.7 | 8.8 |
| 1929 | 207 | 93.2 | 6.8 | ------ |
| Aurora, Ill.: | | | | |
| 1921 | 126 | 100.0 | ------ | ------ |
| 1928 | 301 | 87.7 | 1.3 | 11.0 |
| 1929 | 192 | 92.7 | 3.1 | 4.2 |
| Bayonne, N. J.: | | | | |
| 1921 | 274 | 56.9 | 28.1 | 15.0 |
| 1928 | 436 | .7 | 19.0 | 80.3 |
| 1929 | 58 | 3.5 | 44.8 | 51.7 |
| Beaumont, Tex.: | | | | |
| 1928 | 540 | 100.0 | ------ | ------ |
| 1929 | 437 | 100.0 | ------ | ------ |
| Bellingham, Wash.: | | | | |
| 1928 | 264 | 94.3 | ------ | 5.7 |
| 1929 | 126 | 100.0 | ------ | ------ |
| Berkeley, Calif.: | | | | |
| 1921 | 706 | 77.6 | 1.7 | 20.7 |
| 1928 | 1,330 | 28.0 | 1.7 | 70.3 |
| 1929 | 587 | 51.4 | ------ | 48.6 |
| Bethlehem, Pa.: | | | | |
| 1921 | 82 | 96.3 | 3.7 | ------ |
| 1928 | 223 | 43.5 | 41.7 | 14.8 |
| 1929 | 201 | 45.8 | 49.2 | 5.0 |
| Binghamton, N. Y.: | | | | |
| 1921 | 327 | 55.7 | 30.6 | 13.8 |
| 1928 | 306 | 34.6 | 30.7 | 34.6 |
| 1929 | 169 | 34.3 | 30.8 | 34.9 |

[1] Includes 1-family and 2-family dwellings with stores.
[2] Includes multifamily dwellings with stores.

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929—Continued

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings | Multifamily dwellings |
| Birmingham, Ala.: | | | | |
| 1921 | 1,659 | 93.7 | 0.5 | 5.7 |
| 1928 | 2,589 | 70.2 | .8 | 29.0 |
| 1929 | 686 | 74.5 | .7 | 24.8 |
| Bloomfield, N. J.: | | | | |
| 1928 | 675 | 42.7 | 29.2 | 28.1 |
| 1929 | 476 | 53.8 | 8.4 | 37.8 |
| Bridgeport, Conn.: | | | | |
| 1921 | 404 | 35.6 | 32.7 | 31.7 |
| 1928 | 388 | 44.6 | 27.3 | 28.1 |
| 1929 | 541 | 32.3 | 24.8 | 42.9 |
| Brookline, Mass.: | | | | |
| 1921 | 118 | 22.0 | 54.2 | 23.7 |
| 1928 | 556 | 21.2 | 14.4 | 64.4 |
| 1929 | 362 | 25.1 | 12.2 | 62.7 |
| Cambridge, Mass.: | | | | |
| 1921 | 43 | 7.0 | 93.0 | ------ |
| 1928 | 863 | 5.3 | 26.7 | 68.0 |
| 1929 | 788 | 2.8 | 8.9 | 88.3 |
| Camden, N. J.: | | | | |
| 1921 | 145 | 100.0 | ------ | ------ |
| 1928 | 350 | 87.7 | 12.3 | ------ |
| 1929 | 320 | 78.8 | 21.2 | ------ |
| Canton, Ohio: | | | | |
| 1921 | 403 | 86.1 | 1.0 | 12.9 |
| 1928 | 374 | 89.6 | 1.6 | 8.8 |
| 1929 | 331 | 91.5 | 1.2 | 7.3 |
| Charleston, W. Va.: | | | | |
| 1921 | 712 | 77.7 | 6.0 | 16.4 |
| 1928 | 258 | 83.7 | 7.0 | 9.3 |
| 1929 | 262 | 69.9 | 15.6 | 14.5 |
| Charlotte, N. C.: | | | | |
| 1921 | 322 | 93.2 | 3.1 | 3.7 |
| 1928 | 1,237 | 47.9 | 13.7 | 38.3 |
| 1929 | 500 | 72.4 | 12.8 | 14.8 |
| Chattanooga, Tenn.: | | | | |
| 1921 | 226 | 65.9 | 5.8 | 28.3 |
| 1928 | 611 | 50.9 | 6.4 | 42.7 |
| 1929 | 324 | 59.3 | 18.5 | 22.2 |
| Chester, Pa.: | | | | |
| 1921 | 47 | 91.5 | 8.5 | ------ |
| 1928 | 243 | 92.6 | ------ | 7.4 |
| 1929 | 98 | 95.9 | 4.1 | ------ |
| Cicero, Ill.: | | | | |
| 1921 | 453 | 57.8 | 40.8 | 1.3 |
| 1928 | 464 | 23.3 | 12.9 | 63.8 |
| 1929 | 328 | 29.9 | 20.7 | 49.4 |
| Cincinnati, Ohio: | | | | |
| 1921 | 1,161 | 92.9 | 1.3 | 5.8 |
| 1928 | 3,559 | 51.2 | 10.1 | 38.8 |
| 1929 | 2,077 | 59.9 | 14.5 | 25.6 |
| Clifton, N. J.: | | | | |
| 1921 | 540 | 39.8 | 58.2 | 2.0 |
| 1928 | 547 | 43.9 | 26.9 | 29.3 |
| 1929 | 359 | 59.1 | 27.3 | 13.6 |
| Columbia, S. C.: | | | | |
| 1928 | 272 | 82.4 | 14.7 | 2.9 |
| 1929 | 230 | 92.2 | 7.8 | ------ |
| Columbus, Ga.: | | | | |
| 1921 | 88 | 68.2 | ------ | 31.8 |
| 1928 | 321 | 100.0 | ------ | ------ |
| 1929 | 276 | 97.1 | 1.5 | 1.4 |
| Columbus, Ohio: | | | | |
| 1921 | 1,317 | 65.8 | 31.7 | 2.5 |
| 1928 | 2,477 | 58.1 | 12.1 | 29.9 |
| 1929 | 1,211 | 62.4 | 8.7 | 28.9 |
| Covington, Ky.: | | | | |
| 1921 | 198 | 95.5 | 2.5 | 2.0 |
| 1928 | 314 | 54.8 | 34.7 | 10.5 |
| 1929 | 159 | 66.1 | 18.2 | 15.7 |
| Cranston, R. I.: | | | | |
| 1921 | 154 | 72.7 | 27.3 | ------ |
| 1928 | 559 | 77.3 | 12.9 | 9.8 |
| 1929 | 448 | 86.6 | 13.4 | ------ |
| Dallas, Tex.: | | | | |
| 1921 | 2,846 | 80.8 | 5.6 | 13.6 |
| 1928 | 1,199 | 58.7 | 29.0 | 12.3 |
| 1929 | 1,145 | 43.8 | 27.9 | 28.3 |
| Dayton, Ohio: | | | | |
| 1921 | 546 | 96.0 | 2.2 | 1.8 |
| 1928 | 732 | 40.7 | 11.7 | 47.5 |
| 1929 | 212 | 56.6 | 11.3 | 32.1 |
| Decatur, Ill.: | | | | |
| 1921 | 335 | 82.7 | 13.7 | 3.6 |
| 1928 | 339 | 97.6 | ------ | 2.4 |
| 1929 | 212 | 99.1 | .9 | ------ |
| Denver, Colo.: | | | | |
| 1921 | 1,624 | 87.8 | 4.8 | 7.4 |
| 1928 | 1,869 | 60.8 | 3.9 | 35.4 |
| 1929 | 1,608 | 46.6 | 4.5 | 48.9 |
| Des Moines, Iowa: | | | | |
| 1921 | 758 | 87.1 | 7.1 | 5.8 |
| 1928 | 406 | 83.0 | 1.5 | 15.5 |
| 1929 | 348 | 83.0 | 2.9 | 14.1 |
| Durham, N. C.: | | | | |
| 1928 | 464 | 86.2 | 3.4 | 10.3 |
| 1929 | 205 | 85.9 | 6.8 | 7.3 |
| East Chicago, Ind.: | | | | |
| 1921 | 168 | 57.1 | 31.0 | 11.9 |
| 1928 | 204 | 28.9 | 19.6 | 51.5 |
| 1929 | 84 | 56.0 | 44.0 | ------ |
| East Orange, N. J.: | | | | |
| 1921 | 376 | 26.6 | 38.6 | 34.8 |
| 1928 | 968 | 3.9 | 8.7 | 87.4 |
| 1929 | 500 | 5.0 | 12.4 | 82.6 |
| East Providence, R.I.: | | | | |
| 1928 | 271 | 78.2 | 20.7 | 1.1 |
| 1929 | 219 | 78.1 | 19.2 | 2.7 |
| East St. Louis, Ill.: | | | | |
| 1921 | 260 | 93.8 | ------ | 6.2 |
| 1928 | 501 | 73.3 | 9.8 | 17.0 |
| 1929 | 379 | 78.6 | 18.2 | 3.2 |
| Elgin, Ill. | | | | |
| 1921 | 67 | 52.2 | 20.9 | 26.9 |
| 1928 | 207 | 93.7 | 2.9 | 3.4 |
| 1929 | 144 | 95.8 | ------ | 4.2 |
| Elizabeth, N. J.: | | | | |
| 1921 | 514 | 28.0 | 66.4 | 5.6 |
| 1928 | 1,002 | 14.3 | 12.5 | 73.3 |
| 1929 | 514 | 23.9 | 18.9 | 57.2 |
| El Paso, Tex.: | | | | |
| 1928 | 310 | 71.0 | 4.5 | 24.5 |
| 1929 | 691 | 55.8 | 12.9 | 31.3 |
| Erie, Pa.: | | | | |
| 1921 | 518 | 62.5 | 37.5 | ------ |
| 1928 | 397 | 80.6 | 17.4 | 2.0 |
| 1929 | 393 | 72.5 | 19.1 | 8.4 |
| Evanston, Ill.: | | | | |
| 1921 | 415 | 74.0 | 5.8 | 20.2 |
| 1928 | 945 | 20.7 | 3.7 | 75.6 |
| 1929 | 386 | 31.3 | 2.6 | 66.1 |
| Evansville, Ind.: | | | | |
| 1921 | 509 | 84.3 | 2.4 | 13.4 |
| 1928 | 420 | 91.2 | 5.2 | 3.6 |
| 1929 | 458 | 84.3 | 5.4 | 10.3 |
| Everett, Mass.: | | | | |
| 1921 | 15 | 46.7 | 53.3 | ------ |
| 1928 | 283 | 11.3 | 35.3 | 53.4 |
| 1929 | 81 | 28.4 | 51.9 | 19.7 |

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929—Continued

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings | Multifamily dwellings |
| Flint, Mich.: | | | | |
| 1921 | 348 | 61.8 | 33.0 | 5.2 |
| 1928 | 2,221 | 75.7 | 16.7 | 7.6 |
| 1929 | 2,076 | 73.9 | 18.4 | 7.7 |
| Fort Wayne, Ind.: | | | | |
| 1921 | 586 | 81.4 | 14.2 | 4.4 |
| 1928 | 407 | 98.5 | .2 | 1.2 |
| 1929 | 578 | 93.6 | 1.0 | 5.4 |
| Fort Worth, Tex.: | | | | |
| 1921 | 909 | 96.7 | ------- | 3.3 |
| 1928 | 1,758 | 73.9 | 5.1 | 21.0 |
| 1929 | 1,262 | 76.1 | 12.7 | 11.2 |
| Galveston, Tex.: | | | | |
| 1921 | 103 | 96.1 | ------- | 3.9 |
| 1928 | 369 | 86.2 | 4.1 | 9.8 |
| 1929 | 350 | 88.0 | 2.6 | 9.4 |
| Gary, Ind.: | | | | |
| 1921 | 494 | 59.1 | .4 | 40.5 |
| 1928 | 890 | 67.4 | 9.2 | 23.4 |
| 1929 | 375 | 45.3 | 42.4 | 12.3 |
| Grand Rapids, Mich.: | | | | |
| 1921 | 630 | 94.9 | 2.5 | 2.5 |
| 1928 | 895 | 93.5 | 6.5 | ------ |
| 1929 | 589 | 90.7 | 3.7 | 5.6 |
| Great Falls, Mont.: | | | | |
| 1928 | 260 | 52.7 | 6.5 | 40.8 |
| 1929 | 293 | 53.6 | 19.1 | 27.3 |
| Greensboro, N. C.: | | | | |
| 1928 | 446 | 90.1 | 5.4 | 4.5 |
| 1929 | 268 | 75.7 | 6.0 | 18.3 |
| Greenwich, Conn.: | | | | |
| 1928 | 344 | 68.9 | 13.1 | 18.0 |
| 1929 | 282 | 88.7 | 9.9 | 1.4 |
| Hamilton, Ohio: | | | | |
| 1921 | 192 | 100.0 | ------- | ------ |
| 1928 | 410 | 99.0 | ------- | 1.0 |
| 1929 | 261 | 100.0 | ------- | ------ |
| Hammond, Ind.: | | | | |
| 1921 | 288 | 87.8 | 12.2 | ------ |
| 1928 | 698 | 67.6 | 6.4 | 25.9 |
| 1929 | 312 | 83.0 | 5.1 | 11.9 |
| Harrisburg, Pa.: | | | | |
| 1921 | 179 | 48.6 | 44.7 | 6.7 |
| 1928 | 206 | 97.6 | 2.4 | ------ |
| 1929 | 140 | 98.6 | 1.4 | ------ |
| Hartford, Conn.: | | | | |
| 1921 | 717 | 7.8 | 39.9 | 52.3 |
| 1928 | 1,363 | 8.0 | 12.8 | 79.2 |
| 1929 | 281 | 19.2 | 20.7 | 60.1 |
| Highland Park, Mich.: | | | | |
| 1921 | 250 | 13.2 | 15.2 | 71.6 |
| 1928 | 117 | 2.6 | 1.7 | 95.7 |
| 1929 | 250 | .4 | ------- | 99.6 |
| Houston, Tex.: | | | | |
| 1921 | 2,572 | 88.9 | 3.4 | 7.7 |
| 1928 | 4,463 | 63.5 | 21.7 | 14.8 |
| 1929 | 3,490 | 65.8 | 24.4 | 9.8 |
| Indianapolis, Ind.: | | | | |
| 1921 | 2,565 | 56.1 | 21.4 | 22.5 |
| 1928 | 2,511 | 52.0 | 14.3 | 33.7 |
| 1929 | 1,760 | 59.8 | 20.7 | 19.5 |
| Irvington, N. J.: | | | | |
| 1921 | 389 | 38.8 | 39.3 | 21.9 |
| 1928 | 1,022 | 3.9 | 11.2 | 84.9 |
| 1929 | 170 | 20.0 | 29.4 | 50.6 |
| Jackson, Mich.: | | | | |
| 1921 | 108 | 87.0 | 3.7 | 9.3 |
| 1928 | 250 | 93.6 | 6.4 | ------ |
| 1929 | 218 | 83.0 | 10.1 | 6.9 |
| Jacksonville, Fla.: | | | | |
| 1921 | 747 | 75.8 | 9.9 | 14.3 |
| 1928 | 1,658 | 60.1 | 17.2 | 22.6 |
| 1929 | 638 | 67.4 | 14.6 | 18.0 |
| Jamestown, N. Y.: | | | | |
| 1922 | 161 | 94.4 | 3.7 | 1.9 |
| 1928 | 169 | 94.7 | 5.3 | ------ |
| 1929 | 206 | 76.7 | 7.8 | 15.5 |
| Jersey City, N. J.: | | | | |
| 1921 | 970 | 4.4 | 46.3 | 49.3 |
| 1928 | 2,155 | .4 | 12.9 | 86.6 |
| 1929 | 1,388 | .6 | 12.8 | 86.6 |
| Kansas City, Kans.: | | | | |
| 1921 | 395 | 100.0 | ------- | ------ |
| 1928 | 321 | 89.4 | ------- | 10.6 |
| 1929 | 271 | 95.6 | ------- | 4.4 |
| Kansas City, Mo.: | | | | |
| 1921 | 2,578 | 70.1 | 1.7 | 28.2 |
| 1928 | 1,969 | 49.0 | 3.8 | 47.2 |
| 1929 | 2,234 | 37.1 | 2.1 | 60.8 |
| Kearny, N. J.: | | | | |
| 1921 | 205 | 52.7 | 35.6 | 11.7 |
| 1928 | 857 | 15.3 | 34.1 | 50.6 |
| 1929 | 261 | 24.5 | 54.8 | 20.7 |
| Kenosha, Wis.: | | | | |
| 1921 | 128 | 82.8 | 14.1 | 3.1 |
| 1928 | 295 | 90.2 | 7.5 | 2.4 |
| 1929 | 296 | 69.6 | 14.5 | 15.9 |
| Knoxville, Tenn.: | | | | |
| 1921 | 489 | 98.8 | 1.2 | ------ |
| 1928 | 940 | 77.2 | 6.4 | 16.4 |
| 1929 | 472 | 94.9 | .9 | 4.2 |
| Lakewood, Ohio: | | | | |
| 1921 | 877 | 26.3 | 72.3 | 1.4 |
| 1928 | 537 | 15.8 | 11.5 | 72.6 |
| 1929 | 203 | 25.6 | 31.5 | 42.9 |
| Lansing, Mich.: | | | | |
| 1921 | 492 | 93.7 | 3.9 | 2.4 |
| 1928 | 443 | 99.1 | .9 | ------ |
| 1929 | 537 | 99.3 | .7 | ------ |
| Lincoln, Nebr.: | | | | |
| 1921 | 241 | 97.5 | ------- | 2.5 |
| 1928 | 497 | 62.6 | ------- | 37.4 |
| 1929 | 346 | 71.7 | ------- | 28.3 |
| Little Rock, Ark.: | | | | |
| 1921 | 749 | 96.0 | 1.3 | 2.7 |
| 1928 | 527 | 76.5 | ------- | 23.5 |
| 1929 | 356 | 77.2 | .3 | 22.5 |
| Long Beach, Calif.: | | | | |
| 1921 | 3,882 | 33.2 | 7.3 | 59.5 |
| 1928 | 3,099 | 41.9 | 14.9 | 43.2 |
| 1929 | 3,198 | 39.9 | 17.7 | 42.4 |
| Lorain, Ohio: | | | | |
| 1921 | 146 | 87.7 | 6.8 | 5.5 |
| 1928 | 227 | 100.0 | ------- | ------ |
| 1929 | 170 | 97.6 | ------- | 2.4 |
| Louisville, Ky.: | | | | |
| 1921 | 677 | 88.9 | ------- | 11.1 |
| 1928 | 1,542 | 54.9 | 10.6 | 34.5 |
| 1929 | 1,427 | 34.7 | 32.1 | 33.2 |
| Lynn, Mass.: | | | | |
| 1921 | 140 | 57.1 | 12.9 | 30.0 |
| 1928 | 501 | 26.9 | 24.0 | 49.1 |
| 1929 | 475 | 25.1 | 9.9 | 65.0 |
| McKeesport, Pa.: | | | | |
| 1921 | 127 | 89.0 | 11.0 | ------ |
| 1928 | 203 | 82.3 | 11.8 | 5.9 |
| 1929 | 174 | 74.7 | 19.0 | 6.3 |

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929—Continued

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings | Multifamily dwellings |
| Macon, Ga.: | | | | |
| 1921 | 162 | 95.1 | ------- | 4.9 |
| 1928 | 321 | 98.1 | ------- | 1.9 |
| 1929 | 73 | 100.0 | ------- | ------ |
| Madison, Wis.: | | | | |
| 1921 | 283 | 73.5 | 12.7 | 13.8 |
| 1928 | 542 | 74.5 | 8.7 | 16.8 |
| 1929 | 499 | 45.3 | 4.0 | 50.7 |
| Malden, Mass.: | | | | |
| 1921 | 94 | 40.4 | 27.7 | 31.9 |
| 1928 | 718 | 18.4 | 12.0 | 69.6 |
| 1929 | 332 | 26.2 | 13.3 | 60.5 |
| Medford, Mass.: | | | | |
| 1921 | 256 | 46.1 | 48.0 | 5.9 |
| 1928 | 745 | 48.3 | 37.3 | 14.4 |
| 1929 | 438 | 60.0 | 22.2 | 17.8 |
| Memphis, Tenn.: | | | | |
| 1921 | 1,245 | 75.3 | 2.4 | 22.2 |
| 1928 | 1,887 | 41.4 | 19.1 | 39.5 |
| 1929 | 1,246 | 60.3 | 14.3 | 25.4 |
| Minneapolis, Minn.: | | | | |
| 1921 | 3,574 | 75.9 | 5.2 | 18.9 |
| 1928 | 2,240 | 57.1 | 11.6 | 31.3 |
| 1929 | 1,570 | 52.3 | 14.6 | 33.1 |
| Mobile, Ala.: | | | | |
| 1928 | 638 | 92.3 | 1.3 | 6.4 |
| 1919 | 299 | 100.0 | ------- | ------ |
| Montclair, N. J.: | | | | |
| 1921 | 276 | 65.9 | 9.4 | 24.7 |
| 1928 | 323 | 54.2 | 17.3 | 28.5 |
| 1929 | 165 | 83.0 | 17.0 | ------ |
| Montgomery, Ala.: | | | | |
| 1928 | 726 | 91.2 | .8 | 8.0 |
| 1929 | 488 | 95.9 | .8 | 3.3 |
| Mount Vernon, N. Y.: | | | | |
| 1921 | 246 | 66.3 | 16.3 | 17.4 |
| 1928 | 1,636 | 18.5 | 4.5 | 77.0 |
| 1929 | 325 | 33.2 | 12.0 | 54.8 |
| Muncie, Ind.: | | | | |
| 1921 | 64 | 75.0 | 12.5 | 12.5 |
| 1928 | 371 | 90.8 | .3 | 8.9 |
| 1929 | 319 | 96.6 | 2.5 | 0.9 |
| Nashville, Tenn.: | | | | |
| 1921 | 470 | 89.8 | ------- | 10.2 |
| 1928 | 753 | 71.3 | 11.2 | 17.5 |
| 1929 | 781 | 59.7 | 3.7 | 36.6 |
| Newark, N. J.: | | | | |
| 1921 | 1,393 | 19.1 | 49.1 | 31.8 |
| 1928 | 3,288 | 2.3 | 12.9 | 84.8 |
| 1929 | 693 | 19.0 | 22.4 | 58.6 |
| New Britain, Conn.: | | | | |
| 1921 | 215 | 20.0 | 38.1 | 41.9 |
| 1928 | 327 | 39.1 | 33.0 | 27.8 |
| 1929 | 130 | 62.3 | 30.8 | 6.9 |
| New Brunswick, N. J.: | | | | |
| 1921 | 129 | 25.6 | 71.3 | 3.1 |
| 1928 | 210 | 48.6 | 12.4 | 39.0 |
| 1929 | 195 | 20.5 | 19.0 | 60.5 |
| New Haven, Conn.: | | | | |
| 1921 | 444 | 21.2 | 40.1 | 38.7 |
| 1928 | 546 | 23.3 | 8.4 | 68.3 |
| 1929 | 276 | 43.1 | 7.6 | 49.3 |
| New London, Conn.: | | | | |
| 1928 | 218 | 46.8 | 21.1 | 32.1 |
| 1929 | 112 | 82.1 | 11.6 | 6.3 |
| New Orleans, La.: | | | | |
| 1921 | 2,335 | 41.8 | 47.2 | 11.0 |
| 1928 | 2,107 | 20.7 | 72.9 | 6.3 |
| 1929 | 1,060 | 34.9 | 54.0 | 11.1 |
| New Rochelle, N. Y.: | | | | |
| 1921 | 247 | 74.9 | 17.8 | 7.3 |
| 1928 | 1,205 | 22.9 | 2.3 | 74.8 |
| 1929 | 355 | 54.7 | 4.5 | 40.8 |
| Newton, Mass.: | | | | |
| 1921 | 249 | 83.5 | 15.3 | 1.2 |
| 1928 | 939 | 61.2 | 38.8 | ------ |
| 1929 | 568 | 72.2 | 27.8 | ------ |
| Niagara Falls, N. Y.: | | | | |
| 1921 | 286 | 56.3 | 37.1 | 6.6 |
| 1928 | 506 | 69.2 | 22.9 | 7.9 |
| 1929 | 320 | 69.1 | 24.7 | 6.2 |
| Norfolk, Va.: | | | | |
| 1921 | 419 | 69.2 | 17.2 | 13.6 |
| 1928 | 634 | 43.8 | .9 | 55.2 |
| 1929 | 233 | 89.7 | .9 | 9.4 |
| Norwalk, Conn.: | | | | |
| 1921 | 72 | 83.3 | 16.7 | ------ |
| 1928 | 358 | 69.3 | 13.1 | 17.6 |
| 1929 | 262 | 86.6 | 11.1 | 2.3 |
| Oakland, Calif.: | | | | |
| 1921 | 2,681 | 77.9 | 4.3 | 17.8 |
| 1928 | 2,430 | 41.6 | 2.2 | 56.1 |
| 1929 | 1,904 | 36.2 | 1.6 | 62.2 |
| Oak Park, Ill.: | | | | |
| 1921 | 720 | 70.3 | 4.7 | 25.0 |
| 1928 | 745 | 25.9 | .7 | 73.4 |
| 1929 | 310 | 25.5 | .3 | 74.2 |
| Oklahoma City, Okla. | | | | |
| 1921 | 1,724 | 83.8 | 2.2 | 13.9 |
| 1928 | 2,637 | 76.9 | 6.4 | 16.7 |
| 1929 | 3,023 | 51.2 | 19.6 | 29.2 |
| Omaha, Nebr.: | | | | |
| 1921 | 1,298 | 76.1 | .6 | 23.3 |
| 1928 | 412 | 82.3 | 4.4 | 13.3 |
| 1929 | 461 | 64.9 | 4.3 | 30.8 |
| Orange, N. J.: | | | | |
| 1921 | 55 | 25.5 | 52.7 | 21.8 |
| 1928 | 281 | 6.8 | 24.2 | 69.0 |
| 1929 | 136 | 7.4 | 5.1 | 87.5 |
| Pasadena, Calif.: | | | | |
| 1921 | 1,262 | 85.9 | 2.2 | 11.9 |
| 1928 | 600 | 58.3 | 10.5 | 31.2 |
| 1929 | 401 | 83.1 | 4.2 | 12.7 |
| Passaic, N. J.: | | | | |
| 1921 | 426 | 16.4 | 60.1 | 23.5 |
| 1928 | 351 | 18.8 | 11.1 | 70.1 |
| 1929 | 115 | 40.9 | 19.1 | 40.0 |
| Paterson, N. J.: | | | | |
| 1921 | 587 | 39.2 | 54.5 | 6.3 |
| 1928 | 748 | 23.4 | 20.9 | 55.7 |
| 1929 | 435 | 26.0 | 36.1 | 37.9 |
| Pawtucket, R. I.: | | | | |
| 1921 | 277 | 45.8 | 32.5 | 21.7 |
| 1928 | 455 | 63.5 | 29.9 | 6.6 |
| 1929 | 318 | 67.6 | 27.4 | 5.0 |
| Peoria, Ill.: | | | | |
| 1921 | 300 | 82.0 | 12.7 | 5.3 |
| 1928 | 437 | 82.4 | .7 | 16.9 |
| 1929 | 366 | 91.5 | 1.7 | 6.8 |
| Phoenix, Ariz.: | | | | |
| 1921 | 407 | 73.9 | ------- | 26.1 |
| 1928 | 748 | 69.5 | 17.6 | 12.8 |
| 1929 | 995 | 50.4 | 26.1 | 23.5 |
| Pittsfield, Mass.: | | | | |
| 1921 | 43 | 95.3 | 4.7 | ------ |
| 1928 | 211 | 65.9 | 15.2 | 19.0 |
| 1929 | 211 | 88.2 | 10.4 | 1.4 |

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929—Continued

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings | Multifamily dwellings |
| Plainfield, N. J.: | | | | |
| 1921 | 135 | 100.0 | ------ | ------ |
| 1928 | 311 | 73.6 | 14.5 | 11.9 |
| 1929 | 128 | 86.0 | 10.9 | 3.1 |
| Pontiac, Mich.: | | | | |
| 1921 | 60 | 96.7 | 3.3 | ------ |
| 1928 | 1,735 | 69.2 | 7.7 | 23.1 |
| 1929 | 1,284 | 63.3 | 7.6 | 29.1 |
| Port Arthur, Tex.: | | | | |
| 1928 | 210 | 100.0 | ------ | ------ |
| 1929 | 58 | ------ | 31.0 | 69.0 |
| Portland, Me.: | | | | |
| 1921 | 207 | 78.3 | .5 | 21.3 |
| 1928 | 261 | 62.1 | 2.7 | 35.2 |
| 1929 | 172 | 72.7 | 3.5 | 23.8 |
| Portland, Oreg.: | | | | |
| 1921 | 3,136 | 91.4 | 2.6 | 6.1 |
| 1928 | 2,321 | 69.1 | 3.4 | 27.6 |
| 1929 | 1,586 | 59.3 | 1.0 | 39.7 |
| Providence, R. I.: | | | | |
| 1921 | 566 | 33.9 | 51.2 | 14.8 |
| 1928 | 1,134 | 42.2 | 31.7 | 26.1 |
| 1929 | 842 | 43.5 | 30.3 | 26.2 |
| Pueblo, Colo.: | | | | |
| 1921 | 288 | 98.6 | ------ | 1.4 |
| 1928 | 372 | 79.0 | 17.5 | 3.5 |
| 1929 | 193 | 90.2 | 9.8 | ------ |
| Quincy, Mass.: | | | | |
| 1921 | 404 | 57.2 | 34.4 | 8.4 |
| 1928 | 977 | 46.4 | 14.3 | 39.3 |
| 1929 | 550 | 52.4 | 6.0 | 41.6 |
| Racine, Wis.: | | | | |
| 1921 | 169 | 77.5 | 15.4 | 7.1 |
| 1928 | 681 | 43.2 | 33.2 | 23.6 |
| 1929 | 653 | 38.4 | 41.2 | 20.4 |
| Reading, Pa.: | | | | |
| 1922 | 333 | 56.2 | 27.0 | 16.8 |
| 1928 | 263 | 97.3 | 2.7 | ------ |
| 1929 | 253 | 89.3 | 4.0 | 6.7 |
| Revere, Mass.: | | | | |
| 1921 | 152 | 69.7 | 30.3 | ------ |
| 1928 | 247 | 53.8 | 38.1 | 8.1 |
| 1929 | 95 | 72.6 | 27.4 | ------ |
| Richmond, Va.: | | | | |
| 1921 | 741 | 78.1 | ------ | 21.9 |
| 1928 | 764 | 63.4 | 9.4 | 27.2 |
| 1929 | 590 | 63.4 | 10.5 | 26.1 |
| Roanoke, Va.: | | | | |
| 1921 | 351 | 100.0 | ------ | ------ |
| 1928 | 364 | 56.0 | 13.7 | 30.2 |
| 1929 | 320 | 38.8 | 5.0 | 56.2 |
| Rochester, N. Y.: | | | | |
| 1921 | 1,319 | 72.1 | 17.1 | 10.8 |
| 1928 | 1,862 | 46.1 | 6.8 | 47.2 |
| 1929 | 496 | 87.5 | 3.4 | 9.1 |
| Rockford, Ill.: | | | | |
| 1921 | 351 | 68.7 | 16.5 | 14.8 |
| 1928 | 779 | 54.6 | 17.5 | 28.0 |
| 1929 | 621 | 59.3 | 24.0 | 16.7 |
| Rock Island, Ill.: | | | | |
| 1921 | 94 | 92.6 | 7.4 | 0.0 |
| 1928 | 146 | 78.1 | ------ | 21.9 |
| 1929 | 200 | 87.0 | ------ | 13.0 |
| Sacramento, Calif.: | | | | |
| 1921 | 737 | 84.0 | 4.6 | 11.4 |
| 1928 | 917 | 74.4 | 12.3 | 13.3 |
| 1929 | 693 | 55.8 | 16.5 | 27.7 |
| Saginaw, Mich.: | | | | |
| 1921 | 251 | 96.8 | 1.6 | 1.6 |
| 1928 | 577 | 90.5 | 2.6 | 6.9 |
| 1929 | 501 | 97.6 | 1.6 | 0.8 |
| St. Joseph, Mo.: | | | | |
| 1921 | 7 | 100.0 | ------ | ------ |
| 1928 | 98 | 64.3 | ------ | 35.7 |
| 1929 | 205 | 53.7 | ------ | 46.3 |
| St. Paul, Minn.: | | | | |
| 1921 | 2,194 | 78.6 | 4.6 | 16.8 |
| 1928 | 773 | 86.3 | 6.7 | 7.0 |
| 1929 | 591 | 78.0 | 6.6 | 15.4 |
| Salt Lake City, Utah: | | | | |
| 1921 | 826 | 90.0 | 3.8 | 6.2 |
| 1928 | 731 | 52.7 | 15.0 | 32.3 |
| 1929 | 699 | 59.5 | 7.4 | 33.1 |
| San Antonio, Tex.: | | | | |
| 1921 | 1,718 | 95.5 | ------ | 4.5 |
| 1928 | 2,784 | 70.8 | 6.1 | 23.1 |
| 1929 | 2,233 | 76.4 | 11.5 | 12.1 |
| San Diego, Calif.: | | | | |
| 1921 | 1,450 | 88.6 | .3 | 11.1 |
| 1928 | 2,146 | 73.6 | 3.7 | 22.7 |
| 1929 | 1,318 | 74.0 | 6.4 | 19.6 |
| San Jose, Calif.: | | | | |
| 1921 | 300 | 83.7 | 3.6 | 12.7 |
| 1928 | 370 | 67.0 | 5.9 | 27.0 |
| 1929 | 335 | 70.7 | 1.8 | 27.5 |
| Savannah, Ga.: | | | | |
| 1921 | 347 | 81.0 | ------ | 19.0 |
| 1928 | 430 | 59.1 | 15.8 | 25.1 |
| 1929 | 195 | 68.2 | 11.3 | 20.5 |
| Schenectady, N. Y.: | | | | |
| 1921 | 193 | 70.0 | 30.0 | ------ |
| 1928 | 269 | 89.2 | 9.7 | 1.1 |
| 1929 | 278 | 87.8 | 7.2 | 5.0 |
| Scranton, Pa.: | | | | |
| 1921 | 75 | 81.3 | 18.7 | ------ |
| 1928 | 292 | 51.7 | 13.7 | 34.6 |
| 1929 | 137 | 67.2 | 21.9 | 10.9 |
| Seattle, Wash.: | | | | |
| 1921 | 1,961 | 90.5 | ------ | 9.5 |
| 1928 | 4,658 | 50.1 | .6 | 49.4 |
| 1929 | 3,289 | 51.8 | .7 | 47.5 |
| Shreveport, La.: | | | | |
| 1921 | 1,157 | 100.0 | ------ | ------ |
| 1928 | 713 | 70.5 | 11.5 | 18.0 |
| 1929 | 543 | 76.4 | 11.4 | 12.2 |
| Sioux City, Iowa.: | | | | |
| 1921 | 638 | 90.4 | 5.0 | 4.5 |
| 1928 | 282 | 69.9 | 3.5 | 26.6 |
| 1929 | 308 | 50.0 | ------ | 50.0 |
| Sioux Falls, S. Dak.: | | | | |
| 1921 | 303 | 100.0 | ------ | ------ |
| 1928 | 211 | 71.6 | 28.4 | ------ |
| 1929 | 171 | 76.6 | 4.7 | 18.7 |
| Somerville, Mass.: | | | | |
| 1921 | 204 | 5.4 | 75.5 | 19.1 |
| 1928 | 199 | 1.0 | 64.3 | 34.7 |
| 1929 | 286 | 5.2 | 24.5 | 70.3 |
| South Bend, Ind.: | | | | |
| 1921 | 6657 | 8.0 | 13.8 | 8.1 |
| 1928 | 579 | 95.9 | 2.1 | 2.1 |
| 1929 | 661 | 90.2 | .4 | 9.4 |
| Spokane, Wash.: | | | | |
| 1921 | 438 | 98.7 | ------ | 1.3 |
| 1928 | 574 | 82.8 | 1.4 | 15.9 |
| 1929 | 419 | 83.5 | 1.0 | 15.5 |
| Springfield, Ill.: | | | | |
| 1921 | 210 | 76.7 | 6.7 | 16.6 |
| 1928 | 352 | 81.0 | 2.8 | 16.2 |
| 1929 | 229 | 78.2 | 3.5 | 18.3 |
| Springfield, Mass.: | | | | |
| 1921 | 827 | 59.9 | 30.0 | 10.2 |
| 1928 | 647 | 63.8 | 13.9 | 22.3 |
| 1929 | 466 | 62.7 | 9.0 | 28.3 |

TABLE 3.—PER CENT OF FAMILIES PROVIDED FOR BY THE DIFFERENT TYPES OF DWELLINGS IN CITIES HAVING A POPULATION OF OVER 25,000 AND UNDER 500,000 IN 1921, 1928, AND 1929—Continued

| City, State, and year | Total number of families provided for | Per cent of families provided for in— | | |
|---|---|---|---|---|
| | | 1-family dwellings | 2-family dwellings | Multifamily dwellings |
| Springfield, Mo.: | | | | |
| 1928 | 305 | 87.9 | 1.6 | 10.5 |
| 1929 | 218 | 95.4 | .9 | 3.7 |
| Springfield, Ohio.: | | | | |
| 1921 | 253 | 90.9 | 9.1 | ------ |
| 1928 | 315 | 79.7 | 15.2 | 5.1 |
| 1929 | 244 | 79.5 | 13.9 | 6.6 |
| Stamford, Conn.: | | | | |
| 1921 | 190 | 50.5 | 34.7 | 14.7 |
| 1928 | 331 | 60.4 | 27.8 | 11.8 |
| 1929 | 315 | 46.7 | 39.3 | 14.0 |
| Stockton, Calif.: | | | | |
| 1921 | 624 | 66.8 | ------ | 33.2 |
| 1928 | 226 | 86.3 | 4.4 | 9.3 |
| 1929 | 151 | 53.0 | 6.0 | 41.0 |
| Syracuse, N. Y.: | | | | |
| 1921 | 627 | 55.5 | 38.8 | 5.7 |
| 1928 | 1,561 | 53.1 | 14.8 | 32.1 |
| 1929 | 793 | 73.4 | 21.1 | 5.5 |
| Tacoma, Wash.: | | | | |
| 1921 | 843 | 93.1 | ------ | 6.9 |
| 1928 | 822 | 65.9 | ------ | 34.1 |
| 1929 | 515 | 62.1 | ------ | 37.9 |
| Tampa, Fla.: | | | | |
| 1922 | 422 | 89.3 | 5.2 | 5.5 |
| 1928 | 647 | 93.0 | 1.7 | 5.3 |
| 1929 | 188 | 96.3 | 3.7 | ------ |
| Toledo, Ohio: | | | | |
| 1921 | 600 | 80.3 | 15.7 | 4.0 |
| 1928 | 1,698 | 68.0 | 10.5 | 21.4 |
| 1929 | 1,310 | 62.1 | 11.2 | 26.7 |
| Topeka, Kans.: | | | | |
| 1921 | 188 | 84.0 | ------ | 16.0 |
| 1928 | 304 | 75.7 | .7 | 23.7 |
| 1929 | 191 | 81.2 | 3.1 | 15.7 |
| Trenton, N. J.: | | | | |
| 1921 | 317 | 89.3 | ------ | 10.7 |
| 1928 | 223 | 77.6 | ------ | 22.4 |
| 1929 | 87 | 72.4 | ------ | 27.6 |
| Tucson, Ariz.: | | | | |
| 1928 | 336 | 91.7 | 6.0 | 2.4 |
| 1929 | 340 | 82.4 | 4.1 | 13.5 |
| Tulsa, Okla. | | | | |
| 1921 | 1,138 | 77.5 | 5.1 | 17.4 |
| 1928 | 2,187 | 48.0 | 21.8 | 30.3 |
| 1929 | 1,646 | 51.5 | 17.1 | 31.4 |
| Utica, N. Y.: | | | | |
| 1921 | 478 | 43.3 | 56.7 | ------ |
| 1928 | 342 | 59.9 | 8.2 | 31.9 |
| 1929 | 111 | 96.4 | 3.6 | ------ |
| Waltham, Mass.: | | | | |
| 1921 | 137 | 92.7 | 4.4 | 2.9 |
| 1928 | 362 | 48.9 | 25.4 | 25.7 |
| 1929 | 205 | 51.2 | 29.3 | 19.5 |
| Warren, Ohio: | | | | |
| 1921 | 171 | 94.7 | 5.3 | ------ |
| 1928 | 306 | 95.4 | 2.6 | 2.0 |
| 1929 | 269 | 90.3 | 5.2 | 4.5 |
| Waterbury, Conn.: | | | | |
| 1921 | 271 | 43.2 | 22.9 | 33.9 |
| 1928 | 504 | 44.6 | 19.0 | 36.3 |
| 1929 | 262 | 60.3 | 26.0 | 13.7 |
| Waterloo, Iowa: | | | | |
| 1928 | 270 | 98.5 | ------ | 1.5 |
| 1929 | 357 | 81.5 | ------ | 18.5 |
| Watertown, Mass.: | | | | |
| 1928 | 454 | 17.6 | 82.4 | ------ |
| 1929 | 221 | 31.2 | 68.8 | ------ |
| White Plains, N. Y.: | | | | |
| 1928 | 856 | 34.8 | 1.9 | 63.3 |
| 1929 | 345 | 53.9 | 1.2 | 44.9 |
| Wichita, Kans.: | | | | |
| 1921 | 1,336 | 93.2 | 2.8 | 4.0 |
| 1928 | 1,207 | 73.1 | 7.4 | 19.6 |
| 1929 | 1,580 | 66.8 | 8.4 | 24.8 |
| Wichita Falls, Tex.: | | | | |
| 1928 | 222 | 89.2 | 5.4 | 5.4 |
| 1929 | 109 | 85.3 | ------ | 14.7 |
| Wilmington, Del.: | | | | |
| 1921 | 66 | 71.2 | 7.6 | 21.2 |
| 1928 | 365 | 88.5 | .8 | 10.7 |
| 1929 | 383 | 63.2 | 7.0 | 29.8 |
| Winston-Salem, N. C.: | | | | |
| 1921 | 356 | 94.1 | .6 | 5.3 |
| 1928 | 965 | 63.8 | 5.9 | 30.3 |
| 1929 | 317 | 73.5 | 6.3 | 20.2 |
| Worcester, Mass.: | | | | |
| 1921 | 715 | 67.0 | 17.8 | 15.2 |
| 1928 | 474 | 68.4 | 16.5 | 15.2 |
| 1929 | 379 | 73.4 | 13.7 | 12.9 |
| Yonkers, N. Y.: | | | | |
| 1921 | 433 | 76.0 | ------ | 24.0 |
| 1928 | 4,216 | 14.8 | 4.9 | 80.3 |
| 1929 | 1,808 | 20.2 | 6.1 | 73.7 |
| Youngstown, Ohio: | | | | |
| 1921 | 724 | 62.2 | 20.7 | 17.1 |
| 1928 | 929 | 83.6 | 10.2 | 6.1 |
| 1929 | 525 | 84.0 | 15.2 | 0.8 |

## Expenditure for Building Operations in Representative Cities, 1921 to 1929

EACH year since 1921 the Bureau of Labor Statistics has collected data concerning building permits issued in cities of the United States having a population of over 25,000 An article on the permits issued in these cities in 1929 appeared in the Labor Review of May, 1930. Data are available from 257 identical cities for each year, 1921 to 1929, inclusive. Comparable figures for these years are presented in this article.

The estimated costs shown in Table 1 are for the cost of the building only. No land costs are included. The costs are as shown by

permits issued within the corporate limits of the cities. Building operations in suburban territory are of importance in some districts but data for such territory are not available. Table 1 shows the estimated expenditures for new residential buildings, new nonresidential buildings, and total new buildings; 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; the index number of each of these items; and the index number of families provided for weighted by population.

TABLE 1.—ESTIMATED EXPENDITURE FOR EACH CLASS OF NEW BUILDINGS, FAMILIES PROVIDED FOR AND RATIO TO POPULATION, AND INDEX NUMBERS THEREOF, IN 257 IDENTICAL CITIES, 1921 TO 1929

| Year | New residential buildings | | New nonresidential buildings | | Total new buildings | |
|---|---|---|---|---|---|---|
| | Estimated expenditure | Index number | Estimated expenditure | Index number | Estimated expenditure | Index number |
| 1921 | $937,352,739 | 100.0 | $635,775,199 | 100.0 | $1,573,127,938 | 100.0 |
| 1922 | 1,612,352,921 | 172.0 | 876,276,713 | 137.8 | 2,488,629,634 | 158.2 |
| 1923 | 2,000,986,900 | 213.5 | 1,070,596,718 | 168.4 | 3,071,583,618 | 195.3 |
| 1924 | 2,070,276,772 | 220.9 | 1,137,631,080 | 178.9 | 3,207,907,852 | 203.9 |
| 1925 | 2,461,546,270 | 262.6 | 1,343,880,884 | 211.4 | 3,805,427,154 | 241.9 |
| 1926 | 2,255,994,627 | 240.7 | 1,300,840,876 | 204.6 | 3,556,835,503 | 226.1 |
| 1927 | 1,906,003,260 | 203.3 | 1,231,785,870 | 193.7 | 3,137,789,130 | 199.5 |
| 1928 | 1,859,429,751 | 198.4 | 1,135,549,986 | 178.6 | 2,994,979,737 | 190.4 |
| 1929 | 1,433,111,774 | 152.9 | 1,146,958,101 | 180.4 | 2,580,069,875 | 164.0 |

| Year | Population | | Families provided for | | | |
|---|---|---|---|---|---|---|
| | As estimated by Census Bureau | Index number | Number | Index number | Ratio to each 10,000 of population | Index number weighted by 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 | 338,678 | 173.1 | 90.9 | 148.1 |
| 1929 | 43,665,235 | 119.4 | 244,197 | 108.8 | 55.9 | 91.1 |

In 1921, $937,352,739 was expended for new residential buildings according to permits issued in these 257 cities. There was an increase each year in expenditures for this class of building until a peak of $2,461,546,270 was reached in 1925, when the index number of expenditures for residential buildings stood at 262.6. Since 1925 there has been a steady decrease in expenditures for residential buildings. During 1929 permits issued in these 257 cities showed an estimated expenditure for residential buildings of $1,433,111,774, which was less than the expenditure for this class of building in any year since 1921. The index number of residential buildings for 1929 was 152.9.

Expenditures for new nonresidential buildings in these 257 cities during 1921 were $635,775,199. The peak expenditure for this class of building was also reached in 1925, when permits issued showed the estimated cost of new nonresidential buildings to be $1,343,880,884. The index number of expenditures for nonresidential buildings during this peak year was 211.4, or 51.2 points less than the peak index number for residential building. The estimated expenditures

for nonresidential buildings followed the same trend as for residential buildings through 1928, when a low point of 178.6 was reached. There was a slight upturn in expenditures for nonresidential buildings in 1929, however. The estimated cost of the new buildings in this class for which permits were issued in the calendar year 1929 was $1,146,958,101 and the index number showed an increase of 1.8 points over the index number for 1928. The 1929 expenditures for nonresidential buildings were higher than the expenditures for this class of dwelling in any year previous to 1925.

Expenditures for all new buildings reached a peak of $3,805,427,154 in 1925 and have been gradually decreasing each year since that time. The estimated cost of new construction for which permits were issued in 1929 in these 257 cities was $2,580,069,875. The estimated population of these cities was 36,575,118 in 1921, but by 1929 had risen to 43,665,235, an increase of 19.4 per cent.

The number of families provided for in new dwellings in these cities also reached a peak in 1925, when 491,222 families were provided with dwelling places in the new dwellings for which permits were issued during that year. There has been a gradual decline in new family dwelling units since that date, the number of families provided for during 1929 being 244,197, which is less than half the number provided for during 1925. In 1921, 61.4 families were provided for to each 10,000 of population. By 1925 this ratio had risen to 121.8 families. In 1929, however, the ratio of families provided for reached the low point of the 9 years under discussion, only 55.9 families per 10,000 of population being provided with dwelling places in new buildings. The index number of families provided for weighted by population, reached a peak of 198.4 in 1925 and declined to 91.1 in 1929.

## Average Estimated Cost of Buildings per Family

TABLE 2 shows the average cost per family unit each year, 1921 to 1929, of housing accommodations of each type for which permits were issued in the 257 identical cities from which reports were received. The costs from which these averages were computed are the costs of the building as stated by the prospective builder at the time when he applied for his permit to build. There may be a profit or loss between the cost to the builder and the cost to the home purchaser.

TABLE 2.—AVERAGE COST OF NEW DWELLINGS[1] PER FAMILY IN 257 IDENTICAL CITIES, 1921 TO 1929

| Year | Average cost of new dwellings per family | | | | Index numbers of cost of dwellings per family | | | |
|---|---|---|---|---|---|---|---|---|
| | One-family dwellings | Two-family dwellings [2] | Multi-family dwellings [3] | All classes of dwellings | One-family dwellings | Two-family dwellings [2] | Multi-family 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 | 99.6 | 104.6 |
| 1924 | 4,317 | 4,336 | 4,418 | 4,352 | 108.7 | 115.3 | 109.9 | 110.3 |
| 1925 | 4,618 | 4,421 | 4,289 | 4,464 | 116.3 | 117.5 | 106.7 | 113.1 |
| 1926 | 4,725 | 4,480 | 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 |

[1] Includes only cost of the buildings.
[2] Includes one-family and two-family dwellings with stores.
[3] Includes multi-family dwellings with stores.

The average cost of one-family dwellings for which permits were issued in these 257 cities in 1921 was $3,972. There was an increase in the average cost of these single-family dwellings each year until 1928, when a peak cost of $4,937 per building was reached. There was a slight decline in the cost of these dwellings in 1929, the expenditure per building being $4,915. Two-family dwellings reached the peak cost in 1926 when the average cost per family was $4,480. There has been a slight decline each year since that date, the 1929 cost being $4,020 per family. The cost of family units in apartment houses has varied more than in either of the other two classes of dwellings. The per family cost of dwelling units in apartment houses was $4,019 in 1921. There was a slump to $3,880 in 1922, a rise in 1923, another rise in 1924 to a peak cost of $4,418, a decline in cost for the next two years, a slight rise in 1927, a slight decrease in 1928, and a rise to $4,402 in 1929, this cost being higher than that for any year except 1924.

The average cost per dwelling, all types of housing combined, was $3,947 in 1921. There was an increase in this average cost each year until 1925, when the cost stood at $4,464. The succeeding years have shown some variation, but 1929 showed the highest cost of any of the nine years under discussion. The average cost of dwelling places per family during 1929 was $4,566, which was 15.7 per cent higher than during the year 1921, and 2.6 points higher than during 1925.

The Bureau of Labor Statistics collects monthly the wholesale prices of building material and from such figures computes index numbers. Retail prices as paid by builders are not available but it is believed that the trend of retail prices follows closely the trend of wholesale prices. The index number as shown in Table 3 for wages in the building trades are wage rates for union labor only. In many cities the building trades are highly organized, while in others there is much nonunion labor. Although the bureau has no data concerning wages of nonunion labor in the building trades, it is thought that the trend of wages of nonunion labor tends to follow the same trend as that of union labor.

The index number of wholesale prices in the building trades reached a peak of 111.6 in 1923. It decreased each year thereafter until a low point of 95.8 was reached in 1927. There was a slight increase in 1928 and another increase (to 99.7) in 1929. The index number of union wage rates in the building trades reached a low point of 93.4 in 1922 and has been climbing steadily ever since, reaching 130.6 in 1929. That is to say, the union wage rates in the building trades were 30.6 per cent higher than in 1921.

TABLE 3.—INDEX NUMBER OF WHOLESALE PRICES OF BUILDING MATERIAL AND OF UNION WAGE RATES IN THE BUILDING TRADES, 1921 TO 1929

| Year | Wholesale prices of building material | Union wage rates per hour in the building trades | Year | Wholesale prices of building material | Union wage rates per hour in the building trades |
|---|---|---|---|---|---|
| 1921 | 100.0 | 100.0 | 1926 | 102.7 | 124.0 |
| 1922 | 99.9 | 93.4 | 1927 | 95.8 | 128.5 |
| 1923 | 111.6 | 103.6 | 1928 | 96.2 | 129.0 |
| 1924 | 105.0 | 112.2 | 1929 | 99.7 | 130.6 |
| 1925 | 104.4 | 116.3 | | | |

# WAGES AND HOURS OF LABOR

## Hours and Earnings in the Manufacture of Airplanes and Aircraft Engines, 1929 [1]

THIS report presents the results of the bureau's first comprehensive study of wages and hours of labor of wage earners in the airplane and aircraft-engine industries in the United States.

The information, collected late in 1929, covers 11,079 wage earners employed in 41 representative airplane plants and 3,290 wage earners employed in 14 representative aircraft-engine plants. The airplane plants were located in 21 States and the engine plants in 8 States.

Early in 1929 the bureau mailed a questionnaire to all airplane and aircraft-engine manufacturers of record, requesting data pertaining to the number of planes and engines produced in 1928, as well as to the number of employees as of May, 1929. Replies were received from 101 airplane manufacturers and 19 engine manufacturers.[2] In 4 of the 101 plants, engines were manufactured in addition to the airplanes, making a total of 23 companies reporting the manufacture of engines. A total of 16,105 wage earners were reported as employed in the manufacture of airplanes and 5,977 in the manufacture of engines. Only 78 of the plants above mentioned produced planes in 1928. Therefore, it will be seen that the present study embraces approximately 65 per cent of the total number of wage earners in these two industries. The aircraft study is restricted to airplanes, thus excluding craft lighter than air.

No data are here shown for the few foundries connected with certain plants. Figures for "test pilots" were considered confidential by a number of manufacturers. Hence, figures for the occupation have been omitted. There were eight females employed as inspectors in one engine plant, but data for these are omitted to avoid identification of the plant. Hence, the figures for manufacture of aircraft engines are for male wage earners only.

For purposes of tabulation, the data have been presented by geographical districts in order not to disclose the identity of individual plants.

The States in which airplane or aircraft engine plants were located are arranged below by districts:

| District | States included |
|---|---|
| New England | Connecticut, Rhode Island, and Massachusetts. |
| Middle Atlantic | New York, New Jersey, and Pennsylvania. |
| South Atlantic | Delaware, Maryland, and West Virginia. |
| East North Central | Illinois, Indiana, Michigan, Ohio, and Wisconsin. |
| West North Central | Kansas, Minnesota, Missouri, and Nebraska. |
| West South Central | Arkansas and Oklahoma. |
| Western | Colorado, California, Oregon, and Washington. |

[1] This article is a summary of Bulletin No. 523 of the Bureau of Labor Statistics, to be published later.
[2] See Labor Review for August, 1929, p. 62.

## Average Hours and Earnings by Occupations

TABLE 1 presents average full-time hours per week, average earnings per hour, and average full-time earnings per week for all important occupations and for a group designated as "other employees." This group includes employees in occupations having too small a number of workers to warrant separate presentation.

*Airplanes.*—The average full-time hours per week for all male wage earners covered were 47.9, as shown at the end of the first section of the table. The average for females was 47.3 hours. The average earnings per hour were 66.9 cents for males and 38.0 cents for females; and the average full-time earnings per week, $32.05 for males and $17.97 for females. For both sexes combined, the full-time hours per week averaged 47.9; average earnings per hour were 66.3 cents; and average full-time earnings per week, $31.76.

Inspection of the data for the occupations shows that the average earnings per hour for males ranged from 48.4 cents for helpers to 82.7 cents for inspectors, and for females from 36.7 cents for coverers (fabric) to 41.3 cents for the group "other employees."

*Aircraft engines.*—The averages for all occupations combined in the manufacture of engines show the full-time hours per week to be 48.9; the earnings per hour, 70.6 cents; and the full-time earnings per week, $34.52.

The averages for the several occupations show that the earnings per hour range from 42.5 cents for apprentices to 86.1 cents for polishers and buffers.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929, BY OCCUPATION AND SEX

*Airplanes*

| Occupation | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|---|---|---|---|---|---|
| Assemblers, detail, male | 36 | 466 | 47.1 | $0.645 | $30.38 |
| Assemblers, final, male | 40 | 680 | 47.6 | .674 | 32.08 |
| Cabinetmakers, male | 23 | 208 | 47.1 | .727 | 34.24 |
| Cable splicers, male | 20 | 66 | 47.3 | .673 | 31.83 |
| Coppersmiths, male | 16 | 50 | 47.5 | .719 | 34.15 |
| Coverers, dural, male | 11 | 225 | 48.9 | .685 | 33.50 |
| Coverers, fabric, male | 29 | 118 | 48.4 | .604 | 29.23 |
| Coverers, fabric, female | 18 | 159 | 47.0 | .367 | 17.25 |
| Coverers, wood, male | 3 | 67 | 46.7 | .678 | 31.66 |
| Cowl makers, male | 37 | 265 | 48.2 | .744 | 35.86 |
| Drill press operators, male | 20 | 82 | 48.1 | .562 | 27.03 |
| Electricians, male | 26 | 64 | 47.8 | .685 | 32.74 |
| Fitters and bench hands, male | 34 | 1,152 | 47.7 | .665 | 31.72 |
| Frame builders, male: | | | | | |
| Dural fuselage | 4 | 67 | 46.5 | .712 | 33.11 |
| Steel fuselage | 33 | 330 | 47.7 | .699 | 33.34 |
| Wood fuselage | 5 | 55 | 47.2 | .756 | 35.68 |
| Dural tail | 9 | 84 | 47.5 | .684 | 32.49 |
| Steel tail | 20 | 134 | 49.1 | .616 | 30.24 |
| Wood tail | 7 | 39 | 46.5 | .688 | 31.99 |
| Dural wing | 12 | 217 | 48.3 | .669 | 32.31 |
| Wood wing | 34 | 513 | 47.6 | .656 | 31.23 |
| Helpers, male | 38 | 867 | 47.6 | .484 | 23.04 |
| Inspectors, male | 37 | 271 | 47.5 | .827 | 39.28 |
| Laborers, male | 37 | 539 | 48.6 | .520 | 25.27 |
| Lathe operators, male | 21 | 169 | 47.2 | .759 | 35.82 |
| Machinists, male | 34 | 195 | 47.9 | .773 | 37.03 |
| Milling-machine operators, male | 19 | 113 | 48.2 | .727 | 35.04 |
| Painters, hand, male | 26 | 240 | 48.5 | .604 | 29.29 |
| Painters, letterers and stripers, male | 21 | 28 | 47.8 | .817 | 39.05 |
| Painters, spray, male | 38 | 222 | 48.6 | .660 | 32.08 |

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929, BY OCCUPATION AND SEX—Continued

*Airplanes*—Continued

| Occupation | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|---|---|---|---|---|---|
| Patternmakers, male | 20 | 73 | 48.2 | .817 | 39.38 |
| Polishers and rubbers, male | 5 | 19 | 46.9 | .677 | 31.75 |
| Rib builders, dural, male | 7 | 67 | 48.3 | .652 | 31.49 |
| Rib builders, wood, male | 27 | 133 | 48.3 | .503 | 24.29 |
| Rib builders, wood, female | 4 | 17 | 48.4 | .372 | 18.00 |
| Screw-machine operators, male | 14 | 63 | 48.4 | .693 | 33.54 |
| Sewing-machine operators, male | 6 | 7 | 47.8 | .802 | 38.34 |
| Sewing-machine operators, female | 17 | 42 | 47.7 | .410 | 19.56 |
| Sheet-metal machine operators, male | 28 | 131 | 49.4 | .608 | 30.04 |
| Sheet-metal workers, hand, male | 36 | 503 | 47.8 | .728 | 34.80 |
| Spar builders, dural, male | 3 | 42 | 49.9 | .645 | 32.19 |
| Spar builders, wood, male | 19 | 70 | 47.3 | .710 | 33.58 |
| Testers, ground, male | 31 | 48 | 47.6 | .753 | 35.84 |
| Toolmakers, male | 28 | 264 | 48.5 | .822 | 39.87 |
| Upholsterers, male | 31 | 65 | 47.0 | .759 | 35.67 |
| Welders, male | 37 | 567 | 47.8 | .764 | 36.52 |
| Welders, female | 2 | 3 | 49.0 | .540 | 26.46 |
| Woodworking-machine operators, male | 33 | 119 | 47.8 | .727 | 34.75 |
| Other employees, male | 40 | 1,148 | 48.0 | .695 | 33.36 |
| Other employees, female | 7 | 13 | 48.0 | .413 | 19.82 |
| All airplane occupations, male | 41 | 10,845 | 47.9 | .669 | 32.05 |
| All airplane occupations, female | 24 | 234 | 47.3 | .380 | 17.97 |
| All airplane occupations, male and female | 41 | 11,079 | 47.9 | .663 | 31.76 |

*Aircraft engines*

| | | | | | |
|---|---|---|---|---|---|
| Apprentices, male | 5 | 114 | 47.6 | .425 | 20.23 |
| Assemblers, male | 13 | 205 | 49.3 | .714 | 35.20 |
| Blacksmiths, male | 3 | 3 | 48.3 | .728 | 35.16 |
| Boring-mill operators, male | 5 | 41 | 49.9 | .814 | 40.62 |
| Coppersmiths and tinsmiths, male | 3 | 38 | 47.7 | .762 | 36.35 |
| Drill-press operators, male | 11 | 277 | 49.2 | .672 | 35.06 |
| Fitters and bench hands, male | 12 | 404 | 48.7 | .628 | 30.58 |
| Grinding-machine operators, male | 11 | 216 | 49.0 | .791 | 38.76 |
| Helpers, male | 8 | 91 | 49.3 | .537 | 26.47 |
| Inspectors, male | 11 | 210 | 48.7 | .753 | 36.67 |
| Laborers, male | 11 | 235 | 48.5 | .526 | 25.51 |
| Lathe operators, engine, male | 11 | 167 | 49.0 | .783 | 38.37 |
| Lathe operators, turret, male | 6 | 74 | 49.0 | .742 | 36.36 |
| Machinists, male | 10 | 123 | 49.3 | .795 | 39.19 |
| Machinists' and toolmakers' helpers, male | 3 | 15 | 50.5 | .528 | 26.66 |
| Milling-machine operators, male | 10 | 161 | 49.1 | .749 | 36.78 |
| Packers, male | 9 | 43 | 48.7 | .594 | 28.93 |
| Paint sprayers, male | 4 | 16 | 48.9 | .675 | 33.01 |
| Polishers and buffers, male | 5 | 49 | 48.3 | .861 | 41.59 |
| Screw-machine operators, male | 8 | 198 | 49.2 | .781 | 38.43 |
| Sheet-metal machine operators, male | 2 | 3 | 48.8 | .709 | 34.60 |
| Testers, male | 12 | 57 | 49.1 | .783 | 38.45 |
| Toolmakers, male | 10 | 108 | 49.1 | .844 | 41.44 |
| Other precision machine operators, male | 4 | 35 | 48.2 | .756 | 36.45 |
| Other skilled employees, male | 13 | 241 | 48.8 | .849 | 41.43 |
| Other employees, male | 13 | 166 | 49.0 | .630 | 30.87 |
| All aircraft engine occupations, male | 14 | 3,290 | 48.9 | .706 | 34.52 |

## Average Hours and Earnings in 1929, by Districts

THE FIGURES in Table 2 show average full-time hours per week, average earnings per hour, and average full-time weekly earnings for all males, for all females, and for both sexes combined in each industry and for each district.

*Airplanes.*—Average full-time hours in the airplane plants are lowest in the Western district, the average for the 1,888 males reported

being 46.5 hours per week, and for the 86 females 43.1 hours per week. The highest full-time hours are shown for the West South Central district, where the average is 50.8 for males and 51.8 for females.

The highest hourly earnings are for the 1,307 male wage earners in the East North Central district, who received an average of 70.5 cents per hour, and the lowest earnings for males, 55.3 cents per hour, were in the West South Central district. The average hourly earnings for females range from 26 cents in the West North Central district to 41.7 cents in the Western district. The average earnings for both sexes combined range from 54.7 cents in the West South Central district to 70.3 cents in the East North Central district.

The full-time earnings per week for males range from $28.06 in the West North Central district to $33.91 in the East North Central district; for females, from $12.97 in the West North Central district to $19.58 in the Middle Atlantic district.

Full-time earnings for both sexes combined range from $27.72 in the West North Central district to $33.81 in the East North Central district.

*Aircraft engines.*—The aircraft-engine establishments visited were located in only four districts. The average full-time hours per week range from 48 for the employees in the Middle Atlantic district to 50.2 for the 704 employees in New England.

The average hourly earnings for the employees range from 65.9 cents for the New England district to 78.4 cents in the Western district, and the full-time earnings from $33.08 per week in the New England district to $38.96 for the Western district.

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES BY SEX AND DISTRICT

*Airplanes*

[See definition of districts, p. 169]

| Sex and district | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|---|---|---|---|---|---|
| *Males* | | | | | |
| New England | 4 | 688 | 47.9 | $0.642 | $30.75 |
| Middle Atlantic | 9 | 4,816 | 47.6 | .695 | 33.08 |
| South Atlantic | 4 | 857 | 50.6 | .641 | 32.43 |
| East North Central | 8 | 1,307 | 48.1 | .705 | 33.91 |
| West North Central | 8 | 1,011 | 48.3 | .581 | 28.06 |
| West South Central | 4 | 278 | 50.8 | .553 | 28.09 |
| Western | 4 | 1,888 | 46.5 | .666 | 30.97 |
| Total | 41 | 10,845 | 47.9 | .669 | 32.05 |
| *Females* | | | | | |
| New England | 3 | 9 | 48.3 | .361 | 17.44 |
| Middle Atlantic | 7 | 74 | 47.3 | .414 | 19.58 |
| South Atlantic | 2 | 27 | 49.7 | .318 | 15.80 |
| East North Central | 2 | 7 | 49.6 | .330 | 16.37 |
| West North Central | 5 | 23 | 49.9 | .260 | 12.97 |
| West South Central | 2 | 8 | 51.8 | .342 | 17.72 |
| Western | 3 | 86 | 43.1 | .417 | 17.97 |
| Total | 24 | 234 | 47.3 | .380 | 17.97 |
| *Males and females* | | | | | |
| New England | 4 | 697 | 47.9 | .639 | 30.61 |
| Middle Atlantic | 9 | 4,890 | 47.6 | .691 | 32.89 |
| South Atlantic | 4 | 884 | 50.6 | .632 | 31.98 |
| East North Central | 8 | 1,314 | 48.1 | .703 | 33.81 |
| West North Central | 8 | 1,034 | 48.3 | .574 | 27.72 |
| West South Central | 4 | 286 | 50.9 | .547 | 27.84 |
| Western | 4 | 1,974 | 46.4 | .656 | 30.44 |
| Total | 41 | 11,079 | 47.9 | .663 | 31.76 |

TABLE 2.—AVERAGE HOURS AND EARNINGS IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES BY SEX AND DISTRICT—Continued

*Aircraft engines*

| Sex and district | Number of establishments | Number of employees | Average full-time hours per week | Average earnings per hour | Average full-time earnings per week |
|---|---|---|---|---|---|
| *Males* | | | | | |
| New England | 2 | 704 | 50.2 | $0.659 | $33.08 |
| Middle Atlantic | 2 | 1,831 | 48.0 | .702 | 33.73 |
| East North Central | 7 | 569 | 49.8 | .748 | 37.25 |
| Western | 3 | 186 | 49.7 | .784 | 38.96 |
| Total | 14 | 3,290 | 48.9 | .706 | 34.52 |

## Earnings and Hours in Selected Occupations

### Classified Earnings

IN TABLE 3 are presented the average earnings per hour and a percentage distribution, by average earnings per hour, of the employees in 16 important occupations in the airplane industry and in 8 occupations in the aircraft-engine industry. The 16 occupations represent 60 per cent of all the wage earners covered in airplane plants, while the 8 occupations represent 47 per cent of all the wage earners engaged in the manufacture of aircraft engines. The purpose of this table is to illustrate the range of hourly earnings. The spread is much the same in the other occupations.

The data shown on the first line are for "Assemblers, final, male." The 40 establishments in which the occupation was found employ a total of 680 wage earners in the occupation, as shown by the first two columns of the table. The next column shows that the average earnings per hour for the group was 67.4 cents. Continuing, it will be observed that less than 1 per cent of the employees of this occupation earned 25 and under 30 cents per hour; 1 per cent earned 30 and under 35 cents; less than 1 per cent 35 and under 40 cents; 3 per cent 40 and under 45 cents, etc. The final figure for this occupation shows that 4 per cent earned $1 and under $1.25.

TABLE 3.—AVERAGE AND CLASSIFIED EARNINGS PER HOUR OF EMPLOYEES IN SPECIFIED OCCUPATIONS, IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929, BY SEX

*Airplanes*

| Occupation and sex | Number of— | | Average earnings per hour | Per cent of employees whose earnings per hour were— | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Establishments | Employees | | 20 and under 25 cents | 25 and under 30 cents | 30 and under 35 cents | 35 and under 40 cents | 40 and under 45 cents | 45 and under 50 cents | 50 and under 55 cents | 55 and under 60 cents | 60 and under 65 cents | 65 and under 70 cents | 70 and under 75 cents | 75 and under 80 cents | 80 and under 85 cents | 85 and under 90 cents | 90 and under 95 cents | 95 cents and under $1 | $1 and under $1.25 | $1.25 and under $1.50 | $1.50 and under $1.75 | $2 and over |
| Assemblers, final, male | 40 | 680 | $0.674 | ..... | (1) | 1 | (1) | 3 | 3 | 8 | 7 | 19 | 16 | 13 | 13 | 6 | 2 | 3 | 2 | 4 | ..... | ..... | ..... |
| Coverers, fabric, male | 29 | 118 | .604 | ..... | 3 | ..... | ..... | 8 | 14 | 16 | 6 | 12 | 8 | 16 | 11 | 2 | 3 | 3 | ..... | ..... | ..... | ..... | ..... |
| Cowl makers, male | 37 | 265 | .744 | ..... | ..... | ..... | ..... | ..... | (1) | 3 | 5 | 17 | 13 | 17 | 12 | 11 | 6 | 6 | 3 | 6 | 1 | ..... | ..... |
| Fitters and bench hands, male | 34 | 1,152 | .665 | ..... | (1) | 1 | 1 | 1 | 1 | 6 | 9 | 18 | 17 | 17 | 15 | 8 | 4 | 1 | 1 | 1 | ..... | ..... | ..... |
| Frame builders: | | | | | | | | | | | | | | | | | | | | | | | |
| Steel fuselage, male | 33 | 330 | .699 | (1) | 1 | 1 | 2 | (1) | (1) | 4 | 6 | 16 | 15 | 10 | 15 | 11 | 7 | 5 | 3 | 1 | ..... | ..... | ..... |
| Wood wing, male | 34 | 513 | .656 | ..... | ..... | ..... | 1 | 4 | 6 | 9 | 5 | 15 | 17 | 10 | 19 | 9 | 5 | 1 | (1) | (1) | ..... | ..... | ..... |
| Helpers, male | 38 | 867 | .484 | ..... | (1) | 1 | 6 | 20 | 25 | 24 | 14 | 7 | 4 | 1 | (1) | (1) | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Inspectors, male | 37 | 271 | .827 | ..... | ..... | ..... | 2 | 1 | 2 | 4 | 1 | 4 | 7 | 9 | 16 | 14 | 12 | 9 | 5 | 13 | 2 | (1) | (1) |
| Laborers, male | 37 | 539 | .520 | (1) | 2 | 2 | 4 | 16 | 9 | 28 | 15 | 12 | 5 | 2 | 2 | (1) | 2 | 1 | (1) | 1 | ..... | ..... | ..... |
| Machinists, male | 34 | 195 | .773 | ..... | ..... | ..... | ..... | ..... | 1 | 2 | 1 | 3 | 4 | 16 | 26 | 25 | 11 | 6 | 3 | 2 | ..... | ..... | ..... |
| Painters, spray, male | 38 | 222 | .660 | ..... | 2 | 3 | 1 | 2 | 1 | 8 | 10 | 18 | 18 | 10 | 13 | 5 | 5 | 2 | 2 | 2 | ..... | ..... | ..... |
| Sewing-machine operators, female | 17 | 42 | .410 | ..... | 10 | 19 | 14 | 17 | 19 | 5 | 12 | ..... | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Sheet-metal workers, hand, male | 36 | 503 | .728 | ..... | ..... | ..... | ..... | 1 | (1) | 5 | 3 | 15 | 12 | 21 | 14 | 12 | 4 | 6 | 2 | 5 | (1) | ..... | ..... |
| Tool makers, male | 28 | 264 | .822 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | (1) | 3 | 3 | 6 | 21 | 24 | 21 | 11 | 2 | 8 | 1 | ..... | ..... |
| Welders, male | 37 | 567 | .764 | ..... | ..... | ..... | 1 | 2 | 1 | 3 | 3 | 4 | 9 | 15 | 16 | 15 | 14 | 8 | 4 | 6 | (1) | ..... | ..... |
| Woodworking-machine operators, male | 33 | 119 | .727 | ..... | ..... | ..... | ..... | ..... | 1 | 5 | 4 | 10 | 14 | 18 | 18 | 14 | 7 | 4 | 2 | 3 | ..... | ..... | ..... |

*Aircraft engines*

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assemblers, final, male | 13 | 205 | $0.714 | ..... | ..... | ..... | ..... | ..... | (1) | 7 | 4 | 15 | 15 | 18 | 15 | 15 | 7 | 1 | 2 | (1) | ..... | ..... | ..... |
| Fitters and bench hands, male | 12 | 404 | .628 | ..... | ..... | ..... | (1) | (1) | 2 | 14 | 15 | 26 | 22 | 11 | 7 | 2 | 1 | (1) | (1) | (1) | ..... | ..... | ..... |
| Grinding-machine operators, male | 11 | 216 | .791 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 2 | 5 | 7 | 20 | 22 | 16 | 9 | 7 | 4 | 8 | ..... | ..... | ..... |
| Inspectors, male | 11 | 210 | .753 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 9 | 11 | 24 | 18 | 16 | 10 | 7 | 2 | 2 | ..... | ..... | ..... |
| Laborers, male | 11 | 235 | .526 | ..... | ..... | ..... | 1 | 8 | 17 | 43 | 19 | 6 | 3 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Lathe operators, engine, male | 11 | 167 | .783 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 2 | 2 | 10 | 24 | 21 | 13 | 9 | 11 | 5 | 2 | ..... | ..... | ..... |
| Machinists, male | 10 | 123 | .795 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 7 | 11 | 24 | 23 | 20 | 8 | 3 | 2 | ..... | ..... | ..... |

(1) Less than 1 per cent.

## Classified Full-Time Hours

Table 4 shows for the same occupations appearing in Table 3 the average full-time hours per week and the per cent of employees in each occupation working each specified number of full-time hours.

The average full time of the 680 "assemblers, final, male," shown on the first line, was 47.6 hours per week. The distribution shows that 4 per cent of the 680 employees had full time of 40 hours per week; 6 per cent full time of 44 hours, etc. Only 2 per cent had full time as much as 54 hours per week.

TABLE 4.—AVERAGE AND CLASSIFIED FULL-TIME HOURS PER WEEK IN SPECIFIED OCCUPATIONS IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929, BY SEX

*Airplanes*

| Occupation and sex | Number of— | | Average full-time hours per week | Per cent of employees whose full-time hours per week were— | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Establishments | Employees | | 40 | 44 | 45 | Over 45, under 47 | 47 | 47½ | 48 | Over 48, under 50 | 50 | Over 50, under 54 | 54 | 55 | 60 |
| Assemblers, final, male | 40 | 680 | 47.6 | 4 | 6 | 9 | 10 | 9 | 18 | 17 | 6 | 12 | 8 | 2 | --- | --- |
| Coverers, fabric, male | 29 | 118 | 48.4 | --- | 8 | 6 | 1 | 14 | 15 | 10 | 14 | 21 | 10 | --- | --- | 1 |
| Cowl makers, male | 37 | 265 | 48.2 | 3 | 4 | 5 | 5 | 17 | 12 | 18 | 5 | 13 | 17 | --- | --- | --- |
| Fitters and bench hands, male | 34 | 1,152 | 47.7 | 1 | 9 | 5 | 6 | 7 | 30 | 22 | 1 | 6 | 11 | 1 | --- | --- |
| Frame builders, steel fuselage, male | 33 | 330 | 47.7 | --- | 13 | 10 | 13 | 16 | 3 | 9 | 7 | 19 | 7 | 3 | --- | --- |
| Frame builders, wood wing, male | 34 | 513 | 47.6 | --- | 8 | 16 | 11 | 6 | 17 | 13 | 5 | 15 | 9 | --- | --- | --- |
| Helpers, male | 38 | 867 | 47.6 | --- | 5 | 5 | 13 | 5 | 40 | 13 | 1 | 9 | 8 | --- | --- | --- |
| Inspectors, male | 37 | 271 | 47.5 | 3 | 10 | 6 | 11 | 10 | 15 | 21 | 3 | 14 | 7 | 1 | --- | --- |
| Laborers, male | 37 | 539 | 48.6 | 3 | 8 | 6 | 7 | 7 | 20 | 16 | 6 | 12 | 9 | 1 | --- | --- |
| Machinists, male | 34 | 195 | 47.9 | --- | 2 | 10 | 3 | 16 | 28 | 13 | 4 | 15 | 7 | 1 | --- | --- |
| Painters, spray, male | 38 | 222 | 48.6 | 2 | 7 | 9 | 6 | 5 | 25 | 10 | 4 | 14 | 8 | 5 | --- | 5 |
| Sewing-machine operators, female | 17 | 42 | 47.7 | --- | 14 | 17 | 5 | 5 | 10 | 21 | 2 | 14 | 12 | --- | --- | --- |
| Sheet-metal workers, hand, male | 36 | 503 | 47.8 | 3 | 2 | 10 | 22 | 4 | 13 | 6 | 4 | 24 | 10 | --- | 1 | --- |
| Tool makers, male | 28 | 264 | 48.5 | 5 | 4 | 9 | 4 | 5 | 14 | 19 | 1 | 14 | 17 | --- | 9 | --- |
| Welders, male | 37 | 567 | 47.8 | 1 | 11 | 11 | 8 | 12 | 12 | 17 | 4 | 11 | 9 | 3 | --- | 1 |
| Woodworking-machine operators, male | 33 | 119 | 47.8 | --- | 10 | 11 | 10 | 1 | 13 | 19 | 9 | 18 | 8 | --- | --- | --- |

*Aircraft engines*

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assemblers, male | 13 | 205 | 49.3 | --- | --- | --- | --- | --- | 20 | 11 | 22 | 45 | --- | --- | 2 | --- |
| Fitters and bench hands, male | 12 | 404 | 48.7 | --- | --- | --- | --- | --- | 44 | 8 | 8 | 39 | --- | --- | 1 | --- |
| Grinding-machine operators, male | 11 | 216 | 49.2 | --- | --- | --- | --- | --- | 30 | 20 | 11 | 33 | --- | --- | 3 | 2 |
| Inspectors, male | 11 | 210 | 48.7 | --- | --- | --- | --- | --- | 35 | 24 | 8 | 32 | --- | --- | --- | 1 |
| Laborers, male | 11 | 235 | 48.5 | --- | --- | --- | --- | --- | 40 | 29 | 11 | 19 | --- | --- | 1 | 1 |
| Lathe operators, engine, male | 11 | 167 | 49.2 | --- | --- | --- | --- | --- | 36 | 19 | 15 | 24 | --- | --- | 3 | 4 |
| Machinists, male | 10 | 123 | 49.3 | --- | --- | --- | --- | --- | 18 | 13 | 38 | 27 | --- | --- | 4 | --- |

## Days Actually Worked in One Week

Table 5 presents for the selected occupations the number of plants in which the occupation was found, the number of employees, the average number of calendar days actually worked in one week, and the per cent of employees who worked on each specified number of days in one week. Any part of a calendar day upon which an employee performed work was counted a day.

The first line of the table shows that the occupation "Assemblers, final, male," was found in 40 of the 41 airplane plants covered in the

study. The second column of data shows that 680 wage earners were in this occupation, and the third column that the whole group worked an average of 5.5 calendar days in a week. Continuing on the same line the following columns show that 1 per cent of the employees in the occupation worked on 1 day only, 1 per cent on 2 days, 1 per cent on 3 days, 5 per cent on 4 days, 30 per cent on 5 days, 60 per cent on 6 days, and 3 per cent on 7 days.

The table does not undertake to show whether the short week of certain workers is due to voluntary idleness or to other reasons which may or may not have been within the control of the employee.

TABLE 5.—AVERAGE NUMBER OF DAYS IN ONE WEEK ON WHICH EMPLOYEES WORKED IN SPECIFIED OCCUPATIONS AND PER CENT OF EMPLOYEES WHO WORKED ON EACH SPECIFIED NUMBER OF DAYS IN ONE WEEK IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929, BY SEX

*Airplanes*

| Occupation and sex | Number of— | | Average number of days worked in 1 week | Per cent of employees who worked each specified number of days | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Establishments | Employees | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Assemblers, final, male | 40 | 680 | 5.5 | 1 | 1 | 1 | 5 | 30 | 60 | 3 |
| Coverers, fabric, male | 29 | 118 | 5.4 | ----- | 2 | 3 | 2 | 38 | 55 | 1 |
| Cowl makers, male | 37 | 265 | 5.6 | (1) | 1 | 1 | 3 | 28 | 65 | 2 |
| Fitters and bench hands, male | 34 | 1,152 | 5.5 | 1 | (1) | 1 | 4 | 35 | 57 | 1 |
| Frame builders, steel fuselage, male | 33 | 330 | 5.5 | 1 | ----- | 2 | 3 | 37 | 56 | 2 |
| Frame builders, wood wing, male | 34 | 513 | 5.5 | ----- | 1 | (1) | 4 | 33 | 61 | 2 |
| Helpers, male | 38 | 867 | 5.3 | 2 | 2 | 2 | 4 | 43 | 46 | 1 |
| Inspectors, male | 37 | 271 | 5.8 | (1) | ----- | ----- | (1) | 19 | 80 | ----- |
| Laborers, male | 37 | 539 | 5.6 | 1 | 1 | 2 | 3 | 29 | 61 | 3 |
| Machinists, male | 34 | 195 | 5.2 | 1 | ----- | 4 | 5 | 54 | 36 | 1 |
| Painters, spray, male | 38 | 222 | 5.4 | 2 | (1) | 3 | 3 | 39 | 48 | 5 |
| Sewing-machine operators, female | 17 | 42 | 5.5 | ----- | 2 | ----- | ----- | 43 | 55 | ----- |
| Sheet metal workers, hand, male | 36 | 503 | 5.5 | 1 | 1 | 2 | 5 | 25 | 65 | 2 |
| Tool makers, male | 28 | 264 | 5.3 | 1 | 2 | 2 | 4 | 44 | 47 | ----- |
| Welders, male | 37 | 567 | 5.5 | 1 | 1 | 2 | 3 | 37 | 56 | 1 |
| Woodworking-machine operators, male | 33 | 119 | 5.6 | ----- | 1 | 2 | 2 | 31 | 63 | 2 |

*Aircraft engines*

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Assemblers, male | 13 | 205 | 5.7 | ----- | (1) | 1 | 3 | 28 | 60 | 7 |
| Fitters and bench hands, male | 12 | 404 | 5.2 | 1 | (1) | 1 | 8 | 54 | 35 | 2 |
| Grinding-machine operators, male | 11 | 216 | 5.5 | (1) | (1) | (1) | 4 | 46 | 41 | 8 |
| Inspectors, male | 11 | 210 | 5.4 | ----- | ----- | 1 | 4 | 48 | 45 | 2 |
| Laborers, male | 11 | 235 | 5.4 | (1) | (1) | 1 | 3 | 46 | 48 | 2 |
| Lathe operators, male | 11 | 167 | 5.4 | ----- | ----- | 2 | 5 | 55 | 34 | 5 |
| Machinists, male | 10 | 123 | 5.4 | ----- | 1 | 2 | 3 | 38 | 55 | ----- |

[1] Less than 1 per cent.

## Allowances or Additions to Wages

*Pay for overtime and work on Sundays and holidays.*—Any time worked by an employee in excess of the regular full-time hours per day is considered overtime. In the seven plants which regularly worked but five days per week, any time worked on Saturday was considered overtime.

Nineteen of the forty-one airplane plants and 9 of the 14 engine plants paid increased rates for overtime. One of the airplane plants paid extra only for work on Sundays or holidays, the rate for such work being one and one-half times the regular rate. One plant paid each employee 50 cents extra for any work after 7 p. m. Monday to Friday, 2 p. m. Saturday, or beyond any meal time on Sundays or holidays.

All of the other plants paid overtime rates for any work after the regular hours per day, the rates being one and one-fourth times the regular rate in 4 plants, one and one-half times the regular rate in 21 plants, and in one plant one and one-half times the regular rate from the regular quitting time until midnight and twice the regular rate for work after midnight. For Sunday and holiday work one plant one and one-fourth times the regular rate, 22 paid time and one-half 4 paid double time.

Table 6 shows the number of establishments which paid extra for overtime or for Sunday and holiday work, the employees entitled to pay, the conditions under which the extra amounts were paid, and the rate for such work. It will be observed that all employees do not fare alike in many cases.

TABLE 6.—NUMBER OF ESTABLISHMENTS PAYING EXTRA FOR OVERTIME AND FOR SUNDAY AND HOLIDAY WORK, EMPLOYEES ENTITLED, AND AMOUNTS OF INCREASE, 1929

*Airplanes*

| Number of establishments | Employees entitled to extra pay | Payment for: Overtime on week days: After | Payment for: Overtime on week days: Hourly rate multiplied by— | Payment for: Work on Sundays and holidays: Hourly rate multiplied by— |
|---|---|---|---|---|
| 2 | All except salaried | Regular hours per day | [1] 1½ | 2 |
| 2 | All except salaried and laborers | do | 1½ | 1½ |
| 2 | All | do | 1½ | 1½ |
| 1 | All (day) | do | [1] 1½ | 1½ |
| | All (night) | do | [2] 1½ | 1½ |
| 1 | All except salaried maintenance, painters, and carpenters, concrete finishers, and laborers other than maintenance laborers and sandblasters. | do | [1] 1½ | 1½ |
| 1 | All productive labor | do | [1] 1½ | 1½ |
| 1 | All except sweepers (day) | do | 1½ | 1½ |
| | All except sweepers (night) | do | [1] 1½ | 1½ |
| 1 | All except salaried | do | | 1½ |
| 1 | do | do | 1¼ | 1¼ |
| 1 | do | 50 hours per week | 1¼ | 1½ |
| 1 | All except janitors | 50 hours per week and full time on Sunday and holidays. | 1½ | 1½ |
| 1 | All | 7 p. m. Monday to Friday, 2 p. m. Saturday or past any meal time on Sundays or holidays. | 50 cents extra | ------ |
| 1 | All hourly men | Regular hours per day | 1¼ | 1½ |
| 1 | All productive | 8½ hours Monday to Friday, 5 hours Saturday. | 1½ | 1½ |
| 1 | All shop employees | 8 hours Monday to Friday, 5½ hours Saturday. | 1½ | 1½ |
| 1 | All except salaried, electricians, and millwright helpers, maintenance carpenters, and electricians, stock handlers, and elevator men. | Regular hours per day | 1½ | 1½ |

*Aircraft engines*

| | | | | |
|---|---|---|---|---|
| 5 | All | Regular hours per day | 1½ | 1½ |
| 1 | do | do | [1] 1½ | 2 |
| | | Midnight | 2 | ------ |
| 1 | All except porters | Regular hours per day | [1] 1½ | 1½ |
| 1 | All | do | 1½ | 2 |
| 1 | do | do | 1¼ | 1½ |

[1] Any work on Saturday is considered overtime. [2] Also 1 hour's extra pay at regular rate

*Bonus systems.*—A bonus is pay in addition to a wage earner's usual earnings at stipulated time or piece rates. Three plants had bonus systems in operation at the time of the study. Two of these systems were based on production of work in less time than a standard set for the performance of the job, the third system was based on attendance.

The time standard for the various units, pieces, parts, or [redacted] work in the two plants was established by a time study of the kinds of work. In one of the two plants one-half of the [redacted] was paid to the employees in the fuselage, machine-shop, sheet and wing departments for each hour's work saved. In the other plant the time set for a job includes fatigue time and is based on 100 per cent efficiency or the number of pieces set by a time study as the standard work for a 9-hour or 540-minute day. The bonus is paid to production employees and begins when the output of an employee reaches a 70 per cent efficiency, the bonus for this attainment being 4 per cent. This rate increases seven-tenths of 1 per cent for each additional per cent of efficiency, thus, the employee would earn 25 per cent more than his regular rate for 100 per cent efficiency. In the third plant a bonus of 10 per cent was paid to any employee who had not been absent more than half an hour during the week.

## Customary Working Time

THE customary full-time hours per day and per week are those recognized as constituting full running time for a labor shift when the plant is in regular operation. This excludes the time taken for the midday meal. Changes in the customary hours for a period of three months or less in the summer were not considered in determining the full-time hours of a plant. Where the change was for more than three months the average hours per week for the whole year were used in computing full-time hours for a plant.

The average full-time hours per week for an occupation was obtained by adding the full-time hours of each employee in the occupation and dividing by the number of employees in the occupation. These customary full-time hours must not be confused with hours actually worked. An employee may have worked more than full time by working the regular full-time hours on each day of the week and working overtime on one or more days in the week. Again, he may have worked less than full time in a week because of sickness, disability, voluntary absence, or because he was employed only part of the week. The report does not attempt to indicate the reason for more or less than full time actually worked.

The customary hours per day differ as between the several establishments. There are different hours for beginning and ending the day's work, and different lengths of the period allowed for lunch.

Table 7 shows all of the variations in the customary hours of the various plants in each industry, Monday to Friday, and on Saturday, as well as the difference in the regular hours per week.

The length of the regular day in the airplane plants ranged from 8 to 9⅒ hours, while the hours per week ranged from 40 to 54. The regular hours of the plants in the aircraft engine industry ranged from 8⅒ to 10 per day and had a range per week from 47½ to 55 hours.

In five instances in the airplane industry and in two in the aircraft engine industry, plants operated regularly only five days per week. In three cases in the airplane industry a full day was worked on Saturday, but in the remaining 33 airplane plants and 12 of the 14 regular aircraft-engine plants only a half day was worked on Saturday. any 5-day week of 8 hours Monday to Friday was in operation in one paid on the East North Central district; a 5-day week of 9½ hours was half, and tion in one plant in the New England district and in two Table the Middle Atlantic district; one plant in the Middle Atlantic overtim was working five days of 9⅘ hours or 48 hours per week. such pa craft-engine plants worked five days, one of which had a 9½-ho day or 47½-hour week and the other a 10-hour day or 50-hour week. In all seven plants any time worked on Saturday was considered "overtime."

Eight airplane and 5 engine plants were operating on the basis of 9 hours per day from Monday to Friday and 5 hours on Saturday; seven airplane plants and one engine plant were operating 48 hours per week with the hours of work varying as follows: One plant in the West South Central district was operating 8⅔ hours Monday to Friday and 4⅓ hours on Saturday; two plants in the West South Central district were operating 8 hours per day on all six days, one airplane plant and one engine plant each in the Middle Atlantic district were operating 8⅘ hours Monday to Friday and 4 hours on Saturday, while there were one each in the New England and South Atlantic district operating 8¾ hours from Monday to Friday and 4¼ hours on Saturday.

Twenty-seven of the forty-one airplane plants have full-time hours ranging from 47 to 50 per week and in the aircraft-engine industry the full-time hours of 13 of the 14 plants ranged from 47½ to 50 per week.

TABLE 7.—NUMBER OF ESTABLISHMENTS WORKING SPECIFIED FULL-TIME HOURS PER WEEK AND PER DAY IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES, 1929

*Airplanes*

| Full-time hours | | | Number of establishments in each district working specified hours per day and week | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Per week | Per day | | New England | Middle Atlantic | South Atlantic | East North Central | West North Central | West South Central | Western | |
| | Monday to Friday | Saturday | | | | | | | | |
| 40 | 8 | 0 | | | | 1 | | | | 1 |
| 44 | 8 | 4 | | 2 | | | 1 | | | 3 |
| 45 | 8 | 5 | | | | 1 | | | 2 | 3 |
| 45½ | 8 | 5½ | | | | | | | 1 | 1 |
| 46½ | 8½ | 4 | | | | | 2 | | | 2 |
| 47 | 8½ | 4½ | | 1 | | 1 | 2 | | | 4 |
| 47½ | 8½ | 5 | | | | | | | 1 | 1 |
| 47½ | 9½ | 0 | 1 | 2 | | | | | | 3 |
| 48 | 8⅔ | 4⅓ | | | | | | 1 | | 1 |
| 48 | 8 | 8 | | | | | | 2 | | 2 |
| 48 | 8⅘ | 4 | | 1 | | | | | | 1 |
| 48 | 9⅘ | 0 | | 1 | | | | | | 1 |
| 48 | 8¾ | 4¼ | 1 | | 1 | | | | | 2 |
| 49½ | 9 | 4½ | | | 1 | 2 | 1 | | | 4 |
| 50 | 9 | 5 | 2 | | 1 | 3 | 2 | | | 8 |
| 51 | 9¼ | 4¾ | | | 1 | | | | | 1 |
| 52¼ | 9½ | 4¾ | | 1 | | | | | | 1 |
| 53 | 9½ | 5½ | | | | | | 1 | | 1 |
| 54 | 9 | 9 | | 1 | | | | | | 1 |
| Total | | | 4 | 9 | 4 | 8 | 8 | 4 | 4 | 41 |

TABLE 7.—NUMBER OF ESTABLISHMENTS WORKING SPECIFIED FULL-TIME HOURS PER WEEK AND PER DAY IN THE MANUFACTURE OF AIRPLANES AND AIRCRAFT ENGINES—Continued

*Aircraft engines*

| Full-time hours | | | Number of establishments in each district working specified hours per day and week | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Per week | Per day | | New England | Middle Atlantic | South Atlantic | East North Central | West North Central | West South Central | Western | |
| | Monday to Friday | Saturday | | | | | | | | |
| 47½ | 9½ | 0 | | 1 | | | | | | 1 |
| 48 | 8⅔ | 4 | | 1 | | | | | | 1 |
| 48⅗ | 9⅗ | 4⅗ | | | | | | | 1 | 1 |
| 49½ | 9 | 4½ | | | | 3 | | | 1 | 4 |
| 50 | 10 | 0 | 1 | | | | | | | 1 |
| 50 | 9 | 5 | | | | 4 | | | 1 | 5 |
| 55 | 10 | 5 | 1 | | | | | | | 1 |
| Total | | | 2 | 2 | | 7 | | | 3 | 14 |

## Changes in Hours and Rates Since January 1, 1928

THE companies were asked if there had been any change in the regular hours of work, or any change in wage rates since January 1, 1928. The replies to the inquiry regarding the change of hours showed that only 3 of the 55 plants covered had made a change.

One of the three made a change in hours per week. This plant, located in the South Atlantic district, changed from 8½ hours per day to 9 hours per day, Monday to Friday, with 4½ hours work on Saturday both before and after the change. This lengthened the week from 47 hours to 49½ hours.

The two additional plants changed the daily but not the weekly hours of work. These were both located in the Middle Atlantic district. One changed from 8⅞ hours each day, Monday to Friday, and 4½ hours on Saturday, to 9⅗ hours each day Monday to Friday; with no work on Saturday, the length of the week remaining 48 hours; the other changed from 9 hours per day Monday to Thursday, 8 hours on Friday with no work on Saturday, to 8 hours per day Monday to Friday and 4 hours on Saturday; the hours per week thus remained unchanged at 44 hours.

Only one of the 55 plants covered, an airplane plant, made any material change in wage rates. In this plant the minimum rates were changed on December 1, 1929, by an increase of 16⅔ per cent, while all employees at rates higher than the minimum were given an increase of 5 per cent.

## Growth of the Airplane Industry

THE United States Census Bureau showed data for the airplane industry for the first time in 1914. At that time the airplane was only beginning to show its commercial possibilities. The World War caused much time and money to be given to research and the development of aircraft, both for civil and military use. As a result the 1919 Census of Manufactures, which came just after the war, revealed that the number of factories had almost doubled and that the number of wage earners was 21 times as large, compared to 1914.

Table 8 contains information published by the Census Office for each census year from 1914 to 1927, relating to the number of airplane establishments, the number of wage earners, the amounts paid for wages, the average wage per year, the cost of materials used, and the value of the products. Figures for 1929, the last census year, are not yet compiled. The figures in the table indicate forcefully the radical changes that have taken place in the industry. In 1914 the census showed only 16 establishments employing 168 wage earners, while in 1919 there were 31 establishments and 3,543 wage earners. The depression year of 1921 brought employment down to 1,395 wage earners. In 1923 wage earners numbering 2,901 were employed. This number nearly equalled the employment in 1919. In 1925 the number decreased to 2,701 wage earners. In 1927 the number of workers employed had increased to 4,422, the largest employment in the history of the industry up to that time. From 1921 there has been a steady increase in the number of plants manufacturing airplanes, the table showing an increase from 21 plants in 1921 to 70 plants in 1927.

The number of wage earners published in previous years by the Census Office, as shown in Table 8, is the average employment for the year and therefore not strictly comparable with the figures obtained by the Bureau of Labor Statistics as of May, 1929, details of which are described on page 169, when there were 22,082 employees in the industry. This figure represents conditions probably at the highest point of employment of the year 1929.

TABLE 8.—NUMBER OF ESTABLISHMENTS AND WAGE EARNERS, WAGES, COST OF MATERIALS, AND VALUE OF PRODUCTS IN THE AIRPLANE INDUSTRY, 1914 TO 1927

[Data from the United States Census of Manufactures]

| Census year | Number of establishments | Wage earners (average number) | Total wages paid | Average wages per wage earner | Cost of materials [1] | Value of products |
|---|---|---|---|---|---|---|
| 1914 | 16 | 168 | $134,827 | $803 | $133,939 | 789,872 |
| 1919 | 31 | 3,543 | 4,906,740 | 1,385 | 7,126,965 | 14,372,643 |
| 1921 | 21 | 1,395 | 2,202,307 | 1,579 | 2,407,395 | 6,641,988 |
| 1923 | 33 | 2,901 | 4,521,949 | 1,559 | 3,829,574 | 12,945,263 |
| 1925 | 44 | 2,701 | 2,222,151 | 1,563 | 2,869,967 | 12,524,719 |
| 1927 [2] | 70 | 4,422 | 6,857,014 | 1,551 | 7,517,183 | 21,161,853 |

[1] Including cost of fuel, electric power, and shop supplies. [2] Data for 1929 not available.

Statistics are not available to indicate the increase in the commercial use of the airplane except for the period since 1926. As the census figures include production of all planes built, whether for military or for commercial use, the available data for the commercial part of the industry are given separately in Table 9, which table shows data for civil aviation in the United States for each of the four years from 1926 to 1929. The figures are for the number of planes in the transport service, the number of passengers carried, the number of miles flown, the number of miles of commercial airways, the number of miles of lighted airways, the number of gas and electric beacons, and the number of commercial and private airports.

The number of planes increased from 69 in 1926 to 525 (estimate) in 1929; passengers carried, from 5,782 in 1926 to 150,000 (estimate) in 1929; and the number of miles flown from approximately 4,300,000

in 1926 to an estimate of 22,000,000 in 1929. The mileage of commercial airways increased from 8,404 in 1926 to 36,000 in 1929. In 1926, 2,041 miles of these were lighted while in 1929 there were 12,448 miles lighted. The number of beacons increased from 612 in 1926 to 1,311 in 1929 and the number of airports, including both commercial and private, from 263 in 1927 to 495 in 1929. The number of airports in 1926 was not shown.

TABLE 9.—CIVIL AVIATION IN THE UNITED STATES, 1926 TO 1929 [1]

| Year | Number of planes in transport service | Passengers carried on transport lines | Airplane miles flown by all operators | Mileage of commercial airways in operation | Mileage of lighted airways | Electric and gas beacons | Commercial and private airports |
|---|---|---|---|---|---|---|---|
| 1926 | 69 | 5,782 | 4,318,087 | 8,404 | 2,041 | 612 | ---------- |
| 1927 | 128 | 8,679 | 5,870,489 | 9,122 | 4,468 | 760 | 263 |
| 1928 | 325 | 49,713 | 10,673,450 | 16,667 | 6,988 | 1,188 | 385 |
| 1929 | [2] 525 | [2] 150,000 | [2] 22,000,000 | 36,000 | 12,448 | 1,311 | 495 |

[1] Data from Mar. 22, 1930, number of "Aviation."
[2] Estimated.

## Hours of Labor and the 7-Day Week in the Iron and Steel Industry

THE biennial survey of wages and hours of labor in the iron and steel industry just published by the Bureau of Labor Statistics (as Bulletin No. 513) gives detailed information regarding the trend of weekly working hours and of the 7-day week system in that industry from 1914 to 1929. A summary of this information is given below:

### Full-Time Hours Per Week

IN EARLIER years most of the departments of the iron and steel industry were operated on a 2-shift basis. During the war period there was some tendency toward the 3-shift system, but soon thereafter some of the plants returned to the two shifts of 10 and 12 hours. In the latter part of 1923 a movement was started which resulted in many companies adopting the 8-hour day. In only one department in 1929, that of plate mills, do as many as 50 per cent of the employees have a customary working time of as much as 60 hours per week.

Table 1 contains for 1929 and preceding years a percentage distribution of all employees in all occupations combined, in each department, according to their customary full-time hours per week. The classified hours of this table are "average" hours and as such do not show the long hours of one week that may alternate with shorter hours the next. Thus, employees listed as working 72 hours per week may work 60 hours one week and 84 the next, averaging 72.

TABLE 1.—PER CENT OF EMPLOYEES IN ALL OCCUPATIONS WORKING EACH SPECIFIED NUMBER OF AVERAGE FULL-TIME HOURS PER WEEK, 1914 TO 1929, BY DEPARTMENT AND YEAR

| Department and year | Number of plants | Per cent of employees whose average full-time hours per week were— | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 48 and under | Over 48 and under 60 | 60 | Over 60 and under 72 | 72 | Over 72 and under 84 | 84 | Over 84 |
| Blast furnaces: | | | | | | | | | |
| 1914 | 38 | (1) | 5 | 13 | 12 | 22 | 7 | 41 | (1) |
| 1915 | 38 | (1) | 6 | 12 | 12 | 23 | 7 | 41 | (1) |
| 1920 | 28 | 1 | 18 | 7 | 11 | 16 | 17 | 29 | (1) |
| 1922 | 32 | 1 | 7 | 13 | 10 | 39 | 13 | 17 | (1) |
| 1924 | 36 | 2 | 59 | 15 | 15 | 3 | 1 | 5 | (1) |
| 1926 | 37 | 1 | 59 | 16 | 15 | 2 | (1) | 6 | (1) |
| 1929 | 37 | 1 | 60 | 12 | 15 | 3 | (1) | 8 | (1) |
| Bessemer converters: | | | | | | | | | |
| 1914 | 12 | 12 | 9 | 4 | 11 | 40 | 13 | 12 | ---- |
| 1915 | 12 | 12 | 7 | 5 | 8 | 44 | 11 | 13 | ---- |
| 1920 | 11 | 14 | 7 | 2 | 14 | 25 | 17 | 21 | ---- |
| 1922 | 11 | 11 | 6 | 6 | 10 | 53 | 5 | 9 | ---- |
| 1924 | 11 | 50 | 28 | 17 | 5 | (1) | ---- | ---- | ---- |
| 1926 | 11 | 52 | 24 | 15 | 9 | ---- | ---- | ---- | ---- |
| 1929 | 11 | 43 | 28 | 20 | 10 | ---- | ---- | ---- | ---- |
| Open-hearth furnaces: | | | | | | | | | |
| 1914 | 22 | (1) | 7 | 6 | 9 | 23 | 32 | 24 | (1) |
| 1915 | 22 | (1) | 7 | 5 | 11 | 24 | 30 | 23 | (1) |
| 1920 | 19 | 1 | 32 | 2 | 9 | 14 | 38 | 6 | (1) |
| 1922 | 22 | 3 | 15 | 4 | 15 | 28 | 20 | 16 | (1) |
| 1924 | 26 | 6 | 69 | 5 | 12 | 2 | 3 | 2 | ---- |
| 1926 | 31 | 14 | 64 | 5 | 11 | 2 | 2 | 2 | ---- |
| 1929 | 33 | 7 | 72 | 6 | 11 | 1 | 1 | 2 | (1) |
| Puddling mills: | | | | | | | | | |
| 1914 | 29 | 27 | 55 | 6 | 9 | 1 | 1 | (1) | ---- |
| 1915 | 29 | 31 | 53 | 6 | 9 | 1 | (1) | (1) | ---- |
| 1920 | 15 | 24 | 41 | 12 | 15 | 7 | (1) | 1 | (1) |
| 1922 | 13 | 41 | 33 | 10 | 15 | (1) | 1 | 1 | (1) |
| 1924 | 17 | 27 | 53 | 9 | 9 | 1 | 1 | 1 | (1) |
| 1926 | 13 | 29 | 56 | 9 | 2 | 2 | (1) | 1 | (1) |
| 1929 | 11 | 30 | 61 | 6 | (1) | 1 | 1 | (1) | ---- |
| Blooming mills: | | | | | | | | | |
| 1914 | 23 | 3 | 8 | 5 | 8 | 59 | 9 | 9 | (1) |
| 1915 | 23 | 2 | 7 | 4 | 7 | 58 | 12 | 9 | (1) |
| 1920 | 20 | 12 | 12 | 2 | 12 | 35 | 18 | 8 | (1) |
| 1922 | 24 | 4 | 21 | 7 | 12 | 27 | 18 | 12 | (1) |
| 1924 | 25 | 27 | 48 | 12 | 10 | 1 | 1 | 1 | ---- |
| 1926 | 27 | 38 | 36 | 12 | 12 | 1 | 1 | (1) | ---- |
| 1929 | 30 | 30 | 47 | 11 | 9 | 1 | (1) | 2 | (1) |
| Plate mills: | | | | | | | | | |
| 1914 | 13 | ---- | 3 | 4 | 44 | 39 | 6 | 4 | ---- |
| 1915 | 13 | ---- | 5 | 5 | 41 | 38 | 7 | 4 | ---- |
| 1920 | 11 | (1) | 5 | 4 | 41 | 42 | 4 | 3 | ---- |
| 1922 | 12 | (1) | 22 | 16 | 22 | 28 | 4 | 7 | (1) |
| 1924 | 13 | 30 | 23 | 24 | 20 | (1) | 1 | 2 | ---- |
| 1926 | 17 | 32 | 21 | 29 | 15 | (1) | 1 | 2 | ---- |
| 1929 | 17 | 24 | 26 | 22 | 14 | 7 | 4 | 3 | (1) |
| Standard rail mills: | | | | | | | | | |
| 1914 | 7 | 5 | (1) | 3 | 13 | 74 | 1 | 4 | ---- |
| 1915 | 7 | 4 | 1 | 2 | 9 | 77 | 2 | 5 | ---- |
| 1920 | 4 | 33 | 4 | 2 | 20 | 37 | 2 | 2 | ---- |
| 1922 | 4 | 32 | 12 | 3 | 19 | 26 | 2 | 6 | ---- |
| 1924 | 7 | 21 | 37 | 20 | 13 | (1) | 7 | (1) | ---- |
| 1926 | 7 | 25 | 35 | 26 | 13 | ---- | ---- | ---- | ---- |
| 1929 | 7 | 25 | 38 | 16 | 21 | ---- | (1) | ---- | ---- |
| Bar mills: | | | | | | | | | |
| 1914 | 57 | 4 | 31 | 12 | 44 | 7 | 2 | 1 | ---- |
| 1915 | 57 | 8 | 30 | 10 | 42 | 8 | 1 | (1) | ---- |
| 1920 | 25 | 9 | 28 | 8 | 40 | 12 | 3 | (1) | ---- |
| 1922 | 25 | 6 | 39 | 4 | 35 | 14 | 1 | 1 | ---- |
| 1924 | 31 | 25 | 36 | 26 | 10 | 2 | (1) | 1 | (1) |
| 1926 | 35 | 32 | 35 | 26 | 5 | 1 | (1) | 1 | (1) |
| 1929 | 39 | 21 | 46 | 19 | 11 | 2 | (1) | 1 | (1) |
| Sheet mills: | | | | | | | | | |
| 1914 | 15 | 62 | 2 | 8 | 10 | 13 | 2 | 2 | ---- |
| 1915 | 15 | 61 | 2 | 10 | 12 | 11 | 2 | 2 | ---- |
| 1920 | 13 | 64 | 6 | 8 | 9 | 9 | 2 | 1 | ---- |
| 1922 | 14 | 60 | 8 | 10 | 10 | 7 | 2 | 3 | (1) |
| 1924 | 14 | 66 | 12 | 11 | 4 | 5 | 1 | 1 | (1) |
| 1926 | 14 | 67 | 16 | 12 | 3 | 2 | (1) | (1) | (1) |
| 1929 | 15 | 68 | 13 | 13 | 3 | 2 | (1) | 1 | (1) |

[1] Less than 1 per cent.

TABLE 1.—PER CENT OF EMPLOYEES IN ALL OCCUPATIONS WORKING EACH SPECIFIED NUMBER OF AVERAGE FULL-TIME HOURS PER WEEK, 1914 TO 1929, BY DEPARTMENT AND YEAR—Continued

| Department and year | Number of plants | Per cent of employees whose average full-time hours per week were— | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 48 and under | Over 48 and under 60 | 60 | Over 60 and under 72 | 72 | Over 72 and under 84 | 84 | Over 84 |
| Tin-plate mills: | | | | | | | | | |
| 1914 | 11 | 59 | 17 | 9 | 12 | 2 | (1) | 1 | (1) |
| 1915 | 11 | 60 | 18 | 9 | 11 | 1 | 1 | 1 | (1) |
| 1920 | 9 | 58 | 18 | 6 | 10 | 7 | 1 | (1) | ---- |
| 1922 | 9 | 61 | 18 | 5 | 9 | 5 | 1 | (1) | (1) |
| 1924 | 9 | 66 | 19 | 13 | 2 | (1) | (1) | (1) | (1) |
| 1926 | 8 | 68 | 20 | 9 | 3 | (1) | (1) | (1) | (1) |
| 1929 | 8 | 71 | 20 | 6 | 1 | (1) | (1) | (1) | ---- |

[1] Less than 1 per cent.

The changes that have taken place in the working time of employees in the various departments are clearly reflected in the preceding table. In 1914, 41 per cent of the employees in blast furnaces had an average working week of 84 hours—12 hours per day, 7 days a week. In 1922, only 17 per cent of the employees worked 84 hours per week, while in 1924, the effect of the 8-hour day is shown in that only 5 per cent had an 84-hour week. There was a slight increase in the proportion of employees working 84 hours per week in 1929.[a] In 1929, 73 per cent of the employees had a week of 60 hours or less.

There were no employees in Bessemer converters working as many as 72 hours per week in 1929, whereas 65 per cent worked that long in 1914. In open-hearth furnaces in 1914 only 7 per cent of the employees had a week of less than 60 hours; in 1920 this percentage had increased to 33, and in 1929 to 79.

In 1929 there were 91 per cent of the employees in puddling mills whose full-time hours were less than 60 per week, as compared with 82 per cent in 1914; and in blooming mills the percentage was 77 in 1929 as against 11 in 1914.

Customary working time per week for employees in plate mills increased in 1929 as compared with 1926, but when compared with any year prior to 1924 the percentage distribution of employees shows material reductions. In 1914 only 3 per cent of all employees were working less than 60 hours per week, but in 1922 this percentage had increased to 22, and in 1929 to 50.

The working time of employees in sheet and tin-plate mills shows but little change over the period of years 1914 to 1929. These departments have long been on the 8-hour day except for a small per cent of employees such as laborers and some occupations in the finishing department.

When the 10 departments are combined it is found that in 1929, 14 per cent of all employees had a customary working time of over 60 hours per week as compared with 15 per cent in 1924, and 13 per cent in 1926. In 1929, 22,252 employees, or 31 per cent of the 71,009

[a] However, it might be well to state that this increase in per cent of employees working 84 hours per week was not brought about by a change in working time of identical plants represented in the 1926 and 1929 studies, but rather by the inclusion of some plants which did not report in 1926 and in some of the preceding years.

employees, had a week of 48 hours or less and only 5 per cent a week of 72 hours or over.

In Table 2 employees in all occupations in each department are classified by percentages, according to their customary number of turns per week. To give a complete picture of the changes, figures for preceding years are presented in addition to those for 1929.

TABLE 2.—PER CENT OF EMPLOYEES IN ALL OCCUPATIONS WORKING EACH SPECIFIED NUMBER OF DAYS PER WEEK, 1914 TO 1929, BY DEPARTMENT AND YEAR

| Department and year | Number of plants | Per cent of employees whose customary working turns per week were— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | 5 and 6 alternately | 5, 5, and 6 in rotation | 5, 6, and 6 in rotation | 5, 6, and 7 in rotation | 6 | 5 and 7 alternately | 6 and 7 alternately | 6, 6, and 7 in rotation | 6, 7, and 7 in rotation | 7 |
| Blast furnaces: | | | | | | | | | | | | |
| 1914 | 38 | | | | | | 42 | | 5 | (1) | | 53 |
| 1915 | 38 | | | | | | 42 | | 4 | (1) | | 54 |
| 1920 | 28 | | | | | | 29 | | 17 | | | 54 |
| 1922 | 32 | | | | | | 57 | | 14 | | | 29 |
| 1924 | 36 | | | | | | 20 | | 5 | | 30 | 45 |
| 1926 | 37 | | | | | | 22 | | 6 | | 22 | 49 |
| 1929 | 37 | | | | | | 22 | | 5 | 1 | 18 | 54 |
| Bessemer converters: | | | | | | | | | | | | |
| 1914 | 12 | | | | | | 80 | | 3 | 3 | (1) | 13 |
| 1915 | 12 | | | | | | 80 | | 3 | 3 | (1) | 14 |
| 1920 | 11 | | | | | | 59 | | 10 | 3 | 2 | 26 |
| 1922 | 11 | | | | | | 81 | | 2 | 4 | 3 | 10 |
| 1924 | 11 | | | | | | 71 | | 4 | 7 | 10 | 8 |
| 1926 | 11 | | | | | | 61 | | 7 | 7 | 5 | 12 |
| 1929 | 11 | 1 | (1) | | 8 | (1) | 64 | | 7 | 8 | 10 | 9 |
| Open-hearth furnaces: | | | | | | | | | | | | |
| 1914 | 22 | | | | | | 39 | | 26 | (1) | (1) | 34 |
| 1915 | 22 | (1) | (1) | | | | 39 | | 27 | (1) | (1) | 34 |
| 1920 | 19 | | (1) | | | | 27 | (1) | 37 | | 3 | 33 |
| 1922 | 22 | (1) | | | | | 50 | | 16 | 4 | 2 | 27 |
| 1924 | 26 | | | | | | 16 | | 6 | 12 | 14 | 52 |
| 1926 | 31 | | | | | 1 | 26 | | 6 | 2 | 13 | 52 |
| 1929 | 33 | | (1) | | | | 15 | | 5 | 5 | 8 | 66 |
| Puddling mills: | | | | | | | | | | | | |
| 1914 | 29 | 13 | 63 | 8 | | | 15 | | 1 | | | 1 |
| 1915 | 29 | 24 | 50 | 11 | | | 13 | | 1 | | | 1 |
| 1920 | 15 | (1) | 60 | 13 | | | 26 | | (1) | | | 1 |
| 1922 | 13 | 17 | 47 | 15 | | | 19 | | (1) | | | 2 |
| 1924 | 17 | 8 | 62 | 2 | | | 26 | | (1) | | | 2 |
| 1926 | 13 | 5 | 67 | | | | 24 | | 1 | | | 2 |
| 1929 | 11 | 37 | 39 | | | | 23 | | (1) | | | 1 |
| Blooming mills: | | | | | | | | | | | | |
| 1914 | 23 | 2 | 2 | | | | 74 | | 7 | 3 | (1) | 11 |
| 1915 | 23 | 2 | 1 | | | | 73 | | 9 | 3 | 1 | 11 |
| 1920 | 20 | 1 | (1) | | | | 67 | | 14 | 2 | 1 | 15 |
| 1922 | 24 | (1) | 5 | | | | 56 | | 17 | 3 | 1 | 18 |
| 1924 | 25 | | 6 | | | | 38 | | 4 | 19 | 12 | 21 |
| 1926 | 27 | (1) | 1 | | 11 | | 46 | | 7 | 8 | 8 | 20 |
| 1929 | 30 | | 1 | | (1) | | 46 | | 3 | 8 | 12 | 31 |
| Plate mills: | | | | | | | | | | | | |
| 1914 | 13 | | 34 | | | | 57 | | 3 | | (1) | 6 |
| 1915 | 13 | (1) | 35 | | | | 55 | | 3 | | (1) | 6 |
| 1920 | 11 | | 18 | | | | 78 | | 1 | | | 3 |
| 1922 | 12 | (1) | 28 | | | | 60 | | 3 | | | 9 |
| 1924 | 13 | (1) | 12 | | | | 66 | | 8 | | 3 | 11 |
| 1926 | 17 | | 9 | | 21 | | 49 | | 6 | 3 | 6 | 6 |
| 1929 | 17 | (1) | 3 | | 15 | | 51 | (1) | 6 | 7 | 8 | 10 |
| Standard rail mills: | | | | | | | | | | | | |
| 1914 | 7 | | 7 | | 1 | | 88 | | 1 | | | 4 |
| 1915 | 7 | | 5 | | 1 | | 88 | | 1 | | | 5 |
| 1920 | 4 | | | | | | 92 | | 3 | 1 | | 4 |
| 1922 | 4 | | | | | | 86 | | 2 | 1 | | 11 |
| 1924 | 7 | | | | | | 44 | | 17 | (1) | 29 | 10 |
| 1926 | 7 | | | | | | 51 | | 12 | | 31 | 6 |
| 1929 | 7 | | | | | | 42 | | 15 | 6 | 18 | 20 |
| Bar mills: | | | | | | | | | | | | |
| 1914 | 57 | 6 | 47 | 2 | 1 | | 38 | (1) | 1 | 4 | (1) | 1 |
| 1915 | 57 | 6 | 48 | 1 | 1 | | 43 | (1) | 1 | (1) | | 1 |
| 1920 | 25 | 3 | 33 | 4 | 3 | | 46 | (1) | 3 | 7 | 1 | 1 |
| 1922 | 25 | 1 | 35 | 2 | 3 | | 47 | (1) | 2 | 7 | (1) | 1 |
| 1924 | 31 | 8 | 25 | 5 | 9 | | 48 | (1) | 1 | (1) | (1) | 2 |
| 1926 | 35 | 13 | 8 | 6 | 13 | | 54 | (1) | 1 | (1) | 2 | 2 |
| 1929 | 39 | 10 | 11 | 5 | 5 | | 50 | (1) | 2 | 8 | 2 | 8 |

[1] Less than 1 per cent.

TABLE 2.—PER CENT OF EMPLOYEES IN ALL OCCUPATIONS WORKING EACH SPECIFIED NUMBER OF DAYS PER WEEK, 1914 TO 1929, BY DEPARTMENT AND YEAR—Con.

| Department and year | Number of plants | Per cent of employees whose customary working turns per week were— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5 | 5 and 6 alternately | 5, 5, and 6 in rotation | 5, 6, and 6 in rotation | 5, 6, and 7 in rotation | 6 | 5 and 7 alternately | 6 and 7 alternately | 6, 6, and 7 in rotation | 6, 7, and 7 in rotation | 7 |
| Sheet mills: | | | | | | | | | | | | |
| 1914 | 15 | (1) | 2 | 58 | 3 | ..... | 32 | ..... | 1 | ..... | ..... | 4 |
| 1915 | 15 | 1 | 3 | 55 | 4 | ..... | 32 | ..... | 1 | ..... | ..... | 4 |
| 1920 | 13 | 1 | 3 | 53 | 6 | ..... | 33 | ..... | 1 | ..... | ..... | 3 |
| 1922 | 14 | 2 | 2 | 40 | 15 | ..... | 31 | ..... | 1 | ..... | ..... | 4 |
| 1924 | 14 | 1 | 4 | 47 | 15 | ..... | 30 | ..... | (1) | ..... | ..... | 4 |
| 1926 | 14 | 1 | 3 | 46 | 16 | ..... | 28 | ..... | 1 | ..... | ..... | 5 |
| 1929 | 15 | (1) | 3 | 47 | 15 | ..... | 29 | (1) | (1) | 1 | (1) | 5 |
| Tin-plate mills: | | | | | | | | | | | | |
| 1914 | 11 | (1) | 4 | 58 | ..... | ..... | 37 | ..... | (1) | ..... | ..... | 1 |
| 1915 | 11 | (1) | 3 | 57 | ..... | ..... | 37 | ..... | (1) | ..... | ..... | 2 |
| 1920 | 9 | 1 | 5 | 55 | ..... | ..... | 38 | ..... | (1) | ..... | ..... | 1 |
| 1922 | 9 | 1 | 5 | 54 | ..... | ..... | 38 | ..... | 2 | ..... | ..... | 1 |
| 1924 | 9 | (1) | 2 | 51 | ..... | ..... | 44 | ..... | 1 | ..... | ..... | 2 |
| 1926 | 8 | 1 | 2 | 55 | ..... | ..... | 36 | ..... | 2 | 1 | 1 | 2 |
| 1929 | 8 | (1) | 4 | 59 | 1 | ..... | 34 | ..... | (1) | (1) | ..... | 1 |

[1] Less than 1 per cent.

## Seven-Day Week

OF THE 10 departments included in the study, it is necessary for only one to be in continuous operation; i. e., the blast furnace, which due to the nature of the process, must be operated 7 days per week and 24 hours per day. It might be expected that most of the 7-day workers would be found in this department. There is, however, another department—the open hearth—which in recent years has been changing from a 6-day to a 7-day operation, because of an increased demand for steel. This demand, which was especially strong during 1928, continued into 1929, and has resulted in more open-hearth furnaces normally operating seven days per week in 1929 than during any previous study. It has also resulted in an increase in the proportion of 7-day workers, which rose from 52 per cent in 1926 to 66 per cent in 1929. In this large increase were included chiefly employees who formerly worked a week of 6 days and those who had a week of 6 days, 7 days, and 7 days in rotation.

In 1929, 54 per cent of all blast-furnace employees covered regularly worked a week of seven days, which percentage is the same as that shown for 1915 and 1920, but is an increase over 1926. The number of employees who regularly worked a week of 6 days, 7 days, and 7 days in rotation decreased from 22 per cent in 1926 to 18 per cent in 1929.

While the Bessemer-converter department is not essentially one requiring 7-day operation, certain repairs must be made which require a considerable number of employees to be on duty when the converters are not operating. This "fix-up" turn provides most of the 7-day work in this department.

When 1929 is compared with 1926, blooming and rail mills show a decided increase in 7-day workers. In 1929, 31 per cent of the employees in blooming mills regularly worked a week of seven days, while in 1926 only 20 per cent had a 7-day week. This change resulted largely from the necessity for extending operation of blooming mills in order to care for the increased output of the open-hearth furnaces.

It might also be stated that some new mills were added in 1929, which were regularly operated on a 7-day week schedule.

In the rail-mill department one large plant had changed from a customary week of 6 days, 7 days, and 7 days in rotation in 1926 to a straight 7-day week in 1929. This change is reflected in the increase in the percentage (20) in 1929, and in the per cent of employees working 6 days, 7 days, and 7 days per week in 1929. There was a decrease of 9 per cent in the number of employees working 6 days per week in 1929 when compared with 1926.

Plate and bar mills show small increases in the per cent of employees who regularly work seven days. Seven-day work in these departments for the most part consists of "light up" and repair turns which take place on Saturday night or Sunday when mills are not on producing time.

## Recent Changes in Wages and Hours of Labor

INFORMATION received by the bureau regarding recent wage changes is presented below in two distinct groups: Part 1 relates to manufacturing establishments only, the data being reported direct to the bureau by the same establishments that report monthly figures regarding volume of employment; while part 2 presents data obtained from new trade agreements and other miscellaneous sources. Although the effort is made, it is not always possible to avoid duplication of data as between parts 1 and 2.

### Part 1. Wage Changes in Manufacturing Industries, April, 1930

THIRTEEN establishments in eight industries reported wage-rate increases during the month ending April 15. These increases averaged 5.2 per cent and affected 461 employees, or 17 per cent of all employees in the establishments concerned. Fifty-seven establishments in 17 industries reported wage-rate decreases during the same period. These decreases averaged 10.1 per cent and affected 5,828 employees, or 72 per cent of all employees in the establishments concerned. Twenty-nine of the 57 wage-rate decreases were made in knit-goods mills and sawmills, and affected 3,300 employees; no especial significance can be attached to any other of the changes reported.

TABLE 1.—WAGE CHANGES OCCURRING BETWEEN MARCH 15, 1930, AND APRIL 15, 1930

| Industry | Establishments | | Per cent of increase or decrease in wage rate | | Employees affected | | |
|---|---|---|---|---|---|---|---|
| | | | | | | Per cent of employees | |
| | Total number reporting | Number reporting increase or decrease in wage rates | Range | Average | Total number | In establishments reporting increase or decrease in wage rates | In all establishments reporting |
| | | | *Increases* | | | | |
| Iron and steel | 202 | 1 | 5.0 | 5.0 | 88 | 97 | (1) |
| Foundry and machine-shop products | 1,083 | 3 | 8.0–10.0 | 9.5 | 703 | 7 | (1) |
| Machine tools | 155 | 1 | 5.0 | 5.0 | 104 | 10 | (1) |
| Printing, newspapers | 452 | 3 | 2.0–5.0 | 2.8 | 378 | 34 | (1) |
| Brick, tile, and terra cotta | 666 | 1 | 6.0 | 6.0 | 21 | 67 | (1) |
| Automobiles | 207 | 2 | 7.0 | 7.0 | 857 | 4 | (1) |
| Car building and repairing, electric-railroad | 443 | 1 | 4.5 | 4.5 | 141 | 95 | (1) |
| Shipbuilding | 92 | 1 | 15.0 | 15.0 | 403 | 3 | (1) |
| | | | *Decreases* | | | | |
| Slaughtering and meat packing | 216 | 1 | 6.0 | 6.0 | 81 | 72 | (1) |
| Baking | 703 | 2 | 10.0 | 10.0 | 113 | 38 | (1) |
| Cotton goods | 464 | 4 | 9.5–20.0 | 19.0 | 868 | 56 | (1) |
| Hosiery and knit goods | 338 | 12 | 4.0–18.0 | 7.1 | 2,685 | 58 | (1) |
| Woolen and worsted goods | 185 | 1 | 10.0 | 10.0 | 215 | 100 | (1) |
| Clothing, men's | 340 | 3 | 5.0–15.0 | 6.3 | 338 | 89 | 1 |
| Clothing, women's | 421 | 2 | 5.0–21.0 | 6.2 | 78 | 87 | (1) |
| Iron and steel | 202 | 1 | 2.5 | 2.5 | 93 | 19 | (1) |
| Foundry and machine-shop products | 1,083 | 3 | 10.0 | 10.0 | 695 | 63 | (1) |
| Lumber, sawmills | 663 | 17 | 5.0–20.0 | 11.1 | 1,961 | 89 | 1 |
| Lumber, millwork | 345 | 1 | 10.0 | 10.0 | 50 | 100 | (1) |
| Boots and shoes | 327 | 2 | 7.5–10.0 | 9.6 | 577 | 98 | 1 |
| Fertilizers | 175 | 1 | 10.0 | 10.0 | 37 | 62 | (1) |
| Brick, tile, and terra cotta | 666 | 4 | 10.0–12.5 | 12.1 | 70 | 77 | 1 |
| Pianos and organs | 66 | 1 | 16.0 | 16.0 | 5 | 80 | (1) |
| Automobile tires | 43 | 1 | 10.0 | 10.0 | 40 | 100 | (1) |
| Rubber goods, other than tires, tubes, boots and shoes | 45 | 1 | 12.5 | 12.5 | 204 | 75 | 1 |

[1] Less than one-half of 1 per cent.

## Part 2.—Wage Changes Reported by Trade-Unions Since February, 1930

RECENT wage changes shown in Table 2 cover 15,106 workers, of whom 7,040 were reported as having secured the 5-day week. The building trades reported increases ranging from 2½ to 12½ cents per hour; the printing trades increases of from $1.50 to $3.50 per week; street-railway motormen and conductors of Pittsburgh, Pa., had an increase of 5 cents per hour; and train dispatchers of the St. Louis Southwestern Railway an increase of 27 cents per day. No reductions were reported.

TABLE 2.—RECENT UNION WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, FEBRUARY TO MAY, 1930

| Industry, occupation, and locality | Date of change | Rate of wages | | Hours per week | |
|---|---|---|---|---|---|
| | | Before change | After change | Before change | After change |
| Building trades: | | | | | |
| Asbestos workers— | | *Per hour* | *Per hour* | | |
| Los Angeles, Calif. | Apr. 1 | $1.12½ | $1.25 | 44 | 40 |
| Providence, R. I. | Mar. 1 | 1.25 | 1.37 | 44 | [1] 40 |
| Springfield, Mass. | Mar. 3 | 1.25 | 1.37½ | 44 | [1] 40 |
| Bricklayers— | | | | | |
| Norwich, Conn. | Apr. 14 | 1.37½ | 1.50 | 44 | 40 |
| Washington, D. C. | May 1 | 1.62½ | 1.75 | 44 | 40 |
| Carpenters— | | | | | |
| Albuquerque, N. Mex. | do | 1.12½ | 1.25 | 45 | 40 |
| Hollywood, Calif. | do | 1.03⅛ | 1.06¼ | 48 | 48 |
| Scranton, Pa. | do | 1.12½ | 1.18¾ | 44 | 44 |
| Spokane, Wash. | do | 1.12½ | 1.12½ | 44 | 40 |
| Wewoka, Okla. | do | 1.00 | 1.12½ | 44 | 44 |
| Worcester, Mass. | do | .90 | 1.00 | [2] | [2] |
| Electricians, Rock Island, Ill. | do | 1.25 | 1.30 | 48 | 48 |
| Hod carriers and laborers— | | | | | |
| Indianapolis, Ind., bricklayers' tenders | do | .92½ | .95 | 44 | 44 |
| Norwick, Conn., masons' tenders | Apr. 14 | .62½-.72½ | .70-.80 | 44 | 40 |
| Youngstown, Ohio— | | | | | |
| Hod carriers | May 1 | .97½ | 1.00 | 48 | 48 |
| Laborers | do | .72½ | .75 | 48 | 48 |
| Painters, Indianapolis, Ind. | Apr. 11 | 1.22½ | 1.25 | 44 | 40 |
| Plasterers, Springfield, Ohio | May 1 | [2] | 1.25 | 44 | 44 |
| Plumbers, Lafayette, Ind. | Apr. 1 | [2] | 1.25 | [2] | 40 |
| Roofers, Elmira, N. Y. | May 1 | [2] | 1.25 | [2] | 40 |
| Sprinkler fitters and helpers, United States | do | 1.25 | 1.37½ | 44 | 40 |
| Structural iron workers— | | | | | |
| St. Louis, Mo. | do | 1.67½ | 1.75 | 40 | 40 |
| Washington, D. C. | do | [2] | [2] | 44 | 40 |
| Chauffeurs and teamsters: | | | | | |
| Hazleton, Pa.— | | *Per week* | *Per week* | | |
| Outside men in charge of routes | Apr. 1 | [2] | 35.00 | [3] 9 | [3] 9 |
| Chauffeurs | do | [2] | 35.00 | [3] 9 | [3] 9 |
| Outside helpers, first 6 months | do | [2] | 30.00 | [3] 9 | [3] 9 |
| Outside helpers, after first 6 months | do | [2] | 32.50 | [3] 9 | [3] 9 |
| Assistant dairy foremen | do | [2] | 40.00 | [3] 9 | [3] 9 |
| Other dairymen, first 6 months | do | [2] | 30.00 | [3] 9 | [3] 9 |
| Other dairymen, after 6 months | do | [2] | 32.50 | [3] 9 | [3] 9 |
| Oakland, Calif. | Apr. 2 | [3] 5.50-7.50 | [3] 5.50-7.50 | [3] 9 | [3] 8½ |
| Clothing, Boston, Mass.: | | | | | |
| Cloak and skirt cutters | Apr. 22 | [2] | 44.00 | [2] | 40 |
| Cloak pressers | do | [2] | 44.00 | [2] | 40 |
| Under pressers | do | [2] | 41.00 | [2] | 40 |
| Skirt pressers | do | [2] | 41.00 | [2] | 40 |
| Cloak operators | do | [2] | 49.50 | [2] | 40 |
| Skirt operators | do | [2] | 47.50 | [2] | 40 |
| Basters and tailors | do | [2] | 36.00 | [2] | 40 |
| Finishers | do | [2] | 41.00 | [2] | 40 |
| Button sewers | do | [2] | 26.00 | [2] | 40 |
| Glass workers, ornamental, St. Louis, Mo.: | | *Per hour* | *Per hour* | | |
| Outside work | May 20 | 1.50 | 1.50 | [2] | 40 |
| Inside work | do | 1.00 | 1.10 | [2] | 40 |
| Printing and publishing: | | *Per week* | *Per week* | | |
| Bindery trade, Topeka, Kans. | Feb. 1 | 39.50 | 41.50 | 44 | 44 |
| Compositors— | | | | | |
| Ithaca, N. Y.— | | | | | |
| Newspaper, day | May 1 | 41.00 | 42.00 | 44 | 44 |
| Newspaper, night | do | 44.00 | 45.00 | 44 | 44 |
| Rockford, Ill., newspaper | Apr. 1 | 42.50 | 46.00 | 48 | 48 |
| San Francisco, Calif., job work | Mar. 28 | 51.00 | 52.00 | 44 | 44 |
| Electrotypers— | | | | | |
| Boston, Mass.— | | | | | |
| Finishers and molders, day | Feb. 7 | 43.50 | 46.00 | 44 | 44 |
| Finishers and molders, night | do | 47.50 | 50.00 | 40 | 40 |
| Branchmen, day | do | 40.00 | 42.50 | 44 | 44 |
| Branchmen, night | do | 44.00 | 46.50 | 40 | 40 |
| Providence, R. I.— | | | | | |
| Finishers and molders | Feb. 27 | 47.50 | 50.00 | 48 | 48 |
| Branchmen | do | 44.00 | 46.50 | 48 | 48 |
| Worcester, Mass.— | | | | | |
| Finishers and molders | Feb. 14 | 47.50 | 50.00 | 48 | 48 |
| Branchmen | do | 44.00 | 46.50 | 48 | 48 |

[1] 6 summer months. [2] Not reported. [3] Per day.

TABLE 2.—RECENT UNION WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, FEBRUARY TO MAY, 1930—Continued

| Industry, occupation, and locality | Date of change | Rate of wages | | Hours per week | |
|---|---|---|---|---|---|
| | | Before change | After change | Before change | After change |
| Printing and publishing—Continued. | | | | | |
| Photo-engravers, New York— | | *Per hour* | *Per hour* | | |
| Day work | May 26 | $68.00 | $69.00 | 44 | 44 |
| Night work | do | 76.00 | 77.00 | 40 | 40 |
| Pressmen, web, Dayton, Ohio— | | | | | |
| Foreman, day | Feb. 1 | 53.50 | 55.00 | 48 | 48 |
| Foreman, night | do | 55.50 | 57.00 | 48 | 48 |
| Journeymen, day | do | 49.00 | 50.50 | 48 | 48 |
| Journeymen, night | do | 51.00 | 52.50 | 48 | 48 |
| Stereotypers, Dayton, Ohio— | | | | | |
| Day | do | 49.00 | 50.50 | 48 | 48 |
| Night | do | 51.50 | 52.50 | [2] | [2] |
| Railway workers: Train dispatchers, St. Louis Southwestern | do | *Per day* 9.78 | *Per day* 10.05 | [3] 8 | [3] 8 |
| Street railway: Motormen and conductors, Pittsburgh, Pa | May 1 | *Per hour* .75 | *Per hour* .80 | [3] 8½ | [3] 8½ |

[2] Not reported. [3] Per day.

## Farm Wage and Labor Situation on April 1, 1930

THE index number of the general level of farm wages on April 1, 1930, was three points higher than on January 1, but five points lower than on April 1, 1929, and also lower than on any previous April 1 since 1923, according to figures published by the United States Department of Agriculture in Crops and Markets for April, 1930. The advance in the index between January 1 and April 1, 1930, was less than the usual seasonal rise and was the smallest recorded by the Department of Agriculture for this period in the eight years that the department has been collecting farm wage data on a quarterly basis. On April 1, 1930, all classes of farm wages—per month and per day, with and without board—were at the lowest level for this date since 1925. The Department of Agriculture states that this is a reflection of the large supply of farm labor due to the small volume of industrial employment at the present time.

Table 1 gives farm wage rates and index numbers from 1910 to 1929, by years, and quarterly from January, 1923, to April, 1930.

TABLE 1.—AVERAGE FARM WAGE RATES AND INDEX NUMBERS, 1910 TO APRIL, 1930

| Year | Average yearly farm wage [1] | | | | Index numbers of farm wages (1910–1914=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 | 34.86 | 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 |
| 1923—January | 27.87 | 40.50 | 1.46 | 1.97 | 137 |
| April | 30.90 | 44.41 | 1.55 | 2.09 | 148 |
| July | 34.64 | 48.61 | 1.84 | 2.44 | 169 |
| October | 34.56 | 48.42 | 2.02 | 2.58 | 174 |
| 1924—January | $31.55 | $45.53 | $1.79 | $2.38 | 159 |
| April | 33.57 | 47.38 | 1.77 | 2.34 | 163 |
| July | 34.34 | 48.02 | 1.87 | 2.43 | 168 |
| October | 34.38 | 48.46 | 1.93 | 2.51 | 171 |
| 1925—January | 31.07 | 45.04 | 1.74 | 2.31 | 156 |
| April | 33.86 | 47.40 | 1.77 | 2.33 | 164 |
| July | 34.94 | 48.55 | 1.89 | 2.44 | 170 |
| October | 34.91 | 48.99 | 1.95 | 2.53 | 173 |
| 1926—January | 31.82 | 46.26 | 1.76 | 2.33 | 159 |
| April | 34.38 | 48.40 | 1.78 | 2.35 | 166 |
| July | 36.10 | 49.89 | 1.91 | 2.47 | 174 |
| October | 36.00 | 50.10 | 1.97 | 2.55 | 176 |
| 1927—January | 32.94 | 47.07 | 1.79 | 2.36 | 162 |
| April | 34.53 | 48.47 | 1.78 | 2.37 | 166 |
| July | 35.59 | 49.52 | 1.89 | 2.44 | 172 |
| October | 35.68 | 49.77 | 1.96 | 2.51 | 175 |
| 1928—January | 32.50 | 46.75 | 1.76 | 2.34 | 161 |
| April | 34.46 | 48.44 | 1.78 | 2.34 | 166 |
| July | 35.39 | 49.32 | 1.84 | 2.39 | 170 |
| October | 35.75 | 49.60 | 1.96 | 2.51 | 175 |
| 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 |

[1] Yearly averages are from reports by crop reporters, giving average wages for the year in their localities, except for 1924–1929, 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 a weighted average of quarterly rates.

Average daily and monthly farm wage rates, with board and without board, in the different States and geographic divisions, are given in Table 2 for April 1 of 1929 and 1930. It will be noted that the rates were lower on April 1, 1930, in all divisions except the Far Western, where the monthly rates with board and without board and the daily rate without board were slightly higher.

TABLE 2.—AVERAGE WAGES PAID TO HIRED FARM LABOR, BY STATES AND DIVISIONS, APRIL 1, 1929 AND 1930

| State and division | Per month— | | | | Per day— | | | |
|---|---|---|---|---|---|---|---|---|
| | With board | | Without board | | With board | | Without board | |
| | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 | 1929 | 1930 |
| Maine | $43.00 | $44.00 | $64.00 | $64.00 | $2.30 | $2.25 | $3.00 | $3.00 |
| New Hampshire | 48.00 | 46.00 | 75.00 | 72.00 | 2.35 | 2.50 | 3.35 | 3.35 |
| Vermont | 48.00 | 47.00 | 71.00 | 70.00 | 2.40 | 2.30 | 3.20 | 3.15 |
| Massachusetts | 50.00 | 49.00 | 82.00 | 78.00 | 2.45 | 2.65 | 3.65 | 3.65 |
| Rhode Island | 54.00 | 62.00 | 86.00 | 82.00 | 2.75 | 2.85 | 3.60 | 3.70 |
| Connecticut | 56.00 | 53.00 | 84.00 | 84.00 | 2.90 | 2.80 | 3.75 | 3.65 |
| New York | 49.25 | 46.50 | 70.25 | 67.50 | 2.80 | 2.70 | 3.65 | 3.55 |
| New Jersey | 49.25 | 48.00 | 72.50 | 72.75 | 2.65 | 2.70 | 3.50 | 3.55 |
| Pennsylvania | 38.25 | 39.00 | 58.75 | 58.50 | 2.45 | 2.35 | 3.20 | 3.10 |
| North Atlantic | 46.12 | 45.05 | 68.74 | 67.23 | 2.60 | 2.55 | 3.44 | 3.38 |
| Ohio | 37.00 | 36.00 | 52.75 | 52.00 | 2.30 | 2.15 | 3.05 | 2.85 |
| Indiana | 36.50 | 36.50 | 49.50 | 48.00 | 2.05 | 2.00 | 2.60 | 2.55 |
| Illinois | 43.00 | 41.00 | 55.00 | 52.50 | 2.20 | 2.15 | 2.75 | 2.70 |
| Michigan | 42.50 | 38.50 | 60.50 | 55.50 | 2.60 | 2.35 | 3.30 | 3.05 |
| Wisconsin | 48.00 | 44.00 | 66.00 | 62.25 | 2.30 | 2.15 | 3.00 | 2.85 |
| Minnesota | 44.50 | 43.00 | 60.50 | 58.00 | 2.25 | 2.15 | 3.05 | 2.90 |
| Iowa | 49.00 | 48.00 | 59.75 | 58.75 | 2.40 | 2.35 | 3.05 | 3.00 |
| Missouri | 33.25 | 32.75 | 44.50 | 44.25 | 1.60 | 1.60 | 2.15 | 2.10 |
| North Dakota | 45.75 | 40.00 | 65.50 | 57.75 | 2.25 | 1.95 | 3.10 | 2.80 |
| South Dakota | 46.50 | 47.25 | 65.75 | 64.00 | 2.35 | 2.30 | 3.20 | 3.35 |
| Nebraska | 44.00 | 43.50 | 59.00 | 58.00 | 2.35 | 2.30 | 3.10 | 3.00 |
| Kansas | 37.25 | 36.75 | 52.75 | 52.00 | 2.25 | 2.15 | 2.95 | 2.85 |
| North Central | 41.81 | 40.21 | 56.33 | 54.34 | 2.15 | 2.11 | 2.88 | 2.78 |
| Delaware | 37.25 | 31.25 | 55.00 | 47.00 | 2.20 | 2.00 | 2.75 | 2.50 |
| Maryland | 35.00 | 34.25 | 50.50 | 49.50 | 1.95 | 1.85 | 2.60 | 2.45 |
| Virginia | 30.00 | 30.00 | 43.00 | 43.00 | 1.55 | 1.50 | 2.00 | 1.95 |
| West Virginia | 30.50 | 30.25 | 46.25 | 45.75 | 1.65 | 1.50 | 2.25 | 2.05 |
| North Carolina | 26.25 | 23.75 | 38.50 | 34.00 | 1.40 | 1.25 | 1.80 | 1.65 |
| South Carolina | 19.25 | 18.50 | 26.75 | 26.25 | .95 | .90 | 1.25 | 1.15 |
| Georgia | 18.25 | 17.75 | 26.25 | 26.00 | 1.00 | .95 | 1.25 | 1.20 |
| Florida | 22.00 | 22.00 | 34.50 | 35.00 | 1.15 | 1.10 | 1.55 | 1.60 |
| South Atlantic | 24.20 | 23.30 | 35.10 | 33.88 | 1.28 | 1.20 | 1.66 | 1.57 |
| Kentucky | 26.25 | 26.25 | 36.50 | 36.25 | 1.30 | 1.25 | 1.65 | 1.65 |
| Tennessee | 23.50 | 24.75 | 32.75 | 33.50 | 1.10 | 1.15 | 1.55 | 1.50 |
| Alabama | 21.00 | 20.00 | 30.00 | 29.00 | 1.10 | 1.05 | 1.50 | 1.40 |
| Mississippi | 22.00 | 21.75 | 31.50 | 31.25 | 1.15 | 1.10 | 1.55 | 1.50 |
| Arkansas | 24.00 | 24.00 | 34.50 | 34.50 | 1.20 | 1.20 | 1.60 | 1.60 |
| Louisiana | 24.00 | 23.25 | 36.75 | 34.75 | 1.20 | 1.10 | 1.50 | 1.45 |
| Oklahoma | 28.25 | 27.90 | 41.50 | 40.00 | 1.50 | 1.45 | 1.95 | 1.95 |
| Texas | 28.25 | 27.50 | 40.75 | 39.75 | 1.40 | 1.35 | 1.80 | 1.70 |
| South Central | 25.00 | 24.71 | 35.95 | 35.30 | 1.26 | 1.22 | 1.65 | 1.60 |
| Montana | 54.50 | 50.50 | 74.75 | 67.50 | 2.60 | 2.50 | 3.70 | 3.30 |
| Idaho | 55.00 | 56.50 | 76.25 | 76.00 | 2.55 | 2.55 | 3.15 | 3.25 |
| Wyoming | 49.75 | 49.50 | 72.25 | 71.00 | 2.35 | 2.30 | 3.15 | 3.40 |
| Colorado | 41.25 | 40.75 | 62.50 | 63.00 | 2.30 | 2.35 | 2.95 | 2.90 |
| New Mexico | 34.75 | 35.50 | 51.00 | 52.25 | 1.65 | 1.75 | 2.05 | 2.10 |
| Arizona | 49.00 | 53.00 | 71.50 | 76.00 | 2.00 | 1.90 | 2.55 | 2.60 |
| Utah | 55.25 | 58.50 | 73.75 | 76.25 | 2.30 | 2.60 | 3.00 | 2.95 |
| Nevada | 58.00 | 60.00 | 75.50 | 86.00 | 2.35 | 2.40 | 3.25 | 3.40 |
| Washington | 52.00 | 50.00 | 74.50 | 74.25 | 2.50 | 2.55 | 3.40 | 3.60 |
| Oregon | 49.00 | 49.25 | 71.25 | 73.50 | 2.40 | 2.35 | 3.10 | 3.10 |
| California | 62.00 | 63.00 | 90.00 | 90.00 | 2.60 | 2.50 | 3.55 | 3.55 |
| Far Western | 53.94 | 53.99 | 76.99 | 77.27 | 2.42 | 2.39 | 3.21 | 3.22 |
| United States | 34.68 | 33.83 | 49.00 | 47.81 | 1.79 | 1.72 | 2.34 | 2.27 |

The supply of farm labor on April 1, 1930, for the United States as a whole is reported as having been 99 per cent of normal, as compared with 93.6 per cent on April 1, 1929. The demand was 84.8 per cent of normal against 90.3 per cent on April 1, 1929. The De-

partment of Agriculture states that the supply of farm labor on April 1, 1930, expressed either as per cent of normal or as per cent of demand, was the largest registered since the department began to collect these data in 1923. Table 3 shows the farm labor supply and demand on April 1 of each year, 1926 to 1930, by geographic division and for the United States as a whole.

TABLE 3.—FARM LABOR SUPPLY AND DEMAND, APRIL 1, 1926 TO 1930

| | North Atlantic | North Central | South Atlantic | South Central | Far Western | United States |
|---|---|---|---|---|---|---|
| Supply, per cent of normal: | | | | | | |
| 1926 | 88.0 | 93.1 | 81.1 | 88.3 | 98.3 | 89.2 |
| 1927 | 89.1 | 93.8 | 85.0 | 89.4 | 99.6 | 90.8 |
| 1928 | 95.8 | 98.1 | 91.5 | 92.7 | 101.9 | 95.2 |
| 1929 | 93.4 | 95.4 | 92.4 | 90.8 | 100.1 | 93.6 |
| 1930 | 98.3 | 101.1 | 96.8 | 97.0 | 104.5 | 99.0 |
| Demand, per cent of normal: | | | | | | |
| 1926 | 90.2 | 91.9 | 89.6 | 90.7 | 92.7 | 91.0 |
| 1927 | 89.1 | 90.5 | 88.1 | 85.7 | 92.3 | 88.6 |
| 1928 | 87.9 | 89.7 | 88.9 | 86.6 | 91.4 | 88.6 |
| 1929 | 88.6 | 91.4 | 89.6 | 89.5 | 92.4 | 90.3 |
| 1930 | 86.9 | 85.8 | 84.6 | 82.7 | 86.4 | 84.8 |
| Supply expressed as per cent of demand: | | | | | | |
| 1926 | 97.5 | 101.2 | 90.5 | 97.4 | 106.1 | 98.1 |
| 1927 | 100.0 | 103.6 | 96.5 | 104.3 | 108.0 | 102.5 |
| 1928 | 108.9 | 109.4 | 102.9 | 107.0 | 111.4 | 107.5 |
| 1929 | 105.4 | 104.4 | 103.1 | 101.5 | 108.3 | 103.7 |
| 1930 | 113.2 | 117.9 | 114.4 | 117.3 | 120.8 | 116.8 |

## Index Numbers of Employment and Earnings of Building-Trades Workers in Massachusetts

THE following table gives index numbers of average weekly employment, earnings, and hours of building-trades workers in Massachusetts from April, 1927, to March, 1930, as calculated by the Massachusetts Department of Labor and Industries from reports of building contractors, covering the week ending nearest to or including the 15th of each month. The data are from a press release of that department dated April 9, 1930.

The number of building-trades men employed in March, 1930, by 352 building contractors from whom reports were obtained was 7,271, as compared with 6,985 in February, 1930. Of the 352 contractors, 52 had no employees on their pay rolls in March and 62 had none in February.

The average number of hours worked per man per week in March was 39.4 against 37.4 in February, an increase of 5.3 per cent. The total number of man-hours worked during the week reported on for March was 286,141, as compared with 261,045 for the representative week in February. Earnings per week for the March pay-roll period averaged $40.25, an increase of 2.9 per cent over the February average of $39.11; hourly earnings decreased from $1.046 in February to $1.023 in March, or 2.2 per cent.

It will be noted that the index numbers of employment given in the table for the first three months of 1930 were considerably higher than for the first three months of 1929, the same being true also of the index numbers of average weekly hours and the average weekly earnings per man.

INDEX NUMBERS OF EMPLOYMENT, HOURS, AND EARNINGS OF BUILDING-TRADES WORKERS IN MASSACHUSETTS, APRIL, 1927, TO MARCH, 1930

[Average for year 1928=100]

| Year and month | Number of tradesmen | Average weekly hours per man | Average weekly earnings per man | Year and month | Number of tradesmen | Average weekly hours per man | Average weekly earnings per man |
|---|---|---|---|---|---|---|---|
| 1927 | | | | 1928—Continued | | | |
| April [1] | 107.4 | 112.8 | 106.0 | November | 106.0 | 96.3 | 96.8 |
| May | 105.4 | 107.4 | 104.0 | December | 98.3 | 96.2 | 99.0 |
| June | 117.6 | 105.4 | 102.2 | | | | |
| July | 120.7 | 103.6 | 101.2 | 1929 | | | |
| August | 123.2 | 102.3 | 100.6 | January | 70.2 | 91.2 | 92.0 |
| September | 124.9 | 103.9 | 104.4 | February | 74.5 | 95.7 | 94.9 |
| October | 122.6 | 98.4 | 99.0 | March | 73.7 | 96.6 | 96.9 |
| November | 124.1 | 101.4 | 99.8 | April | 89.0 | 89.9 | 92.5 |
| December | 114.9 | 96.3 | 95.8 | May | 95.8 | 102.1 | 105.0 |
| 1928 | | | | June | 111.7 | 102.1 | 106.4 |
| January | 95.0 | 103.0 | 102.2 | July | 119.4 | 102.5 | 103.9 |
| February | 86.6 | 98.0 | 100.4 | August | 127.2 | 105.3 | 109.1 |
| March | 81.9 | 97.5 | 96.5 | September | 124.4 | 103.7 | 108.0 |
| April | 92.4 | 98.0 | 95.7 | October | 121.5 | 101.4 | 104.5 |
| May | 102.5 | 101.6 | 100.4 | November | 120.3 | 96.6 | 99.7 |
| June | 102.1 | 102.2 | 99.2 | December | 108.6 | 97.5 | 102.5 |
| July | 107.7 | 101.2 | 99.7 | 1930 | | | |
| August | 109.7 | 104.2 | 103.4 | January | 93.3 | 96.4 | 103.1 |
| September | 107.4 | 103.4 | 105.8 | February | 85.7 | 96.3 | 103.9 |
| October | 110.6 | 97.2 | 99.7 | March | 89.3 | 101.2 | 106.7 |

[1] Collection of these data was begun in April, 1927.

## Agricultural Wages in Canada, 1928 and 1929

AVERAGE wages of agricultural laborers in Canada for 1928 and 1929 are given in the following table compiled from the February, 1930, issue of the Monthly Bulletin of Agricultural Statistics, published by the Dominion Bureau of Statistics:

AVERAGE WAGES OF FARM HELP IN CANADA, 1928 AND 1929

| Province and year | Males per month, summer season | | | Females per month, summer season | | | Males, per year | | | Females, per year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rate of pay | Value of board | Total | Rate of pay | Value of board | Total | Rate of pay | Value of board | Total | Rate of pay | Value of board | Total |
| Canada: | | | | | | | | | | | | |
| 1928 | $40 | $23 | $63 | $24 | $20 | $44 | $382 | $252 | $634 | $251 | $225 | $476 |
| 1929 | 40 | 23 | 63 | 23 | 20 | 43 | 373 | 254 | 627 | 242 | 223 | 465 |
| Prince Edward Island: | | | | | | | | | | | | |
| 1928 | 32 | 17 | 49 | 18 | 13 | 31 | 310 | 203 | 513 | 198 | 157 | 355 |
| 1929 | 34 | 18 | 52 | 19 | 13 | 32 | 327 | 207 | 534 | 196 | 159 | 355 |
| Nova Scotia: | | | | | | | | | | | | |
| 1928 | 34 | 19 | 53 | 17 | 15 | 32 | 359 | 208 | 567 | 200 | 163 | 363 |
| 1929 | 38 | 19 | 57 | 19 | 15 | 34 | 383 | 222 | 605 | 212 | 179 | 391 |
| New Brunswick: | | | | | | | | | | | | |
| 1928 | 40 | 19 | 59 | 18 | 15 | 33 | 390 | 212 | 602 | 204 | 169 | 373 |
| 1929 | 40 | 20 | 60 | 18 | 15 | 33 | 375 | 214 | 589 | 198 | 169 | 367 |
| Quebec: | | | | | | | | | | | | |
| 1928 | 39 | 19 | 58 | 19 | 14 | 33 | 366 | 206 | 572 | 202 | 146 | 348 |
| 1929 | 41 | 20 | 61 | 19 | 14 | 33 | 369 | 208 | 577 | 191 | 151 | 342 |
| Ontario: | | | | | | | | | | | | |
| 1928 | 36 | 22 | 58 | 23 | 18 | 41 | 348 | 244 | 592 | 254 | 199 | 453 |
| 1929 | 35 | 22 | 57 | 22 | 19 | 41 | 341 | 254 | 595 | 242 | 212 | 454 |
| Manitoba: | | | | | | | | | | | | |
| 1928 | 38 | 23 | 61 | 21 | 20 | 41 | 353 | 258 | 611 | 226 | 225 | 451 |
| 1929 | 38 | 23 | 61 | 21 | 19 | 40 | 352 | 256 | 608 | 222 | 216 | 438 |
| Saskatchewan: | | | | | | | | | | | | |
| 1928 | 44 | 25 | 69 | 25 | 22 | 47 | 411 | 284 | 695 | 262 | 237 | 499 |
| 1929 | 44 | 25 | 69 | 24 | 22 | 46 | 398 | 287 | 685 | 256 | 240 | 496 |
| Alberta: | | | | | | | | | | | | |
| 1928 | 46 | 26 | 72 | 26 | 23 | 49 | 450 | 295 | 745 | 280 | 262 | 542 |
| 1929 | 43 | 25 | 68 | 25 | 21 | 46 | 404 | 274 | 678 | 253 | 232 | 485 |
| British Columbia: | | | | | | | | | | | | |
| 1928 | 50 | 27 | 77 | 29 | 23 | 52 | 501 | 305 | 806 | 320 | 268 | 588 |
| 1929 | 49 | 27 | 76 | 28 | 23 | 51 | 482 | 310 | 792 | 291 | 271 | 562 |

The above table shows that monthly wages and board in the summer season as well as annual wages and board were higher in British Columbia than in any of the other Provinces.

## Wages in France in October, 1929

AN ANNUAL wage study is made by the General Statistical Bureau of France,[1] giving the average wages of certain classes of workers who are represented in nearly all localities and which furnish, therefore, uniform elements of comparison. The information is furnished by officers of trade councils, employers' organizations, and mayors or other competent persons and is on a basis comparable with former studies.

The following table gives the hourly wages in different occupations in October, 1928 and 1929, in Paris and in other cities:

AVERAGE HOURLY WAGES IN FRENCH CITIES, OCTOBER, 1928, AND OCTOBER, 1929, BY OCCUPATION

[Conversions on basis of average exchange rate of franc=3.92 cents]

| Occupation | Average hourly wages in— | | | |
|---|---|---|---|---|
| | Paris and its environs | | Cities other than Paris | |
| | 1928 | 1929 | 1928 | 1929 |
| *Males* | | | | |
| Brewers | | | $0.118 | $0.132 |
| Printers, compositors | $0.227 | $0.269 | .151 | .164 |
| Bookbinders | 1.80 | .200 | .143 | .170 |
| Tanners | | | .125 | .136 |
| Saddlers, harness makers | | | .126 | .138 |
| Shoemakers | | | .121 | .134 |
| Tailors | .235 | .235 | .136 | .147 |
| Dyers, scourers | | | .124 | .140 |
| Weavers | | | .111 | .122 |
| Rope makers | | | .118 | .133 |
| Wheelwrights | | | .135 | .147 |
| Wood turners | .225 | .245 | .138 | .154 |
| Coopers | | | .134 | .148 |
| Cabinetmakers | .225 | .265 | .145 | .158 |
| Upholsterers | | | .143 | .155 |
| Pit sawyers | .206 | .245 | .135 | .150 |
| Carpenters | .196 | .235 | .144 | .159 |
| Joiners | .186 | .225 | .139 | .152 |
| Coppersmiths | | | .144 | .160 |
| Tinsmiths | | | .139 | .151 |
| Plumbers | .186 | .225 | .141 | .154 |
| Blacksmiths | .221 | .255 | .141 | .153 |
| Farriers | | | .135 | .146 |
| Stovemakers | | | .136 | .151 |
| Locksmiths | .196 | .225 | .136 | .148 |
| Metal turners | .210 | .245 | .143 | .158 |
| Watchmakers | | .255 | .147 | .165 |
| Quarrymen | .186 | .225 | .133 | .148 |
| Stone cutters | .235 | .294 | .151 | .168 |
| Masons | .206 | .235 | .145 | .158 |
| Navvies | .196 | .235 | .123 | .135 |
| Tilers | .186 | .225 | .146 | .157 |
| House painters | .186 | .216 | .138 | .150 |
| Ornamental carvers | .216 | .255 | .177 | .188 |
| Brickmakers | .196 | .225 | .129 | .145 |
| Potters | | | .125 | .140 |
| Glaziers | .225 | .235 | .132 | .146 |
| Laborers | | | .104 | .116 |
| Average, all occupations | .206 | .240 | .135 | .150 |

[1] France. Ministère du Travail. Bulletin de la Statistique Générale de la France. January–March, 1930, pp. 182–193.

AVERAGE HOURLY WAGES IN FRENCH CITIES, OCTOBER, 1928, AND OCTOBER, 1929, BY OCCUPATION—Continued

| Occupation | Average hourly wages in— | | | |
|---|---|---|---|---|
| | Paris and its environs | | Cities other than Paris | |
| | 1928 | 1929 | 1928 | 1929 |
| *Females* | | | | |
| Ironers | | | $0.078 | $0.089 |
| Dressmakers | | | .078 | .094 |
| Seamstresses | | | .075 | .085 |
| Waistcoat makers | | | .078 | .089 |
| Lace makers | | | .079 | .089 |
| Embroiderers | | | .077 | .090 |
| Milliners | | | .077 | .088 |
| Average, all occupations | | | .077 | .089 |

The following table, furnished for the study by the employment service of the clothing industries, shows the average weekly wages paid to female workers in the women's garment trades in October, 1928 and 1929:

AVERAGE WEEKLY WAGES OF FEMALE WORKERS IN WOMEN'S GARMENT TRADES, 1928 AND 1929

| Occupation | 1928 | 1929 |
|---|---|---|
| First hands | $7.43 | $8.18 |
| Second hands | 5.55 | 6.12 |
| Helpers | 3.92 | 4.31 |
| Apprentices | $1.79–2.16 | $1.98–3.10 |

The wages of women employed in fashionable dressmaking shops averaged, in both 1928 and 1929, $32.61 per month for skilled fitters, $30.42 for workers of average skill, $19.60 for helpers, and $6.27 to $8.70 for apprentices.

A comparison of wages and cost of living as represented by the cost of board and lodging for an unmarried worker in the same localities for which data for wages were secured shows that there was very little real change in the purchasing power of wages during the year. While the index number of men's wages was 12 per cent higher in October, 1929, than in October, 1928, and the index number of women's wages had increased 14 per cent in the same period, the cost of board and lodging had also increased 14.5 per cent. The retail price index (based on 13 articles) increased only 5.5 per cent, but this index, relating as it does to articles of prime necessity alone, represents the influence of price changes upon the cost of a fixed standard of living and makes no allowance, therefore, for any improvement in living standards.

AVERAGE DAILY WAGES AND COST OF BOARD AND LODGING IN FRANCE, OCTOBER, 1928 AND 1929, AND INDEX NUMBERS THEREOF AND OF RETAIL PRICES IN NOVEMBER, 1928 AND 1929

[Conversions on basis of average exchange rate of franc=3.92 cents]

| Item | October, 1928 | October, 1929 | Index numbers (1911=100) | |
|---|---|---|---|---|
| | | | October, 1928 | October, 1929 |
| Daily wages: | | | | |
| Men | $1.11 | $1.23 | 616 | 679 |
| Women | .63 | .72 | 701 | 799 |
| Cost of board and lodging per month | 17.84 | 20.38 | 650 | 744 |
| Retail price of 13 articles [1] | | | 554 | 584 |

[1] For November, 1928 and 1929, respectively.

## Wages in Lithuania in 1929

WAGES paid in 1929 in Lithuania were almost the same as those paid during 1928, with the exception of slight variation in the wages of farm hands. The following figures show a more or less correct estimate of the average wages paid in various branches of industry in December, 1929.[1]

| | Per day |
|---|---|
| Day laborers, males | 4.60 litas [2] (46 cents). |
| Day laborers, females | 3.05 litas (31 cents). |
| Farm hands | $30 to $50.[3] |
| | Per month |
| Clerks, salesmen and women | 300 to 350 litas ($30 to $35). |
| Bookkeepers and skilled clerks | 700 to 1,000 litas ($70 to $100). |
| Government and municipal employees: | |
| Clerks in public service, ordinary | 350 to 400 litas ($35 to $40). |
| Executives | 750 to 900 litas ($75 to $90). |
| Mail carriers and police | 150 to 250 litas ($15 to $25). |
| Army: | |
| Privates | 5 litas (50 cents). |
| Noncommissioned officers | 30 to 100 litas ($3 to $10). |
| Officers, lieutenants to majors | 400 to 650 litas ($40 to $65). |

## Paid Vacations Among Painters in the Netherlands [4]

A RECENT agreement concluded between representatives of the three painters' unions and their employers in the Netherlands established vacations with pay for members of the union. The vacation fund is to be maintained by compulsory contributions by the employers and will be administered by representatives of the unions, the employers' organizations having renounced representation in its management. Workers who have been members of the union for at least 13 weeks and who have paid their dues and worked actively at their trade for a similar period are entitled to pay for six religious holidays and three other days each year.

[1] Report from Hugh S. Fullerton, United States consul, Kovno, Lithuania, Mar. 29, 1930.
[2] Lita=10 cents.
[3] Per year, plus board, lodging, and clothing; in some parts of the country farm hands receive grain instead of money, if they are married.
[4] Le Mouvement Syndical Belge, Brussels, Apr. 20, 1930, p. 85.

## Living-Wage Legislation in New South Wales[1]

AT THE close of last year the New South Wales Parliament passed an act (Act No. 401929) repealing the industrial arbitration acts of 1927 and 1929, which had dealt with the declaration of a living wage, and amending the act of 1926 by stating that the amount set as a living wage for an adult male should be based on the needs of a man and wife with one child under the age of 14 years. Further, it declared that a cost-of-living wage must be announced within one month from the coming into effect of the act, and that the amount so announced must conform to the following provision:

> In fixing the amount of the living wage for adult male employees on the requirements of a man and wife with one child under the age of 14 years the commission shall add to the amount stated in its judgment of the 25th day of October, 1929, as being sufficient for the requirements of a man and wife, the extra cost of maintaining one child under the age of 14 years.
>
> Such extra cost shall be determined from a consideration of such judgments, declarations, and reports of tribunals and royal commissions of the Commonwealth and of New South Wales relating to basic or living wages, and of such other information relating thereto in the possession of the commission at the commencement of this act as the commission deems proper to be considered for the purpose of fixing the amount of living wage for adult male employees in accordance with the provisions of this section.

Following out these enactments, the Industrial Commission on December 20, 1929, declared as the living wage for an adult male £4 2s. 6d. ($20.07) per week, and for an adult female £2 4s. 6d. ($10.83).

At the same session the Parliament passed another amending act (Act No. 411929), removing from the scope of the industrial arbitration act the group of workers thus defined:

> Employees who are employed in rural industries, that is to say—
>
> (a) Upon farms, orchards, vineyards, or agricultural or pastoral holdings in connection with dairying, poultry farming, or bee farming, or the sowing, raising, harvesting, or treating of grain, fodder, fruit, or other farm produce, or the management, rearing, or grazing of horses, cattle, sheep, or other livestock, or the shearing or crutching of sheep, or the classing, scouring, sorting, or pressing of wool, upon any farm or station, or at other farm or station work; or
>
> (b) In or in connection with the formation, tending, protection, or regeneration of forests; or
>
> (c) In flower or vegetable market gardens or nurseries; or
>
> (d) At clearing, fencing, trenching, draining, or otherwise preparing land for any of the above-mentioned purposes.

Further, the act declares that after the coming into effect of this legislation any declaration of a living wage shall not apply to this group of employees, and that any declarations of a living wage made at an earlier date shall be null and void so far as these workers are concerned. In other words, agricultural and rural workers are removed entirely from the operation of cost-of-living wage declarations.

[1] Data are from New South Wales Industrial Gazette, Sydney, Dec. 31, 1929.

# TREND OF EMPLOYMENT

## Summary for April, 1930

EMPLOYMENT decreased 0.2 per cent in April, 1930, as compared with March, and pay-roll totals decreased 0.7 per cent, according to reports made to the Bureau of Labor Statistics.

The industrial groups surveyed, the number of establishments reporting in each group, the number of employees covered, and the total pay rolls for one week, for both March and April, together with the per cent of change in April, are shown in the following summary:

SUMMARY OF EMPLOYMENT AND PAY-ROLL TOTALS, APRIL AND MARCH, 1930

| Industrial group | Establishments | Employment | | Per cent of change | Pay roll in 1 week | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| **1. Manufacturing** | **13,449** | **3,307,664** | **3,287,293** | [1] **−0.8** | **$88,882,863** | **$88,301,626** | [1] **−1.1** |
| **2. Coal mining** | **1,489** | **308,237** | **300,075** | **−2.6** | **7,452,833** | **7,070,817** | **−5.1** |
| Anthracite | 153 | 85,300 | 86,817 | +1.8 | 2,526,730 | 2,412,039 | −4.5 |
| Bituminous | 1,336 | 222,937 | 213,258 | −4.3 | 4,926,103 | 4,658,778 | −5.4 |
| **3. Metalliferous mining** | **348** | **58,205** | **57,148** | **−1.8** | **1,749,794** | **1,701,855** | **−2.7** |
| **4. Quarrying and nonmetallic mining** | **749** | **36,356** | **38,293** | **+5.3** | **926,094** | **989,236** | **+6.8** |
| **5. Crude petroleum production** | **124** | **8,403** | **8,170** | **−2.8** | **301,102** | **285,449** | **−5.2** |
| **6. Public utilities** | **10,047** | **712,672** | **714,832** | **+0.3** | **21,753,602** | **21,666,154** | **−0.4** |
| Telephone and telegraph | 6,845 | 317,082 | 315,633 | −0.5 | 9,123,105 | 8,914,593 | −2.3 |
| Power, light, and water | 2,757 | 248,802 | 251,262 | +1.0 | 7,961,027 | 7,999,363 | +0.5 |
| Electric railroad operation and maintenance, exclusive of car shops | 445 | 146,788 | 147,937 | +0.8 | 4,669,470 | 4,752,198 | +1.8 |
| **7. Trade** | **8,875** | **303,373** | **311,685** | **+2.7** | **7,830,309** | **7,911,457** | **+1.0** |
| Wholesale | 2,068 | 66,471 | 66,176 | −0.4 | 2,124,308 | 2,085,773 | −1.8 |
| Retail | 6,807 | 236,902 | 245,509 | +3.6 | 5,706,001 | 5,825,684 | +2.1 |
| **8. Hotels** | **1,909** | **159,553** | **156,498** | **−2.2** | [2] **2,790,925** | [2] **2,682,144** | **−3.9** |
| **9. Canning and preserving** | **463** | **21,121** | **31,804** | **+50.6** | **383,926** | **549,161** | **+43.0** |
| **Total** | **37,453** | **4,915,984** | **4,905,798** | **−0.2** | **132,071,448** | **131,157,899** | **−0.7** |

RECAPITULATION BY GEOGRAPHIC DIVISIONS

| GEOGRAPHIC DIVISION | | | | | | | |
|---|---|---|---|---|---|---|---|
| New England [3] | 2,491 | 460,589 | 453,933 | −1.4 | $11,383,570 | $11,105,607 | −2.4 |
| Middle Atlantic [4] | 6,657 | 1,391,989 | 1,382,353 | −0.7 | 39,682,137 | 38,829,011 | −2.1 |
| East North Central [5] | 8,725 | 1,477,469 | 1,480,507 | +0.2 | 43,173,617 | 43,417,820 | +0.6 |
| West North Central [6] | 4,234 | 319,866 | 318,903 | −0.3 | 8,280,878 | 8,244,632 | −0.4 |
| South Atlantic [7] | 4,385 | 503,771 | 502,775 | −0.2 | 10,525,370 | 10,575,772 | +0.5 |
| East South Central [8] | 2,280 | 214,471 | 212,464 | −0.9 | 4,229,094 | 4,234,817 | +0.1 |
| West South Central [9] | 2,672 | 170,141 | 167,347 | −1.6 | 4,057,583 | 3,957,649 | −2.5 |
| Mountain [10] | 1,386 | 98,374 | 96,787 | −1.6 | 2,859,700 | 2,742,671 | −4.1 |
| Pacific [11] | 4,623 | 279,314 | 290,729 | +4.1 | 7,879,499 | 8,049,920 | +2.2 |
| **All divisions** | **37,453** | **4,915,984** | **4,905,798** | **−0.2** | **132,071,448** | **131,157,899** | **−0.7** |

[1] Weighted per cent of change for the combined 54 manufacturing industries repeated from Table 2, p. 203; the remaining per cents of change, including total, are unweighted.
[2] Cash payments only, see text, p. 224.
[3] Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.
[4] New Jersey, New York, Pennsylvania.
[5] Illinois, Indiana, Michigan, Ohio, Wisconsin.
[6] Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.
[7] Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia.
[8] Alabama, Kentucky, Mississippi, Tennessee.
[9] Arkansas, Louisiana, Oklahoma, Texas.
[10] Arizona, Colorado, Idaho, Montana, New Mexico, Nevada, Utah, Wyoming.
[11] California, Oregon, Washington.

The changes in employment in the 13 industrial groups in April—six increases and seven decreases—followed the most general seasonal trends, with the possible exceptions of the decreases in metalliferous mining and wholesale trade.

The figures of the several industrial groups are not weighted according to the relative importance of each industry, as shown by the United States census, and therefore the per cents of change shown for the total figures represent only the changes in the establishments reporting. (Compare note 1, manufacturing industries, summary table, p. 199.)

For convenient reference the latest data available relating to all employees, excluding executives and officials, on Class I railroads, drawn from Interstate Commerce Commission reports, are shown in the following statement. These reports are for the months of February and March instead of for April and May, consequently the figures can not be combined with those presented in the foregoing table.

EMPLOYMENT AND PAY-ROLL TOTALS, CLASS I RAILROADS

| Industry | Employment | | Per cent of change | Amount of pay roll in entire month | | Per cent of change |
|---|---|---|---|---|---|---|
| | Feb. 15, 1930 | Mar. 15, 1930 | | February, 1930 | March, 1930 | |
| Class I railroads | 1,527,386 | 1,529,729 | +0.2 | $205,135,719 | $218,991,401 | +6.8 |

The total number of employees included in this summary is 6,433,000 whose combined earnings in one week amounted to $182,440,000.

## 1. Employment in Selected Manufacturing Industries in April, 1930

### Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, March and April, 1930

EMPLOYMENT in manufacturing industries decreased 0.8 per cent in April as compared with March, a decrease not unusual since decreased employment in April has been shown in five of the last seven years preceding 1930; pay-roll totals decreased 1.1 per cent.

The per cents of change in April in employment and pay-roll totals in manufacturing industries are based upon returns made by 13,016 establishments in 54 of the principal manufacturing industries of the United States. These establishments in April, 1930, had 3,206,003 employees whose combined earnings in one week were $86,288,420.

The bureau's weighted index of employment for April, 1930, is 89.1, as compared with 89.8 for March, 1930, 90.3 for February, 1930, and 99.1 for April, 1929; the index of pay-roll totals for April, 1930, is 89.8, as compared with 90.8 for March, 1930, 90.7 for February, 1930, and 104.6 for April, 1929. The monthly average for 1926 equals 100.

The stone-clay-glass group of industries gained 3.6 per cent in employment in April and the vehicle group 0.9 per cent, while both groups reported even larger increases in pay-roll totals; the iron and steel *group* showed a drop of 0.2 per cent in employment with no change in pay-roll totals. Each of the remaining 9 groups reported decreased

employment and pay-roll totals, the textile group showing the most pronounced losses in the two items—2.3 per cent and 6.3 per cent, respectively.

Fourteen of 54 separate industries had more employees in April than in March, the notable gains having been 8.9 per cent in brick, 8 per cent in cement, 7.1 per cent in ice cream, 4.8 per cent in fertilizers, 3.4 per cent in rubber tires, 3.2 per cent in automobiles, 2.6 per cent in cast-iron pipe, 1.1 per cent in structural ironwork, and 0.5 per cent in iron and steel. In each of these industries the increases in pay-roll totals were considerably greater than the increases in employment.

Each of the 10 separate industries of the textile group reported fewer employees in April than in March. Woolen goods fell off 6.5 per cent, men's clothing 5.6 per cent, cotton goods 0.9 per cent, and knit goods 0.2 per cent. Machine tools reported a decrease of 3.4 per cent; furniture, 3.6 per cent; agricultural implements, 6 per cent; electrical goods, 1.9 per cent.

Six industries—rayon, radio, aircraft, jewelry, paint, and rubber goods (other than rubber boots, shoes, tires, and tubes)—which are not yet a part of the bureau's indexes of employment and pay-roll totals for manufacturing industries, are included in the monthly employment survey. Only one of these industries, paint and varnish, reported increased employment in April, a gain of 0.8 per cent. The decreases in employment in the remaining 5 industries were 1.1 per cent in rayon, 13.8 per cent in radio, 2.8 per cent in aircraft, 2.4 per cent in jewelry, and 3.4 per cent in rubber goods.

Increased employment of 1 per cent was shown in April in the Pacific geographic division and very small increases in the East North Central, South Atlantic, and East South Central divisions.

The New England division showed a drop of 2 per cent in employment and a drop of 3.2 per cent in pay-roll totals, the Middle Atlantic division decreases of 1.5 per cent and 2.6 per cent in the two items, and the West South Central division decreases of 1.3 per cent and 1.5 per cent. Other decreases were small.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL MANUFACTURING ESTABLISHMENTS IN MARCH AND APRIL, 1930, BY INDUSTRIES

| Industry | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| **Food and kindred products** | **1,930** | **228,246** | **225,429** | (1) | **$5,959,508** | **$5,952,364** | (1) |
| Slaughtering and meat packing | 216 | 88,834 | 86,543 | −2.6 | 2,312,594 | 2,307,343 | −0.2 |
| Confectionery | 292 | 32,084 | 31,000 | −3.4 | 616,563 | 596,112 | −3.3 |
| Ice cream | 359 | 12,720 | 13,619 | +7.1 | 407,656 | 450,758 | +10.6 |
| Flour | 344 | 15,945 | 15,294 | −4.1 | 437,358 | 419,649 | −4.0 |
| Baking | 703 | 67,694 | 67,886 | +0.3 | 1,845,463 | 1,860,402 | +0.8 |
| Sugar refining, cane | 16 | 10,969 | 11,087 | +1.1 | 339,874 | 318,100 | −6.4 |
| **Textiles and their products** | **2,363** | **590,596** | **577,699** | (1) | **11,416,990** | **10,764,246** | (1) |
| Cotton goods | 464 | 193,296 | 191,499 | −0.9 | 2,915,615 | 2,893,841 | −0.7 |
| Hosiery and knit goods | 338 | 92,784 | 92,633 | −0.2 | 1,768,366 | 1,704,430 | −3.6 |
| Silk goods | 282 | 66,087 | 64,812 | −1.9 | 1,368,228 | 1,293,951 | −5.4 |
| Woolen and worsted goods | 185 | 52,753 | 49,325 | −6.5 | 1,080,631 | 994,518 | −8.0 |
| Carpets and rugs | 29 | 22,651 | 22,259 | −1.7 | 505,588 | 479,939 | −5.1 |
| Dyeing and finishing textiles | 106 | 31,047 | 30,462 | −1.9 | 770,932 | 737,578 | −4.3 |
| Clothing, men's | 340 | 63,734 | 60,157 | −5.6 | 1,356,363 | 1,154,494 | −14.9 |
| Shirts and collars | 117 | 21,131 | 20,557 | −2.7 | 315,758 | 297,982 | −5.6 |
| Clothing, women's | 421 | 34,041 | 33,216 | −2.4 | 1,020,112 | 905,229 | −11.3 |
| Millinery and lace goods | 81 | 13,072 | 12,779 | −2.2 | 315,397 | 302,284 | −4.2 |

See footnotes at end of table.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **MANUFACTURING** ESTABLISHMENTS IN MARCH AND APRIL, 1930, BY INDUSTRIES—Continued

| Industry | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| **Iron and steel and their products** | **1,968** | **681,819** | **679,728** | (1) | **$20,524,367** | **$20,493,537** | (1) |
| Iron and steel | 202 | 266,610 | 268,008 | +0.5 | 8,423,134 | 8,536,492 | +1.3 |
| Cast-iron pipe | 38 | 10,925 | 11,207 | +2.6 | 259,702 | 271,625 | +4.6 |
| Structural ironwork | 173 | 28,146 | 28,464 | +1.1 | 832,224 | 866,197 | +4.1 |
| Foundry and machine-shop products | 1,083 | 259,820 | 258,258 | −0.6 | 7,822,456 | 7,764,721 | −0.7 |
| Hardware | 71 | 29,627 | 28,999 | −2.1 | 700,561 | 662,575 | −5.4 |
| Machine tools | 155 | 36,313 | 35,085 | −3.4 | 1,110,026 | 1,049,127 | −5.5 |
| Steam fittings and steam and hot-water heating apparatus | 106 | 29,546 | 29,025 | −1.8 | 810,997 | 798,306 | −1.6 |
| Stoves | 140 | 20,832 | 20,682 | −0.7 | 565,267 | 544,494 | −3.7 |
| **Lumber and its products** | **1,430** | **212,916** | **210,895** | (1) | **4,599,885** | **4,554,045** | (1) |
| Lumber, sawmills | 663 | 125,871 | 125,961 | +0.1 | 2,620,803 | 2,644,210 | +0.9 |
| Lumber, millwork | 345 | 30,730 | 30,621 | −0.4 | 716,330 | 722,949 | +0.9 |
| Furniture | 422 | 56,315 | 54,313 | −3.6 | 1,262,752 | 1,186,886 | −6.0 |
| **Leather and its products** | **457** | **137,183** | **134,734** | (1) | **2,919,612** | **2,797,217** | (1) |
| Leather | 130 | 25,618 | 25,399 | −0.9 | 631,571 | 623,738 | −1.2 |
| Boots and shoes | 327 | 111,565 | 109,335 | −2.0 | 2,288,041 | 2,173,479 | −5.0 |
| **Paper and printing** | **1,237** | **214,552** | **212,664** | (1) | **7,283,884** | **7,213,957** | (1) |
| Paper and pulp | 204 | 59,791 | 59,377 | −0.7 | 1,639,964 | 1,622,051 | −1.1 |
| Paper boxes | 182 | 18,723 | 18,463 | −1.4 | 431,451 | 417,806 | −3.2 |
| Printing, book and job | 399 | 51,075 | 50,043 | −2.0 | 1,758,753 | 1,708,850 | −2.8 |
| Printing, newspapers | 452 | 84,963 | 84,781 | −0.2 | 3,453,716 | 3,465,250 | +0.3 |
| **Chemicals and allied products** | **389** | **98,419** | **97,780** | (1) | **2,839,659** | **2,842,036** | (1) |
| Chemicals | 146 | 34,562 | 34,100 | −1.3 | 973,627 | 949,623 | −2.5 |
| Fertilizers | 175 | 16,629 | 17,424 | +4.8 | 278,189 | 317,799 | +14.2 |
| Petroleum refining | 68 | 47,228 | 46,256 | −2.1 | 1,587,843 | 1,574,614 | −0.8 |
| **Stone, clay, and glass products** | **1,036** | **117,159** | **120,625** | (1) | **2,927,404** | **3,055,093** | (1) |
| Cement | 112 | 19,868 | 21,464 | +8.0 | 574,161 | 638,009 | +11.1 |
| Brick, tile, and terra cotta | 666 | 31,307 | 34,090 | +8.9 | 716,529 | 796,848 | +11.2 |
| Pottery | 117 | 19,443 | 19,365 | −0.4 | 463,076 | 458,467 | −1.0 |
| Glass | 141 | 46,541 | 45,706 | −1.8 | 1,173,638 | 1,161,769 | −1.0 |
| **Metal products other than iron and steel** | **240** | **50,880** | **50,061** | (1) | **1,298,791** | **1,269,146** | (1) |
| Stamped and enameled ware | 75 | 18,477 | 18,117 | −1.9 | 433,439 | 423,248 | −2.4 |
| Brass, bronze, and copper products | 165 | 32,403 | 31,944 | −1.4 | 865,352 | 845,898 | −2.2 |
| **Tobacco products** | **228** | **59,780** | **58,683** | (1) | **934,891** | **889,873** | (1) |
| Chewing and smoking tobacco and snuff | 25 | 8,352 | 7,914 | −5.2 | 130,977 | 121,834 | −7.0 |
| Cigars and cigarettes | 203 | 51,428 | 50,769 | −1.3 | 803,914 | 768,039 | −4.5 |
| **Vehicles for land transportation** | **1,244** | **510,462** | **519,947** | (1) | **16,444,584** | **16,854,082** | (1) |
| Automobiles | 207 | 348,603 | 359,763 | +3.2 | 11,441,916 | 11,861,226 | +3.7 |
| Carriages and wagons | 53 | 1,403 | 1,386 | −1.2 | 32,432 | 31,451 | −3.0 |
| Car building and repairing, electric-railroad | 443 | 28,282 | 28,334 | +0.2 | 898,506 | 901,636 | +0.3 |
| Car building and repairing, steam-railroad | 541 | 132,174 | 130,464 | −1.3 | 4,071,730 | 4,059,769 | −0.3 |
| **Miscellaneous industries** | **927** | **405,652** | **399,048** | (1) | **11,733,288** | **11,616,030** | (1) |
| Agricultural implements | 86 | 31,813 | 29,913 | −6.0 | 959,631 | 877,234 | −8.6 |
| Electrical machinery, apparatus, and supplies | 197 | 179,277 | 175,864 | −1.9 | 5,424,310 | 5,378,117 | −0.9 |
| Pianos and organs | 66 | 5,542 | 5,460 | −1.5 | 159,711 | 151,972 | −4.8 |
| Rubber boots and shoes | 10 | 17,938 | 17,226 | −4.0 | 415,037 | 393,289 | −5.2 |
| Automobile tires | 43 | 44,324 | 45,810 | +3.4 | 1,371,519 | 1,480,338 | +7.9 |
| Shipbuilding | 92 | 42,762 | 43,485 | +1.7 | 1,309,634 | 1,321,874 | +0.9 |
| Rayon [2] | 17 | 24,809 | 24,536 | −1.1 | 532,383 | 504,840 | −5.2 |
| Radio [2] | 34 | 10,789 | 9,305 | −13.8 | 259,358 | 238,294 | −8.1 |
| Aircraft [2] | 45 | 9,019 | 8,762 | −2.8 | 306,255 | 294,517 | −3.8 |
| Jewelry [2] | 122 | 16,338 | 15,943 | −2.4 | 387,712 | 372,167 | −4.0 |
| Paint and varnish [2] | 170 | 11,624 | 11,713 | +0.8 | 330,101 | 335,156 | +1.5 |
| Rubber goods, other than rubber boots, shoes, tires, and tubes [2] | 45 | 11,417 | 11,031 | −3.4 | 277,637 | 268,232 | −3.4 |
| **All industries** | **13,449** | **3,207,664** | **3,287,293** | (1) | **88,882,863** | **88,301,626** | (1) |

See footnotes at end of table.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **MANUFACTURING** ESTABLISHMENTS IN MARCH AND APRIL, 1930, BY INDUSTRIES—Continued

RECAPITULATION BY GEOGRAPHIC DIVISIONS

| GEOGRAPHIC DIVISION [1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 1,561 | 388,269 | 380,667 | −2.0 | $9,283,439 | $8,986,732 | −3.2 |
| Middle Atlantic | 3,262 | 902,234 | 889,044 | −1.5 | 25,815,986 | 25,138,028 | −2.6 |
| East North Central | 3,322 | 1,117,548 | 1,119,039 | +0.1 | 33,156,555 | 33,435,092 | +0.8 |
| West North Central | 1,218 | 181,035 | 179,454 | −0.9 | 4,684,527 | 4,679,879 | −0.1 |
| South Atlantic | 1,640 | 345,818 | 346,183 | +0.1 | 6,863,249 | 6,905,078 | +0.6 |
| East South Central | 654 | 122,897 | 122,922 | +[4] | 2,385,349 | 2,404,421 | +0.8 |
| West South Central | 717 | 89,749 | 88,604 | −1.3 | 2,109,749 | 2,078,013 | −1.5 |
| Mountain | 233 | 29,972 | 29,933 | −0.1 | 853,030 | 875,286 | +2.6 |
| Pacific | 842 | 130,142 | 131,447 | +1.0 | 3,730,979 | 3,799,097 | +1.8 |
| **All divisions** | **13,449** | **3,307,664** | **3,287,293** | [1] | **88,882,863** | **88,301,626** | [1] |

[1] The per cent of change has not been computed for the reason that the figures in the preceding columns are unweighted and refer only to the establishments reporting, for the weighted per cent of change, wherein proper allowance is made for the relative importance of the several industries, so that the figures may represent all establishments of the country in the industries here represented, see Table 2.

[2] The rayon industry was surveyed for the first time for the January–February, 1929, comparison, the radio industry for the March–April, 1929, comparison, the aircraft, jewelry, and paint and varnish industries for the February–March, 1930, comparison, and the rubber goods industry for the March–April, 1930, comparison, and, since the data for computing relative numbers are not yet available, these industries are not included in the bureau's indexes of employment and pay-roll totals. The total figures for all manufacturing industries given in the text, p. 200, do not include rayon, radio, aircraft, jewelry, paint and varnish, or rubber goods.

[3] See footnotes 3 to 11, p. 199.

[4] Less than one-tenth of 1 per cent.

TABLE 2.—PER CENT OF CHANGE, MARCH TO APRIL, 1930—12 GROUPS OF **MANUFACTURING** INDUSTRIES AND TOTAL OF ALL INDUSTRIES

[Computed from the index numbers of each group which are obtained by weighting the index numbers of the several industries of the group, by the number of employees, or wages paid, in the industries]

| Group | Per cent of change March to April, 1930 | | Group | Per cent of change March to April, 1930 | |
|---|---|---|---|---|---|
| | Number on pay roll | Amount of pay roll | | Number on pay roll | Amount of pay roll |
| Food and kindred products | −1.2 | −0.1 | Metal products, other than iron and steel | −1.5 | −2.2 |
| Textiles and their products | −2.3 | −6.3 | Tobacco products | −1.9 | −4.8 |
| Iron and steel and their products | −0.2 | [1] | Vehicles for land transportation | +0.9 | +1.8 |
| Lumber and its products | −0.9 | −1.0 | Miscellaneous industries | −1.1 | −0.1 |
| Leather and its products | −1.8 | −4.0 | | | |
| Paper and printing | −1.1 | −1.3 | | | |
| Chemicals and allied products | −0.5 | −0.1 | **All industries** | **−0.8** | **−1.1** |
| Stone, clay, and glass products | +3.6 | +4.8 | | | |

[1] No change.

### Comparison of Employment and Pay-Roll Totals in Manufacturing Industries, April, 1930, and April, 1929

THE level of employment in manufacturing industries in April, 1930, was 10.1 per cent lower than in April, 1929, and pay-roll totals were 14.1 per cent lower.

Book and job and newspaper printing, petroleum refining, and shipbuilding each reported more employees in April, 1930, than in April, 1929, and increased pay-roll totals as well. Chewing and smoking tobacco also had more employees in April, 1930, and slaughtering and meat packing, cast-iron pipe, and flour showed increased pay-roll totals.

Twenty industries showed from 10 to 30 per cent fewer employees in April, 1930, than in April, 1929, but in at least one-half of these industries employment in April, 1929, was abnormally high. The notable decreases over this 12-month period were in pianos, automobiles, tires, woolen goods, millwork, and brass goods, each being over 20 per cent, while the decreases in brick, furniture, steam fittings, agricultural implements, sawmills, machine tools, and stoves were approximately 15 per cent each.

Decreased employment of from 4.9 per cent, in both the West North Central and South Atlantic divisions, to 16.6 per cent in the East North Central division appeared in this year-to-year comparison for April, in each of the 12 geographic divisions. In 6 divisions the decreases in employment were exceeded by the decreases in pay-roll totals, but in the West South Central, Mountain, and Pacific States that condition was reversed, pay-roll totals decreasing less than employment.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN **MANUFACTURING** INDUSTRIES, APRIL, 1930, WITH APRIL, 1929

[The per cents of change for each of the 12 groups of industries and for the total of all industries are weighted in the same manner as are the per cents of change in Table 2]

| Industry | Per cent of change, April, 1930, compared with April, 1929 | |
|---|---|---|
| | Number on pay roll | Amount of pay roll |
| **Food and kindred products** | **−2.3** | **−0.6** |
| Slaughtering and meat packing | −1.1 | +0.8 |
| Confectionery | −0.8 | −0.7 |
| Ice cream | −4.3 | −4.8 |
| Flour | −2.0 | +2.8 |
| Baking | −3.3 | −0.7 |
| Sugar refining, cane | −3.4 | −11.1 |
| **Textiles and their products** | **−10.1** | **−17.3** |
| Cotton goods | −10.1 | −16.7 |
| Hosiery and knit goods | −7.0 | −13.9 |
| Silk goods | −5.2 | −13.0 |
| Woolen and worsted goods | −23.9 | −31.9 |
| Carpets and rugs | −13.1 | −25.2 |
| Dyeing and finishing textiles | −6.0 | −10.3 |
| Clothing, men's | −7.9 | −16.2 |
| Shirts and collars | −6.7 | −17.2 |
| Clothing, women's | −10.0 | −15.9 |
| Millinery and lace goods | −5.9 | −8.8 |
| **Iron and steel and their products** | **−8.5** | **−13.6** |
| Iron and steel | −5.3 | −10.0 |
| Cast-iron pipe | −3.2 | +1.1 |
| Structural ironwork | −4.1 | −5.2 |
| Foundry and machine-shop products | −9.7 | −15.2 |
| Hardware | −10.2 | −21.8 |
| Machine tools | −14.9 | −25.3 |
| Steam fittings and steam and hot-water heating apparatus | −15.5 | −21.5 |
| Stoves | −14.1 | −21.2 |
| **Lumber and its products** | **−15.8** | **−18.7** |
| Lumber, sawmills | −14.7 | −13.5 |
| Lumber, millwork | −21.7 | −23.2 |
| Furniture | −15.3 | −25.4 |
| **Leather and its products** | **−0.2** | **−7.2** |
| Leather | −1.2 | −3.6 |
| Boots and shoes | −0.8 | −8.2 |
| **Paper and printing** | **+0.1** | **+0.2** |
| Paper and pulp | −0.4 | −0.9 |
| Paper boxes | −3.9 | −7.4 |
| Printing, book and job | +0.6 | +0.5 |
| Printing, newspapers | +1.8 | +2.4 |
| **Chemicals and allied products** | **−5.7** | **−4.7** |
| Chemicals | −9.8 | −12.2 |
| Fertilizers | −13.0 | −8.1 |
| Petroleum refining | +3.7 | +4.2 |
| **Stone, clay, and glass products** | **−10.2** | **−13.7** |
| Cement | −4.8 | −4.9 |
| Brick, tile, and terra cotta | −16.7 | −21.1 |
| Pottery | −6.1 | −12.7 |
| Glass | −6.6 | −10.3 |
| **Metal products, other than iron and steel** | **−18.6** | **−26.4** |
| Stamped and enameled ware | −11.3 | −16.5 |
| Brass, bronze, and copper products | −21.6 | −29.7 |
| **Tobacco products** | **−3.3** | **−10.2** |
| Chewing and smoking tobacco and snuff | +0.8 | −2.1 |
| Cigars and cigarettes | −3.8 | −11.2 |
| **Vehicles for land transportation** | **−19.5** | **−23.8** |
| Automobiles | −28.6 | −33.6 |
| Carriages and wagons | −20.2 | −16.9 |
| Car building and repairing, electric-railroad | −2.1 | −2.0 |
| Car building and repairing, steam-railroad | −8.0 | −9.5 |
| **Miscellaneous industries** | **−7.9** | **−8.0** |
| Agricultural implements | −14.6 | −17.7 |
| Electrical machinery, apparatus, and supplies | −3.4 | −3.0 |
| Pianos and organs | −30.2 | −35.5 |
| Rubber boots and shoes | −7.5 | −10.3 |
| Automobile tires | −26.5 | −26.6 |
| Shipbuilding | +13.0 | +14.8 |
| **All industries** | **−10.1** | **−14.1** |

## RECAPITULATION BY GEOGRAPHIC DIVISIONS

| GEOGRAPHIC DIVISION[1] | | |
|---|---|---|
| New England | −10.7 | −16.6 |
| Middle Atlantic | −6.9 | −10.2 |
| East North Central | −16.6 | −22.2 |
| West North Central | −4.9 | −5.3 |
| South Atlantic | −4.9 | −6.1 |
| East South Central | −9.6 | −10.2 |
| West South Central | −7.3 | −5.9 |
| Mountain | −9.4 | −6.8 |
| Pacific | −10.9 | −10.0 |
| **All divisions** | **−10.1** | **−14.1** |

[1] See footnotes 3 to 11, p. 199.

### Per Capita Earnings in Manufacturing Industries

PER CAPITA EARNINGS in manufacturing industries in April, 1930, were 0.3 per cent lower than in March, 1930, and 4.5 per cent lower than in April, 1929.

The per cents of change in per capita earnings in April, 1930, as compared with March, 1930, and as compared with April, 1929, for each industry are shown in Table 4.

TABLE 4.—COMPARISON OF PER CAPITA EARNINGS IN **MANUFACTURING** INDUSTRIES, APRIL, 1930, WITH MARCH, 1930, AND APRIL, 1929

| Industry | Per cent of change, April, 1930, compared with— | | Industry | Per cent of change April, 1930, compared with— | |
|---|---|---|---|---|---|
| | March, 1930 | April, 1929 | | March, 1930 | April, 1929 |
| Fertilizers | +9.0 | +5.9 | Pottery | −0.6 | −7.1 |
| Automobile tires | +4.4 | −0.2 | Printing, book and job | −0.8 | +0.1 |
| Ice cream | +3.3 | −0.5 | Shipbuilding | −0.8 | +1.7 |
| Structural ironwork | +2.9 | −1.5 | Brass, bronze, and copper products | −0.9 | −10.5 |
| Cement | +2.8 | (1) | Chemicals | −1.1 | −2.6 |
| Slaughtering and meat packing | +2.4 | +2.0 | Rubber boots and shoes | −1.3 | −3.2 |
| Brick, tile, and terra cotta | +2.1 | −5.3 | Woolen and worsted goods | −1.6 | −10.6 |
| Cast-iron pipe | +2.0 | +4.5 | Chewing and smoking tobacco and snuff | −1.8 | −2.7 |
| Lumber, millwork | +1.3 | −2.3 | Paper boxes | −1.8 | −3.5 |
| Petroleum refining | +1.2 | +0.7 | Carriages and wagons | −1.9 | +4.0 |
| Electrical machinery, apparatus, and supplies | +1.1 | +0.6 | Millinery and lace goods | −2.0 | −2.9 |
| Car building and repairing, steam-railroad | +1.0 | −1.6 | Machine tools | −2.2 | −12.4 |
| Glass | +0.8 | −3.9 | Dyeing and finishing textiles | −2.5 | −4.6 |
| Iron and steel | +0.8 | −4.9 | Furniture | −2.5 | −12.0 |
| Lumber, sawmills | +0.8 | +1.3 | Agricultural implements | −2.8 | −4.0 |
| Automobiles | +0.5 | −7.2 | Shirts and collars | −2,9 | −11.4 |
| Baking | +0.5 | +2.8 | Stoves | −2.9 | −8.1 |
| Printing, newspapers | +0.5 | +0.9 | Boots and shoes | −3.1 | −7.6 |
| Car building and repairing, electric-railroad | +0.2 | +0.3 | Cigars and cigarettes | −3.2 | −7.6 |
| Cotton goods | +0.2 | −7.6 | Carpets and rugs | −3.4 | −13.9 |
| Steam fittings and steam and hot-water heating apparatus | +0.2 | −7.3 | Hardware | −3.4 | −13.0 |
| Confectionery | +0.1 | +0.2 | Pianos and organs | −3.4 | −7.7 |
| Flour | +(2) | +4.5 | Hosiery and knit goods | −3.5 | −7.5 |
| Foundry and machine-shop products | −0.1 | −6.0 | Silk goods | −3.6 | −8.3 |
| Leather | −0.4 | −2.7 | Sugar refining, cane | −7.4 | −8.0 |
| Paper and pulp | −0.4 | −0.7 | Clothing, women's | −9.1 | −6.6 |
| Stamped and enameled ware | −0.4 | −5.5 | Clothing, men's | −9.8 | −8.8 |
| | | | All industries | −0.3 | −4.5 |

[1] No change.
[2] Less than one-tenth of 1 per cent.

### Index Numbers of Employment and Pay-Roll Totals in Manufacturing Industries

TABLE 5 shows the general index of employment in manufacturing industries and the general index of pay-roll totals, by months, from January, 1923, to April, 1930, together with average indexes for each of the years 1923 to 1929 inclusive.

TABLE 5.—GENERAL INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN **MANUFACTURING** INDUSTRIES, JANUARY, 1923, TO APRIL, 1930

[Monthly average, 1926=100]

| Month | Employment | | | | | | | | Pay-roll totals | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| January | 106.6 | 103.8 | 97.9 | 100.4 | 97.3 | 91.6 | 95.2 | 90.2 | 95.8 | 98.6 | 93.9 | 98.0 | 94.9 | 89.6 | 94.5 | 87.6 |
| February | 108.4 | 105.1 | 99.7 | 101.5 | 99.0 | 93.0 | 97.4 | 90.3 | 99.4 | 103.8 | 99.3 | 102.2 | 100.6 | 93.9 | 101.8 | 90.7 |
| March | 110.8 | 104.9 | 100.4 | 102.0 | 99.5 | 93.7 | 98.6 | 89.8 | 104.7 | 103.3 | 100.8 | 103.4 | 102.0 | 95.2 | 103.9 | 90.8 |
| April | 110.8 | 102.8 | 100.2 | 101.0 | 98.6 | 93.3 | 99.1 | 89.1 | 105.7 | 101.1 | 98.3 | 101.5 | 100.8 | 93.8 | 104.6 | 89.8 |
| May | 110.8 | 98.8 | 98.9 | 99.8 | 97.6 | 93.0 | 99.2 | ------ | 109.4 | 96.5 | 98.5 | 99.8 | 99.8 | 94.1 | 104.8 | ------ |
| June | 110.9 | 95.6 | 98.0 | 99.3 | 97.0 | 93.1 | 98.8 | ------ | 109.3 | 90.8 | 95.7 | 99.7 | 97.4 | 94.2 | 102.8 | ------ |
| July | 109.2 | 92.3 | 97.2 | 97.7 | 95.0 | 92.2 | 98.2 | ------ | 104.3 | 84.3 | 93.5 | 95.2 | 93.0 | 91.2 | 98.2 | ------ |
| August | 108.5 | 92.5 | 97.8 | 98.7 | 95.1 | 93.6 | 98.6 | ------ | 103.7 | 87.2 | 95.4 | 98.7 | 95.0 | 94.2 | 102.1 | ------ |
| September | 108.6 | 94.3 | 98.9 | 100.3 | 95.8 | 95.0 | 99.3 | ------ | 104.4 | 89.8 | 94.4 | 99.3 | 94.1 | 95.4 | 102.6 | ------ |
| October | 108.1 | 95.6 | 100.4 | 100.7 | 95.3 | 95.9 | 98.3 | ------ | 106.8 | 92.4 | 100.4 | 102.9 | 95.2 | 99.0 | 102.3 | ------ |
| November | 107.4 | 95.5 | 100.7 | 99.5 | 93.5 | 95.4 | 94.8 | ------ | 105.4 | 91.4 | 100.4 | 99.6 | 91.6 | 96.1 | 95.1 | ------ |
| December | 105.4 | 97.3 | 100.8 | 98.9 | 92.6 | 95.5 | 91.9 | ------ | 103.2 | 95.7 | 101.6 | 99.8 | 93.2 | 97.7 | 92.0 | ------ |
| **Average** | **108.8** | **98.2** | **99.2** | **100.0** | **96.4** | **93.8** | **97.5** | [1] **89.9** | **104.3** | **94.6** | **97.7** | **100.0** | **96.5** | **94.5** | **100.4** | [1] **89.7** |

[1] Average for 4 months.

Index numbers showing relatively the variation in number of persons employed and in pay-roll totals in each of the 54 manufacturing industries surveyed by the Bureau of Labor Statistics and in each of the 12 groups of industries, and also general indexes for the combined 12 groups of industries, are shown in Table 6 for April, 1929, and for February, March, and April, 1930.

In computing the general index and the group indexes the index numbers of separate industries are weighted according to the importance of the industries.

Following Table 6 is a series of graphs, made from index numbers, showing clearly the course of employment for January, February, March, and April, 1930, and for each month of 1929. The first chart represents the 54 separate industries combined and shows the course of pay-roll totals as well as the course of employment for each month of the years 1926 to 1929, inclusive, and for January, February, March, and April, 1930, and following this presentation are charts showing the trend of employment alone through each month of 1929 and January, February, March, and April, 1930, in each separate industry.

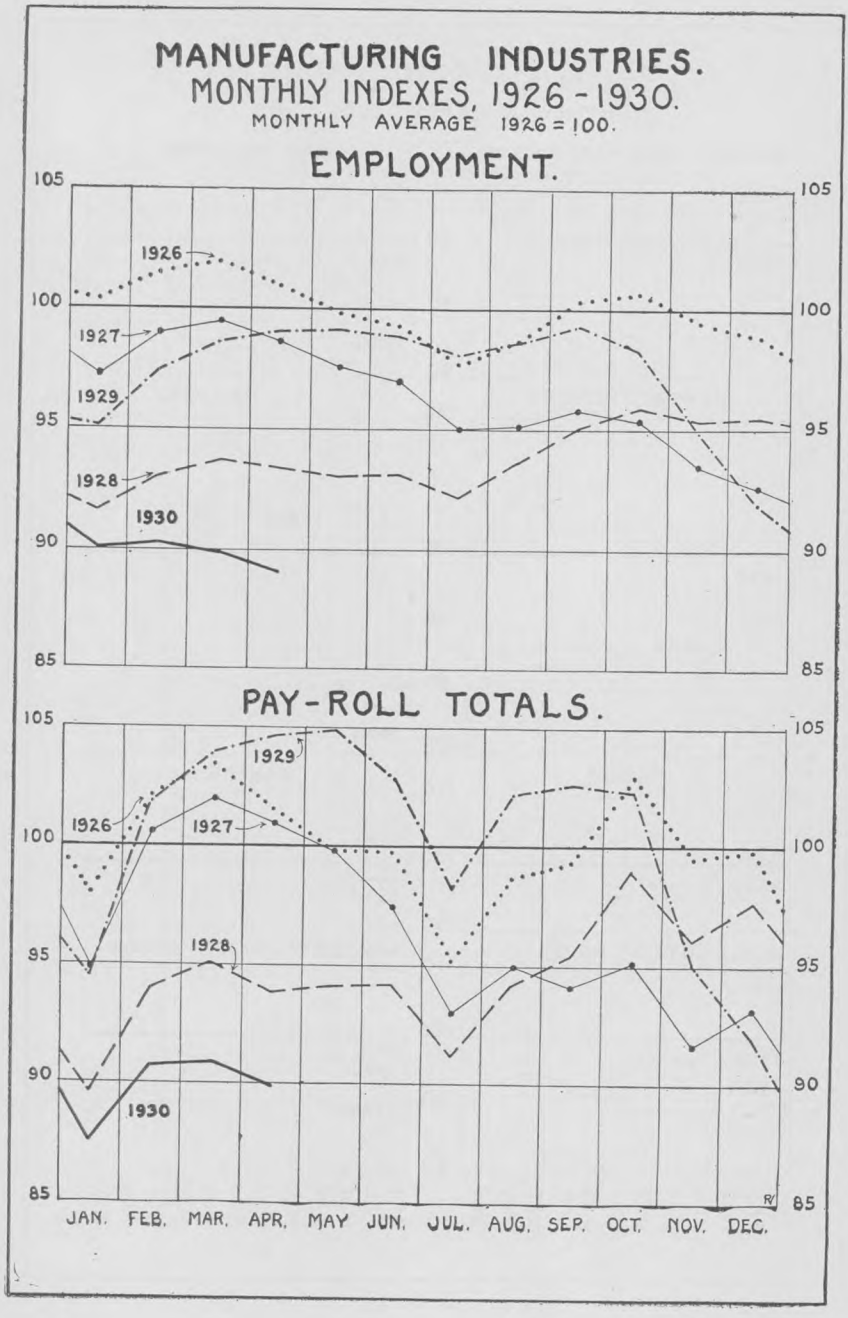
TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN **MANUFACTURING** INDUSTRIES, APRIL, 1929, AND FEBRUARY, MARCH, AND APRIL, 1930

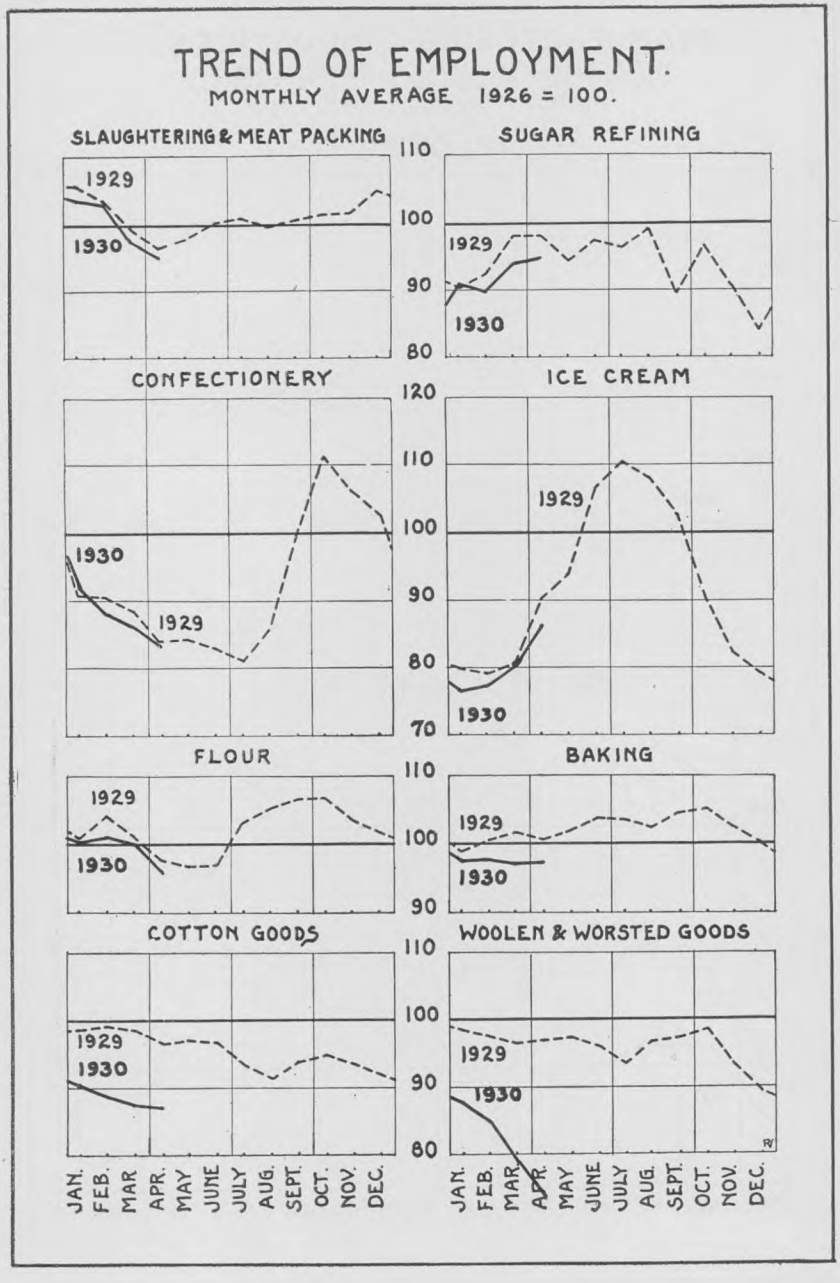
[Monthly average, 1926=100]

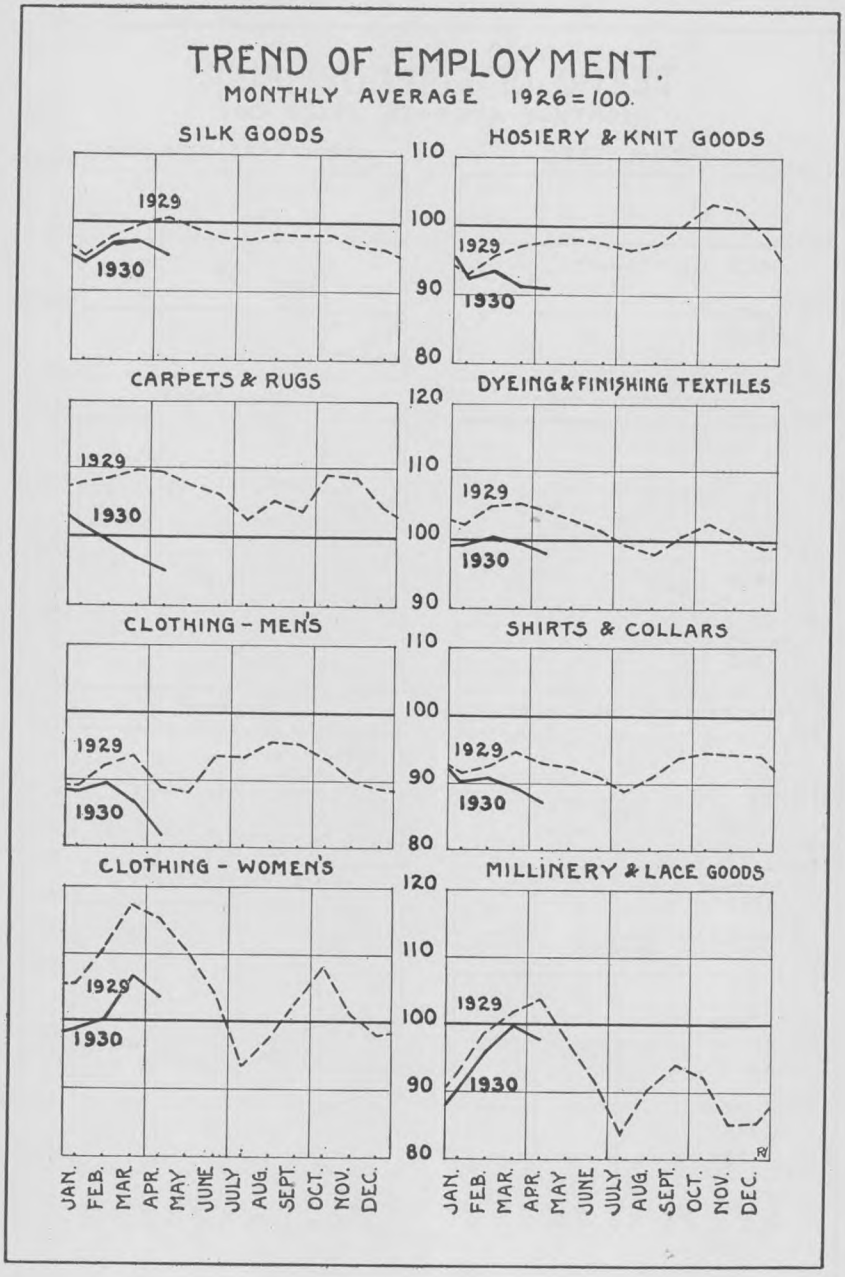
| Industry | Employment | | | | Pay-roll totals | | | |
|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | | 1929 | 1930 | | |
| | April | February | March | April | April | February | March | April |
| **General index** | **99.1** | **90.3** | **89.8** | **89.1** | **104.6** | **90.7** | **90.8** | **89.8** |
| **Food and kindred products** | **95.9** | **96.5** | **94.8** | **93.7** | **97.7** | **99.0** | **97.2** | **97.1** |
| Slaughtering and meat packing | 96.3 | 102.7 | 97.8 | 95.2 | 98.0 | 104.4 | 99.0 | 98.8 |
| Confectionery | 84.0 | 88.1 | 86.2 | 83.3 | 85.7 | 90.4 | 88.0 | 85.1 |
| Ice cream | 90.1 | 77.3 | 80.5 | 86.2 | 91.6 | 75.4 | 78.8 | 87.2 |
| Flour | 97.9 | 101.0 | 100.0 | 95.9 | 98.0 | 104.8 | 104.9 | 100.7 |
| Baking | 100.6 | 97.7 | 97.0 | 97.3 | 100.7 | 100.3 | 99.2 | 100.0 |
| Sugar refining cane | 98.1 | 89.9 | 93.8 | 94.8 | 105.7 | 92.0 | 100.4 | 94.0 |

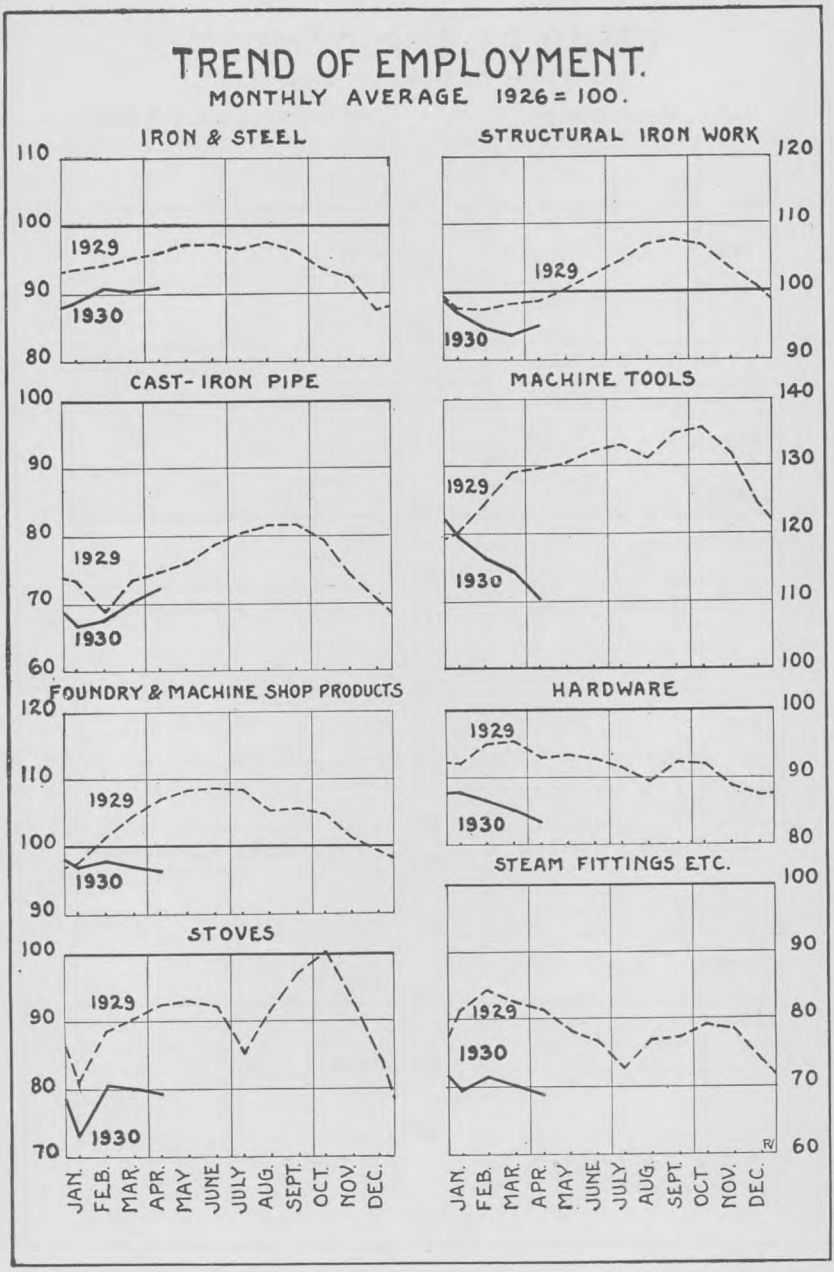
TABLE 6.—INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS IN **MANUFACTURING** INDUSTRIES, APRIL, 1929, AND FEBRUARY, MARCH, AND APRIL, 1930—Continued

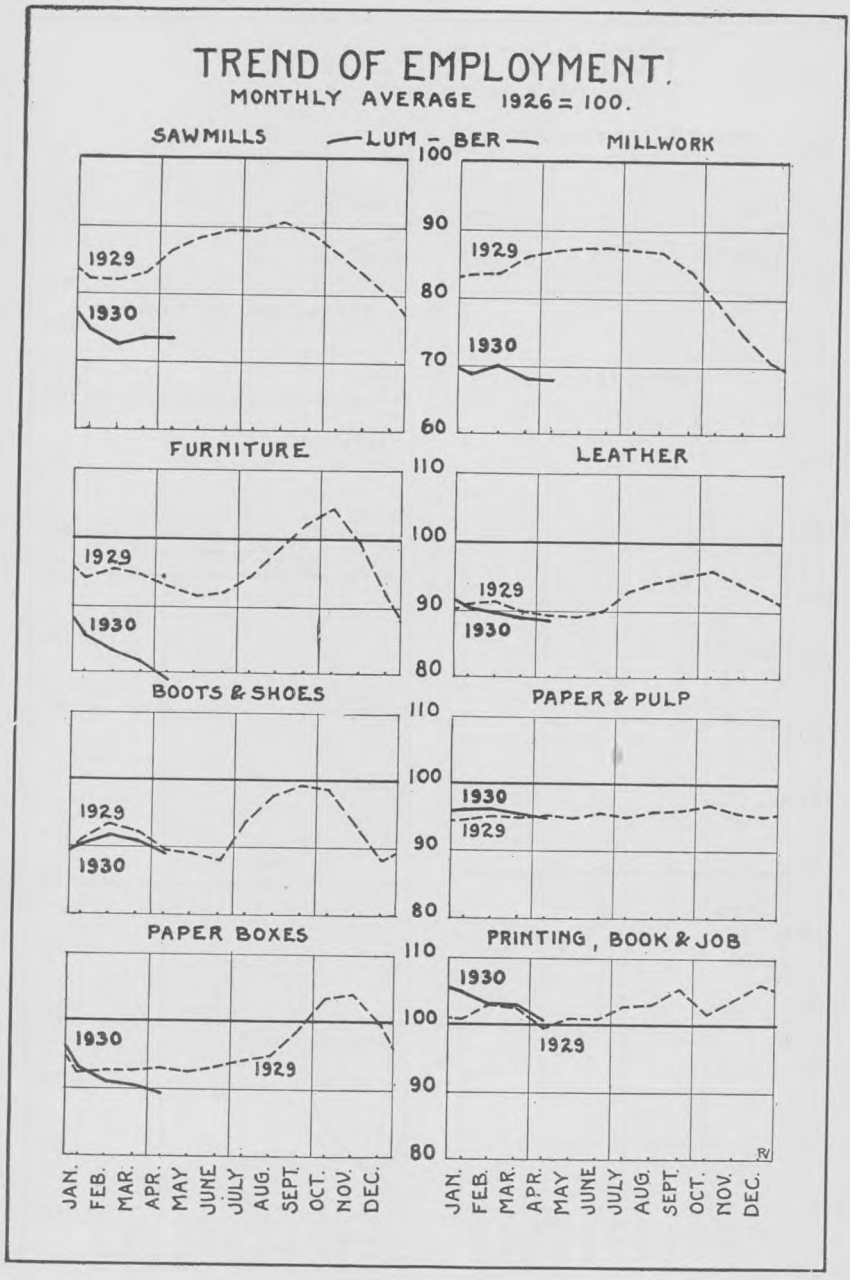
| Industry | Employment | | | | Pay-roll totals | | | |
|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | | 1929 | 1930 | | |
| | April | February | March | April | April | February | March | April |
| **Textiles and their products** | **98.7** | **91.9** | **90.8** | **88.7** | **100.6** | **89.7** | **88.8** | **83.2** |
| Cotton goods | 96.7 | 88.7 | 87.7 | 86.9 | 98.7 | 84.6 | 82.7 | 82.2 |
| Hosiery and knit goods | 97.8 | 93.6 | 91.2 | 91.0 | 105.5 | 97.4 | 94.2 | 90.8 |
| Silk goods | 100.5 | 97.0 | 97.1 | 95.3 | 106.7 | 96.1 | 98.1 | 92.8 |
| Woolen and worsted goods | 96.9 | 84.8 | 78.8 | 73.7 | 98.5 | 80.5 | 72.9 | 67.1 |
| Carpets and rugs | 109.3 | 99.3 | 96.6 | 95.0 | 103.7 | 86.1 | 81.8 | 77.6 |
| Dyeing and finishing textiles | 104.3 | 100.4 | 99.8 | 98.0 | 107.4 | 99.2 | 100.6 | 96.3 |
| Clothing, men's | 88.9 | 89.7 | 86.8 | 81.9 | 80.2 | 83.4 | 79.0 | 67.2 |
| Shirts and collars | 93.1 | 90.8 | 89.3 | 86.9 | 92.8 | 85.6 | 81.3 | 76.8 |
| Clothing, women's | 115.3 | 100.0 | 106.3 | 103.8 | 116.0 | 99.9 | 109.9 | 97.5 |
| Millinery and lace goods | 103.8 | 95.5 | 99.9 | 97.7 | 107.0 | 94.8 | 101.9 | 97.6 |
| **Iron and steel and their products** | **100.4** | **92.9** | **92.1** | **91.9** | **107.4** | **93.5** | **92.8** | **92.8** |
| Iron and steel | 95.9 | 90.8 | 90.3 | 90.8 | 104.8 | 93.8 | 93.1 | 94.3 |
| Cast-iron pipe | 74.5 | 67.6 | 70.3 | 72.1 | 73.7 | 65.6 | 71.2 | 74.5 |
| Structural ironwork | 98.7 | 94.7 | 93.7 | 94.7 | 101.6 | 93.3 | 92.5 | 96.3 |
| Foundry and machine-shop products | 106.8 | 97.8 | 97.0 | 96.4 | 114.1 | 97.8 | 97.5 | 96.8 |
| Hardware | 92.9 | 86.7 | 85.2 | 83.4 | 95.6 | 84.0 | 79.1 | 74.8 |
| Machine tools | 129.7 | 116.5 | 114.3 | 110.4 | 144.0 | 114.9 | 113.9 | 107.6 |
| Steam fittings and steam and hot-water heating apparatus | 81.4 | 71.6 | 70.1 | 68.8 | 82.8 | 68.3 | 66.0 | 65.0 |
| Stoves | 92.4 | 80.8 | 80.0 | 79.4 | 89.7 | 73.0 | 73.4 | 70.7 |
| **Lumber and its products** | **88.0** | **74.7** | **74.8** | **74.1** | **89.4** | **71.3** | **73.4** | **72.7** |
| Lumber, sawmills | 86.4 | 72.5 | 73.7 | 73.7 | 87.2 | 69.8 | 74.7 | 75.4 |
| Lumber, millwork | 86.8 | 70.1 | 68.2 | 68.0 | 87.6 | 67.1 | 66.7 | 67.3 |
| Furniture | 92.9 | 83.3 | 81.7 | 78.7 | 94.9 | 77.2 | 75.3 | 70.8 |
| **Leather and its products** | **89.7** | **91.4** | **90.5** | **88.9** | **85.0** | **83.3** | **82.2** | **78.9** |
| Leather | 89.4 | 89.9 | 89.1 | 88.3 | 89.4 | 90.3 | 87.3 | 86.2 |
| Boots and shoes | 89.8 | 91.8 | 90.9 | 89.1 | 83.7 | 81.3 | 80.8 | 76.8 |
| **Paper and printing** | **99.6** | **101.0** | **100.8** | **99.7** | **104.9** | **106.3** | **106.5** | **105.1** |
| Paper and pulp | 95.3 | 96.1 | 95.6 | 94.9 | 98.4 | 99.2 | 98.5 | 97.5 |
| Paper boxes | 92.9 | 90.9 | 90.6 | 89.3 | 100.7 | 95.3 | 96.3 | 93.2 |
| Printing, book and job | 99.9 | 102.8 | 102.6 | 100.5 | 103.7 | 107.2 | 107.2 | 104.2 |
| Printing, newspapers | 107.1 | 109.2 | 109.2 | 109.0 | 111.9 | 113.6 | 114.3 | 114.6 |
| **Chemicals and allied products** | **107.8** | **98.6** | **102.2** | **101.7** | **107.0** | **100.2** | **102.1** | **102.0** |
| Chemicals | 104.7 | 97.1 | 95.6 | 94.4 | 109.9 | 98.4 | 99.0 | 96.5 |
| Fertilizers | 167.5 | 99.4 | 139.0 | 145.7 | 152.2 | 93.4 | 122.5 | 139.9 |
| Petroleum refining | 92.7 | 100.1 | 98.2 | 96.1 | 96.6 | 103.0 | 101.5 | 100.7 |
| **Stone, clay, and glass products** | **87.5** | **72.9** | **75.9** | **78.6** | **87.7** | **69.0** | **72.2** | **75.7** |
| Cement | 81.2 | 66.1 | 71.5 | 77.3 | 81.7 | 63.7 | 69.9 | 77.7 |
| Brick, tile, and terra cotta | 80.4 | 57.7 | 61.5 | 67.0 | 78.3 | 50.6 | 55.5 | 61.8 |
| Pottery | 96.5 | 92.4 | 91.0 | 90.6 | 96.9 | 86.5 | 85.4 | 84.6 |
| Glass | 96.7 | 89.0 | 91.9 | 90.3 | 100.1 | 89.8 | 90.7 | 89.8 |
| **Metal products, other than iron and steel** | **102.9** | **85.2** | **85.1** | **83.8** | **112.3** | **85.1** | **84.5** | **82.6** |
| Stamped and enameled ware | 94.3 | 83.1 | 85.2 | 83.6 | 97.8 | 78.9 | 83.7 | 81.7 |
| Brass, bronze, and copper products | 107.0 | 86.2 | 85.1 | 83.9 | 118.0 | 87.5 | 84.8 | 82.9 |
| **Tobacco products** | **93.2** | **91.1** | **91.8** | **90.1** | **91.0** | **84.8** | **85.8** | **81.7** |
| Chewing and smoking tobacco and snuff | 88.1 | 93.9 | 93.7 | 88.8 | 89.1 | 97.1 | 93.7 | 87.2 |
| Cigars and cigarettes | 93.9 | 90.7 | 91.5 | 90.3 | 91.2 | 83.3 | 84.8 | 81.0 |
| **Vehicles for land transportation** | **107.8** | **86.5** | **86.0** | **86.8** | **126.1** | **89.0** | **89.9** | **91.5** |
| Automobiles | 134.5 | 91.8 | 93.1 | 96.1 | 147.8 | 90.2 | 94.6 | 98.1 |
| Carriages and wagons | 80.8 | 64.2 | 65.3 | 64.5 | 86.2 | 70.7 | 73.8 | 71.6 |
| Car building and repairing, electric-railroad | 91.3 | 90.1 | 89.2 | 89.4 | 94.5 | 91.3 | 92.4 | 92.6 |
| Car building and repairing, steam-railroad | 85.3 | 81.6 | 79.5 | 78.5 | 93.7 | 87.8 | 85.1 | 84.8 |
| **Miscellaneous industries** | **110.5** | **103.6** | **102.9** | **101.8** | **114.6** | **105.7** | **105.5** | **105.4** |
| Agricultural implements | 134.3 | 121.3 | 122.0 | 114.7 | 142.8 | 126.4 | 128.6 | 117.5 |
| Electrical machinery, apparatus, and supplies | 113.0 | 112.1 | 111.3 | 109.2 | 117.7 | 115.0 | 115.2 | 114.2 |
| Pianos and organs | 70.5 | 50.6 | 50.0 | 49.2 | 66.5 | 45.1 | 45.1 | 42.9 |
| Rubber boots and shoes | 93.0 | 92.5 | 89.5 | 86.0 | 92.9 | 93.0 | 87.8 | 83.3 |
| Automobile tires | 113.0 | 80.2 | 80.3 | 83.1 | 118.6 | 81.9 | 80.7 | 87.0 |
| Shipbuilding | 107.7 | 121.0 | 119.6 | 121.7 | 109.7 | 124.6 | 124.8 | 125.9 |

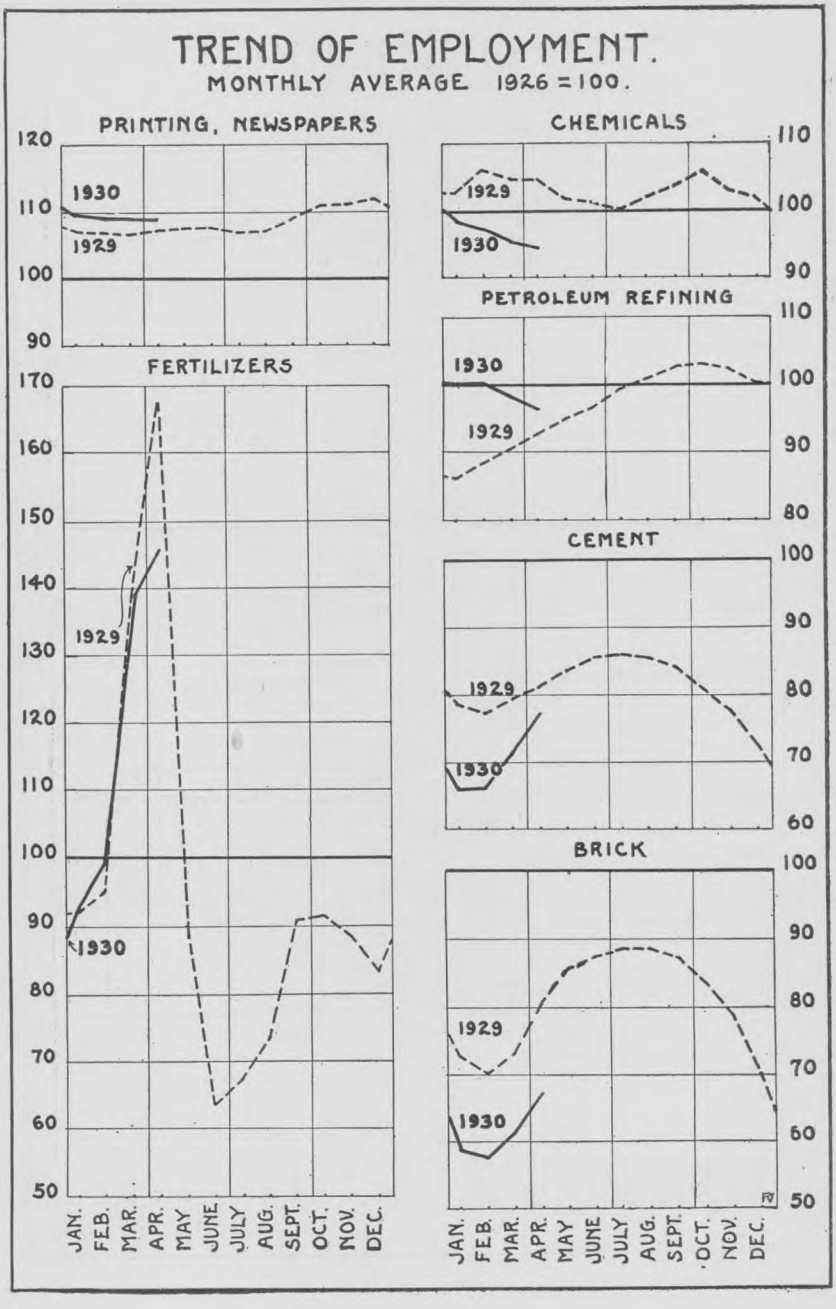


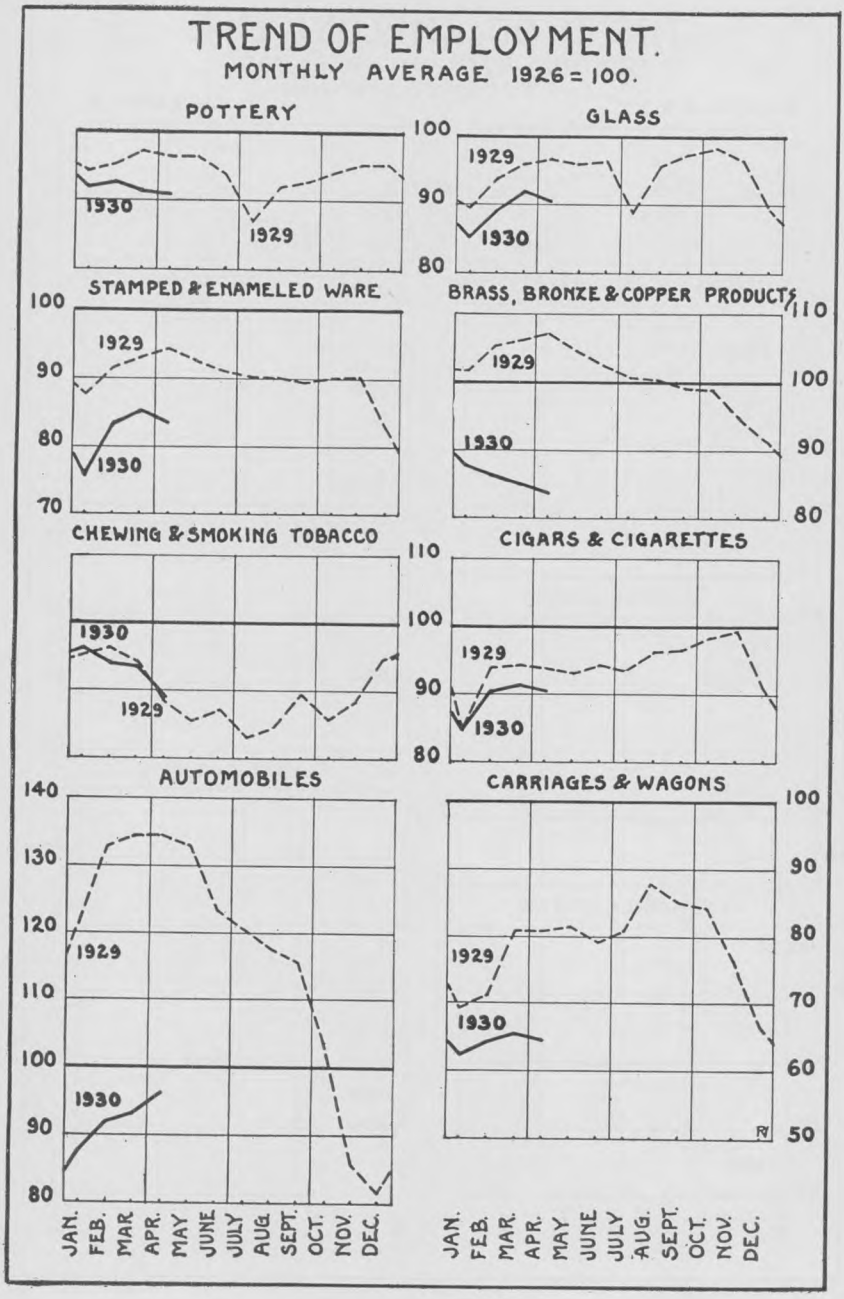


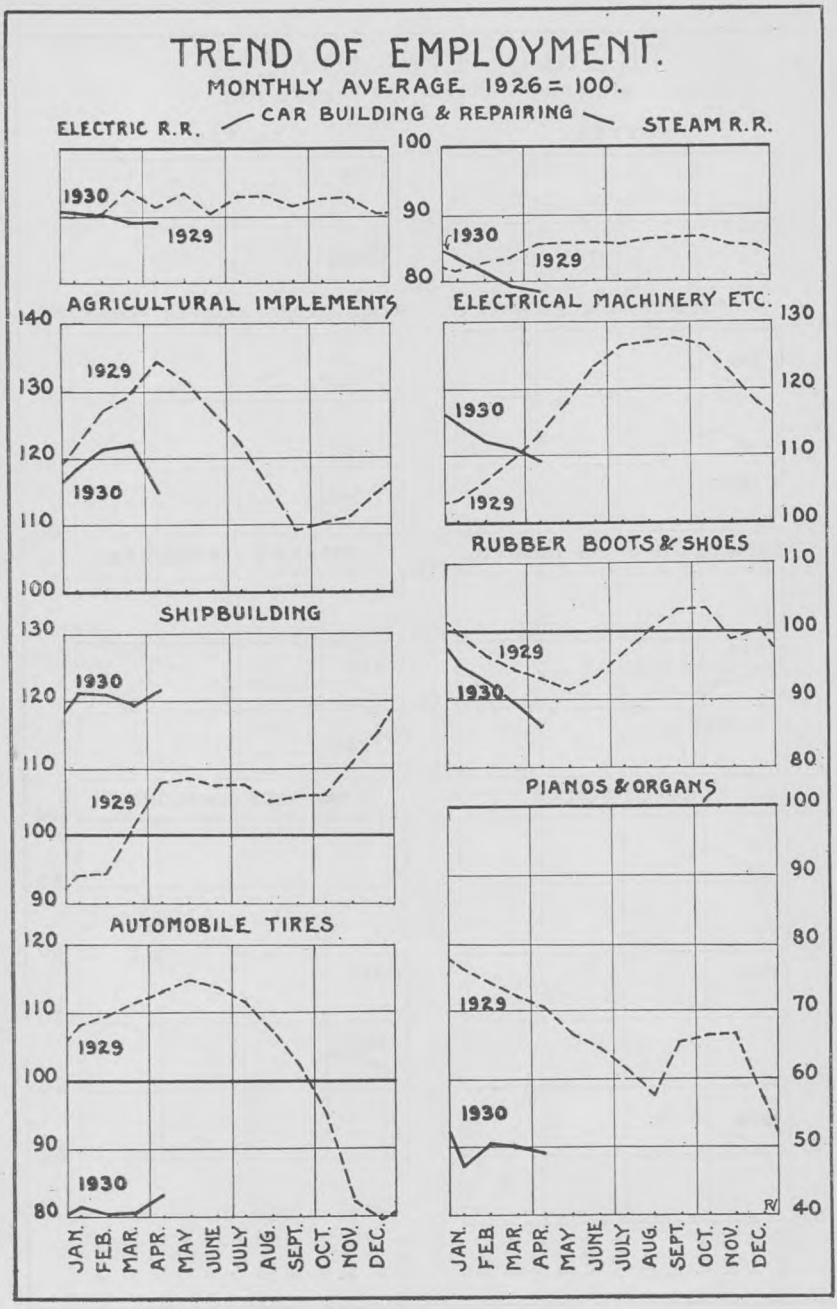












## Force Employed and Time Worked in Manufacturing Industries in April, 1930

ELEVEN THOUSAND AND FOUR establishments in 54 manufacturing industries reported in April as to force employed and working time of employees. Thirty per cent of the establishments had a full normal force of employees, 69 per cent were working with reduced forces, and 1 per cent were idle; employees in 69 per cent of the establishments were working full time and employees in 30 per cent were working part time.

The establishments in operation had an average of 87 per cent of a full normal force of employees who were working an average of 94 per cent of full time; the percentages reported for each of the last three months were 87 and 95, respectively.

TABLE 7.—PROPORTION OF FULL NORMAL FORCE EMPLOYED IN MANUFACTURING INDUSTRIES IN APRIL, 1930, AND PROPORTION OF FULL TIME WORKED BY EMPLOYEES

| Industry | Establishments reporting | | Operating establishments only | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Per cent of establishments in which employees worked | | Average per cent of full time worked by employees in establishments operating | Per cent of establishments operating with | | Average per cent of full normal force employed in establishments operating |
| | Total number | Per cent idle | Full time | Part time | | Full normal force | Part normal force | |
| **Food and kindred products** | **1,697** | (1) | **84** | **16** | **97** | **36** | **63** | **86** |
| Slaughtering and meat packing | 179 | ------ | 83 | 17 | 99 | 39 | 61 | 87 |
| Confectionery | 255 | ------ | 61 | 39 | 93 | 9 | 91 | 70 |
| Ice cream | 263 | ------ | 77 | 23 | 98 | 13 | 87 | 76 |
| Flour | 311 | (1) | 82 | 18 | 96 | 40 | 60 | 88 |
| Baking | 677 | (1) | 96 | 4 | 99 | 54 | 46 | 95 |
| Sugar refining, cane | 12 | ------ | 75 | 25 | 96 | 42 | 58 | 94 |
| **Textiles and their products** | **1,832** | **2** | **65** | **34** | **92** | **30** | **68** | **84** |
| Cotton goods | 447 | 1 | 53 | 46 | 89 | 21 | 78 | 83 |
| Hosiery and knit goods | 302 | 2 | 68 | 30 | 92 | 25 | 74 | 86 |
| Silk goods | 269 | 2 | 78 | 20 | 96 | 43 | 55 | 90 |
| Woolen and worsted goods | 175 | 3 | 49 | 48 | 86 | 9 | 89 | 69 |
| Carpets and rugs | 24 | ------ | 38 | 63 | 86 | 25 | 75 | 92 |
| Dyeing and finishing | 100 | ------ | 56 | 44 | 91 | 19 | 81 | 86 |
| Clothing, men's | 216 | 1 | 70 | 29 | 94 | 40 | 59 | 83 |
| Shirts and collars | 87 | 5 | 67 | 29 | 94 | 48 | 47 | 97 |
| Clothing, women's | 147 | 1 | 79 | 20 | 99 | 46 | 53 | 95 |
| Millinery and lace goods | 65 | 2 | 85 | 14 | 97 | 34 | 65 | 89 |
| **Iron and steel and their products** | **1,781** | (1) | **57** | **43** | **91** | **26** | **73** | **89** |
| Iron and steel | 164 | 2 | 61 | 37 | 92 | 22 | 76 | 92 |
| Cast-iron pipe | 37 | ------ | 41 | 59 | 77 | 8 | 92 | 72 |
| Structural ironwork | 159 | ------ | 69 | 31 | 95 | 25 | 75 | 90 |
| Foundry and machine-shop products | 1,001 | ------ | 59 | 41 | 92 | 26 | 74 | 87 |
| Hardware | 59 | ------ | 31 | 69 | 86 | 10 | 90 | 78 |
| Machine tools | 151 | ------ | 52 | 48 | 93 | 46 | 54 | 102 |
| Steam fittings and steam and hot-water heating apparatus | 101 | ------ | 48 | 52 | 89 | 34 | 66 | 81 |
| Stoves | 109 | 2 | 48 | 50 | 87 | 22 | 76 | 86 |
| **Lumber and its products** | **1,194** | **1** | **54** | **44** | **91** | **20** | **79** | **77** |
| Lumber, sawmills | 547 | 2 | 71 | 27 | 95 | 24 | 73 | 77 |
| Lumber, millwork | 287 | 1 | 40 | 59 | 88 | 14 | 85 | 77 |
| Furniture | 360 | ------ | 40 | 60 | 86 | 19 | 81 | 77 |
| **Leather and its products** | **396** | (1) | **71** | **29** | **95** | **35** | **65** | **91** |
| Leather | 120 | ------ | 76 | 24 | 96 | 29 | 71 | 84 |
| Boots and shoes | 276 | (1) | 68 | 31 | 94 | 38 | 62 | 93 |
| **Paper and printing** | **1,017** | (1) | **87** | **13** | **98** | **47** | **52** | **97** |
| Paper and pulp | 161 | 2 | 80 | 17 | 97 | 33 | 65 | 95 |
| Paper boxes | 160 | ------ | 60 | 40 | 94 | 26 | 74 | 88 |
| Printing, book and job | 343 | ------ | 93 | 7 | 99 | 49 | 51 | 97 |
| Printing, newspapers | 353 | ------ | 96 | 4 | 100 | 61 | 39 | 101 |

[1] Less than one-half of 1 per cent.

TABLE 7.—PROPORTION OF FULL NORMAL FORCE EMPLOYED IN MANUFACTURING INDUSTRIES IN APRIL, 1930, AND PROPORTION OF FULL TIME WORKED BY EMPLOYEES—Continued

| Industry | Establishments reporting | | Operating establishments only | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Per cent of establishments in which employees worked | | Average per cent of full time worked by employees in establishments operating | Per cent of establishments operating with | | Average per cent of full normal force employed in establishments operating |
| | Total number | Per cent idle | Full time | Part time | | Full normal force | Part normal force | |
| **Chemicals and allied products** | **276** | **1** | **86** | **13** | **99** | **34** | **65** | **90** |
| Chemicals | 111 | 2 | 83 | 15 | 98 | 32 | 67 | 91 |
| Fertilizers | 137 | 1 | 85 | 14 | 100 | 36 | 63 | 88 |
| Petroleum refining | 28 | ------ | 96 | 4 | 100 | 29 | 71 | 90 |
| **Stone, clay, and glass products** | **840** | **6** | **77** | **17** | **96** | **22** | **72** | **82** |
| Cement | 84 | 1 | 89 | 10 | 99 | 11 | 88 | 75 |
| Brick, tile, and terra cotta | 539 | 9 | 75 | 16 | 96 | 18 | 73 | 70 |
| Pottery | 105 | 2 | 63 | 35 | 93 | 39 | 59 | 96 |
| Glass | 112 | 2 | 88 | 10 | 99 | 32 | 66 | 93 |
| **Metal products, other than iron and steel** | **208** | **1** | **67** | **32** | **94** | **26** | **73** | **83** |
| Stamped and enameled ware | 67 | 1 | 72 | 27 | 94 | 33 | 66 | 90 |
| Brass, bronze, and copper products | 141 | 1 | 65 | 35 | 94 | 23 | 76 | 79 |
| **Tobacco products** | **202** | **3** | **50** | **47** | **88** | **38** | **59** | **97** |
| Chewing and smoking tobacco and snuff | 24 | ------ | 54 | 46 | 93 | 46 | 54 | 96 |
| Cigars and cigarettes | 178 | 3 | 50 | 47 | 87 | 37 | 60 | 97 |
| **Vehicles for land transportation** | **1,144** | **(1)** | **69** | **31** | **95** | **23** | **76** | **86** |
| Automobiles | 189 | ------ | 68 | 32 | 95 | 32 | 68 | 87 |
| Carriages and wagons | 48 | 2 | 58 | 40 | 93 | 21 | 77 | 70 |
| Car building and repairing, electric-railroad | 385 | ------ | 83 | 17 | 98 | 37 | 63 | 93 |
| Car building and repairing, steam-railroad | 522 | ------ | 60 | 40 | 94 | 10 | 90 | 82 |
| **Miscellaneous industries** | **417** | **(1)** | **63** | **37** | **94** | **33** | **66** | **91** |
| Agricultural implements | 78 | ------ | 58 | 42 | 93 | 35 | 65 | 97 |
| Electrical machinery, apparatus, and supplies | 167 | ------ | 59 | 41 | 94 | 34 | 66 | 91 |
| Pianos and organs | 59 | 2 | 47 | 51 | 90 | 7 | 92 | 68 |
| Rubber boots and shoes | 7 | ------ | 71 | 29 | 97 | 57 | 43 | 85 |
| Automobile tires | 36 | ------ | 61 | 39 | 94 | 17 | 83 | 87 |
| Shipbuilding | 70 | ------ | 90 | 10 | 100 | 59 | 41 | 100 |
| **All industries** | **11,004** | **1** | **69** | **30** | **84** | **30** | **69** | **87** |

[1] Less than one-half of 1 per cent.

## 2. Employment in Coal Mining in April, 1930

EMPLOYMENT in coal mining—anthracite and bituminous coal combined—showed a decrease of 2.6 per cent in April as compared with March, and pay-roll totals decreased 5.1 per cent.

The 1,489 mines reported had in April 300,075 employees whose earnings in one week were $7,070,817.

### Anthracite

IN ANTHRACITE mining in April there was an increase of 1.8 per cent in employment as compared with March, and a decrease of 4.5 per cent in pay-roll totals.

Employment in April, 1930, was 16.5 per cent lower than in April, 1929, and pay-roll totals were 15.1 per cent smaller.[1]

[1] For indexes of employment and pay-roll totals, see p. 226.

All anthracite mines reported are in Pennsylvania—the Middle Atlantic geographic division. The details for March and April are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **ANTHRACITE MINES** IN MARCH AND APRIL, 1930

| Geographic division | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| **Middle Atlantic** [1] | **153** | **85,300** | **86,817** | **+1.8** | **$2,526,730** | **$2,412,039** | **−4.5** |

[1] See footnote 4, p. 199.

### Bituminous Coal

EMPLOYMENT in bituminous coal mining decreased 4.3 per cent in April as compared with March, and pay-roll totals decreased 5.4 per cent, as shown by reports from 1,336 mines, in which there were in April 213,258 employees whose combined earnings in one week were $4,658,778.

Employment in April, 1930, was 5.8 per cent lower than in April, 1929, and pay-roll totals were 8.4 per cent smaller.[1]

Details for each geographic division, except the New England division, for which no coal mining is reported, are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **BITUMINOUS COAL MINES** IN MARCH AND APRIL, 1930

| Geographic division [1] | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| Middle Atlantic | 400 | 66,027 | 65,397 | −1.0 | $1,522,767 | $1,500,653 | −1.5 |
| East North Central | 176 | 33,646 | 30,131 | −10.4 | 773,043 | 618,825 | −19.9 |
| West North Central | 62 | 6,005 | 5,489 | −8.6 | 122,473 | 113,105 | −7.6 |
| South Atlantic | 326 | 53,195 | 51,840 | −2.5 | 1,132,486 | 1,147,187 | +1.3 |
| East South Central | 214 | 44,653 | 42,626 | −4.5 | 849,794 | 841,224 | −1.0 |
| West South Central | 34 | 2,378 | 2,039 | −14.3 | 55,630 | 44,276 | −20.4 |
| Mountain | 115 | 15,656 | 14,441 | −7.8 | 432,753 | 356,296 | −17.7 |
| Pacific | 9 | 1,377 | 1,295 | −6.0 | 37,157 | 37,212 | +0.1 |
| **All divisions** | **1,336** | **222,937** | **213,258** | **−4.3** | **4,926,103** | **4,658,778** | **−5.4** |

[1] See footnotes 4 to 11, p. 199.

## 3. Employment in Metalliferous Mining in April, 1930

METALLIFEROUS mines in April showed a decrease in employment of 1.8 per cent as compared with March, and pay-roll totals decreased 2.7 per cent. The 348 mines covered had in April 57,148 employees, whose combined earnings in one week were $1,701,855.

Employment in April, 1930, was 11.2 per cent lower than in April, 1929, and pay-roll totals were 15.6 per cent lower.[1]

[1] For indexes of employment and pay-roll totals, see p. 226.

Details for each geographic division from which metalliferous mining is reported are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **METALLIFEROUS MINES** IN MARCH AND APRIL, 1930

| Geographic division [1] | Mines | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| Middle Atlantic | 7 | 1,251 | 1,372 | +9.7 | $35,874 | $39,240 | +9.4 |
| East North Central | 50 | 12,957 | 12,906 | −0.4 | 346,527 | 344,681 | −0.5 |
| West North Central | 51 | 7,239 | 7,193 | −0.6 | 221,664 | 230,177 | +3.8 |
| East South Central | 14 | 3,654 | 3,486 | −4.6 | 81,718 | 76,202 | −6.8 |
| West South Central | 70 | 3,854 | 3,280 | −14.9 | 99,269 | 82,220 | −17.2 |
| Mountain | 132 | 26,935 | 26,623 | −1.2 | 890,566 | 853,937 | −4.1 |
| Pacific | 24 | 2,315 | 2,288 | −1.2 | 74,176 | 75,398 | +1.6 |
| **All divisions** | **348** | **58,205** | **57,148** | **−1.8** | **1,749,794** | **1,701,855** | **−2.7** |

[1] See footnotes 3 to 11, p. 199.

## 4. Employment in Quarrying and Nonmetallic Mining in April, 1930

EMPLOYMENT and pay-roll totals in this industrial group as a whole increased 5.3 per cent and 6.8 per cent, respectively, in April, as compared with March. The 749 establishments covered reported 38,293 employees in April whose combined earnings in one week were $989,236.

Employment in April, 1930, was 12.2 per cent lower than in April, 1929, and pay-roll totals were 15 per cent smaller.[1]

Details for each geographic division are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **QUARRIES AND NONMETALLIC MINES** IN MARCH AND APRIL, 1930

| Geographic division [a] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 104 | 4,640 | 4,916 | +5.9 | $140,105 | $148,776 | +6.2 |
| Middle Atlantic | 120 | 6,683 | 7,181 | +7.5 | 189,039 | 197,791 | +4.6 |
| East North Central | 216 | 8,968 | 10,129 | +12.9 | 263,896 | 298,832 | +13.2 |
| West North Central | 79 | 2,600 | 2,759 | +6.1 | 67,123 | 69,827 | +4.0 |
| South Atlantic | 99 | 5,691 | 5,772 | +1.4 | 98,429 | 111,449 | +13.2 |
| East South Central | 59 | 3,377 | 3,245 | −3.9 | 53,656 | 53,013 | −1.2 |
| West South Central | 33 | 2,592 | 2,534 | −2.2 | 63,451 | 61,382 | −3.3 |
| Mountain | 9 | 183 | 198 | +8.2 | 4,948 | 3,896 | −21.3 |
| Pacific | 30 | 1,622 | 1,559 | −3.9 | 45,447 | 44,270 | −2.6 |
| **All divisions** | **749** | **36,356** | **38,293** | **+5.3** | **926,094** | **989,236** | **+6.8** |

[a] See footnotes 3 to 11, p. 199.

[1] For indexes of employment and pay-roll totals, see p. 226.

## 5. Employment in Crude Petroleum Production in April, 1930

CRUDE petroleum producing companies reported a decrease of 2.8 per cent in employment in April as compared with March and a decrease of 5.2 per cent in pay-roll totals. The 124 companies reporting had in April 8,170 employees whose combined earnings in one week were $285,449.

This is the first comparison of employment in this industry published by the bureau, and data are not available for a comparison between conditions in 1930 and in 1929.

Details for each geographic division except New England and East South Central are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **CRUDE PETROLEUM PRODUCTION** COMPANIES IN MARCH AND APRIL, 1930

| Geographic division[1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| Middle Atlantic | 14 | 705 | 699 | −0.9 | $21,760 | $20,168 | −7.3 |
| East North Central | 3 | 54 | 47 | −13.0 | 1,962 | 1,501 | −23.5 |
| West North Central | 4 | 109 | 113 | +3.7 | 3,413 | 3,435 | +0.6 |
| South Atlantic | 5 | 589 | 561 | −4.8 | 18,333 | 16,784 | −8.4 |
| West South Central | 74 | 5,775 | 5,536 | −4.1 | 203,160 | 192,462 | −5.3 |
| Mountain | 4 | 54 | 67 | +24.1 | 2,009 | 2,175 | +8.3 |
| Pacific | 20 | 1,117 | 1,147 | +2.7 | 50,465 | 48,924 | −3.1 |
| **All divisions** | **124** | **8,403** | **8,170** | **−2.8** | **301,102** | **285,449** | **−5.2** |

[1] See footnotes 4 to 11, p. 199.

## 6. Employment in Public Utilities in April, 1930

EMPLOYMENT in 10,047 establishments—telephone and telegraph companies, power, light, and water companies, and electric railroads combined—increased 0.3 per cent in April as compared with March, while pay-roll totals decreased 0.4 per cent. These establishments had in April 714,832 employees whose combined earnings in one week were $21,666,154.

Employment in public utilities was 1.0 per cent higher in April, 1930, than in April, 1929, and pay-roll totals were 3.6 per cent greater.[1]

Public utilities this month have been separated into three groups. Indexes for each group, however, have not yet been constructed.

### Telephone and Telegraph

EMPLOYMENT in telephone and telegraph companies was 0.5 per cent lower in April than in March, and pay-roll totals were 2.3 per cent lower. The 6,845 establishments reporting had in April 315,633 employees whose combined earnings in one week were $8,914,593.

Details for each geographic division are shown in Table 1.

[1] For indexes of employment and pay-roll totals see p. 226.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **TELEPHONE AND TELEGRAPH** ESTABLISHMENTS IN MARCH AND APRIL, 1930

| Geographic division [1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 140 | 6,148 | 6,201 | +0.9 | $174,470 | $174,999 | +0.3 |
| Middle Atlantic | 1,169 | 107,854 | 108,165 | +0.3 | 3,434,846 | 3,394,335 | −1.2 |
| East North Central | 1,231 | 77,092 | 76,848 | −0.3 | 2,141,780 | 2,100,211 | −1.9 |
| West North Central | 1,209 | 32,262 | 31,981 | −0.9 | 812,080 | 788,502 | −2.9 |
| South Atlantic | 474 | 18,747 | 18,896 | +0.8 | 502,562 | 494,747 | −1.6 |
| East South Central | 586 | 11,803 | 11,852 | +0.4 | 263,452 | 259,244 | −1.6 |
| West South Central | 664 | 20,122 | 20,058 | −0.3 | 461,708 | 455,627 | −1.3 |
| Mountain | 478 | 8,173 | 8,016 | −1.9 | 215,119 | 200,436 | −6.8 |
| Pacific | 894 | 34,881 | 33,616 | −3.6 | 1,117,088 | 1,046,492 | −6.3 |
| **All divisions** | **6,845** | **317,082** | **315,633** | **−0.5** | **9,123,105** | **8,914,593** | **−2.3** |

[1] See footnotes 3 to 11, p. 199.

## Power, Light, and Water

EMPLOYMENT in power, light, and water plants was 1 per cent greater in April than in March and pay-roll totals were 0.5 per cent higher. The 2,757 establishments reporting had in April 251,262 employees whose combined earnings in one week were $7,999,363.

Details for each geographic division are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **POWER, LIGHT, AND WATER** COMPANIES IN MARCH AND APRIL, 1930

| Geographic division [1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 225 | 20,474 | 21,013 | +2.6 | $667,777 | $680,988 | +2.0 |
| Middle Atlantic | 354 | 71,599 | 73,312 | +2.4 | 2,387,118 | 2,425,300 | +1.6 |
| East North Central | 493 | 58,196 | 58,232 | +0.1 | 1,995,329 | 1,995,650 | + [2] |
| West North Central | 388 | 26,898 | 27,845 | +3.5 | 811,216 | 818,673 | +0.9 |
| South Atlantic | 305 | 26,913 | 26,730 | −0.7 | 788,483 | 792,401 | +0.5 |
| East South Central | 172 | 7,364 | 7,449 | +1.2 | 187,670 | 189,366 | +0.9 |
| West South Central | 379 | 15,557 | 14,967 | −3.8 | 419,139 | 406,728 | −3.0 |
| Mountain | 119 | 6,024 | 5,902 | −2.0 | 189,870 | 180,961 | −4.7 |
| Pacific | 322 | 15,777 | 15,812 | +0.2 | 514,425 | 509,296 | −1.0 |
| **All divisions** | **2,757** | **248,802** | **251,262** | **+1.0** | **7,961,027** | **7,999,363** | **+0.5** |

[1] See footnotes 3 to 11, p. 199. [2] Less than one-tenth of 1 per cent.

## Electric Railroads

EMPLOYMENT in the operation and maintenance of electric railroads, exclusive of car shops, was 0.8 per cent greater in April than in March, and pay-roll totals were 1.8 per cent higher. The 445 establishments reporting had in April 147,937 employees whose combined earnings in one week were $4,752,198.

Details for each geographic division are shown in Table 3.

TABLE 3.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN THE OPERATION AND MAINTENANCE OF IDENTICAL **ELECTRIC RAILROADS** IN MARCH AND APRIL, 1930 [1]

| Geographic division [2] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 48 | 14,308 | 14,203 | −0.7 | $523,507 | $518,274 | −1.0 |
| Middle Atlantic | 98 | 35,509 | 34,857 | −1.8 | 1,079,844 | 1,076,272 | −0.3 |
| East North Central | 93 | 46,509 | 47,913 | +3.0 | 1,556,077 | 1,649,812 | +6.0 |
| West North Central | 61 | 14,696 | 14,885 | +1.3 | 456,008 | 454,917 | −0.2 |
| South Atlantic | 63 | 9,223 | 9,275 | +0.6 | 257,802 | 258,986 | +0.5 |
| East South Central | 11 | 3,823 | 3,986 | +4.3 | 107,300 | 108,697 | +1.3 |
| West South Central | 25 | 4,170 | 4,218 | +1.2 | 112,143 | 107,601 | −4.1 |
| Mountain | 12 | 2,167 | 2,305 | +6.4 | 62,677 | 61,313 | −2.2 |
| Pacific | 34 | 16,383 | 16,295 | −0.5 | 514,112 | 516,326 | +0.4 |
| **All divisions** | **445** | **146,788** | **147,937** | **+0.8** | **4,669,470** | **4,752,198** | **+1.8** |

[1] Not including car building and repairing, electric railroads; see vehicles group, manufacturing industries, p. 202, et seq.
[2] See footnotes 3 to 11, p. 199.

## 7. Employment in Wholesale and Retail Trade in April, 1930

EMPLOYMENT in 8,875 establishments—wholesale and retail trade combined—showed an increase of 2.7 per cent in April as compared with March, and an increase of 1 per cent in pay-roll totals. These establishments had in April 311,685 employees whose combined earnings in one week were $7,911,457.

### Wholesale Trade

EMPLOYMENT in wholesale trade alone decreased 0.4 per cent in April as compared with March, and pay-roll totals decreased 1.8 per cent. The 2,068 establishments reporting had in April 66,176 employees and pay-roll totals of $2,085,773.

Employment in April, 1930, was 0.6 per cent lower than in April, 1929, and pay-roll totals were 0.1 per cent higher.[1]

Details for each geographic division are shown in Table 1.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **WHOLESALE TRADE** ESTABLISHMENTS IN MARCH AND APRIL, 1930

| Geographic division [a] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 181 | 3,896 | 3,905 | +0.2 | $110,765 | $113,668 | +2.6 |
| Middle Atlantic | 357 | 10,275 | 10,145 | −1.3 | 332,577 | 326,374 | −1.9 |
| East North Central | 278 | 13,449 | 13,311 | −1.0 | 433,725 | 426,716 | −1.6 |
| West North Central | 256 | 14,202 | 14,172 | −0.2 | 440,880 | 427,576 | −3.0 |
| South Atlantic | 283 | 4,133 | 4,113 | −0.5 | 124,792 | 123,778 | −0.8 |
| East South Central | 69 | 1,873 | 1,833 | −2.1 | 55,521 | 53,606 | −3.4 |
| West South Central | 256 | 6,170 | 6,210 | +0.6 | 189,183 | 184,523 | −2.5 |
| Mountain | 74 | 1,816 | 1,791 | −1.4 | 63,275 | 62,154 | −1.8 |
| Pacific | 314 | 10,657 | 10,696 | +0.4 | 373,590 | 367,378 | −1.7 |
| **All divisions** | **2,068** | **66,471** | **66,176** | **−0.4** | **2,124,308** | **2,085,773** | **−1.8** |

[a] See footnotes 3 to 11, p. 199.

[1] For indexes of employment and pay-roll totals, see p. 226.

### Retail Trade

EMPLOYMENT in retail trade increased 3.6 per cent in April and pay-roll totals increased 2.1 per cent. These increases were due to a later Easter trade season this year than usual.

The 6,807 establishments from which reports were received had in April 245,509 employees whose earnings in one week were $5,825,684.

Employment in April, 1930, was 1.9 per cent higher than in April, 1929, and pay-roll totals were 1.6 per cent greater.[1]

Details by geographic divisions are shown in Table 2.

TABLE 2.—COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **RETAIL TRADE** ESTABLISHMENTS IN MARCH AND APRIL, 1930

| Geographic division [1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 90 | 13,062 | 13,142 | +0.6 | $314,311 | $316,358 | +0.7 |
| Middle Atlantic | 308 | 47,971 | 49,738 | +3.7 | 1,246,774 | 1,258,286 | +0.9 |
| East North Central | 2,372 | 71,473 | 74,179 | +3.8 | 1,813,587 | 1,869,956 | +3.1 |
| West North Central | 665 | 21,465 | 21,806 | +1.6 | 459,400 | 461,647 | +0.5 |
| South Atlantic | 967 | 20,988 | 21,900 | +4.3 | 465,089 | 477,254 | +2.6 |
| East South Central | 419 | 8,289 | 8,513 | +2.7 | 157,076 | 163,223 | +3.9 |
| West South Central | 276 | 10,526 | 10,856 | +3.1 | 222,642 | 223,968 | +0.6 |
| Mountain | 69 | 2,973 | 3,027 | +1.8 | 60,557 | 61,107 | +0.9 |
| Pacific | 1,641 | 40,155 | 42,348 | +5.5 | 966,565 | 993,885 | +2.8 |
| **All divisions** | **6,807** | **236,902** | **245,509** | **+3.6** | **5,706,001** | **5,825,684** | **+2.1** |

[1] See footnotes 3 to 11, p. 199.

## 8. Employment in Hotels in April, 1930

EMPLOYMENT in hotels decreased 2.2 per cent in April as compared with March and pay-roll totals decreased 3.9 per cent. The 1,909 hotels for which reports were received had in April 156,498 employees whose earnings in one week were $2,682,144.

Each geographic division showed seasonal decreased employment and decreased pay-roll totals in April; the closing season of winter-resort hotels especially was reflected in decreased employment of 7.5 per cent in the South Atlantic geographic division, 2 per cent in the East South Central, and 3.7 per cent in the West South Central division.

Employment in April, 1930, was 0.4 per cent greater than in April, 1929, and pay-roll totals were 0.3 per cent smaller.[1]

Per capita earnings, obtained by dividing the total number of employees into the total amount of pay roll, should not be interpreted as being the entire earnings of hotel employees. The pay-roll totals here reported are cash payments only, with no regard to the value of board or room furnished employees, and of course no satisfactory estimate can be made of additional recompense in the way of tips. The additions to the money wages granted vary greatly, not only among localities but among hotels in one locality and among employees in one hotel. Some employees are furnished board and room, others are given board only for one, two, or three meals, while the division of tips is made in many ways.

Per capita earnings are further reduced by the considerable amount of part-time employment in hotels caused by conventions and banquets or other functions.

The details for each geographic division are shown in the table following.

[1] For indexes of employment and pay-roll totals, see p. 226.

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **HOTELS** IN MARCH AND APRIL, 1930

| Geographic division [1] | Hotels | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 102 | 8,712 | 8,706 | −0.1 | $146,712 | $145,842 | −0.6 |
| Middle Atlantic | 356 | 49,933 | 49,236 | −1.4 | 940,978 | 901,805 | −4.2 |
| East North Central | 377 | 34,758 | 34,278 | −1.4 | 634,487 | 614,538 | −3.1 |
| West North Central | 209 | 12,639 | 12,427 | −1.7 | 188,560 | 182,804 | −3.1 |
| South Atlantic | 186 | 16,955 | 15,679 | −7.5 | 256,765 | 229,702 | −10.5 |
| East South Central | 66 | 6,024 | 5,905 | −2.0 | 79,667 | 77,990 | −2.1 |
| West South Central | 135 | 8,976 | 8,642 | −3.7 | 118,614 | 117,262 | −1.1 |
| Mountain | 117 | 3,948 | 3,947 | −[2] | 69,010 | 68,047 | −1.4 |
| Pacific | 361 | 18,008 | 17,678 | −1.8 | 356,132 | 344,154 | −3.4 |
| **All divisions** | **1,909** | **159,953** | **156,498** | **−2.2** | **2,790,925** | **2,682,144** | **−3.9** |

[1] See footnotes 3 to 11, p. 199. [2] Less than one-tenth of 1 per cent.

## 9. Employment in Canning and Preserving in April, 1930

CANNING and preserving establishments reported an increase of 50.6 per cent in employment in April as compared with March and an increase of 43 per cent in pay-roll totals. These notable increases are due mainly to plants in the Pacific geographic division which reported increased employment of 140.5 per cent, although there were substantial increases in all divisions except the Middle Atlantic and East South Central, both of which reported decreased employment.

Reports were received from 463 establishments having in April 31,804 employees and pay-roll totals in one week of $549,161.

Employment in April, 1930, was 17.4 per cent lower than in April, 1929, and pay-roll totals were 26.6 per cent smaller.[1]

Details by geographic divisions are shown in the following table:

COMPARISON OF EMPLOYMENT AND PAY-ROLL TOTALS IN IDENTICAL **CANNING AND PRESERVING** ESTABLISHMENTS IN MARCH AND APRIL, 1930

| Geographic division [1] | Establishments | Number on pay roll | | Per cent of change | Amount of pay roll (1 week) | | Per cent of change |
|---|---|---|---|---|---|---|---|
| | | March, 1930 | April, 1930 | | March, 1930 | April, 1930 | |
| New England | 40 | 1,080 | 1,180 | +9.3 | $22,484 | $19,970 | −11.2 |
| Middle Atlantic | 59 | 6,648 | 6,390 | −3.9 | 147,844 | 138,720 | −6.2 |
| East North Central | 114 | 2,819 | 3,494 | +23.9 | 56,649 | 62,006 | +9.5 |
| West North Central | 32 | 716 | 779 | +8.8 | 13,534 | 14,090 | +4.1 |
| South Atlantic | 37 | 1,519 | 1,826 | +20.2 | 17,380 | 18,406 | +5.9 |
| East South Central | 16 | 714 | 647 | −9.4 | 7,861 | 7,831 | −0.8 |
| West South Central | 9 | 272 | 403 | +48.2 | 2,895 | 3,587 | +23.9 |
| Mountain | 24 | 473 | 537 | +13.5 | 15,886 | 17,063 | +7.4 |
| Pacific | 132 | 6,880 | 16,548 | +140.5 | 99,363 | 267,488 | +169.2 |
| **All divisions** | **463** | **21,121** | **31,804** | **+50.6** | **383,926** | **549,161** | **+43.0** |

[1] See footnotes 3 to 11, p. 199.

## Indexes of Employment and Pay-Roll Totals—Mining, Quarrying, Public Utilities, Trade, Hotels, and Canning

The following table shows the index numbers of employment and pay-roll totals for anthracite, bituminous coal, and metalliferous mining, quarrying, public utilities, wholesale and retail trade, hotels, and canning and preserving, from January, 1929, to April, 1930, with the monthly average for 1929 as 100.

[1] For indexes of employment and pay-roll totals, see p. 226.

INDEXES OF EMPLOYMENT AND PAY-ROLL TOTALS, JANUARY, 1929, TO APRIL, 1930—MINING, QUARRYING, PUBLIC UTILITIES, TRADE, HOTELS, AND CANNING

[Monthly average, 1929=100]

| Year and month | Anthracite mining | | Bituminous coal mining | | Metalliferous mining | | Quarrying and nonmetallic mining | | Public utilities | | Wholesale trade | | Retail trade | | Hotels | | Canning and preserving | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals | Employment | Pay-roll totals |
| **1929** | | | | | | | | | | | | | | | | | | |
| January | 105.7 | 100.7 | 106.4 | 106.1 | 93.1 | 88.0 | 91.6 | 85.9 | 95.4 | 95.1 | 97.7 | 96.7 | 99.2 | 99.0 | 97.1 | 98.5 | 50.8 | 57.3 |
| February | 106.0 | 122.1 | 107.7 | 116.6 | 94.6 | 91.8 | 91.9 | 88.9 | 95.4 | 93.8 | 96.9 | 96.4 | 94.6 | 94.5 | 99.8 | 102.0 | 48.9 | 59.2 |
| March | 98.0 | 90.8 | 106.8 | 108.6 | 97.0 | 99.1 | 96.0 | 95.0 | 95.6 | 97.3 | 97.3 | 98.5 | 96.2 | 96.1 | 100.9 | 103.4 | 49.4 | 54.9 |
| April | 100.7 | 88.3 | 100.2 | 89.2 | 100.6 | 104.6 | 99.6 | 100.5 | 97.5 | 97.7 | 97.9 | 97.8 | 95.5 | 96.0 | 99.7 | 100.6 | 90.6 | 98.9 |
| May | 103.7 | 99.0 | 96.6 | 91.9 | 100.8 | 104.6 | 104.1 | 107.1 | 100.1 | 99.6 | 99.0 | 99.0 | 97.3 | 97.1 | 98.1 | 98.9 | 62.0 | 71.2 |
| June | 92.9 | 80.7 | 94.7 | 90.0 | 103.8 | 105.6 | 106.6 | 110.5 | 101.2 | 100.6 | 99.2 | 98.6 | 97.4 | 98.6 | 99.3 | 98.7 | 76.6 | 71.9 |
| July | 83.2 | 64.7 | 94.1 | 85.6 | 101.5 | 99.0 | 104.7 | 104.7 | 102.4 | 102.7 | 100.4 | 100.5 | 93.6 | 95.9 | 101.1 | 99.8 | 126.8 | 109.2 |
| August | 91.1 | 78.4 | 95.7 | 92.8 | 103.2 | 100.1 | 106.7 | 110.3 | 103.6 | 102.2 | 101.3 | 100.0 | 93.6 | 95.2 | 102.6 | 99.4 | 184.8 | 180.1 |
| September | 101.9 | 103.8 | 97.2 | 98.6 | 102.1 | 102.0 | 106.6 | 109.8 | 103.1 | 102.7 | 101.9 | 103.3 | 97.6 | 99.2 | 102.8 | 100.2 | 210.1 | 207.9 |
| October | 106.1 | 133.9 | 98.8 | 106.8 | 101.9 | 103.1 | 103.6 | 105.8 | 102.6 | 103.8 | 102.9 | 102.7 | 101.7 | 102.6 | 100.6 | 100.2 | 143.3 | 134.5 |
| November | 104.0 | 100.5 | 101.0 | 106.0 | 103.0 | 102.2 | 98.6 | 96.0 | 102.1 | 101.3 | 102.9 | 101.9 | 106.7 | 105.2 | 100.0 | 99.8 | 95.1 | 91.6 |
| December | 107.1 | 137.2 | 101.4 | 108.2 | 98.5 | 99.7 | 90.1 | 85.4 | 101.1 | 103.2 | 102.6 | 104.7 | 126.2 | 120.6 | 97.7 | 98.9 | 61.3 | 63.4 |
| **Average** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** | **100.0** |
| **1930** | | | | | | | | | | | | | | | | | | |
| January | 102.1 | 105.8 | 102.5 | 101.4 | 95.7 | 92.7 | 79.6 | 71.9 | 99.7 | 101.0 | 100.0 | 100.0 | 98.9 | 99.7 | 100.4 | 100.3 | 46.1 | 50.3 |
| February | 106.9 | 121.5 | 102.4 | 102.1 | 92.3 | 92.5 | 79.8 | 73.5 | 98.3 | 99.4 | 98.5 | 98.3 | 94.4 | 96.0 | 102.4 | 103.8 | 45.7 | 51.5 |
| March | 82.6 | 78.5 | 98.6 | 86.4 | 90.9 | 90.8 | 83.0 | 80.0 | 98.2 | 101.6 | 97.7 | 99.7 | 93.9 | 95.5 | 102.4 | 104.4 | 49.7 | 50.8 |
| April | 84.1 | 75.0 | 94.4 | 81.7 | 89.3 | 88.3 | 87.4 | 85.4 | 98.5 | 101.2 | 97.3 | 97.9 | 97.3 | 97.5 | 100.1 | 100.3 | 74.8 | 72.6 |

## Employment of Class I Steam Railroads in the United States

THE monthly trend of employment from January, 1923, to March, 1930, on Class I railroads—that is, all roads having operating revenues of $1,000,000 or over—is shown by the index numbers published in Table 1. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the monthly average for 1926 as 100.

TABLE 1.—INDEX OF EMPLOYMENT ON **CLASS I STEAM RAILROADS** IN THE UNITED STATES, JANUARY, 1923, TO MARCH, 1930

[Monthly average, 1926=100]

| Month | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
|---|---|---|---|---|---|---|---|---|
| January | 98.3 | 96.9 | 95.6 | 95.8 | 95.5 | 89.3 | 88.2 | 86.3 |
| February | 98.6 | 97.0 | 95.4 | 96.0 | 95.3 | 89.0 | 88.9 | 85.4 |
| March | 100.5 | 97.4 | 95.2 | 96.7 | 95.8 | 89.9 | 90.1 | 85.5 |
| April | 102.0 | 98.9 | 96.6 | 98.9 | 97.4 | 91.7 | 92.2 | |
| May | 105.0 | 99.2 | 97.8 | 100.2 | 99.4 | 94.5 | 94.9 | |
| June | 107.1 | 98.0 | 98.6 | 101.6 | 100.9 | 95.9 | 96.1 | |
| July | 108.2 | 98.1 | 99.4 | 102.9 | 101.0 | 95.6 | 96.6 | |
| August | 109.4 | 99.0 | 99.7 | 102.7 | 99.5 | 95.7 | 97.4 | |
| September | 107.8 | 99.7 | 99.9 | 102.8 | 99.1 | 95.3 | 96.8 | |
| October | 107.3 | 100.8 | 100.7 | 103.4 | 98.9 | 95.3 | 96.9 | |
| November | 105.2 | 99.0 | 99.1 | 101.2 | 95.7 | 92.9 | 93.0 | |
| December | 99.4 | 96.0 | 97.1 | 98.2 | 91.9 | 89.7 | 88.8 | |
| **Average** | **104.1** | **98.3** | **97.9** | **100.0** | **97.5** | **92.9** | **93.3** | [1] **85.7** |

[1] Average for 3 months.

Table 2 shows the total number of employees on the 15th day each of March, 1929, and February and March, 1930, and pay-roll totals for the entire month of each month considered.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES—MARCH, 1929, AND FEBRUARY AND MARCH, 1930

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

| Occupation | Number of employees at middle of month | | | Total earnings | | |
|---|---|---|---|---|---|---|
| | March, 1929 | February, 1930 | March, 1930 | March, 1929 | February, 1930 | March, 1930 |
| **Professional, clerical, and general** | **268,477** | **264,199** | **263,139** | **$39,342,731** | **$37,700,303** | **$38,968,399** |
| Clerks | 152,594 | 147,815 | 147,085 | 21,234,197 | 19,701,840 | 20,631,972 |
| Stenographers and typists | 24,659 | 24,477 | 24,364 | 3,221,819 | 3,145,132 | 3,226,286 |
| **Maintenance of way and structures** | **351,634** | **322,327** | **337,188** | **33,952,114** | **29,179,417** | **32,833,004** |
| Laborers, extra gang and work train | 43,316 | 38,037 | 43,547 | 3,320,509 | 2,519,395 | 3,275,144 |
| Laborers, track and roadway section | 184,531 | 162,558 | 171,358 | 13,626,471 | 10,656,122 | 12,593,196 |
| **Maintenance of equipment and stores** | **459,989** | **435,177** | **429,624** | **64,877,976** | **56,025,960** | **59,902,372** |
| Carmen | 99,545 | 92,438 | 91,406 | 16,066,720 | 13,483,393 | 14,511,458 |
| Machinists | 55,349 | 53,163 | 52,809 | 9,489,303 | 8,214,740 | 8,869,790 |
| Skilled trades helpers | 101,745 | 96,117 | 94,914 | 12,430,982 | 10,547,124 | 11,346,380 |
| Laborers (shops, engine houses, power plants, and stores) | 38,172 | 36,679 | 35,834 | 3,730,662 | 3,295,276 | 3,516,694 |
| Common laborers (shops, engine houses, power plants, and stores) | 52,780 | 49,226 | 48,201 | 4,442,618 | 3,683,902 | 3,983,335 |

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES—MARCH, 1929, AND FEBRUARY AND MARCH, 1930—Continued

| Occupation | Number of employees at middle of month | | | Total earnings | | |
|---|---|---|---|---|---|---|
| | March, 1929 | February, 1930 | March, 1930 | March, 1929 | February, 1930 | March, 1930 |
| **Transportation, other than train, engine, and yard** | **195,019** | **186,853** | **187,210** | **24,962,285** | **22,265,831** | **23,882,320** |
| Station agents | 29,419 | 28,965 | 28,907 | 4,731,117 | 4,374,636 | 4,649,059 |
| Telegraphers, telephoners, and towermen | 23,249 | 22,609 | 22,439 | 3,686,660 | 3,253,552 | 3,563,481 |
| Truckers (stations, warehouses, and platforms) | 34,386 | 30,243 | 31,065 | 3,389,768 | 2,654,190 | 2,991,309 |
| Crossing and bridge flagmen and gatemen | 20,648 | 20,053 | 20,070 | 1,593,214 | 1,542,177 | 1,565,680 |
| **Transportation (yardmasters, switch tenders, and hostlers)** | **21,893** | **21,293** | **21,017** | **4,342,020** | **4,017,214** | **4,179,510** |
| **Transportation, train and engine** | **314,395** | **297,537** | **291,551** | **65,731,973** | **55,946,994** | **59,225,796** |
| Road conductors | 35,208 | 33,323 | 32,760 | 8,677,496 | 7,456,840 | 7,931,414 |
| Road brakemen and flagmen | 69,633 | 64,790 | 64,105 | 12,436,387 | 10,495,491 | 11,133,352 |
| Yard brakemen and yard helpers | 53,517 | 50,871 | 49,423 | 9,816,445 | 8,299,789 | 8,697,668 |
| Road engineers and motormen | 41,828 | 39,852 | 39,070 | 11,703,920 | 9,978,591 | 10,611,708 |
| Road firemen and helpers | 42,488 | 40,486 | 39,740 | 8,625,002 | 7,314,003 | 7,752,833 |
| **All employees** | **1,611,407** | **1,527,386** | **1,529,729** | **233,209,099** | **205,135,719** | **218,991,401** |

## Changes in Employment and Pay Rolls in Various States

THE following data as to changes in employment and pay rolls have been compiled from reports received from the various State labor offices:

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES

*Monthly period*

| State, and industry group | Per cent of change, February to March, 1930 | | State, and industry group | Per cent of change, March to April, 1930 | |
|---|---|---|---|---|---|
| | Employment | Pay roll | | Employment | Pay roll |
| **Illinois** | | | **Iowa** | | |
| Stone, clay, and glass products | +3.8 | +6.2 | Food and kindred products | −1.4 | |
| Metals, machinery, and conveyances | −.3 | −4.0 | Textiles | −3.0 | |
| Wood products | −2.3 | −4.1 | Iron and steel works | +1.4 | |
| Furs and leather goods | −1.7 | −8.9 | Lumber products | −6.6 | |
| Chemicals, oils, paints, etc. | +3.1 | +.4 | Leather products | −8.5 | |
| Printing and paper goods | −4.0 | −3.8 | Paper products, printing and publishing | −.1 | |
| Textiles | −.5 | −4.0 | Patent medicines, chemicals, and compounds | +1.2 | |
| Clothing and millinery | −1.1 | −13.2 | Stone and clay products | +12.7 | |
| Food, beverages, and tobacco | −5.1 | −5.6 | Tobacco and cigars | +8.7 | |
| Miscellaneous | −4.2 | +.1 | Railway-car shops | +.02 | |
| All manufacturing | −1.1 | −4.2 | Various industries | +6.1 | |
| Trade, wholesale and retail | −4.1 | −3.1 | All industries | +1.0 | |
| Services | −2.1 | +10.9 | **Maryland** | | |
| Public utilities | −.7 | −6.1 | Food products | +4.3 | +7.2 |
| Coal mining | −1.1 | −25.8 | Textiles | +.5 | −.4 |
| Building and contracting | +.1 | +.2 | Iron and steel and their products | +2.7 | −1.2 |
| All nonmanufacturing | −1.3 | −6.5 | Lumber and its products | −3.1 | −1.9 |
| All industries | −1.2 | −5.0 | Leather and its products | −1.5 | −2.8 |
| | | | Rubber tires | −2.3 | +.3 |
| | | | Paper and printing | +.1 | +3.9 |

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

*Monthly period*—Continued

| State, and industry group | Per cent of change, March to April, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **Maryland**—Continued | | |
| Chemicals and allied products | +8.1 | +6.9 |
| Stone, clay, and glass products | +.3 | −8.2 |
| Metal products other than iron and steel | 0 | +2.3 |
| Tobacco products | 0 | +5.5 |
| Machinery (not including transportation equipment) | +1.6 | +4.1 |
| Transportation equipment | +5.5 | −8.7 |
| Car building and repairing | +1.5 | +3.4 |
| Miscellaneous | −3.0 | −6.7 |
| All manufacturing | +1.2 | +.94 |
| Retail department stores | +.1 | −5.5 |
| Wholesale establishments | −.2 | −.1 |
| Public utilities | +1.8 | +9.5 |
| Coal mines | −1.4 | +26.5 |
| Hotels | −1.7 | +5.1 |
| Quarries | +40.9 | +32.7 |

| State, and industry group | Employment—index numbers (1925–1927=100) | |
|---|---|---|
| | February, 1930 | March, 1930 |
| **Massachusetts** | | |
| Boot and shoe cut stock and findings | 117.0 | 114.2 |
| Boots and shoes | 86.0 | 90.6 |
| Bread and other bakery products | 107.1 | 107.5 |
| Clothing, men's | 89.9 | 88.0 |
| Clothing, women's | 105.0 | 108.7 |
| Confectionery | 86.6 | 87.5 |
| Cotton goods | 69.2 | 67.4 |
| Dyeing and finishing textiles | 93.2 | 92.8 |
| Electrical machinery, apparatus and supplies | 77.2 | 72.7 |
| Foundry and machine-shop products | 107.7 | 106.5 |
| Furniture | 86.0 | 86.8 |
| Hosiery and knit goods | 78.4 | 66.1 |
| Leather, tanned, curried, and finished | 101.5 | 96.3 |
| Paper and wood pulp | 96.5 | 96.3 |
| Printing and publishing | 107.0 | 105.8 |
| Rubber footwear | 88.8 | 84.4 |
| Rubber goods, tires, and tubes | 72.3 | 71.5 |
| Silk goods | 90.7 | 86.7 |
| Textile machinery and parts | 82.4 | 77.6 |
| Woolen and worsted goods | 68.1 | 66.3 |
| All industries | 83.0 | 82.0 |

| State, and industry group | Per cent of change, February to March, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **New Jersey** | | |
| Food and kindred products | −1.7 | +0.6 |
| Textiles and their products | −3.1 | −3.9 |
| Iron and steel and their products | −3.2 | −.7 |
| Lumber and its products | −.2 | +4.7 |
| Leather and its products | −1.8 | +.1 |
| Tobacco products | −1.1 | +.3 |
| Paper and printing | −1.4 | +4.0 |
| Chemicals and allied products | −.5 | −4.3 |
| Stone, clay, and glass products | +3.1 | +6.1 |
| Metal products other than iron and steel | −1.3 | −4.6 |
| Vehicles for land transportation | +3.7 | +.6 |
| Miscellaneous | +.1 | +2.4 |
| All industries | −1.5 | −1.0 |
| **New York** | | |
| Stone, clay, and glass | +4.4 | +5.9 |
| Metals and machinery | −1.3 | +.0 |
| Wood manufactures | +1.4 | +2.0 |
| Furs, leather, and rubber goods | −.4 | +1.6 |
| Chemicals, oils, paints, etc. | 0 | +1.2 |
| Paper | −2.6 | −3.4 |
| Printing and paper goods | +.1 | +1.4 |
| Textiles | −.8 | −1.3 |
| Clothing and millinery | +2.0 | +6.2 |
| Food and tobacco | −.3 | +.1 |
| Water, light, and power | +.5 | −1.9 |
| All industries | −.2 | +1.3 |

| State, and industry group | March to April, 1930 | |
|---|---|---|
| | | |
| **Oklahoma** | | |
| Cottonseed-oil mills | −40.3 | −35.9 |
| Food production: | | |
| Bakeries | +25.0 | +5.0 |
| Confections | +55.0 | +46.5 |
| Creameries and dairies | +21.4 | +9.7 |
| Flour mills | +8.8 | +29.5 |
| Ice and ice cream | +27.8 | +22.7 |
| Meat and poultry | +1.5 | −5.3 |
| Lead and zinc: | | |
| Mines and mills | −17.2 | −24.6 |
| Smelters | −.4 | −14.7 |
| Metals and machinery: | | |
| Auto repairs, etc | +4.5 | +20.6 |
| Machine shops and foundries | +.5 | +1.7 |
| Tank construction and erection | −19.0 | −39.2 |
| Oil industry: | | |
| Producing and gasoline manufacture | +3.9 | −3.0 |
| Refineries | +2.7 | +5.1 |
| Printing: job work | −1.7 | −3.8 |

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

*Monthly period*—Continued

| State, and industry group | Per cent of change, February to March, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **Oklahoma**—Continued | | |
| Public utilities: | | |
| Steam-railway shops | −17.3 | −11.6 |
| Street railways | +14.9 | +6.8 |
| Water, light, and power | +1.9 | +5.0 |
| Stone, clay, and glass: | | |
| Brick and tile | +8.3 | +14.4 |
| Cement and plaster | +1.9 | +8.9 |
| Crushed stone | −5.4 | +20.0 |
| Glass manufacture | +8.2 | +1.5 |
| Textiles and cleaning: | | |
| Textile manufacture | +10.5 | −2.2 |
| Laundries, etc | −10.6 | −1.4 |
| Woodworking: | | |
| Sawmills | −1.8 | +3.8 |
| Millwork, etc | +2.5 | +8.0 |
| All industries | +.4 | +2.7 |

| | Index numbers (1923–1925=100)—employment | |
|---|---|---|
| | March, 1930 | April, 1930 |
| **Pennsylvania** | | |
| Metal products | 94.7 | 94.1 |
| Transportation equipment | 82.8 | [1] 86.6 |
| Textile products | 106.3 | 102.9 |
| Foods and tobacco | 110.1 | 109.3 |
| Stone, clay, and glass products | 76.3 | 81.2 |
| Lumber products | 77.9 | 75.0 |
| Chemical products | 101.4 | 104.4 |
| Leather and rubber products | 98.1 | 97.3 |
| Paper and printing | 99.5 | 99.4 |
| All manufacturing | 97.8 | 97.6 |
| | Pay roll | |
| Metal products | 99.7 | 98.8 |
| Transportation equipment | 84.8 | [1] 88.2 |
| Textile products | 109.0 | 99.9 |
| Foods and tobacco | 106.2 | 103.4 |
| Stone, clay, and glass products | 70.1 | 79.1 |
| Lumber products | 75.6 | 70.6 |
| Chemical products | 107.1 | 113.9 |
| Leather and rubber products | 100.8 | 100.0 |
| Paper and printing | 115.2 | 113.6 |
| All manufacturing | 101.5 | 100.5 |

| State, and industry group | Per cent of change, February to March, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **Wisconsin** | | |
| *Manual* | | |
| Logging | −14.9 | −13.3 |
| Mining: | | |
| Lead and zinc | −5.7 | −3.7 |
| Iron | +.5 | +4.2 |
| Stone crushing and quarrying | +53.9 | +47.6 |
| Manufacturing: | | |
| Stone and allied industries | +5.5 | +7.6 |
| Metal | −.5 | +6.3 |
| Wood | −.2 | +2.2 |
| Rubber | +1.4 | +1.8 |
| Leather | −.3 | +1.0 |
| Paper | +1.7 | +4.1 |
| Textiles | +1.2 | +7.4 |
| Foods | −1.9 | 0 |
| Printing and publishing | +1.3 | +.9 |
| Chemicals (including soap, glue, and explosives) | −.1 | +1.2 |
| All manufacturing | −.1 | +4.2 |
| Construction: | | |
| Building | +1.7 | +5.6 |
| Highway | +11.8 | +5.6 |
| Railroad | −.5 | +1.1 |
| Marine, dredging, sewer digging | +55.7 | +68.8 |
| Communication: | | |
| Steam railways | −2.5 | −10.2 |
| Electric railways | −9.3 | +1.1 |
| Express, telephone, and telegraph | −1.6 | +6.5 |
| Light and power | −2.4 | −.6 |
| Wholesale trade | −5.6 | −.4 |
| Hotels and restaurants | −.5 | |
| Laundering and dyeing | −.7 | −4.9 |
| *Nonmanual* | | |
| Manufacturing, mines, and quarries | +.5 | +1.1 |
| Construction | +1.1 | +2.3 |
| Communication | −.1 | +1.8 |
| Wholesale trade | 0 | −2.9 |
| Retail trade, sales force only | −2.7 | −2.8 |
| Miscellaneous professional services | +3.1 | +14.6 |

[1] Preliminary figures.

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

*Yearly period*

| State, and industry group | Per cent of change, March, 1929, to March, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **California** | | |
| Stone, clay, and glass products | −9.9 | −13.4 |
| Metals, machinery, and conveyances | −8.5 | −10.5 |
| Wood manufactures | −13.8 | −16.5 |
| Leather and rubber goods | −32.5 | −33.7 |
| Chemicals, oils, paints, etc. | −8.1 | −8.0 |
| Printing and paper goods | −2.0 | +1.2 |
| Textiles | −4.8 | −11.2 |
| Clothing, millinery, and laundering | −4.8 | −7.7 |
| Foods, beverages, and tobacco | −3.4 | −5.0 |
| Miscellaneous | +16.0 | +32.2 |
| All industries | −7.3 | −8.0 |
| Public utilities | −4.0 | −1.5 |

| State, and industry group | Per cent of change, March, 1929, to March, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **New York** | | |
| Stone, clay, and glass | −9.4 | −13.9 |
| Metals and machinery | −11.7 | −14.8 |
| Wood manufactures | −13.0 | −18.6 |
| Furs, leather, and rubber goods | −1.4 | −1.3 |
| Chemicals, oils, paints, etc. | +4.3 | +5.4 |
| Paper | −1.3 | −.3 |
| Printing and paper goods | +1.9 | +.9 |
| Textiles | −11.2 | −14.7 |
| Clothing and millinery | −7.1 | −8.4 |
| Food and tobacco | −10.6 | −8.7 |
| Water, light, and power | −2.9 | −1.1 |
| All industries | −7.8 | −9.5 |

| State, and industry group | Employment—index numbers (1925–1927=100) | |
|---|---|---|
| | March, 1929 | March, 1930 |
| **Massachusetts** | | |
| Boot and shoe cut stock and findings | 105.6 | 114.2 |
| Boots and shoes | 95.3 | 90.6 |
| Bread and other bakery products | 108.2 | 107.5 |
| Clothing, men's | 105.2 | 88.0 |
| Clothing, women's | 142.3 | 108.7 |
| Confectionery | 87.5 | 87.5 |
| Cotton goods | 80.4 | 67.4 |
| Dyeing and finishing textiles | 104.6 | 92.8 |
| Electrical machinery, apparatus, and supplies | 96.8 | 72.7 |
| Foundry and machine-shop products | 107.4 | 106.5 |
| Furniture | 98.4 | 86.8 |
| Hosiery and knit goods | 75.0 | 66.1 |
| Leather, tanned, curried, and finished | 99.4 | 96.3 |
| Paper and wood pulp | 96.4 | 96.3 |
| Printing and publishing | 104.5 | 105.8 |
| Rubber footwear | 90.4 | 84.4 |
| Rubber goods, tires, and tubes | 84.6 | 71.5 |
| Silk goods | 92.1 | 86.7 |
| Textile machinery and parts | 82.1 | 77.6 |
| Woolen and worsted goods | 81.4 | 66.3 |
| All industries | 91.2 | 82.0 |

| State, and industry group | April, 1929, to April, 1930 | |
|---|---|---|
| | Employment | Pay roll |
| **Oklahoma** | | |
| Cottonseed-oil mills | +22.1 | +29.7 |
| Food production: | | |
| Bakeries | +27.4 | +19.5 |
| Confections | +12.5 | +15.5 |
| Creameries and dairies | +62.4 | +79.3 |
| Flour mills | +24.7 | +40.7 |
| Ice and ice cream | −3.5 | −15.3 |
| Meat and poultry | +6.3 | −3.5 |
| Lead and zinc: | | |
| Mines and mills | −26.3 | −28.0 |
| Smelters | −45.7 | −54.3 |
| Metals and machinery: | | |
| Auto repairs, etc. | +5.9 | +26.4 |
| Machine shops and foundries | −2.2 | +.7 |
| Tank construction and erection | −4.9 | −25.9 |
| Oil industry: | | |
| Producing and gasoline manufacture | −6.6 | −4.2 |
| Refineries | +15.4 | +43.6 |
| Printing: Job work | +5.6 | +4.0 |
| Public utilities: | | |
| Steam railway shops | −11.1 | −3.0 |
| Street railways | +37.3 | +27.7 |
| Water, light, and power | +3.9 | +6.6 |
| Stone, clay, and glass: | | |
| Brick and tile | −27.4 | −19.6 |
| Cement and plaster | −8.7 | −6.4 |
| Crushed stone | −34.2 | −14.1 |
| Glass manufacture | −.5 | +1.3 |
| Textiles and cleaning: | | |
| Textile manufacture | −21.7 | −31.5 |
| Laundries, etc. | −3.8 | +7.5 |
| Woodworking: | | |
| Sawmills | −4.0 | −2.8 |
| Millwork, etc. | −13.0 | −3.5 |
| All industries | −3.8 | +2.7 |

PER CENT OF CHANGE IN EMPLOYMENT AND PAY ROLLS IN SPECIFIED STATES—Continued

*Yearly period*—Continued

| State, and industry group | Index numbers (1923–1925 = 100) — employment | | State, and industry group | Index numbers (1923–1925 = 100) — pay roll | |
|---|---|---|---|---|---|
| | April, 1929 | April, 1930 | | April, 1929 | April, 1930 |
| **Pennsylvania** | | | **Pennsylvania**—Continued | | |
| Metal products | 96.3 | 94.1 | Metal products | 107.0 | 98.8 |
| Transportation equipment | 81.8 | 86.6 | Transportation equipment | 88.7 | [1] 88.2 |
| Textile products | 108.1 | 102.9 | Textile products | 115.8 | 99.9 |
| Foods and tobacco | —102.4 | 109.3 | Foods and tobacco | 99.1 | 103.4 |
| Stone, clay, and glass products | 80.7 | 81.2 | Stone, clay, and glass products | 79.4 | 79.1 |
| Lumber products | 85.6 | 75.0 | Lumber products | 88.3 | 70.6 |
| Chemical products | 92.0 | 104.4 | Chemical products | 97.0 | 113.9 |
| Leather and rubber products | 95.6 | 97.3 | Leather and rubber products | 98.3 | 100.0 |
| Paper and printing | 93.0 | 99.4 | Paper and printing | 105.6 | 113.6 |
| All industries | 97.7 | 97.6 | All industries | 106.0 | 100.5 |

[1] Preliminary figures.

# WHOLESALE AND RETAIL PRICES

## Retail Prices of Food in the United States

THE following tables are compiled from simple averages of the actual selling prices[1] received monthly by the Bureau of Labor Statistics from retail dealers.

Table 1 shows for the United States retail prices of food April 15, 1929, and March 15 and April 15, 1930, as well as the percentage changes in the year and in the month. For example, the retail price per pound of butter was 55.8 cents on April 15, 1929; 46.7 cents on March 15, 1930; and 48.1 cents on April 15, 1930. These figures show a decrease of 14 per cent in the year and an increase of 3 per cent in the month.

The cost of various articles of food combined shows a decrease of 0.3 per cent April 15, 1930, as compared with April 15, 1929, an an increase of 0.8 per cent April 15, 1930, as compared with March 15, 1930.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE APRIL 15, 1930, COMPARED WITH MARCH 15, 1930, AND APRIL 15, 1929

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

| Article | Unit | Average retail price on— | | | Per cent of increase (+) or decrease (−) Apr. 15, 1930, compared with— | |
|---|---|---|---|---|---|---|
| | | Apr. 15, 1929 | Mar. 15, 1930 | Apr. 15, 1930 | Apr. 15, 1929 | Mar. 15, 1930 |
| | | *Cents* | *Cents* | *Cents* | | |
| Sirloin steak | Pound | 49.0 | 48.4 | 48.3 | −1 | −0.2 |
| Round steak | do | 43.4 | 43.0 | 43.1 | −1 | +0.2 |
| Rib roast | do | 36.4 | 35.9 | 35.9 | −1 | 0 |
| Chuck roast | do | 29.5 | 29.2 | 29.2 | −1 | 0 |
| Plate beef | do | 20.6 | 20.6 | 20.4 | −1 | −1 |
| Pork chops | do | 37.1 | 36.1 | 37.1 | 0 | +3 |
| Bacon, sliced | do | 43.3 | 42.6 | 42.5 | −2 | −0.2 |
| Ham, sliced | do | 54.7 | 54.1 | 53.9 | −1 | −0.4 |
| Lamb, leg of | do | 41.8 | 36.6 | 35.8 | −14 | −2 |
| Hams | do | 41.8 | 38.3 | 38.2 | −9 | −0.3 |
| Salmon, red, canned | do | 31.5 | 31.9 | 31.8 | +1 | −0.3 |
| Milk, fresh | Quart | 14.2 | 14.0 | 14.0 | −1 | 0 |
| Milk, evaporated | 16-oz. can | 11.1 | 10.3 | 10.3 | −7 | 0 |
| Butter | Pound | 55.8 | 46.7 | 48.1 | −14 | +3 |
| Oleomargarine (all butter substitutes) | do | 27.4 | 26.1 | 26.0 | −5 | −0.4 |

[1] In addition to monthly retail prices of food and coal, the bureau publishes periodically the prices of gas and electricity for household use in each of 51 cities. At present this information is being collected in June and December of each year.

TABLE 1.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE OR DECREASE APRIL 15, 1930, COMPARED WITH MARCH 15, 1930, AND APRIL 15, 1929—Continued

| Article | Unit | Average retail price on— | | | Per cent of increase (+) or decrease (−) Apr. 15, 1930, compared with— | |
|---|---|---|---|---|---|---|
| | | Apr. 15, 1929 | Mar. 15, 1930 | Apr. 15, 1930 | Apr. 15, 1929 | Mar. 15, 1930 |
| | | *Cents* | *Cents* | *Cents* | | |
| Cheese | Pound | 38.1 | 36.4 | 36.0 | −6 | −1 |
| Lard | do | 18.5 | 16.9 | 16.8 | −9 | −1 |
| Vegetable lard substitute | do | 24.8 | 24.4 | 24.3 | −2 | −0.4 |
| Eggs, strictly fresh | Dozen | 36.7 | 35.3 | 34.5 | −6 | −2 |
| Bread | Pound | 9.0 | 8.8 | 8.8 | −2 | 0 |
| Flour | do | 5.1 | 5.0 | 4.9 | −4 | −2 |
| Corn meal | do | 5.3 | 5.3 | 5.3 | 0 | 0 |
| Rolled oats | do | 8.9 | 8.7 | 8.7 | −2 | 0 |
| Corn flakes | 8-oz. package | 9.5 | 9.4 | 9.4 | −1 | 0 |
| Wheat cereal | 28-oz. package | 25.5 | 25.5 | 25.5 | 0 | 0 |
| Macaroni | Pound | 19.6 | 19.5 | 19.5 | −1 | 0 |
| Rice | do | 9.8 | 9.5 | 9.5 | −3 | 0 |
| Beans, navy | do | 14.2 | 12.1 | 11.8 | −17 | −2 |
| Potatoes | do | 2.3 | 3.9 | 4.1 | +78 | +5 |
| Onions | do | 8.2 | 5.0 | 5.6 | −32 | +12 |
| Cabbage | do | 5.2 | 8.5 | 9.8 | +88 | +15 |
| Pork and beans | No. 2 can | 11.9 | 11.2 | 11.0 | −8 | −2 |
| Corn, canned | do | 15.8 | 15.4 | 15.4 | −3 | 0 |
| Peas, canned | do | 16.7 | 16.4 | 16.4 | −2 | 0 |
| Tomatoes, canned | do | 13.1 | 12.6 | 12.6 | −4 | 0 |
| Sugar | Pound | 6.4 | 6.4 | 6.3 | −2 | −2 |
| Tea | do | 77.6 | 77.7 | 77.4 | −0.3 | −0.4 |
| Coffee | do | 49.6 | 41.9 | 41.4 | −17 | −1 |
| Prunes | do | 14.3 | 18.2 | 18.1 | +27 | −1 |
| Raisins | do | 11.5 | 12.2 | 12.1 | +5 | −1 |
| Bananas | Dozen | 31.8 | 31.4 | 30.6 | −4 | −3 |
| Oranges | do | 39.8 | 52.1 | 60.9 | +53 | +17 |
| Weighted food index | | | | | −0.3 | +0.8 |

Table 2 shows for the United States average retail prices of specified food articles on April 15, 1913, and on April 15 of each year from 1924 to 1930, together with percentage changes in April of each of these specified years, compared with April, 1913. For example, the retail price per pound of potatoes was 1.5 cents in April, 1913; 2.8 cents in April, 1924; 2.4 cents in April, 1925; 6.7 cents in April, 1926; 3.7 cents in April, 1927; 3.5 cents in April, 1928; 2.3 cents in April, 1929; and 4.1 cents in April, 1930.

As compared with April, 1913, these figures show increases of 87 per cent in April, 1924; 60 per cent in April, 1925; 347 per cent in April, 1926; 147 per cent in April, 1927; 133 per cent in April, 1928; 53 per cent in April, 1929; and 173 per cent in April, 1930.

The cost of the various articles of food combined showed an increase of 54.1 per cent in April, 1930, as compared with April, 1913.

TABLE 2.—AVERAGE RETAIL PRICES OF SPECIFIED FOOD ARTICLES AND PER CENT OF INCREASE APRIL 15 OF CERTAIN SPECIFIED YEARS COMPARED WITH APRIL 15, 1913

[Percentage changes of five-tenths of 1 per cent and over are given in whole numbers]

| Article | Average retail prices on Apr. 15— | | | | | | | | Per cent of increase Apr. 15 of each specified year compared with Apr. 15, 1913 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1913 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
| | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | | | | | | | |
| Sirloin steak--pound | 25.5 | 39.6 | 40.4 | 41.1 | 41.8 | 45.3 | 49.0 | 48.3 | 55 | 58 | 61 | 64 | 78 | 92 | 89 |
| Round steak----do | 22.2 | 33.6 | 34.6 | 35.2 | 36.4 | 39.6 | 43.4 | 43.1 | 51 | 56 | 59 | 64 | 78 | 95 | 94 |
| Rib roast----do | 20.0 | 29.0 | 29.7 | 30.2 | 30.9 | 33.4 | 36.4 | 35.9 | 45 | 49 | 51 | 55 | 67 | 82 | 80 |
| Chuck roast----do | 16.2 | 20.9 | 21.6 | 22.3 | 23.3 | 26.1 | 29.5 | 29.2 | 29 | 33 | 38 | 44 | 61 | 82 | 80 |
| Plate beef----do | 12.2 | 13.3 | 13.8 | 14.7 | 15.2 | 17.9 | 20.6 | 20.4 | 9 | 13 | 20 | 25 | 47 | 69 | 67 |
| Pork chops----do | 21.6 | 28.7 | 36.8 | 38.3 | 36 9 | 31.3 | 37.1 | 37.1 | 33 | 70 | 77 | 71 | 45 | 72 | 72 |
| Bacon, sliced----do | 26.8 | 36.2 | 46.6 | 48.5 | 48.1 | 42.9 | 43.3 | 42.5 | 35 | 74 | 81 | 79 | 60 | 62 | 59 |
| Ham, sliced----do | 26.5 | 44.3 | 53.5 | 54.5 | 56.7 | 50.6 | 54.7 | 53.9 | 67 | 102 | 106 | 114 | 91 | 106 | 103 |
| Lamb, leg of----do | 20.2 | 38.8 | 38.6 | 37.9 | 40.0 | 39.7 | 41.8 | 35.8 | 92 | 91 | 88 | 98 | 97 | 107 | 77 |
| Hens----do | 22.2 | 36.1 | 37.9 | 40.5 | 38.9 | 37.7 | 41.8 | 38.2 | 63 | 71 | 82 | 75 | 70 | 88 | 72 |
| Salmon, red, canned ----pound | ---- | 31.1 | 31.2 | 37.8 | 32.7 | 35.4 | 31.5 | 31.8 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Milk, fresh----quart | 8.9 | 13.8 | 13.8 | 13.9 | 14.0 | 14.1 | 14.2 | 14.0 | 55 | 55 | 56 | 57 | 58 | 60 | 57 |
| Milk, evaporated ----16-ounce can | ---- | 11.8 | 11.2 | 11.5 | 11.4 | 11.1 | 11.1 | 10.3 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Butter----pound | 40.4 | 50.1 | 53.3 | 50.9 | 58.4 | 55.1 | 55.8 | 48.1 | 24 | 32 | 26 | 45 | 36 | 38 | 19 |
| Oleomargarine (all butter substitutes) ----pound | ---- | 29.3 | 30.1 | 30.5 | 28.6 | 27.2 | 27.4 | 26.0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Cheese----do | 22.0 | 35.6 | 36.5 | 36.5 | 37.1 | 38.2 | 38.1 | 36.0 | 62 | 66 | 66 | 69 | 74 | 73 | 64 |
| Lard----do | 15.8 | 17.2 | 23.2 | 21.5 | 19.1 | 17.8 | 18.5 | 16.8 | 9 | 47 | 36 | 21 | 13 | 17 | 6 |
| Vegetable lard substitute----pound | ---- | 24.5 | 25.9 | 25.7 | 25.1 | 24.9 | 24.8 | 24.3 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Eggs, strictly fresh ----dozen | 25.2 | 32.1 | 38.1 | 38.6 | 33.9 | 35.8 | 36.7 | 34.5 | 27 | 51 | 53 | 35 | 42 | 46 | 37 |
| Bread----pound | 5.6 | 8.7 | 9.4 | 9.4 | 9.4 | 9.1 | 9.0 | 8.8 | 55 | 68 | 68 | 68 | 63 | 61 | 57 |
| Flour----do | 3.3 | 4.6 | 6.1 | 6.1 | 5.5 | 5.4 | 5.1 | 4.9 | 39 | 85 | 85 | 67 | 64 | 55 | 48 |
| Corn meal----do | 2.9 | 4.4 | 5.5 | 5.1 | 5.1 | 5.3 | 5.3 | 5.3 | 52 | 90 | 76 | 76 | 83 | 83 | 83 |
| Rolled oats----do | ---- | 8.8 | 9.3 | 9.1 | 9.0 | 8.9 | 8.9 | 8.7 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Corn flakes ---8-ounce package | ---- | 9.7 | 11.0 | 11.0 | 10.2 | 9.6 | 9.5 | 9.4 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Wheat cereal --28-ounce package | ---- | 24.3 | 24.6 | 25.4 | 25.4 | 25.6 | 25.5 | 25.5 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Macaroni----pound | ---- | 19.5 | 20.4 | 20.2 | 20.0 | 19.8 | 19.6 | 19.5 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Rice----do | 8.6 | 9.8 | 11.0 | 11.7 | 10.7 | 10.0 | 9.8 | 9.5 | 14 | 28 | 36 | 24 | 16 | 14 | 10 |
| Beans, navy----do | ---- | 9.8 | 10.4 | 9.3 | 9.1 | 11.5 | 14.2 | 11.8 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Potatoes----do | 1.5 | 2.8 | 2.4 | 6.7 | 3.7 | 3.5 | 2.3 | 4.1 | 87 | 60 | 347 | 147 | 133 | 53 | 173 |
| Onions----do | ---- | 5.9 | 6.9 | 6.3 | 7.4 | 7.4 | 8.2 | 5.6 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Cabbage----do | ---- | 7.1 | 5.5 | 7.4 | 5.5 | 6.8 | 5.2 | 9.8 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Pork and beans ----No. 2 can | ---- | 12.7 | 12.6 | 12.0 | 11.6 | 11.4 | 11.9 | 11.0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Corn, canned---do | ---- | 15.8 | 18.0 | 16.5 | 15.8 | 15.9 | 15.8 | 15.4 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Peas, canned---do | ---- | 18.0 | 18.5 | 17.6 | 17.0 | 16.7 | 16.7 | 16.4 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Tomatoes, canned ----No. 2 can | ---- | 12.9 | 13.9 | 12.0 | 12.1 | 11.7 | 13.1 | 12.6 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Sugar, granulated ----pound | 5.4 | 9.9 | 7.5 | 6.6 | 7.3 | 7.1 | 6.4 | 6.3 | 83 | 39 | 22 | 35 | 31 | 19 | 17 |
| Tea----do | 54.3 | 71.0 | 75.5 | 76.3 | 77.6 | 77.2 | 77.6 | 77.4 | 31 | 39 | 41 | 43 | 42 | 43 | 43 |
| Coffee----do | 29.8 | 41.8 | 52.1 | 51.1 | 48.8 | 48.9 | 49.6 | 41.4 | 40 | 75 | 71 | 64 | 64 | 66 | 39 |
| Prunes----do | ---- | 17.5 | 17.4 | 17.1 | 15.5 | 13.6 | 14.3 | 18.1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Raisins----do | ---- | 15.6 | 14.5 | 14.6 | 14.3 | 13.6 | 11.5 | 12.1 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Bananas----dozen | ---- | 37.2 | 37.4 | 35.5 | 34.0 | 33.0 | 31.8 | 30.6 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| Oranges----do | ---- | 40.2 | 51.8 | 52.6 | 48.3 | 55.2 | 39.8 | 60.9 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
| All articles combined [1] | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 44.1 | 53.8 | 65.6 | 56.6 | 55.1 | 54.6 | 54.1 |

[1] Beginning with January, 1921, index numbers showing the trend in the retail cost of food have been composed of the articles shown in Tables 1 and 2, weighted according to the consumption of the average family. From January, 1913, to December, 1920, the index numbers included the following articles: Sirloin steak, round steak, rib roast, chuck roast, plate beef, pork chops, bacon, ham, lard, hens, flour, corn meal, eggs, butter, milk, bread, potatoes, sugar, cheese, rice, coffee, and tea.

Table 3 shows the trend in the retail cost of three important groups of food commodities, viz, cereals, meats, and dairy products, by years, from 1913 to 1929, and by months for 1928, 1929, and 1930. The articles within these groups are as follows:

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.

TABLE 3.—INDEX NUMBERS OF RETAIL COST OF CEREALS, MEATS, AND DAIRY PRODUCTS FOR THE UNITED STATES, 1913 TO APRIL, 1930

[Average cost in 1913=100.0]

| Year and month | Cereals | Meats | Dairy products | Year and month | Cereals | Meats | Dairy products |
|---|---|---|---|---|---|---|---|
| 1913: Average for year | 100.0 | 100.0 | 100.0 | 1928—Continued. | | | |
| 1914: Average for year | 106.7 | 103.4 | 97.1 | September | 166.7 | 195.8 | 151.2 |
| 1915: Average for year | 121.6 | 99.6 | 96.1 | October | 165.9 | 188.9 | 151.1 |
| 1916: Average for year | 126.8 | 108.2 | 103.2 | November | 165.3 | 184.9 | 152.5 |
| 1917: Average for year | 186.5 | 137.0 | 127.6 | December | 164.2 | 179.1 | 153.5 |
| 1918: Average for year | 194.3 | 172.8 | 153.4 | 1929: Average for year | 164.1 | 188.4 | 148.6 |
| 1919: Average for year | 198.0 | 184.2 | 176.6 | January | 164.1 | 180.9 | 151.9 |
| 1920: Average for year | 232.1 | 185.7 | 185.1 | February | 164.1 | 180.3 | 152.6 |
| 1921: Average for year | 179.8 | 158.1 | 149.5 | March | 164.1 | 182.8 | 152.4 |
| 1922: Average for year | 159.3 | 150.3 | 135.9 | April | 164.1 | 187.5 | 148.9 |
| 1923: Average for year | 156.9 | 149.0 | 147.6 | May | 163.5 | 191.2 | 147.5 |
| 1924: Average for year | 160.4 | 150.2 | 142.8 | June | 163.0 | 192.4 | 146.8 |
| 1925: Average for year | 176.2 | 163.0 | 147.1 | July | 163.5 | 195.9 | 146.8 |
| 1926: Average for year | 175.5 | 171.3 | 145.5 | August | 164.7 | 196.0 | 147.1 |
| 1927: Average for year | 170.7 | 169.9 | 148.7 | September | 165.2 | 194.2 | 148.1 |
| 1928: Average for year | 167.2 | 179.2 | 150.0 | October | 163.5 | 189.2 | 149.3 |
| January | 168.0 | 168.3 | 152.2 | November | 163.6 | 184.1 | 147.0 |
| February | 168.0 | 167.8 | 150.7 | December | 162.9 | 181.8 | 144.9 |
| March | 166.8 | 167.1 | 150.7 | 1930: | | | |
| April | 167.2 | 170.3 | 147.8 | January | 162.9 | 183.6 | 138.9 |
| May | 168.3 | 175.4 | 147.3 | February | 161.6 | 183.1 | 138.5 |
| June | 169.8 | 177.7 | 146.1 | March | 160.9 | 183.0 | 137.6 |
| July | 169.3 | 184.4 | 147.1 | April | 160.3 | 183.3 | 138.9 |
| August | 168.2 | 189.5 | 148.3 | | | | |

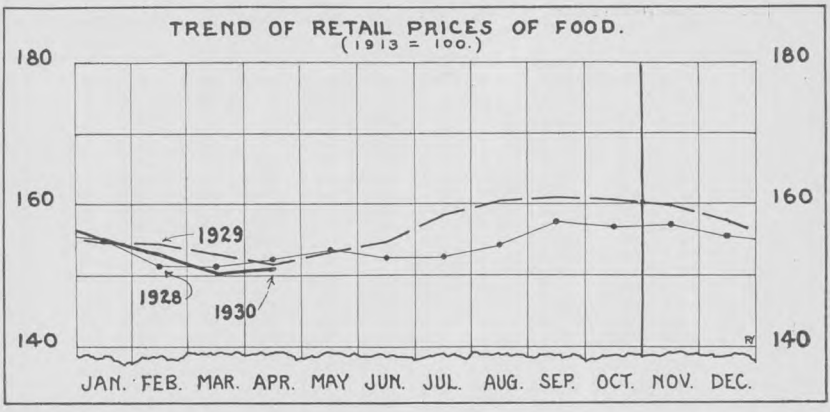
## Index Numbers of Retail Prices of Food in the United States

IN TABLE 4 index numbers are given which show the changes in the retail prices of specified food articles, by years, for 1913 and 1920 to 1929,[2] by months for 1929 and for January through April, 1930. These index numbers, or relative prices, are based on the year 1913 as 100, and are computed by dividing the average price of each commodity for each month and each year by the average price of that commodity for 1913. These figures must be used with caution. For example, the relative price of sirloin steak for the year 1929 was 196.9, which means that the average money price for the year 1929 was 96.9 per cent higher than the average money price for the year 1913. As compared with the relative price, 188.2 in 1928, the figures for 1929 show an increase of 8.7 points, but an increase of 4.6 per cent in the year.

In the last column of Table 4 are given index numbers showing changes in the retail cost of all articles of food combined. Since January, 1921, these index numbers have been computed from the average prices of the articles of food shown in Tables 1 and 2 weighted according to the average family consumption in 1918

[2] For index numbers of each month, January, 1913, to December, 1928, see Bulletin No. 396, pp. 44 to 61; and Bulletin No. 495, pp. 32 to 45.

(See March, 1921, issue, p. 25.) Although previous to January, 1921, the number of food articles has varied, these index numbers have been so computed as to be strictly comparable for the entire period.




The index numbers based on the average for the year 1913 as 100 are 150.1 for March, 1930, and 151.2 for April, 1930.

The curve shown in the chart on this page pictures more readily to the eye the changes in the cost of the food budget than do the index numbers given in the table.

TABLE 4.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD, BY YEARS, 1913, 1920 TO 1929, AND BY MONTHS FOR 1929 AND 1930

[Average for year 1913=100.0]

| Year and month | Sirloin steak | Round steak | Rib roast | Chuck roast | Plate beef | Pork chops | Bacon | Ham | Hens | Milk | Butter | Cheese |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 209.9 | 187.6 | 183.0 | 188.2 |
| 1921 | 152.8 | 154.3 | 147.0 | 132.5 | 118.2 | 166.2 | 158.2 | 181.4 | 186.4 | 164.0 | 135.0 | 153.9 |
| 1922 | 147.2 | 144.8 | 139.4 | 123.1 | 105.8 | 157.1 | 147.4 | 181.4 | 169.0 | 147.2 | 125.1 | 148.9 |
| 1923 | 153.9 | 150.2 | 143.4 | 126.3 | 106.6 | 144.8 | 144.8 | 169.1 | 164.3 | 155.1 | 144.7 | 167.0 |
| 1924 | 155.9 | 151.6 | 145.5 | 130.0 | 109.1 | 146.7 | 139.6 | 168.4 | 165.7 | 155.1 | 135.0 | 159.7 |
| 1925 | 159.8 | 155.6 | 149.5 | 135.0 | 114.1 | 174.3 | 173.0 | 195.5 | 171.8 | 157.3 | 143.1 | 166.1 |
| 1926 | 162.6 | 159.6 | 153.0 | 140.6 | 120.7 | 188.1 | 186.3 | 213.4 | 182.2 | 157.3 | 138.6 | 165.6 |
| 1927 | 167.7 | 166.4 | 158.1 | 148.1 | 127.3 | 175.2 | 174.8 | 204.5 | 173.2 | 158.4 | 145.2 | 170.1 |
| 1928 | 188.2 | 188.3 | 176.8 | 174.4 | 157.0 | 165.7 | 163.0 | 196.7 | 175.6 | 159.6 | 147.5 | 174.2 |
| 1929 | 196.9 | 199.1 | 185.4 | 186.9 | 172.7 | 175.7 | 161.1 | 204.1 | 186.4 | 160.7 | 143.9 | 171.9 |
| 1929: January | 190.6 | 191.0 | 180.8 | 181.3 | 170.2 | 153.8 | 159.3 | 200.0 | 184.0 | 160.7 | 150.7 | 173.8 |
| February | 188.2 | 188.8 | 178.8 | 179.4 | 167.8 | 157.1 | 158.2 | 199.6 | 186.4 | 160.7 | 152.7 | 172.9 |
| March | 188.6 | 189.2 | 179.3 | 180.0 | 167.8 | 167.6 | 158.9 | 201.9 | 190.1 | 160.7 | 152.5 | 172.9 |
| April | 192.9 | 194.6 | 183.8 | 184.4 | 170.2 | 176.7 | 160.4 | 203.3 | 196.2 | 159.6 | 145.7 | 172.4 |
| May | 198.4 | 201.3 | 187.9 | 190.0 | 174.4 | 179.5 | 160.7 | 204.8 | 198.1 | 159.6 | 142.3 | 171.9 |
| June | 201.6 | 205.4 | 189.9 | 191.9 | 176.0 | 179.0 | 162.2 | 205.6 | 193.9 | 159.6 | 140.5 | 171.9 |
| July | 206.7 | 210.8 | 192.9 | 195.6 | 177.7 | 188.1 | 164.1 | 209.7 | 187.3 | 160.7 | 139.4 | 171.5 |
| August | 206.3 | 210.8 | 191.9 | 194.4 | 176.0 | 192.4 | 165.6 | 211.2 | 185.0 | 160.7 | 140.5 | 171.0 |
| September | 202.8 | 206.7 | 189.4 | 191.9 | 175.2 | 193.8 | 164.4 | 209.7 | 184.0 | 160.7 | 143.1 | 171.9 |
| October | 198.0 | 199.6 | 186.9 | 187.5 | 173.6 | 185.2 | 161.9 | 204.8 | 180.3 | 161.8 | 145.4 | 171.5 |
| November | 194.1 | 196.4 | 183.3 | 183.8 | 171.1 | 170.5 | 159.3 | 200.4 | 177.0 | 161.8 | 139.7 | 171.0 |
| December | 192.5 | 194.6 | 181.8 | 183.1 | 170.2 | 163.3 | 157.4 | 198.5 | 174.2 | 161.8 | 134.7 | 170.6 |
| 1930: January | 192.9 | 195.5 | 183.3 | 184.4 | 172.7 | 168.1 | 157.0 | 199.3 | 178.4 | 159.6 | 121.9 | 169.2 |
| February | 191.3 | 194.2 | 181.8 | 184.4 | 171.9 | 167.6 | 157.8 | 200.7 | 179.3 | 158.4 | 122.7 | 167.0 |
| March | 190.6 | 192.8 | 181.3 | 182.5 | 170.2 | 171.9 | 157.8 | 201.1 | 179.8 | 157.3 | 121.9 | 164.7 |
| April | 190.2 | 193.3 | 181.3 | 182.5 | 168.6 | 176.7 | 157.4 | 200.4 | 179.3 | 157.3 | 125.6 | 162.9 |

| Year and month | Lard | Eggs | Bread | Flour | Corn meal | Rice | Potatoes | 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 | 186.7 | 197.4 | 205.4 | 245.5 | 216.7 | 200.0 | 370.6 | 352.7 | 134.7 | 157.7 | 203.4 |
| 1921 | 113.9 | 147.5 | 176.8 | 175.8 | 150.0 | 109.2 | 182.4 | 145.5 | 128.1 | 121.8 | 153.3 |
| 1922 | 107.6 | 128.7 | 155.4 | 154.5 | 130.0 | 109.2 | 164.7 | 132.7 | 125.2 | 121.1 | 141.6 |
| 1923 | 112.0 | 134.8 | 155.4 | 142.4 | 136.7 | 109.2 | 170.6 | 183.6 | 127.8 | 126.5 | 146.2 |
| 1924 | 120.3 | 138.6 | 157.1 | 148.5 | 156.7 | 116.1 | 158.8 | 167.3 | 131.4 | 145.3 | 145.9 |
| 1925 | 147.5 | 151.0 | 167.9 | 184.8 | 180.0 | 127.6 | 211.8 | 130.9 | 138.8 | 172.8 | 157.4 |
| 1926 | 138.6 | 140.6 | 167.9 | 181.8 | 170.0 | 133.3 | 288.2 | 125.5 | 141.0 | 171.1 | 160.6 |
| 1927 | 122.2 | 131.0 | 166.1 | 166.7 | 173.3 | 123.0 | 223.5 | 132.7 | 142.5 | 162.1 | 155.4 |
| 1928 | 117.7 | 134.5 | 162.5 | 163.6 | 176.7 | 114.9 | 158.8 | 129.1 | 142.3 | 165.1 | 154.3 |
| 1929 | 115.8 | 142.0 | 160.7 | 154.5 | 176.7 | 111.5 | 188.2 | 120.0 | 142.6 | 164.8 | 156.7 |
| 1929: January | 117.1 | 146.7 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 121.8 | 142.5 | 166.1 | 154.6 |
| February | 116.5 | 142.3 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 120.0 | 142.6 | 166.1 | 154.4 |
| March | 116.5 | 122.0 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 118.2 | 142.6 | 166.4 | 153.0 |
| April | 117.1 | 106.4 | 160.7 | 154.5 | 176.7 | 112.6 | 135.3 | 116.4 | 142.6 | 166.4 | 151.6 |
| May | 116.5 | 112.2 | 160.7 | 151.5 | 176.7 | 111.5 | 158.8 | 116.4 | 142.6 | 166.1 | 153.3 |
| June | 115.8 | 120.0 | 160.7 | 148.5 | 176.7 | 111.5 | 182.4 | 116.4 | 142.5 | 165.8 | 154.8 |
| July | 115.8 | 127.8 | 160.7 | 151.5 | 176.7 | 111.5 | 229.4 | 116.4 | 142.3 | 165.8 | 158.5 |
| August | 116.5 | 140.0 | 160.7 | 157.6 | 176.7 | 112.6 | 235.3 | 120.0 | 142.5 | 165.4 | 160.2 |
| September | 117.1 | 153.6 | 160.7 | 160.6 | 176.7 | 111.5 | 229.4 | 121.8 | 142.6 | 165.1 | 160.8 |
| October | 115.8 | 168.1 | 158.9 | 157.6 | 176.7 | 111.5 | 223.5 | 121.8 | 142.6 | 164.8 | 160.5 |
| November | 113.9 | 183.5 | 158.9 | 157.6 | 176.7 | 111.5 | 223.5 | 121.8 | 142.3 | 162.1 | 159.7 |
| December | 111.4 | 182.0 | 158.9 | 154.5 | 180.0 | 110.3 | 223.5 | 120.0 | 142.8 | 155.4 | 158.0 |
| 1930: January | 108.9 | 160.6 | 158.9 | 154.5 | 180.0 | 110.3 | 229.4 | 120.0 | 143.4 | 147.0 | 155.4 |
| February | 108.2 | 136.8 | 157.1 | 154.5 | 176.7 | 110.3 | 229.4 | 118.2 | 143.2 | 143.3 | 153.0 |
| March | 107.0 | 102.3 | 157.1 | 151.5 | 176.7 | 109.2 | 229.4 | 116.4 | 142.8 | 140.6 | 150.1 |
| April | 106.3 | 100.0 | 157.1 | 148.5 | 176.7 | 109.2 | 241.2 | 114.5 | 142.3 | 138.9 | 151.2 |

[1] 22 articles in 1913–1920; 43 articles in 1921–1930.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930

[Exact comparison of prices in different cities can not be made for some articles, particularly meats and vegetables, owing to differences in trade practices]

| Article | Atlanta, Ga. | | | Baltimore, Md. | | | Birmingham, Ala. | | | Boston, Mass. | | | Bridgeport, Conn. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* |
| Sirloin steak, pound | 49.3 | 47.5 | 48.0 | 46.6 | 45.0 | 45.8 | 49.7 | 49.4 | 49.7 | [1] 73.8 | [1] 72.7 | [1] 73.0 | 56.5 | 55.5 | 54.7 |
| Round steak, do | 44.3 | 42.5 | 43.0 | 43.0 | 41.8 | 42.3 | 42.2 | 43.1 | 43.1 | 57.1 | 57.8 | 57.4 | 51.0 | 49.9 | 50.7 |
| Rib roast, do | 36.1 | 32.6 | 33.7 | 34.9 | 35.0 | 35.3 | 35.4 | 34.1 | 33.6 | 43.3 | 43.0 | 43.0 | 42.3 | 40.4 | 39.8 |
| Chuck roast, do | 29.9 | 27.2 | 27.8 | 29.6 | 28.4 | 28.0 | 29.2 | 29.7 | 29.0 | 34.5 | 33.5 | 34.0 | 34.2 | 33.6 | 33.8 |
| Plate beef, do | 18.8 | 20.6 | 20.6 | 20.0 | 20.5 | 20.4 | 19.0 | 19.0 | 19.2 | 22.4 | 23.5 | 22.9 | 16.0 | 16.1 | 15.8 |
| Pork chops, do | 35.3 | 33.2 | 35.5 | 35.7 | 34.0 | 36.0 | 34.2 | 33.8 | 35.2 | 39.1 | 39.3 | 39.5 | 40.2 | 37.8 | 39.8 |
| Bacon, sliced, do | 41.8 | 39.0 | 39.0 | 38.0 | 38.0 | 38.9 | 41.7 | 38.8 | 39.1 | 43.6 | 39.8 | 40.4 | 47.6 | 46.8 | 47.9 |
| Ham, sliced, do | 56.0 | 51.5 | 52.5 | 55.1 | 54.9 | 54.2 | 52.8 | 53.8 | 54.4 | 59.1 | 57.6 | 57.2 | 57.7 | 57.1 | 55.8 |
| Lamb, leg of, do | 42.3 | 37.8 | 37.4 | 41.5 | 36.3 | 35.6 | 44.1 | 39.4 | 38.3 | 41.1 | 37.1 | 34.8 | 41.2 | 35.8 | 35.0 |
| Hens, do | 37.2 | 36.9 | 36.3 | 43.8 | 40.0 | 39.8 | 35.5 | 34.7 | 34.4 | 45.9 | 39.4 | 39.9 | 45.7 | 39.8 | 40.8 |
| Salmon, red, canned, pound | 34.7 | 33.4 | 33.4 | 27.5 | 27.8 | 27.8 | 32.6 | 32.3 | 32.5 | 30.3 | 31.0 | 31.3 | 29.4 | 31.4 | 32.0 |
| Milk, fresh, quart | 16.5 | 16.0 | 16.0 | 14.0 | 14.0 | 14.0 | 17.3 | 17.0 | 17.0 | 15.5 | 15.7 | 15.5 | 16.0 | 16.0 | 16.0 |
| Milk, evaporated, 16-ounce can | 13.4 | 11.0 | 11.0 | 10.7 | 10.1 | 10.0 | 12.2 | 10.6 | 10.8 | 11.8 | 11.2 | 11.2 | 11.4 | 10.3 | 10.5 |
| Butter, pound | 58.8 | 51.4 | 52.2 | 59.9 | 50.1 | 51.1 | 59.0 | 49.9 | 51.9 | 58.5 | 48.2 | 49.5 | 57.5 | 46.2 | 47.5 |
| Oleomargarine (all butter substitutes), pound | 29.7 | 27.0 | 26.9 | 28.6 | 27.5 | 28.0 | 31.8 | 29.9 | 29.0 | 29.3 | 28.7 | 28.7 | 25.8 | 26.4 | 25.8 |
| Cheese, do | 36.4 | 33.9 | 33.5 | 36.3 | 35.2 | 35.1 | 36.9 | 33.7 | 33.2 | 39.4 | 38.7 | 37.5 | 43.4 | 41.1 | 40.2 |
| Lard, do | 18.2 | 16.4 | 16.0 | 16.5 | 15.2 | 15.3 | 17.9 | 16.4 | 16.2 | 17.9 | 16.7 | 17.0 | 17.5 | 16.3 | 15.9 |
| Vegetable lard substitute, pound | 23.1 | 20.0 | 20.1 | 23.3 | 22.6 | 22.8 | 21.2 | 20.8 | 21.4 | 25.5 | 25.8 | 25.8 | 25.4 | 25.4 | 25.4 |
| Eggs, strictly fresh, dozen | 34.6 | 33.7 | 34.5 | 34.4 | 33.5 | 33.4 | 35.5 | 32.1 | 32.1 | 48.9 | 49.3 | 47.6 | 46.2 | 48.9 | 44.7 |
| Bread, pound | 10.8 | 9.9 | 9.9 | 8.5 | 8.5 | 8.6 | 9.9 | 9.7 | 9.7 | 8.7 | 8.8 | 8.8 | 8.7 | 8.6 | 8.7 |
| Flour, do | 6.5 | 5.9 | 5.9 | 4.7 | 4.7 | 4.6 | 6.5 | 6.2 | 6.1 | 5.4 | 5.3 | 5.3 | 5.1 | 5.2 | 5.0 |
| Corn meal, do | 4.5 | 4.0 | 4.0 | 4.2 | 4.2 | 3.9 | 4.1 | 4.2 | 4.3 | 6.7 | 7.1 | 7.1 | 7.2 | 7.0 | 7.0 |
| Rolled oats, do | 9.6 | 9.1 | 8.8 | 8.1 | 8.1 | 8.1 | 9.5 | 9.6 | 9.9 | 8.8 | 8.4 | 8.4 | 8.5 | 8.4 | 8.4 |
| Corn flakes, 8-ounce package | 9.8 | 9.7 | 9.7 | 8.8 | 8.8 | 8.8 | 9.8 | 9.4 | 9.4 | 9.4 | 9.2 | 9.2 | 9.3 | 9.2 | 9.2 |
| Wheat cereal, 28-ounce package | 27.0 | 26.8 | 26.8 | 24.6 | 24.1 | 24.1 | 27.3 | 27.2 | 27.1 | 25.1 | 25.1 | 25.1 | 24.2 | 24.8 | 24.7 |
| Macaroni, pound | 21.8 | 20.5 | 20.5 | 19.0 | 18.9 | 19.0 | 18.2 | 17.4 | 17.6 | 21.3 | 21.8 | 21.8 | 22.4 | 21.1 | 21.1 |
| Rice, do | 9.4 | 8.8 | 8.5 | 8.7 | 8.9 | 8.9 | 8.9 | 8.7 | 8.9 | 10.4 | 10.4 | 10.5 | 10.2 | 9.4 | 9.3 |
| Beans, navy, do | 16.0 | 14.5 | 13.8 | 13.7 | 11.7 | 11.0 | 14.8 | 12.7 | 12.8 | 13.8 | 12.4 | 12.3 | 14.5 | 12.1 | 11.7 |
| Potatoes, do | 3.2 | 4.7 | 4.6 | 1.9 | 3.9 | 3.9 | 3.8 | 4.7 | 4.9 | 2.1 | 3.8 | 4.0 | 1.9 | 3.4 | 3.5 |
| Onions, do | 9.4 | 7.1 | 7.5 | 8.5 | 4.9 | 5.8 | 9.0 | 6.0 | 6.7 | 8.4 | 5.0 | 5.8 | 7.6 | 4.9 | 6.0 |
| Cabbage, do | 4.6 | 7.9 | 8.5 | 4.8 | 8.6 | 10.3 | 4.9 | 7.7 | 9.6 | 5.9 | 9.5 | 11.0 | 5.4 | 7.3 | 10.5 |
| Pork and beans, No. 2 can | 11.7 | 9.7 | 9.9 | 11.0 | 10.5 | 10.5 | 11.7 | 10.6 | 10.6 | 12.7 | 12.8 | 12.8 | 11.9 | 10.8 | 10.3 |
| Corn, canned, do | 17.9 | 16.5 | 16.5 | 16.4 | 16.5 | 16.4 | 16.8 | 15.9 | 15.4 | 17.3 | 17.2 | 17.2 | 18.2 | 17.1 | 16.8 |
| Peas, canned, do | 18.2 | 18.4 | 18.8 | 15.4 | 15.1 | 15.0 | 19.6 | 19.7 | 19.2 | 20.1 | 19.3 | 19.2 | 19.7 | 17.5 | 17.5 |
| Tomatoes, canned, No. 2 can | 13.2 | 11.5 | 11.5 | 11.4 | 11.1 | 10.8 | 13.0 | 11.0 | 11.3 | 13.2 | 14.4 | 14.7 | 14.3 | 14.1 | 14.1 |
| Sugar, granulated, pound | 6.8 | 6.9 | 6.5 | 5.2 | 5.5 | 5.3 | 6.7 | 6.4 | 6.3 | 6.4 | 6.3 | 6.2 | 6.4 | 6.3 | 6.1 |
| Tea, do | 105.6 | 97.8 | 96.5 | 72.6 | 73.7 | 72.6 | 95.6 | 94.6 | 93.2 | 76.4 | 79.6 | 80.2 | 57.2 | 55.5 | 54.7 |
| Coffee, do | 52.7 | 40.5 | 40.0 | 45.4 | 39.2 | 38.1 | 51.5 | 44.1 | 44.2 | 53.8 | 45.3 | 44.0 | 47.5 | 37.6 | 36.9 |
| Prunes, do | 16.0 | 18.6 | 19.1 | 12.2 | 16.2 | 16.1 | 16.8 | 20.4 | 20.1 | 13.7 | 18.3 | 18.1 | 15.2 | 18.0 | 18.0 |
| Raisins, do | 13.5 | 14.2 | 14.2 | 10.4 | 11.2 | 11.1 | 12.8 | 12.9 | 12.9 | 10.7 | 11.6 | 11.5 | 12.5 | 12.0 | 11.8 |
| Bananas, dozen | 26.9 | 27.5 | 27.5 | 23.9 | 23.1 | 23.2 | 36.3 | 34.1 | 34.4 | 42.0 | 40.0 | 41.0 | 33.3 | 33.8 | 33.4 |
| Oranges, do | 31.4 | 48.9 | 52.8 | 33.6 | 42.3 | 55.1 | 33.5 | 46.1 | 57.6 | 39.4 | 51.0 | 66.9 | 46.9 | 56.2 | 59.9 |

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Buffalo, N. Y. | | | Butte, Mont. | | | Charleston, S. C. | | | Chicago, Ill. | | | Cincinnati, Ohio | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak--pound | 48.0 | 47.8 | 48.1 | 36.4 | 36.2 | 36.2 | 38.8 | 38.8 | 38.5 | 51.9 | 53.1 | 52.8 | 46.6 | 45.3 | 45.5 |
| Round steak----do | 41.4 | 41.5 | 41.7 | 34.8 | 35.3 | 35.7 | 37.7 | 37.3 | 37.7 | 43.9 | 44.1 | 44.2 | 43.5 | 42.3 | 42.6 |
| Rib roast----do | 35.4 | 35.3 | 35.1 | 31.6 | 31.9 | 32.1 | 32.4 | 31.0 | 31.0 | 39.6 | 40.0 | 39.6 | 38.1 | 38.0 | 38.3 |
| Chuck roast----do | 29.9 | 30.6 | 30.2 | 25.7 | 27.0 | 27.2 | 27.0 | 24.2 | 24.2 | 32.5 | 33.9 | 33.7 | 28.6 | 28.3 | 28.2 |
| Plate beef----do | 19.5 | 19.5 | 19.1 | 17.7 | 18.2 | 18.0 | 20.7 | 19.6 | 19.6 | 20.3 | 20.4 | 20.2 | 22.3 | 22.9 | 21.9 |
| Pork chops----do | 39.2 | 37.8 | 38.1 | 35.3 | 35.0 | 35.4 | 35.5 | 35.2 | 35.2 | 37.4 | 36.1 | 37.3 | 34.5 | 33.2 | 34.8 |
| Bacon, sliced----do | 40.2 | 39.5 | 38.9 | 48.8 | 48.0 | 48.0 | 36.1 | 37.5 | 36.9 | 48.0 | 47.3 | 46.8 | 38.6 | 39.8 | 38.9 |
| Ham, sliced----do | 53.3 | 52.3 | 51.2 | 54.2 | 55.7 | 56.0 | 47.8 | 47.1 | 47.1 | 54.0 | 56.7 | 56.0 | 53.6 | 53.5 | 52.7 |
| Lamb, leg of----do | 38.4 | 33.0 | 31.9 | 42.4 | 38.1 | 37.1 | 46.6 | 44.0 | 44.2 | 42.6 | 35.3 | 35.0 | 44.1 | 38.7 | 38.1 |
| Hens----do | 43.5 | 38.3 | 39.1 | 37.8 | 35.9 | 35.5 | 42.7 | 38.6 | 38.0 | 44.6 | 39.5 | 39.6 | 45.6 | 40.8 | 40.5 |
| Salmon, red, canned ----pound | 29.4 | 29.7 | 29.6 | 32.0 | 31.7 | 32.6 | 28.3 | 30.1 | 29.9 | 33.4 | 33.0 | 33.2 | 28.9 | 30.8 | 30.2 |
| Milk, fresh----quart | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 19.0 | 18.3 | 18.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| Milk, evaporated ----16-ounce can | 10.7 | 9.9 | 10.0 | 10.6 | 10.3 | 9.9 | 10.9 | 10.0 | 10.0 | 10.8 | 10.0 | 10.0 | 10.7 | 10.4 | 10.3 |
| Butter----pound | 55.5 | 45.9 | 47.7 | 52.5 | 45.2 | 45.3 | 56.6 | 46.7 | 47.3 | 53.4 | 44.7 | 45.8 | 57.0 | 49.1 | 50.0 |
| Oleomargarine (all butter substitutes) ----pound | 26.3 | 25.8 | 25.5 | ---- | ---- | ---- | 29.0 | 27.3 | 27.2 | 26.6 | 25.2 | 25.1 | 28.3 | 26.2 | 26.3 |
| Cheese----do | 39.1 | 37.4 | 37.4 | 36.5 | 37.1 | 36.9 | 34.6 | 32.9 | 33.3 | 42.1 | 40.7 | 40.0 | 39.2 | 38.6 | 38.2 |
| Lard----do | 17.5 | 16.2 | 16.1 | 21.6 | 20.5 | 20.9 | 19.1 | 18.6 | 18.3 | 18.7 | 17.5 | 17.3 | 17.3 | 16.6 | 16.2 |
| Vegetable lard substitute----pound | 24.7 | 24.5 | 24.3 | 30.7 | 29.8 | 29.7 | 21.3 | 21.0 | 21.2 | 25.7 | 25.5 | 25.5 | 25.4 | 25.9 | 25.8 |
| Eggs, strictly fresh ----dozen | 39.0 | 39.7 | 37.0 | 40.4 | 41.5 | 39.6 | 36.9 | 35.2 | 35.6 | 39.3 | 38.3 | 36.9 | 33.8 | 32.0 | 32.7 |
| Bread----pound | 8.3 | 8.1 | 8.1 | 9.8 | 9.7 | 9.7 | 11.0 | 10.8 | 10.8 | 9.9 | 9.4 | 9.4 | 8.6 | 8.7 | 8.7 |
| Flour----do | 4.6 | 4.5 | 4.4 | 4.9 | 4.7 | 4.7 | 6.4 | 6.4 | 6.4 | 4.6 | 4.4 | 4.4 | 5.3 | 5.2 | 5.1 |
| Corn meal----do | 5.1 | 5.0 | 5.0 | 6.4 | 6.1 | 6.1 | 4.0 | 4.1 | 4.1 | 6.9 | 7.0 | 6.9 | 4.5 | 4.8 | 4.8 |
| Rolled oats----do | 8.6 | 8.4 | 8.4 | 8.1 | 8.7 | 8.6 | 9.4 | 9.3 | 9.3 | 8.3 | 8.2 | 8.1 | 8.9 | 8.9 | 9.0 |
| Corn flakes ---8-ounce package | 9.3 | 9.1 | 9.0 | 10.3 | 10.2 | 10.2 | 10.0 | 10.0 | 10.0 | 9.2 | 9.1 | 9.2 | 9.6 | 9.7 | 9.8 |
| Wheat cereal --28-ounce package | 24.9 | 24.8 | 24.6 | 27.9 | 28.0 | 28.0 | 25.6 | 25.2 | 25.5 | 24.7 | 25.4 | 25.4 | 24.9 | 24.9 | 24.9 |
| Macaroni----pound | 21.5 | 21.3 | 20.7 | 19.9 | 19.9 | 19.7 | 18.6 | 19.0 | 19.2 | 18.6 | 18.7 | 18.7 | 18.1 | 19.4 | 19.4 |
| Rice----do | 9.4 | 9.1 | 9.1 | 10.6 | 11.1 | 11.0 | 6.7 | 6.7 | 6.8 | 10.6 | 10.1 | 10.1 | 9.4 | 9.9 | 9.9 |
| Beans, navy----do | 14.6 | 11.9 | 11.3 | 13.5 | 11.7 | 11.7 | 15.2 | 14.7 | 14.4 | 13.7 | 12.4 | 12.1 | 13.9 | 10.4 | 10.2 |
| Potatoes----do | 1.4 | 3.3 | 3.5 | 1.6 | 3.5 | 3.7 | 2.6 | 4.2 | 4.4 | 2.7 | 4.0 | 4.2 | 2.5 | 4.4 | 4.7 |
| Onions----do | 8.9 | 6.3 | 7.0 | 8.0 | 5.0 | 5.0 | 9.1 | 6.8 | 7.3 | 7.7 | 4.8 | 5.4 | 8.6 | 5.5 | 6.7 |
| Cabbage----do | 5.4 | 8.3 | 10.2 | 6.5 | 8.8 | 10.7 | 5.1 | 7.6 | 7.9 | 5.7 | 9.3 | 10.0 | 5.2 | 9.4 | 10.8 |
| Pork and beans ----No. 2 can | 10.3 | 9.8 | 9.8 | 13.9 | 13.2 | 13.2 | 11.4 | 10.0 | 10.0 | 12.6 | 11.8 | 11.5 | 11.4 | 11.1 | 11.1 |
| Corn, canned---do | 16.1 | 15.3 | 15.3 | 14.8 | 14.3 | 14.3 | 15.0 | 14.8 | 14.6 | 15.9 | 15.4 | 15.4 | 15.7 | 16.0 | 15.9 |
| Peas, canned----do | 15.9 | 15.4 | 15.4 | 14.2 | 14.6 | 14.6 | 16.3 | 16.5 | 16.5 | 16.6 | 16.1 | 16.0 | 16.5 | 17.0 | 16.9 |
| Tomatoes, canned ----No. 2 can | 13.8 | 13.2 | 13.5 | 12.9 | 13.5 | 13.7 | 11.7 | 10.5 | 10.5 | 14.0 | 14.1 | 13.9 | 13.7 | 13.4 | 13.4 |
| Sugar, granulated ----pound | 6.1 | 6.1 | 6.0 | 7.6 | 7.5 | 7.5 | 6.1 | 6.1 | 6.1 | 6.3 | 6.4 | 6.4 | 6.6 | 6.7 | 6.7 |
| Tea----do | 68.3 | 67.5 | 67.5 | 82.6 | 79.6 | 79.6 | 84.0 | 83.7 | 84.9 | 70.8 | 73.6 | 73.0 | 80.5 | 80.5 | 80.5 |
| Coffee----do | 48.0 | 39.6 | 39.1 | 55.1 | 48.8 | 48.1 | 46.5 | 39.4 | 39.5 | 47.6 | 41.1 | 41.5 | 46.0 | 38.8 | 38.8 |
| Prunes----do | 14.0 | 18.3 | 17.8 | 13.7 | 18.1 | 18.5 | 12.4 | 17.1 | 16.5 | 16.3 | 18.8 | 18.2 | 14.6 | 18.8 | 18.9 |
| Raisins----do | 11.0 | 12.1 | 11.9 | 13.2 | 13.4 | 13.4 | 9.9 | 11.0 | 11.0 | 11.6 | 12.4 | 12.5 | 11.9 | 12.2 | 12.2 |
| Bananas----dozen | 38.5 | 39.3 | 38.5 | [2]12.8 | [2]14.5 | [2]14.5 | 22.8 | 26.7 | 25.0 | 37.6 | 39.0 | 38.8 | 35.5 | 38.3 | 37.8 |
| Oranges----do | 47.5 | 54.1 | 61.7 | 43.8 | 59.4 | 66.7 | 27.1 | 38.1 | 46.0 | 44.7 | 58.7 | 64.7 | 38.3 | 49.8 | 63.2 |

[2] Per pound.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Cleveland, Ohio | | | Columbus, Ohio | | | Dallas, Tex. | | | Denver, Colo. | | | Detroit, Mich. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 3930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak--pound | 48.2 | 44.6 | 44.8 | 46.3 | 47.7 | 46.5 | 46.3 | 47.8 | 47.7 | 41.1 | 38.8 | 39.0 | 51.0 | 48.9 | 47.9 |
| Round steak---do | 42.3 | 39.6 | 39.6 | 40.9 | 43.8 | 42.9 | 44.3 | 46.2 | 46.2 | 37.8 | 35.9 | 35.9 | 42.3 | 39.9 | 39.4 |
| Rib roast-------do | 34.0 | 34.0 | 34.2 | 37.4 | 37.7 | 37.5 | 38.0 | 38.0 | 37.8 | 31.1 | 30.1 | 29.9 | 37.8 | 35.6 | 35.4 |
| Chuck roast-----do | 30.9 | 29.6 | 30.4 | 31.2 | 31.9 | 31.4 | 31.3 | 29.7 | 30.1 | 26.6 | 25.3 | 25.1 | 30.3 | 29.2 | 29.1 |
| Plate beef-------do | 20.5 | 20.3 | 20.7 | 22.3 | 23.7 | 24.0 | 24.5 | 24.4 | 24.7 | 16.9 | 17.3 | 17.1 | 20.1 | 19.6 | 19.6 |
| Pork chops------do | 38.1 | 35.3 | 37.5 | 35.8 | 34.8 | 37.0 | 37.0 | 37.0 | 36.7 | 35.6 | 33.3 | 34.7 | 40.2 | 36.8 | 38.5 |
| Bacon, sliced----do | 42.0 | 40.3 | 40.5 | 43.7 | 45.0 | 44.1 | 45.7 | 41.6 | 40.9 | 41.4 | 40.2 | 40.4 | 44.1 | 41.5 | 41.8 |
| Ham, sliced------do | 55.9 | 52.5 | 53.3 | 52.7 | 52.9 | 52.9 | 57.0 | 55.4 | 55.4 | 55.3 | 52.4 | 52.4 | 60.6 | 56.9 | 55.5 |
| Lamb, leg of----do | 40.5 | 34.3 | 33.4 | 46.7 | 41.1 | 37.7 | 47.5 | 39.9 | 40.7 | 38.9 | 32.3 | 31.8 | 42.7 | 35.3 | 35.5 |
| Hens-----------do | 44.3 | 39.4 | 39.1 | 43.0 | 39.4 | 39.4 | 36.0 | 33.4 | 33.8 | 35.2 | 31.2 | 31.2 | 44.6 | 39.0 | 39.5 |
| Salmon, red, canned ----------pound | 31.2 | 32.0 | 31.9 | 31.2 | 31.1 | 30.9 | 33.2 | 33.5 | 33.4 | 31.5 | 33.2 | 33.6 | 29.8 | 31.5 | 31.4 |
| Milk, fresh-----quart | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 13.0 | 13.0 | 13.0 | 12.0 | 11.3 | 11.3 | 14.0 | 13.0 | 13.0 |
| Milk, evaporated ------16-ounce can | 11.0 | 10.1 | 9.9 | 11.2 | 10.5 | 10.8 | 13.1 | 12.3 | 11.9 | 10.3 | 9.9 | 10.0 | 10.7 | 10.1 | 10.1 |
| Butter--------pound | 57.1 | 48.0 | 49.1 | 55.2 | 45.3 | 46.5 | 56.8 | 50.2 | 49.8 | 52.2 | 43.6 | 44.8 | 55.0 | 46.2 | 48.0 |
| Oleomargarine (all butter substitutes) ----------pound | 28.5 | 27.8 | 27.6 | 27.7 | 25.9 | 25.9 | 28.6 | 26.8 | 27.1 | 24.4 | 23.7 | 24.0 | 25.3 | 24.4 | 24.2 |
| Cheese----------do | 40.8 | 40.3 | 40.5 | 36.8 | 37.1 | 36.8 | 38.3 | 35.2 | 34.4 | 39.1 | 37.4 | 36.9 | 39.3 | 35.5 | 35.2 |
| Lard-----------do | 19.9 | 17.7 | 17.7 | 15.8 | 14.8 | 14.5 | 20.4 | 21.5 | 21.1 | 18.7 | 16.5 | 16.4 | 18.0 | 16.5 | 16.4 |
| Vegetable lard substitute--------pound | 26.3 | 26.2 | 26.2 | 26.9 | 26.8 | 26.8 | 23.8 | 22.3 | 22.1 | 21.4 | 20.3 | 20.1 | 26.2 | 25.8 | 26.0 |
| Eggs, strictly fresh ----------dozen | 38.1 | 35.9 | 35.5 | 31.7 | 29.1 | 29.5 | 33.1 | 34.4 | 31.5 | 32.4 | 28.7 | 29.3 | 38.5 | 35.0 | 32.7 |
| Bread---------pound | 7.8 | 7.8 | 7.8 | 7.7 | 7.7 | 7.7 | 9.2 | 8.4 | 7.9 | 7.6 | 7.6 | 7.6 | 8.1 | 7.9 | 8.0 |
| Flour----------do | 5.0 | 5.1 | 5.0 | 4.9 | 4.7 | 4.6 | 5.2 | 4.9 | 5.0 | 3.9 | 3.9 | 3.8 | 4.8 | 4.8 | 4.7 |
| Corn meal------do | 5.2 | 5.4 | 5.1 | 4.1 | 3.9 | 4.0 | 4.5 | 4.6 | 4.6 | 4.6 | 4.6 | 4.6 | 6.1 | 6.1 | 6.1 |
| Rolled oats-----do | 9.0 | 8.8 | 9.1 | 9.1 | 9.1 | 9.1 | 10.0 | 9.6 | 9.8 | 7.5 | 7.6 | 7.5 | 9.1 | 8.6 | 8.7 |
| Corn flakes ---8-ounce package | 9.7 | 9.8 | 9.9 | 10.0 | 9.5 | 9.6 | 9.7 | 9.6 | 9.6 | 9.8 | 9.5 | 9.5 | 9.8 | 9.3 | 9.4 |
| Wheat cereal --28-ounce package | 25.8 | 25.5 | 25.5 | 26.1 | 26.4 | 26.3 | 27.5 | 27.0 | 27.0 | 24.7 | 24.8 | 24.8 | 26.2 | 26.6 | 26.9 |
| Macaroni-----pound | 20.7 | 18.7 | 18.8 | 20.0 | 19.3 | 19.6 | 21.5 | 20.5 | 20.5 | 19.4 | 19.4 | 19.6 | 20.8 | 19.1 | 19.4 |
| Rice----------do | 10.1 | 10.1 | 10.1 | 11.0 | 11.1 | 11.2 | 11.4 | 10.5 | 10.2 | 9.0 | 8.8 | 8.9 | 11.2 | 9.9 | 10.3 |
| Beans, navy----do | 14.8 | 11.6 | 11.3 | 14.5 | 10.6 | 10.2 | 15.3 | 14.0 | 14.0 | 13.2 | 10.9 | 10.7 | 13.9 | 10.7 | 10.8 |
| Potatoes-------do | 2.1 | 3.8 | 4.1 | 1.7 | 3.8 | 4.0 | 4.0 | 5.6 | 5.7 | 1.9 | 3.5 | 3.9 | 1.4 | 3.3 | 3.8 |
| Onions---------do | 8.2 | 4.4 | 5.4 | 9.4 | 4.7 | 6.6 | 8.4 | 7.0 | 7.5 | 6.4 | 4.1 | 3.9 | 7.7 | 4.3 | 5.5 |
| Cabbage--------do | 5.8 | 8.6 | 10.2 | 6.2 | 9.3 | 10.1 | 5.0 | 7.6 | 8.4 | 3.9 | 8.0 | 9.0 | 5.4 | 7.6 | 9.7 |
| Pork and beans ----------No. 2 can | 12.0 | 11.6 | 11.4 | 11.9 | 10.9 | 10.9 | 13.3 | 12.0 | 11.5 | 11.7 | 11.0 | 10.9 | 12.0 | 10.6 | 10.7 |
| Corn, canned----do | 16.5 | 15.9 | 16.1 | 13.8 | 15.1 | 15.1 | 18.3 | 17.0 | 17.1 | 14.1 | 14.3 | 14.2 | 15.4 | 15.0 | 15.4 |
| Peas, canned----do | 17.1 | 16.9 | 16.7 | 14.8 | 15.2 | 15.2 | 21.7 | 21.6 | 21.6 | 14.9 | 15.3 | 15.4 | 15.9 | 15.1 | 15.4 |
| Tomatoes, canned ----------No. 2 can | 13.9 | 13.9 | 13.9 | 13.7 | 13.3 | 13.3 | 14.3 | 13.0 | 13.0 | 12.0 | 13.3 | 13.5 | 13.2 | 12.3 | 12.6 |
| Sugar, granulated ----------pound | 7.1 | 7.0 | 7.0 | 7.0 | 7.1 | 7.0 | 7.0 | 6.8 | 6.8 | 6.9 | 7.0 | 7.1 | 6.7 | 6.7 | 6.7 |
| Tea----------do | 82.9 | 84.7 | 83.5 | 87.8 | 90.6 | 88.6 | 105.3 | 101.7 | 101.7 | 69.3 | 71.2 | 71.0 | 71.9 | 79.6 | 79.3 |
| Coffee---------do | 51.6 | 42.5 | 42.5 | 49.3 | 43.8 | 42.3 | 59.1 | 49.2 | 49.7 | 49.8 | 44.4 | 44.1 | 49.7 | 41.9 | 41.0 |
| Prunes---------do | 14.1 | 20.1 | 19.3 | 15.6 | 19.6 | 19.5 | 17.5 | 20.4 | 20.9 | 15.6 | 19.7 | 19.8 | 15.4 | 18.3 | 18.1 |
| Raisins--------do | 11.7 | 11.8 | 11.8 | 11.2 | 12.2 | 12.0 | 12.9 | 13.6 | 13.5 | 10.9 | 12.4 | 12.2 | 11.4 | 12.5 | 12.3 |
| Bananas------dozen | [2] 9.4 | [2] 9.2 | [2] 8.7 | 37.5 | 33.8 | 37.5 | 35.0 | 32.0 | 31.7 | [2] 9.1 | [2] 9.8 | [2] 8.1 | 34.0 | 32.1 | 31.1 |
| Oranges--------do | 45.4 | 59.3 | 67.0 | 38.0 | 54.7 | 65.1 | 52.2 | 57.2 | 58.6 | 36.6 | 60.6 | 62.3 | 47.6 | 58.3 | 60.4 |

[2] Per pound.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Fall River, Mass. | | | Houston, Tex. | | | Indianapolis, Ind. | | | Jacksonville, Fla. | | | Kansas City, Mo. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak--pound-- | [3] 68.7 | [3] 68.1 | [3] 67.9 | 42.3 | 43.8 | 42.5 | 47.1 | 47.0 | 46.6 | 40.0 | 40.9 | 40.9 | 48.6 | 46.9 | 47.4 |
| Round steak----do---- | 54.5 | 53.5 | 53.8 | 42.3 | 42.9 | 41.7 | 44.1 | 44.8 | 45.1 | 36.0 | 36.4 | 36.4 | 42.8 | 42.6 | 42.2 |
| Rib roast-------do---- | 38.1 | 37.5 | 37.3 | 34.1 | 33.8 | 34.2 | 35.0 | 34.1 | 34.9 | 31.5 | 32.3 | 32.0 | 33.9 | 34.3 | 33.8 |
| Chuck roast-----do---- | 30.0 | 29.8 | 29.8 | 27.9 | 27.3 | 27.3 | 30.8 | 30.4 | 30.9 | 25.3 | 25.7 | 25.7 | 28.0 | 27.5 | 27.5 |
| Plate beef-------do---- | 16.2 | 16.2 | 15.7 | 24.7 | 24.5 | 24.0 | 21.1 | 20.8 | 20.7 | 16.6 | 17.2 | 17.2 | 20.4 | 20.3 | 20.1 |
| Pork chops------do---- | 38.2 | 36.3 | 37.3 | 34.5 | 35.0 | 35.4 | 35.0 | 34.1 | 36.1 | 32.3 | 33.4 | 33.5 | 34.9 | 35.6 | 36.9 |
| Bacon, sliced----do---- | 40.2 | 38.5 | 37.9 | 40.0 | 40.6 | 39.2 | 41.2 | 41.0 | 41.1 | 38.1 | 36.9 | 36.9 | 40.7 | 41.2 | 41.2 |
| Ham, sliced-----do---- | 52.8 | 51.6 | 52.5 | 50.5 | 52.1 | 50.8 | 54.1 | 55.2 | 55.2 | 50.0 | 50.9 | 50.0 | 52.2 | 51.7 | 51.1 |
| Lamb, leg of----do---- | 42.4 | 37.0 | 34.5 | 33.3 | 37.5 | 36.7 | 44.5 | 40.0 | 39.4 | 42.0 | 38.3 | 36.0 | 38.2 | 34.2 | 33.7 |
| Hens-----------do---- | 47.3 | 43.2 | 42.9 | 42.8 | 39.9 | 38.1 | 45.2 | 40.3 | 40.0 | 37.8 | 36.7 | 36.2 | 37.1 | 35.3 | 34.9 |
| Salmon, red, canned ----------pound-- | 33.3 | 33.0 | 32.5 | 29.9 | 29.9 | 29.9 | 31.6 | 31.9 | 31.8 | 30.8 | 30.8 | 30.8 | 34.6 | 34.8 | 35.1 |
| Milk, fresh-----quart-- | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 12.0 | 12.0 | 20.3 | 18.0 | 18.0 | 13.0 | 13.0 | 13.0 |
| Milk, evaporated -------16-ounce can-- | 12.4 | 11.2 | 11.2 | 10.5 | 9.8 | 9.7 | 10.3 | 9.9 | 9.8 | 11.0 | 10.3 | 10.3 | 10.9 | 10.1 | 10.2 |
| Butter--------pound-- | 56.8 | 45.4 | 46.7 | 54.6 | 49.4 | 50.2 | 56.0 | 46.1 | 47.6 | 57.9 | 48.0 | 48.5 | 54.7 | 44.1 | 45.7 |
| Oleomargarine (all butter substitutes) ----------pound-- | 28.0 | 27.0 | 27.0 | 25.9 | 24.1 | 23.6 | 28.4 | 27.3 | 27.1 | 29.9 | 25.0 | 24.3 | 25.4 | 23.6 | 23.9 |
| Cheese----------do---- | 41.4 | 39.5 | 39.4 | 33.3 | 30.1 | 30.0 | 41.0 | 39.4 | 39.0 | 34.1 | 32.1 | 31.9 | 37.8 | 34.1 | 35.4 |
| Lard------------do---- | 17.6 | 15.6 | 15.8 | 20.8 | 19.3 | 19.2 | 16.1 | 15.0 | 15.3 | 19.0 | 18.0 | 17.4 | 18.3 | 16.5 | 16.3 |
| Vegetable lard substitute--------pound-- | 26.4 | 26.1 | 26.1 | 16.7 | 15.7 | 15.6 | 26.9 | 26.8 | 27.1 | 22.6 | 21.1 | 20.9 | 25.6 | 25.1 | 25.7 |
| Eggs, strictly fresh ----------dozen-- | 47.2 | 46.4 | 40.0 | 30.4 | 28.3 | 28.9 | 33.0 | 30.0 | 30.1 | 34.1 | 37.0 | 32.5 | 34.1 | 32.5 | 31.8 |
| Bread---------pound-- | 8.5 | 8.5 | 8.5 | 8.4 | 8.2 | 8.2 | 7.9 | 8.0 | 8.0 | 10.0 | 10.1 | 10.2 | 9.5 | 8.8 | 8.7 |
| Flour----------do---- | 5.5 | 5.4 | 5.3 | 4.8 | 4.7 | 4.6 | 5.1 | 5.0 | 4.9 | 6.0 | 5.8 | 5.4 | 4.7 | 4.7 | 4.7 |
| Corn meal------do---- | 6.9 | 6.5 | 6.7 | 4.2 | 4.2 | 4.6 | 4.1 | 4.5 | 4.5 | 4.3 | 4.0 | 4.0 | 5.3 | 5.4 | 5.4 |
| Rolled oats-----do---- | 9.5 | 9.4 | 9.2 | 8.5 | 8.0 | 8.0 | 8.7 | 8.6 | 8.8 | 9.1 | 9.0 | 9.0 | 9.0 | 8.9 | 9.0 |
| Corn flakes ---8-ounce package-- | 9.7 | 9.5 | 9.5 | 9.1 | 9.1 | 9.1 | 9.5 | 9.5 | 9.5 | 9.6 | 9.6 | 9.8 | 9.6 | 9.6 | 9.6 |
| Wheat cereal --28-ounce package-- | 24.5 | 24.8 | 24.9 | 25.6 | 25.6 | 25.6 | 25.3 | 26.1 | 26.4 | 25.5 | 25.5 | 25.4 | 27.2 | 27.2 | 27.3 |
| Macaroni-----pound-- | 23.3 | 24.2 | 24.2 | 18.3 | 18.1 | 18.0 | 18.1 | 18.8 | 18.8 | 19.1 | 19.3 | 19.3 | 20.3 | 20.0 | 20.0 |
| Rice------------do---- | 10.9 | 10.3 | 10.3 | 7.1 | 7.1 | 7.3 | 10.6 | 11.1 | 11.0 | 7.6 | 7.7 | 7.8 | 9.2 | 9.1 | 9.2 |
| Beans, navy----do---- | 13.7 | 12.8 | 12.8 | 14.7 | 13.2 | 13.5 | 14.3 | 10.7 | 9.9 | 14.6 | 12.5 | 12.6 | 14.4 | 11.7 | 11.1 |
| Potatoes--------do---- | 2.2 | 3.4 | 3.7 | 3.7 | 5.2 | 5.2 | 2.3 | 3.6 | 4.0 | 2.5 | 4.3 | 4.3 | 1.9 | 4.1 | 4.3 |
| Onions----------do---- | 8.4 | 5.0 | 5.1 | 6.7 | 4.9 | 5.7 | 8.7 | 5.0 | 6.0 | 9.1 | 6.0 | 6.3 | 8.7 | 6.4 | 7.1 |
| Cabbage--------do---- | 5.9 | 9.8 | 11.6 | 4.1 | 7.4 | 8.3 | 5.1 | 9.0 | 9.8 | 3.8 | 5.5 | 6.0 | 4.4 | 9.2 | 9.8 |
| Pork and beans ----------No. 2 can-- | 12.8 | 12.4 | 12.3 | 11.1 | 10.2 | 10.1 | 11.1 | 10.9 | 11.1 | 10.6 | 10.3 | 10.3 | 12.9 | 11.9 | 11.5 |
| Corn, canned---do---- | 16.6 | 16.2 | 15.9 | 14.4 | 13.9 | 13.5 | 14.2 | 14.0 | 14.0 | 17.2 | 16.5 | 16.7 | 14.7 | 15.0 | 15.0 |
| Peas, canned---do---- | 19.4 | 18.1 | 18.3 | 15.7 | 14.8 | 14.8 | 14.7 | 15.0 | 15.0 | 18.5 | 18.5 | 19.0 | 15.8 | 16.2 | 16.0 |
| Tomatoes, canned ----------No. 2 can-- | 13.9 | 12.7 | 12.5 | 12.0 | 10.8 | 10.7 | 13.5 | 13.4 | 13.6 | 11.3 | 10.3 | 10.2 | 14.2 | 12.7 | 13.0 |
| Sugar, granulated ----------pound-- | 6.3 | 6.3 | 6.2 | 6.3 | 6.3 | 6.2 | 7.0 | 6.9 | 6.8 | 6.2 | 6.4 | 6.4 | 7.0 | 7.0 | 6.8 |
| Tea------------do---- | 58.8 | 58.2 | 58.2 | 86.2 | 86.8 | 87.3 | 89.8 | 92.5 | 92.5 | 97.4 | 92.4 | 93.1 | 91.8 | 88.5 | 88.5 |
| Coffee----------do---- | 50.1 | 44.3 | 44.2 | 45.0 | 35.1 | 34.3 | 47.9 | 42.4 | 42.2 | 48.7 | 42.5 | 40.2 | 52.8 | 44.1 | 43.6 |
| Prunes----------do---- | 13.7 | 16.5 | 17.1 | 13.8 | 17.1 | 17.7 | 16.5 | 21.2 | 21.0 | 13.5 | 18.8 | 18.5 | 15.2 | 18.5 | 19.2 |
| Raisins---------do---- | 12.2 | 12.3 | 12.2 | 10.6 | 10.6 | 10.4 | 13.3 | 13.5 | 13.5 | 11.9 | 12.8 | 12.4 | 12.4 | 13.8 | 13.4 |
| Bananas-------dozen-- | [2] 9.0 | [2] 9.8 | [2] 7.6 | 24.6 | 25.0 | 24.6 | 30.6 | 31.1 | 31.3 | 28.6 | 25.6 | 26.1 | [2] 9.1 | [2] 9.4 | [2] 8.8 |
| Oranges---------do---- | 41.0 | 49.3 | 66.3 | 38.2 | 47.0 | 56.3 | 39.1 | 51.1 | 62.3 | 16.2 | 34.4 | 48.7 | 38.1 | 57.9 | 61.7 |

[2] Per pound.
[3] The steak for which prices are here quoted is called "rump" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 15 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Little Rock, Ark. | | | Los Angeles, Calif. | | | Louisville, Ky. | | | Manchester, N. H. | | | Memphis, Tenn. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | |
| | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak..pound.. | 45.7 | 46.3 | 46.2 | 45.8 | 42.9 | 44.2 | 44.1 | 44.5 | 44.5 | [1]63.8 | [1]61.3 | [1]62.2 | 46.4 | 46.6 | 46.8 |
| Round steak....do.... | 42.6 | 42.3 | 42.5 | 38.3 | 37.8 | 38.0 | 40.0 | 38.9 | 38.7 | 51.6 | 50.8 | 51.6 | 43.1 | 43.8 | 43.9 |
| Rib roast.....do.... | 37.2 | 35.7 | 36.2 | 35.8 | 34.7 | 35.1 | 33.4 | 33.0 | 32.5 | 34.3 | 34.2 | 34.5 | 33.5 | 34.1 | 34.0 |
| Chuck roast....do.... | 29.7 | 28.2 | 30.0 | 27.8 | 26.9 | 27.0 | 26.6 | 26.5 | 26.6 | 29.5 | 29.1 | 29.6 | 27.9 | 29.0 | 29.6 |
| Plate beef.....do.... | 21.4 | 22.8 | 21.8 | 20.0 | 18.8 | 17.8 | 22.7 | 22.7 | 22.8 | 22.0 | 21.3 | 21.6 | 21.2 | 22.4 | 22.3 |
| Pork chops.....do.... | 33.4 | 34.8 | 34.9 | 43.5 | 41.8 | 41.9 | 33.1 | 31.2 | 32.0 | 36.1 | 35.2 | 36.5 | 33.1 | 32.1 | 33.9 |
| Bacon, sliced....do.... | 44.1 | 41.8 | 41.8 | 49.3 | 46.3 | 46.0 | 43.6 | 42.5 | 42.5 | 35.8 | 37.9 | 36.5 | 34.9 | 35.3 | 34.9 |
| Ham, sliced.....do.... | 52.0 | 51.8 | 51.6 | 68.6 | 66.3 | 65.7 | 48.6 | 50.5 | 50.0 | 48.5 | 46.8 | 46.9 | 54.2 | 52.9 | 53.3 |
| Lamb, leg of....do.... | 41.4 | 38.3 | 37.8 | 40.3 | 36.3 | 35.1 | 41.7 | 37.0 | 37.7 | 40.3 | 36.4 | 35.2 | 39.3 | 33.6 | 34.6 |
| Hens.....do.... | 33.4 | 31.9 | 30.9 | 47.4 | 43.4 | 43.5 | 39.3 | 37.1 | 37.9 | 45.8 | 41.4 | 41.4 | 37.1 | 34.4 | 33.0 |
| Salmon, red, canned ..pound.. | 31.5 | 31.9 | 31.9 | 29.6 | 30.8 | 30.8 | 30.1 | 30.4 | 30.4 | 29.7 | 31.0 | 31.4 | 35.6 | 33.8 | 33.8 |
| Milk, fresh.....quart.. | 15.0 | 14.0 | 14.0 | 15.0 | 15.0 | 15.0 | 13.0 | 12.0 | 12.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | [1]15.0 |
| Milk, evaporated .....16-ounce can.. | 11.5 | 10.5 | 10.3 | 10.0 | 9.5 | 9.4 | 11.5 | 10.5 | 10.5 | 12.4 | 11.5 | 11.4 | 11.5 | 10.0 | 10.2 |
| Butter.....pound.. | 55.7 | 49.1 | 49.7 | 52.0 | 46.3 | 48.1 | 59.1 | 48.6 | 50.6 | 56.3 | 45.7 | 38.3 | 56.7 | 46.7 | 48.4 |
| Oleomargerine (all butter substitutes) ..pound.. | 27.4 | 24.3 | 24.9 | 25.3 | 24.4 | 24.3 | 27.3 | 26.1 | 26.1 | 28.1 | 28.4 | 26.9 | 25.4 | 23.8 | 23.4 |
| Cheese.....do.... | 37.2 | 35.8 | 34.4 | 38.3 | 37.2 | 36.6 | 37.5 | 36.4 | 35.6 | 38.6 | 37.2 | 36.9 | 34.9 | 33.8 | 32.2 |
| Lard.....do.... | 20.4 | 19.4 | 19.1 | 20.5 | 17.8 | 17.3 | 18.0 | 16.2 | 16.0 | 17.6 | 16.6 | 16.4 | 16.1 | 14.5 | 14.3 |
| Vegetable lard substitute.....pound.. | 21.6 | 20.9 | 20.7 | 25.2 | 22.9 | 22.9 | 26.3 | 26.2 | 26.2 | 26.1 | 26.4 | 26.4 | 22.0 | 21.8 | 21.9 |
| Eggs, strictly fresh ..dozen.. | 31.3 | 29.2 | 29.3 | 38.0 | 34.9 | 34.7 | 31.2 | 30.3 | 30.3 | 43.9 | 44.7 | 38.9 | 33.0 | 30.0 | 31.4 |
| Bread.....pound.. | 9.4 | 9.3 | 9.3 | 8.6 | 8.6 | 8.6 | 9.4 | 8.6 | 8.6 | 8.1 | 8.1 | 8.1 | 9.3 | 9.1 | 9.0 |
| Flour.....do.... | 6.0 | 5.7 | 5.7 | 4.8 | 4.7 | 4.7 | 5.9 | 5.4 | 5.4 | 4.9 | 5.0 | 5.0 | 6.0 | 5.8 | 5.7 |
| Corn meal.....do.... | 4.0 | 4.2 | 4.1 | 5.7 | 5.6 | 5.6 | 4.0 | 3.9 | 4.0 | 5.3 | 5.3 | 5.3 | 4.0 | 3.9 | 4.1 |
| Rolled oats.....do.... | 10.3 | 10.5 | 10.3 | 10.0 | 9.7 | 9.7 | 8.5 | 9.0 | 8.8 | 8.6 | 8.1 | 8.1 | 9.1 | 8.8 | 8.8 |
| Corn flakes ...8-ounce package.. | 9.8 | 9.8 | 9.8 | 9.5 | 9.2 | 9.4 | 9.4 | 9.4 | 9.5 | 9.0 | 9.2 | 9.2 | 9.7 | 9.7 | 9.7 |
| Wheat cereal ..28-ounce package.. | 27.3 | 27.2 | 27.2 | 25.0 | 24.8 | 24.9 | 26.8 | 27.4 | 27.3 | 25.6 | 25.6 | 25.6 | 25.8 | 27.1 | 27.1 |
| Macaroni.....pound.. | 20.1 | 20.6 | 20.2 | 17.9 | 17.3 | 17.5 | 18.7 | 18.6 | 18.6 | 23.1 | 23.4 | 23.4 | 19.6 | 19.8 | 19.9 |
| Rice.....do.... | 8.1 | 7.9 | 8.5 | 9.8 | 9.1 | 9.0 | 10.3 | 10.1 | 10.3 | 8.5 | 9.0 | 9.1 | 8.3 | 8.7 | 8.7 |
| Beans, navy....do.... | 14.5 | 13.8 | 13.8 | 13.4 | 12.5 | 12.1 | 14.7 | 10.3 | 10.1 | 13.9 | 11.8 | 11.5 | 14.2 | 12.7 | 12.2 |
| Potatoes.....do.... | 2.8 | 4.3 | 4.5 | 2.6 | 3.9 | 4.6 | 3.2 | 3.8 | 4.4 | 1.6 | 3.2 | 3.6 | 3.0 | 4.3 | 4.6 |
| Onions.....do.... | 9.0 | 6.1 | 6.2 | 7.4 | 4.2 | 4.3 | 8.8 | 5.3 | 6.8 | 8.5 | 5.2 | 5.9 | 7.5 | 4.9 | 5.3 |
| Cabbage.....do.... | 4.5 | 8.0 | 9.1 | 4.4 | 5.4 | 5.7 | 4.8 | 9.1 | 10.8 | 6.2 | 9.5 | 11.2 | 3.8 | 7.6 | 8.2 |
| Pork and beans .....No. 2 can.. | 12.7 | 11.3 | 10.9 | 11.8 | 10.8 | 10.9 | 11.4 | 10.1 | 10.1 | 13.1 | 14.2 | 14.2 | 12.0 | 11.0 | 11.1 |
| Corn, canned....do.... | 16.2 | 16.6 | 16.5 | 15.9 | 14.3 | 14.4 | 15.1 | 15.1 | 15.1 | 16.6 | 16.0 | 16.0 | 14.6 | 14.5 | 14.7 |
| Peas, canned....do.... | 18.2 | 19.4 | 18.9 | 16.9 | 15.2 | 15.2 | 15.1 | 15.0 | 15.0 | 17.6 | 17.6 | 17.6 | 16.0 | 15.8 | 15.6 |
| Tomatoes, canned .....No 2 can.. | 13.0 | 13.0 | 13.2 | [4]15.3 | [4]14.8 | [4]14.7 | 13.4 | 12.0 | 11.8 | 14.1 | 12.8 | 12.9 | 12.0 | 11.0 | 10.8 |
| Sugar, granulated .....pound.. | 7.2 | 7.3 | 7.3 | 6.2 | 6.0 | 6.0 | 6.9 | 7.3 | 7.0 | 6.6 | 6.5 | 6.5 | 6.5 | 6.4 | 6.4 |
| Tea.....do.... | 104.9 | 101.3 | 105.4 | 74.3 | 73.6 | 73.6 | 92.7 | 90.8 | 90.8 | 63.6 | 61.1 | 61.1 | 95.6 | 93.7 | 93.7 |
| Coffee.....do.... | 54.5 | 48.0 | 46.9 | 53.9 | 46.5 | 45.6 | 50.5 | 44.2 | 42.7 | 50.4 | 40.8 | 40.4 | 49.0 | 43.5 | 43.5 |
| Prunes.....do.... | 16.4 | 20.5 | 21.0 | 13.6 | 18.1 | 17.6 | 15.3 | 20.1 | 20.0 | 13.4 | 16.7 | 16.0 | 14.7 | 16.9 | 16.8 |
| Raisins.....do.... | 13.8 | 13.9 | 13.8 | 10.2 | 10.5 | 10.4 | 11.5 | 12.8 | 12.9 | 10.8 | 11.6 | 11.6 | 12.5 | 14.0 | 13.8 |
| Bananas.....dozen.. | [2]7.8 | [2]6.7 | [2]5.7 | [2]9.0 | [2]8.4 | [2]7.6 | [2]9.5 | [2]9.0 | [2]9.1 | [2]9.2 | [2]8.8 | [2]7.3 | [2]7.6 | [2]7.4 | [2]7.0 |
| Oranges.....do.... | 50.3 | 55.0 | 62.1 | 39.3 | 35.4 | 44.6 | 31.5 | 47.4 | 58.3 | 38.2 | 57.2 | 67.0 | 31.9 | 46.4 | 58.3 |

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.
[2] Per pound.
[4] No. 2½ can.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Milwaukee, Wis. | | | Minneapolis, Minn. | | | Mobile, Ala. | | | Newark, N. J. | | | New Haven, Conn. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak--pound | 45.1 | 44.2 | 43.9 | 43.5 | 42.1 | 42.1 | 45.0 | 45.9 | 46.4 | 53.0 | 50.9 | 50.5 | 61.4 | 61.3 | 60.9 |
| Round steak----do | 40.6 | 40.9 | 40.2 | 39.4 | 38.6 | 38.5 | 43.1 | 42.6 | 43.1 | 49.1 | 48.6 | 48.8 | 52.4 | 52.0 | 52.0 |
| Rib roast----do | 33.5 | 32.6 | 32.7 | 34.5 | 35.2 | 33.9 | 34.4 | 34.9 | 35.3 | 40.1 | 38.7 | 38.8 | 41.5 | 40.7 | 40.7 |
| Chuck roast----do | 30.9 | 30.2 | 30.2 | 29.9 | 28.6 | 28.9 | 28.1 | 29.2 | 28.7 | 31.0 | 30.8 | 30.1 | 34.2 | 32.3 | 32.6 |
| Plate beef----do | 20.1 | 19.7 | 19.4 | 19.5 | 19.3 | 18.8 | 22.0 | 21.4 | 21.4 | 18.5 | 18.4 | 18.9 | 18.1 | 18.6 | 18.6 |
| Pork chops----do | 36.7 | 35.9 | 36.8 | 37.6 | 36.5 | 37.4 | 32.5 | 33.1 | 33.3 | 38.6 | 36.8 | 38.8 | 37.5 | 37.2 | 38.4 |
| Bacon, sliced----do | 43.5 | 43.7 | 44.0 | 46.0 | 45.4 | 45.7 | 39.0 | 36.5 | 36.2 | 43.0 | 43.3 | 42.8 | 44.6 | 43.6 | 44.6 |
| Ham, sliced----do | 49.1 | 48.8 | 49.2 | 53.1 | 52.9 | 52.7 | 50.0 | 53.5 | 51.5 | 55.6 | 53.8 | 53.8 | 59.5 | 59.7 | 59.4 |
| Lamb, leg of----do | 43.4 | 36.6 | 36.4 | 39.8 | 33.7 | 33.6 | 45.0 | 45.5 | 45.0 | 41.5 | 36.5 | 35.4 | 41.5 | 38.5 | 37.0 |
| Hens----do | 42.5 | 37.1 | 36.4 | 40.0 | 35.7 | 35.9 | 37.0 | 36.8 | 34.5 | 44.4 | 38.5 | 38.6 | 45.5 | 41.0 | 41.4 |
| Salmon, red, canned ----do | 36.9 | 33.9 | 33.3 | 35.2 | 35.4 | 35.4 | 29.0 | 29.9 | 29.7 | 28.8 | 29.4 | 29.4 | 31.8 | 30.8 | 31.3 |
| Milk, fresh----quart | 11.0 | 12.0 | 12.0 | 12.0 | 11.0 | 11.0 | 18.0 | 18.0 | 18.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| Milk, evaporated ----16-ounce can | 10.9 | 10.2 | 10.2 | 11.6 | 10.8 | 10.5 | 10.9 | 10.2 | 9.9 | 10.6 | 10.0 | 9.9 | 11.6 | 10.7 | 10.3 |
| Butter----pound | 52.0 | 45.0 | 45.8 | 51.7 | 43.5 | 45.0 | 57.7 | 46.2 | 47.7 | 57.1 | 46.5 | 47.9 | 57.7 | 48.5 | 48.8 |
| Oleomargarine (all butter substitutes) ----pound | 26.8 | 25.5 | 25.4 | 25.3 | 25.1 | 25.3 | 29.2 | 25.5 | 25.4 | 29.6 | 29.0 | 30.0 | 28.9 | 26.7 | 26.3 |
| Cheese----do | 37.8 | 35.3 | 34.6 | 37.3 | 34.9 | 34.0 | 35.0 | 32.6 | 33.1 | 41.8 | 38.3 | 38.3 | 42.2 | 42.5 | 40.5 |
| Lard----do | 18.7 | 17.3 | 17.1 | 19.1 | 17.4 | 17.2 | 18.3 | 16.3 | 16.5 | 18.6 | 17.7 | 17.3 | 18.9 | 18.4 | 18.0 |
| Vegetable lard substitute----pound | 26.5 | 26.4 | 26.3 | 26.6 | 26.4 | 26.4 | 20.1 | 19.4 | 19.1 | 25.5 | 25.0 | 25.1 | 25.8 | 26.1 | 25.5 |
| Eggs, strictly fresh ----dozen | 31.8 | 31.3 | 30.8 | 32.8 | 29.8 | 29.6 | 31.6 | 27.9 | 30.3 | 46.0 | 44.8 | 43.2 | 49.4 | 50.0 | 45.0 |
| Bread----pound | 8.7 | 8.1 | 8.1 | 8.9 | 8.8 | 8.8 | 10.1 | 9.9 | 9.9 | 8.8 | 8.8 | 9.0 | 8.8 | 8.5 | 8.7 |
| Flour----do | 4.4 | 4.4 | 4.3 | 4.4 | 4.6 | 4.5 | 5.8 | 5.5 | 5.6 | 4.8 | 4.9 | 4.9 | 5.0 | 4.9 | 4.8 |
| Corn meal----do | 6.1 | 6.3 | 6.1 | 5.5 | 5.8 | 5.7 | 3.8 | 3.9 | 4.0 | 6.7 | 6.5 | 6.2 | 6.9 | 7.1 | 7.0 |
| Rolled oats----do | 8.2 | 8.0 | 7.9 | 7.9 | 7.9 | 7.9 | 8.3 | 7.9 | 7.9 | 8.7 | 8.6 | 8.6 | 9.1 | 8.8 | 9.0 |
| Corn flakes ---8-ounce package | 9.5 | 9.3 | 9.4 | 9.4 | 9.4 | 9.3 | 9.2 | 8.9 | 8.8 | 8.9 | 8.9 | 8.9 | 9.9 | 9.9 | 9.9 |
| Wheat cereal 28-ounce package | 24.7 | 24.5 | 24.4 | 25.4 | 24.9 | 24.7 | 24.2 | 24.3 | 24.3 | 26.2 | 25.6 | 25.6 | 24.8 | 24.8 | 24.8 |
| Macaroni----pound | 17.8 | 17.2 | 17.2 | 17.6 | 17.9 | 17.6 | 20.9 | 20.8 | 20.4 | 21.5 | 21.3 | 21.3 | 22.0 | 21.7 | 21.8 |
| Rice----do | 9.7 | 10.0 | 10.0 | 9.9 | 9.7 | 9.7 | 8.3 | 7.7 | 7.8 | 9.6 | 9.3 | 9.3 | 10.2 | 10.2 | 10.2 |
| Beans, navy----do | 14.0 | 11.6 | 11.2 | 14.5 | 12.4 | 11.7 | 13.7 | 12.8 | 12.1 | 14.8 | 13.1 | 12.4 | 14.1 | 11.9 | 11.6 |
| Potatoes----do | 1.5 | 3.5 | 3.8 | 1.5 | 3.2 | 3.3 | 2.9 | 4.5 | 4.7 | 2.6 | 4.2 | 4.2 | 2.0 | 3.6 | 3.6 |
| Onions----do | 8.6 | 4.6 | 4.8 | 9.3 | 5.2 | 5.5 | 8.1 | 4.3 | 4.5 | 8.3 | 5.6 | 7.0 | 8.9 | 5.1 | 6.4 |
| Cabbage----do | 5.4 | 8.9 | 9.7 | 4.7 | 9.2 | 11.0 | 3.7 | 8.5 | 8.7 | 5.3 | 9.0 | 9.5 | 5.9 | 8.6 | 10.5 |
| Pork and beans ----No. 2 can | 11.5 | 10.5 | 10.6 | 12.6 | 11.9 | 11.9 | 10.8 | 9.7 | 9.6 | 10.8 | 10.6 | 10.7 | 12.2 | 11.8 | 11.5 |
| Corn, canned----do | 16.1 | 15.5 | 15.4 | 15.0 | 13.6 | 13.6 | 14.4 | 14.2 | 14.0 | 16.4 | 15.4 | 15.1 | 18.1 | 18.1 | 18.2 |
| Peas, canned----do | 16.0 | 16.0 | 16.0 | 15.6 | 14.1 | 14.1 | 15.1 | 15.4 | 15.4 | 17.1 | 16.1 | 16.1 | 21.1 | 19.8 | 19.8 |
| Tomatoes, canned ----No. 2 can | 13.8 | 14.0 | 13.8 | 13.8 | 13.6 | 13.6 | 11.8 | 11.0 | 11.0 | 12.0 | 11.2 | 11.2 | 14.6 | 14.2 | 14.2 |
| Sugar, granulated ----pound | 6.2 | 6.4 | 6.3 | 6.5 | 6.3 | 6.3 | 6.2 | 6.3 | 6.2 | 6.1 | 6.0 | 5.8 | 6.3 | 6.4 | 6.2 |
| Tea----do | 69.0 | 68.3 | 67.7 | 67.9 | 69.8 | 69.8 | 79.7 | 79.1 | 79.1 | 57.8 | 58.2 | 58.2 | 59.9 | 60.0 | 59.5 |
| Coffee----do | 45.1 | 37.8 | 37.6 | 54.0 | 44.1 | 43.9 | 48.7 | 41.1 | 41.1 | 48.3 | 40.9 | 40.3 | 51.4 | 42.3 | 42.3 |
| Prunes----do | 14.6 | 18.4 | 18.3 | 14.8 | 19.3 | 19.2 | 12.6 | 18.2 | 18.0 | 14.0 | 17.1 | 17.1 | 14.5 | 17.6 | 17.2 |
| Raisins----do | 12.3 | 12.4 | 12.6 | 11.7 | 12.8 | 12.5 | 9.7 | 11.6 | 11.4 | 11.0 | 11.4 | 11.3 | 12.6 | 11.8 | 11.8 |
| Bananas----dozen | [2] 9.4 | [2] 9.2 | [2] 8.7 | [2] 10.0 | [2] 9.9 | [2] 8.8 | 23.0 | 18.6 | 18.6 | 37.5 | 35.0 | 36.3 | 33.3 | 33.4 | 33.4 |
| Oranges----do | 43.6 | 58.0 | 62.5 | 36.7 | 59.7 | 61.7 | 29.0 | 51.2 | 57.0 | 46.1 | 49.7 | 61.2 | 48.5 | 45.5 | 63.0 |

[2] Per pound.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | New Orleans, La. | | | New York, N. Y. | | | Norfolk, Va. | | | Omaha, Nebr. | | | Peoria, Ill. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak--pound | 45.0 | 43.4 | 43.7 | 52.2 | 51.0 | 50.8 | 46.5 | 45.3 | 45.3 | 45.6 | 43.8 | 43.9 | 40.7 | 40.5 | 40.9 |
| Round steak---do | 39.8 | 38.9 | 38.4 | 49.5 | 49.0 | 48.9 | 40.4 | 39.8 | 39.8 | 43.6 | 42.7 | 42.4 | 39.7 | 39.5 | 40.2 |
| Rib roast---do | 37.2 | 36.5 | 35.8 | 43.4 | 42.2 | 41.9 | 39.1 | 36.6 | 35.8 | 31.7 | 31.5 | 32.5 | 31.0 | 32.5 | 32.4 |
| Chuck roast---do | 26.6 | 27.0 | 27.2 | 30.3 | 31.1 | 30.8 | 28.7 | 25.4 | 26.6 | 28.5 | 28.4 | 28.6 | 27.4 | 28.3 | 27.4 |
| Plate beef---do | 22.6 | 22.5 | 21.6 | 24.5 | 25.1 | 25.3 | 20.6 | 20.4 | 21.3 | 19.1 | 18.7 | 18.6 | 19.5 | 20.1 | 20.0 |
| Pork chops---do | 35.4 | 36.4 | 36.0 | 39.8 | 38.8 | 39.5 | 34.3 | 33.1 | 33.5 | 35.8 | 33.9 | 35.2 | 34.4 | 32.1 | 32.6 |
| Bacon, sliced---do | 42.8 | 42.5 | 41.9 | 45.0 | 45.7 | 45.2 | 41.2 | 41.0 | 41.4 | 42.9 | 44.2 | 44.0 | 43.3 | 43.2 | 42.3 |
| Ham, sliced---do | 52.0 | 51.3 | 50.7 | 57.8 | 56.3 | 55.8 | 44.8 | 44.0 | 44.9 | 53.7 | 52.3 | 51.0 | 49.6 | 50.0 | 50.0 |
| Lamb, leg of---do | 41.1 | 36.9 | 36.0 | 40.1 | 34.7 | 33.7 | 42.5 | 38.6 | 38.6 | 40.1 | 34.9 | 34.2 | 41.9 | 37.6 | 36.3 |
| Hens---do | 41.3 | 38.4 | 36.9 | 45.0 | 39.7 | 39.8 | 39.5 | 39.4 | 39.8 | 36.7 | 32.0 | 33.6 | 38.1 | 33.8 | 34.7 |
| Salmon, red, canned ---pound | 35.8 | 37.4 | 36.4 | 30.5 | 30.7 | 30.5 | 32.7 | 32.8 | 33.6 | 34.6 | 33.9 | 33.9 | 33.3 | 33.0 | 33.0 |
| Milk, fresh---quart | 14.0 | 14.0 | 14.0 | 16.0 | 16.0 | 16.0 | 18.0 | 18.0 | 18.0 | 11.3 | 11.0 | 11.0 | 13.0 | 13.0 | 13.0 |
| Milk, evaporated ---16-ounce can | 10.3 | 10.0 | 9.8 | 10.5 | 9.9 | 10.0 | 11.1 | 10.2 | 9.9 | 11.4 | 10.2 | 10.2 | 11.0 | 9.7 | 9.7 |
| Butter---pound | 56.9 | 48.5 | 49.6 | 55.2 | 46.3 | 47.7 | 59.9 | 49.3 | 50.1 | 52.4 | 39.4 | 41.0 | 51.8 | 43.1 | 44.3 |
| Oleomargarine (all butter substitutes) ---pound | 28.4 | 26.9 | 26.3 | 28.0 | 26.6 | 26.7 | 26.6 | 25.7 | 25.9 | 26.1 | 25.7 | 25.8 | 27.7 | 26.4 | 26.3 |
| Cheese---do | 38.7 | 35.4 | 33.5 | 40.8 | 37.7 | 37.7 | 34.9 | 33.8 | 34.0 | 35.1 | 32.7 | 32.6 | 36.8 | 34.7 | 33.5 |
| Lard---do | 18.5 | 17.2 | 17.2 | 19.7 | 17.5 | 17.3 | 18.4 | 16.1 | 16.3 | 19.6 | 17.7 | 17.6 | 18.8 | 17.0 | 16.6 |
| Vegetable lard substitute---pound | 20.1 | 20.5 | 20.2 | 25.7 | 25.1 | 25.2 | 21.9 | 21.5 | 21.4 | 25.4 | 26.3 | 26.5 | 27.6 | 27.1 | 27.0 |
| Eggs, strictly fresh ---dozen | 34.7 | 32.6 | 34.1 | 45.9 | 45.6 | 43.4 | 37.4 | 31.5 | 33.0 | 30.1 | 27.4 | 28.6 | 31.1 | 28.4 | 28.1 |
| Bread---pound | 8.8 | 8.9 | 8.8 | 8.6 | 8.6 | 8.7 | 9.4 | 8.9 | 8.8 | 9.8 | 9.1 | 9.0 | 10.0 | 10.1 | 10.0 |
| Flour---do | 6.6 | 6.5 | 6.4 | 5.0 | 4.7 | 4.6 | 5.2 | 5.2 | 5.1 | 4.2 | 4.2 | 4.2 | 4.7 | 4.8 | 4.6 |
| Corn meal---do | 4.2 | 4.1 | 4.0 | 6.8 | 6.5 | 6.7 | 4.7 | 4.6 | 4.6 | 4.6 | 4.7 | 4.7 | 4.9 | 4.8 | 4.8 |
| Rolled oats---do | 8.5 | 8.3 | 8.2 | 8.7 | 8.4 | 8.3 | 8.8 | 8.6 | 8.4 | 9.8 | 9.7 | 10.1 | 8.6 | 8.5 | 8.5 |
| Corn flakes ---8-ounce package | 9.4 | 9.3 | 9.1 | 9.0 | 8.9 | 8.9 | 9.7 | 9.6 | 9.6 | 9.8 | 9.8 | 9.7 | 9.6 | 9.5 | 9.5 |
| Wheat cereal ---28-ounce package | 25.2 | 24.6 | 24.5 | 24.5 | 23.9 | 23.7 | 24.9 | 24.9 | 24.9 | 27.1 | 26.8 | 26.8 | 25.7 | 25.5 | 25.5 |
| Macaroni---pound | 10.4 | 10.4 | 10.5 | 20.7 | 20.3 | 20.1 | 19.0 | 19.0 | 19.0 | 21.2 | 20.7 | 20.7 | 18.8 | 18.7 | 18.7 |
| Rice---do | 8.6 | 8.6 | 8.6 | 9.8 | 9.1 | 9.1 | 10.7 | 10.1 | 10.1 | 9.9 | 10.0 | 10.1 | 9.3 | 9.2 | 9.1 |
| Beans, navy---do | 13.6 | 11.5 | 11.2 | 14.6 | 14.2 | 14.1 | 14.1 | 11.3 | 11.2 | 13.8 | 11.4 | 11.0 | 14.4 | 11.6 | 10.6 |
| Potatoes---do | 3.0 | 4.6 | 4.5 | 3.0 | 4.3 | 4.3 | 2.7 | 4.6 | 4.7 | 1.9 | 3.6 | 3.7 | 1.5 | 3.7 | 3.9 |
| Onions---do | 6.6 | 4.5 | 4.5 | 8.4 | 5.3 | 5.8 | 8.0 | 5.4 | 5.6 | 9.0 | 4.4 | 6.0 | 9.6 | 6.0 | 7.0 |
| Cabbage---do | 3.8 | 7.2 | 7.8 | 6.5 | 8.6 | 10.2 | 5.8 | 8.1 | 9.3 | 5.0 | 8.4 | 10.8 | 5.6 | 9.6 | 10.5 |
| Pork and beans ---No. 2 can | 11.1 | 10.0 | 9.9 | 11.5 | 10.8 | 10.7 | 10.6 | 9.8 | 9.7 | 13.2 | 13.1 | 13.2 | 11.5 | 11.0 | 11.0 |
| Corn, canned---do | 15.6 | 15.1 | 15.1 | 14.9 | 14.6 | 14.5 | 15.2 | 15.1 | 14.3 | 15.7 | 15.5 | 15.5 | 14.4 | 14.3 | 14.1 |
| Peas, canned---do | 17.1 | 15.8 | 15.8 | 15.4 | 15.4 | 15.3 | 17.5 | 16.6 | 16.7 | 15.1 | 14.7 | 14.7 | 17.3 | 16.7 | 16.9 |
| Tomatoes, canned ---No. 2 can | 12.6 | 11.3 | 11.3 | 12.6 | 12.2 | 11.7 | 11.9 | 9.9 | 10.0 | 14.6 | 14.3 | 14.3 | 13.3 | 13.5 | 13.5 |
| Sugar, granulated ---pound | 5.8 | 5.8 | 5.8 | 5.6 | 5.5 | 5.5 | 6.4 | 6.5 | 6.3 | 6.5 | 6.7 | 6.6 | 7.4 | 7.2 | 7.7 |
| Tea---do | 83.1 | 80.9 | 80.9 | 67.4 | 65.9 | 65.8 | 94.8 | 93.9 | 93.9 | 78.7 | 77.6 | 78.3 | 65.2 | 61.9 | 62.4 |
| Coffee---do | 38.0 | 31.1 | 30.9 | 45.2 | 37.2 | 37.3 | 50.6 | 41.4 | 40.8 | 53.6 | 47.0 | 46.7 | 49.5 | 41.2 | 40.7 |
| Prunes---do | 14.1 | 17.9 | 18.0 | 13.2 | 16.5 | 16.1 | 13.5 | 17.8 | 18.4 | 14.7 | 19.0 | 18.9 | 16.3 | 20.1 | 20.1 |
| Raisins---do | 10.1 | 10.8 | 10.9 | 11.5 | 12.3 | 12.5 | 11.4 | 11.5 | 11.5 | 13.3 | 13.5 | 13.3 | 11.6 | 12.7 | 13.2 |
| Bananas---dozen | 15.8 | 16.7 | 15.7 | 38.1 | 36.7 | 35.0 | 32.3 | 31.1 | 30.6 | [2] 9.6 | [2] 11.0 | [2] 9.0 | [2] 9.1 | [2] 8.7 | [2] 8.1 |
| Oranges---do | 43.3 | 55.9 | 69.0 | 54.1 | 54.7 | 67.1 | 39.0 | 48.4 | 50.3 | 33.0 | 51.2 | 61.1 | 36.7 | 57.0 | 59.0 |

[2] Per pound.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Philadelphia, Pa. | | | Pittsburgh, Pa. | | | Portland, Me. | | | Portland, Oreg. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | |
| | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak, pound | [1] 64. 0 | [1] 62. 3 | [1] 61. 7 | 54. 6 | 52. 9 | 52. 4 | [1] 71. 3 | [1] 65. 6 | [1] 67. 5 | 36. 9 | 37. 0 | 37. 2 |
| Round steak, do | 49. 4 | 47. 8 | 48. 7 | 45. 6 | 44. 8 | 44. 5 | 51. 2 | 50. 0 | 50. 5 | 35. 8 | 34. 8 | 34. 9 |
| Rib roast, do | 42. 2 | 40. 9 | 40. 7 | 39. 6 | 38. 7 | 39. 2 | 36. 5 | 35. 0 | 35. 5 | 30. 6 | 30. 8 | 30. 9 |
| Chuck roast, do | 33. 5 | 32. 2 | 31. 8 | 32. 0 | 31. 7 | 31. 3 | 28. 2 | 26. 9 | 27. 1 | 26. 4 | 25. 9 | 25. 7 |
| Plate beef, do | 19. 7 | 19. 0 | 18. 8 | 19. 9 | 18. 7 | 18. 5 | 24. 4 | 25. 2 | 24. 1 | 20. 8 | 20. 4 | 20. 0 |
| Pork chops, do | 41. 2 | 38. 5 | 40. 3 | 40. 8 | 38. 3 | 38. 5 | 37. 9 | 36. 0 | 39. 5 | 36. 1 | 36. 7 | 36. 1 |
| Bacon, sliced, do | 42. 0 | 42. 2 | 42. 5 | 46. 7 | 44. 7 | 45. 1 | 39. 2 | 38. 2 | 38. 1 | 50. 5 | 50. 1 | 49. 8 |
| Ham, sliced, do | 58. 0 | 58. 0 | 57. 5 | 58. 8 | 58. 8 | 58. 1 | 54. 6 | 52. 3 | 52. 8 | 55. 6 | 53. 7 | 53. 3 |
| Lamb, leg of, do | 42. 8 | 38. 2 | 36. 7 | 44. 3 | 38. 6 | 37. 3 | 42. 2 | 34. 6 | 33. 5 | 40. 6 | 35. 8 | 35. 5 |
| Hens, do | 46. 0 | 40. 0 | 40. 5 | 50. 0 | 45. 4 | 44. 5 | 44. 7 | 42. 0 | 41. 3 | 36. 9 | 37. 2 | 37. 0 |
| Salmon, red, canned, do | 28. 4 | 28. 8 | 28. 8 | 29. 9 | 31. 5 | 30. 9 | 29. 8 | 30. 9 | 31. 0 | 32. 6 | 33. 1 | 32. 5 |
| Milk, fresh, quart | 13. 0 | 13. 0 | 13. 0 | 14. 0 | 13. 0 | 13. 0 | 15. 0 | 14. 0 | 14. 0 | 12. 0 | 12. 0 | 12. 0 |
| Milk, evaporated, 16-ounce can | 11. 2 | 10. 5 | 10. 5 | 10. 6 | 10. 1 | 10. 1 | 12. 0 | 11. 4 | 11. 5 | 10. 1 | 10. 1 | 10. 1 |
| Butter, pound | 58. 5 | 47. 7 | 49. 2 | 57. 6 | 48. 0 | 49. 5 | 59. 3 | 48. 7 | 50. 1 | 53. 6 | 45. 8 | 48. 5 |
| Oleomargarine (all butter substitutes), pound | 28. 4 | 27. 1 | 27. 2 | 28. 0 | 26. 5 | 26. 9 | 27. 1 | 25. 1 | 24. 7 | 26. 3 | 26. 4 | 26. 0 |
| Cheese, do | 42. 8 | 42. 4 | 41. 9 | 41. 4 | 38. 7 | 37. 9 | 38. 9 | 36. 3 | 36. 7 | 38. 2 | 36. 8 | 35. 5 |
| Lard, do | 18. 1 | 16. 1 | 16. 1 | 18. 2 | 16. 3 | 16. 1 | 17. 6 | 16. 0 | 16. 1 | 18. 7 | 18. 8 | 18. 5 |
| Vegetable lard substitute, do | 25. 0 | 25. 0 | 25. 0 | 27. 1 | 27. 1 | 26. 6 | 25. 7 | 25. 6 | 25. 7 | 28. 3 | 28. 4 | 28. 4 |
| Eggs, strictly fresh, dozen | 38. 3 | 36. 2 | 36. 5 | 39. 8 | 36. 3 | 35. 8 | 44. 3 | 44. 1 | 39. 4 | 33. 0 | 31. 8 | 30. 9 |
| Bread, pound | 8. 3 | 8. 3 | 8. 3 | 8. 9 | 8. 8 | 8. 8 | 9. 0 | 9. 0 | 9. 0 | 9. 3 | 9. 2 | 9. 2 |
| Flour, do | 4. 8 | 4. 8 | 4. 7 | 4. 6 | 4. 6 | 4. 5 | 5. 0 | 4. 9 | 4. 8 | 4. 7 | 4. 7 | 4. 5 |
| Corn meal, do | 5. 0 | 5. 8 | 5. 8 | 5. 9 | 6. 3 | 6. 4 | 5. 4 | 5. 3 | 5. 1 | 5. 9 | 5. 8 | 5. 7 |
| Rolled oats, do | 8. 2 | 8. 3 | 8. 3 | 9. 2 | 9. 0 | 8. 9 | 7. 7 | 7. 5 | 7. 2 | 10. 1 | 9. 8 | 9. 8 |
| Corn flakes, 8-ounce package | 8. 7 | 8. 5 | 8. 5 | 9. 7 | 9. 4 | 9. 3 | 9. 7 | 9. 7 | 9. 7 | 9. 6 | 9. 5 | 9. 5 |
| Wheat cereal, 28-ounce package | 24. 6 | 24. 6 | 24. 7 | 24. 7 | 24. 9 | 24. 9 | 25. 8 | 25. 8 | 25. 9 | 27. 0 | 26. 7 | 26. 6 |
| Macaroni, pound | 20. 4 | 20. 3 | 20. 3 | 22. 6 | 22. 4 | 22. 1 | 23. 4 | 21. 9 | 22. 5 | 18. 3 | 17. 1 | 17. 1 |
| Rice, do | 10. 3 | 10. 7 | 10. 5 | 11. 0 | 10. 6 | 10. 3 | 11. 3 | 10. 8 | 11. 2 | 9. 9 | 9. 7 | 9. 9 |
| Beans, navy, do | 15. 0 | 12. 2 | 12. 4 | 14. 3 | 11. 2 | 10. 4 | 13. 6 | 12. 6 | 12. 6 | 14. 5 | 12. 3 | 12. 4 |
| Potatoes, do | 2. 6 | 4. 4 | 4. 4 | 2. 3 | 3. 7 | 3. 7 | 1. 7 | 3. 2 | 3. 5 | 2. 1 | 3. 9 | 4. 1 |
| Onions, do | 8. 1 | 4. 8 | 5. 4 | 8. 8 | 5. 8 | 6. 7 | 8. 2 | 5. 4 | 5. 6 | 5. 6 | 2. 9 | 2. 9 |
| Cabbage, do | 5. 3 | 9. 3 | 9. 6 | 5. 5 | 8. 6 | 10. 7 | 6. 1 | 6. 1 | 11. 6 | 6. 2 | 11. 5 | 11. 7 |
| Pork and beans, No. 2 can | 11. 3 | 10. 3 | 10. 3 | 13. 1 | 11. 9 | 11. 8 | 15. 7 | 15. 9 | 16. 0 | 12. 8 | 12. 6 | 12. 6 |
| Corn, canned, do | 15. 1 | 14. 6 | 14. 4 | 15. 7 | 15. 5 | 15. 2 | 14. 4 | 14. 2 | 14. 2 | 17. 9 | 17. 3 | 17. 1 |
| Peas, canned, do | 15. 5 | 15. 8 | 15. 3 | 16. 4 | 16. 2 | 16. 1 | 17. 8 | 16. 8 | 17. 0 | 17. 1 | 16. 6 | 16. 6 |
| Tomatoes, canned, do | 12. 9 | 12. 5 | 11. 8 | 13. 4 | 12. 8 | 12. 9 | 12. 9 | 11. 9 | 12. 6 | [4] 15. 7 | [4] 14. 6 | [4] 14. 6 |
| Sugar, granulated, pound | 5. 6 | 5. 6 | 5. 5 | 6. 7 | 6. 6 | 6. 6 | 6. 3 | 6. 2 | 6. 2 | 6. 5 | 6. 5 | 6. 5 |
| Tea, do | 70. 2 | 73. 9 | 73. 9 | 83. 3 | 82. 4 | 82. 1 | 61. 3 | 61. 5 | 62. 7 | 77. 8 | 79. 4 | 79. 4 |
| Coffee, do | 43. 7 | 35. 8 | 35. 5 | 49. 6 | 42. 4 | 41. 5 | 52. 6 | 45. 6 | 45. 3 | 53. 6 | 47. 3 | 46. 3 |
| Prunes, do | 12. 4 | 16. 4 | 15. 6 | 13. 8 | 19. 1 | 19. 1 | 13. 0 | 17. 1 | 17. 2 | 14. 0 | 13. 2 | 12. 1 |
| Raisins, do | 10. 7 | 11. 3 | 11. 4 | 11. 5 | 12. 5 | 12. 2 | 10. 7 | 11. 6 | 11. 5 | 11. 4 | 10. 7 | 10. 7 |
| Bananas, dozen | 29. 5 | 28. 2 | 27. 7 | 35. 0 | 36. 9 | 35. 2 | [2] 10. 5 | [2] 10. 4 | [2] 9. 3 | [2] 10. 0 | [2] 10. 6 | [2] 10. 1 |
| Oranges, do | 35. 4 | 43. 2 | 59. 5 | 36. 9 | 46. 6 | 61. 9 | 42. 4 | 52. 6 | 62. 6 | 35. 2 | 52. 6 | 56. 0 |

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most other cities included in this report it would be known as "porterhouse" steak.
[2] Per pound.
[4] No. 2½ can.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Providence, R. I. | | | Richmond, Va. | | | Rochester, N. Y. | | | St. Louis, Mo. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | |
| | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 | Apr. 15, | Mar. 15 | Apr. 15 |
| | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* |
| Sirloin steak, pound | [1] 76.9 | [1] 79.5 | [1] 80.5 | 45.9 | 49.2 | 48.1 | 46.2 | 46.2 | 46.4 | 45.2 | 46.1 | 45.6 |
| Round steak, do | 55.0 | 57.8 | 58.0 | 41.8 | 43.8 | 43.6 | 40.2 | 41.2 | 41.2 | 44.0 | 44.5 | 44.4 |
| Rib roast, do | 42.5 | 44.7 | 44.1 | 36.3 | 35.6 | 35.5 | 35.0 | 35.1 | 34.8 | 36.4 | 36.7 | 36.5 |
| Chuck roast, do | 34.1 | 36.3 | 37.1 | 28.3 | 30.4 | 29.1 | 30.5 | 30.1 | 30.1 | 28.8 | 29.5 | 29.6 |
| Plate beef, do | 26.0 | 28.3 | 27.9 | 21.2 | 22.5 | 22.1 | 18.9 | 19.5 | 18.8 | 21.3 | 21.4 | 21.6 |
| Pork chops, do | 39.5 | 40.8 | 41.3 | 37.3 | 34.5 | 36.4 | 39.9 | 38.0 | 39.4 | 33.4 | 33.2 | 34.2 |
| Bacon, sliced, do | 40.5 | 40.0 | 39.6 | 39.7 | 38.1 | 38.1 | 37.4 | 37.7 | 37.0 | 41.2 | 41.1 | 41.0 |
| Ham, sliced, do | 55.4 | 54.6 | 56.3 | 45.4 | 43.6 | 43.5 | 53.6 | 52.4 | 52.7 | 54.7 | 53.9 | 53.2 |
| Lamb, leg of, do | 42.6 | 38.8 | 37.8 | 45.4 | 42.2 | 41.7 | 42.2 | 34.8 | 34.1 | 42.7 | 36.3 | 35.6 |
| Hens, do | 46.4 | 40.5 | 41.4 | 40.1 | 37.4 | 36.7 | 44.8 | 39.9 | 40.8 | 41.1 | 37.5 | 37.5 |
| Salmon, red, canned, do | 30.2 | 31.2 | 31.1 | 31.8 | 31.8 | 32.3 | 31.4 | 31.0 | 30.4 | 31.7 | 32.8 | 32.5 |
| Milk, fresh, quart | 15.7 | 15.8 | 15.5 | 14.0 | 14.0 | 14.0 | 13.5 | 14.0 | 14.0 | 13.0 | 13.0 | 13.0 |
| Milk, evaporated, 16-ounce can | 11.7 | 10.9 | 11.0 | 12.2 | 11.5 | 11.2 | 11.1 | 10.2 | 10.1 | 10.2 | 9.7 | 9.6 |
| Butter, pound | 56.9 | 47.2 | 48.7 | 62.4 | 48.6 | 51.3 | 56.9 | 45.2 | 47.2 | 57.5 | 47.4 | 49.9 |
| Oleomargarine (all butter substitutes), pound | 26.6 | 25.1 | 24.6 | 30.0 | 30.1 | 30.1 | 28.3 | 26.3 | 26.8 | 26.3 | 24.4 | 24.8 |
| Cheese, do | 39.0 | 37.4 | 36.6 | 36.7 | 34.8 | 34.7 | 39.8 | 36.8 | 36.8 | 36.8 | 33.5 | 33.2 |
| Lard, do | 17.4 | 16.0 | 16.1 | 18.1 | 16.1 | 16.0 | 17.3 | 15.1 | 14.9 | 15.0 | 13.5 | 13.2 |
| Vegetable lard substitute, do | 26.2 | 25.4 | 25.4 | 25.5 | 23.9 | 23.6 | 26.0 | 22.8 | 22.8 | 25.3 | 25.1 | 25.2 |
| Eggs, strictly fresh, dozen | 45.1 | 43.9 | 41.5 | 32.9 | 30.1 | 30.9 | 37.1 | 36.7 | 35.1 | 33.5 | 31.6 | 30.9 |
| Bread, pound | 9.0 | 8.7 | 8.7 | 8.9 | 8.6 | 8.6 | 8.5 | 8.3 | 8.4 | 9.3 | 8.9 | 8.9 |
| Flour, do | 5.2 | 5.1 | 5.1 | 5.1 | 4.9 | 4.9 | 4.9 | 4.9 | 4.7 | 4.8 | 4.8 | 4.7 |
| Corn meal, do | 5.1 | 5.1 | 5.2 | 5.0 | 4.7 | 4.7 | 5.9 | 5.6 | 5.8 | 4.5 | 4.7 | 4.8 |
| Rolled oats, do | 9.0 | 9.0 | 9.0 | 8.6 | 8.9 | 8.9 | 9.0 | 7.8 | 8.1 | 8.1 | 8.1 | 8.2 |
| Corn flakes, 8-ounce package | 9.7 | 9.4 | 9.4 | 9.7 | 9.6 | 9.6 | 9.2 | 9.4 | 9.4 | 9.2 | 9.4 | 9.4 |
| Wheat cereal, 28-ounce package | 24.8 | 24.5 | 24.5 | 25.9 | 25.9 | 25.7 | 25.6 | 24.6 | 24.2 | 24.3 | 24.4 | 24.4 |
| Macaroni, pound | 22.5 | 22.9 | 22.9 | 20.5 | 20.6 | 20.6 | 19.9 | 19.8 | 19.8 | 19.6 | 20.3 | 19.9 |
| Rice, do | 10.1 | 9.9 | 9.9 | 11.4 | 10.5 | 10.1 | 8.8 | 8.9 | 8.9 | 10.0 | 9.2 | 9.1 |
| Beans, navy, do | 13.7 | 12.4 | 11.8 | 14.5 | 12.0 | 11.8 | 14.4 | 11.4 | 10.8 | 13.8 | 11.0 | 10.9 |
| Potatoes, do | 1.8 | 3.4 | 3.6 | 2.9 | 4.5 | 4.5 | 1.2 | 2.9 | 3.3 | 2.6 | 4.4 | 4.7 |
| Onions, do | 8.0 | 5.0 | 5.8 | 9.4 | 5.0 | 5.6 | 7.6 | 4.6 | 4.7 | 7.9 | 5.4 | 6.0 |
| Cabbage, do | 5.2 | 9.4 | 11.1 | 5.0 | 8.5 | 10.3 | 5.7 | 8.8 | 9.6 | 4.5 | 8.0 | 9.5 |
| Pork and beans, No. 2 can | 11.4 | 10.9 | 10.8 | 11.2 | 10.0 | 10.0 | 10.8 | 10.2 | 10.2 | 10.6 | 10.1 | 10.1 |
| Corn, canned, do | 16.6 | 16.6 | 16.6 | 15.8 | 14.7 | 14.0 | 16.1 | 15.4 | 15.7 | 15.7 | 14.7 | 14.7 |
| Peas, canned, do | 18.2 | 17.7 | 17.7 | 17.6 | 17.2 | 17.5 | 17.4 | 15.4 | 15.5 | 14.9 | 14.8 | 14.8 |
| Tomatoes, canned, do | 13.7 | 12.8 | 13.0 | 12.4 | 12.1 | 11.9 | 14.9 | 15.1 | 14.9 | 12.8 | 12.2 | 12.1 |
| Sugar, granulated, pound | 6.0 | 5.9 | 5.8 | 6.4 | 6.3 | 6.2 | 5.9 | 6.0 | 5.8 | 6.6 | 6.5 | 6.4 |
| Tea, do | 59.8 | 60.6 | 60.1 | 94.5 | 94.8 | 94.8 | 70.1 | 68.7 | 68.7 | 76.2 | 72.4 | 71.8 |
| Coffee, do | 51.8 | 43.1 | 42.2 | 48.2 | 41.1 | 41.2 | 48.2 | 35.8 | 35.6 | 47.1 | 38.4 | 37.9 |
| Prunes, do | 13.5 | 17.0 | 16.1 | 14.9 | 18.4 | 17.7 | 14.6 | 18.7 | 19.1 | 14.7 | 19.5 | 19.2 |
| Raisins, do | 11.3 | 11.9 | 12.1 | 11.0 | 12.6 | 12.6 | 11.6 | 12.0 | 12.1 | 11.1 | 11.9 | 11.9 |
| Bananas, dozen | 30.7 | 28.6 | 28.6 | 35.0 | 33.9 | 32.5 | 28.0 | 30.7 | 25.5 | 31.0 | 32.0 | 31.7 |
| Oranges, do | 47.5 | 53.5 | 69.2 | 36.2 | 43.9 | 58.0 | 51.1 | 51.1 | 60.3 | 43.5 | 52.5 | 61.4 |

[1] The steak for which prices are here quoted is called "sirloin" in this city, but in most of the other cities included in this report it would be known as "porterhouse" steak.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | St. Paul, Minn. | | | Salt Lake City, Utah | | | San Francisco, Calif. | | | Savannah, Ga. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | | Apr. 15, 1929 | 1930 | |
| | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 | | Mar. 15 | Apr. 15 |
| | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* | *Cts.* |
| Sirloin steak, pound | 41.1 | 40.2 | 39.9 | 39.1 | 37.7 | 38.1 | 40.9 | 41.6 | 41.6 | 43.2 | 41.4 | 41.4 |
| Round steak, do | 37.1 | 35.8 | 35.9 | 38.1 | 37.3 | 37.8 | 39.4 | 39.5 | 39.6 | 38.2 | 37.3 | 37.7 |
| Rib roast, do | 34.5 | 33.6 | 33.1 | 32.8 | 31.8 | 32.5 | 37.0 | 35.8 | 36.8 | 33.8 | 33.6 | 33.6 |
| Chuck roast, do | 28.5 | 27.9 | 27.9 | 26.6 | 26.3 | 26.4 | 26.6 | 25.6 | 26.0 | 26.1 | 25.6 | 25.6 |
| Plate beef, do | 18.1 | 17.8 | 17.9 | 20.3 | 19.3 | 19.7 | 21.4 | 20.6 | 20.2 | 21.0 | 21.3 | 21.1 |
| Pork chops, do | 34.2 | 33.6 | 34.8 | 39.5 | 36.9 | 40.1 | 42.0 | 41.6 | 41.0 | 31.2 | 31.4 | 31.4 |
| Bacon, sliced, do | 43.3 | 41.6 | 41.7 | 43.8 | 43.7 | 44.1 | 56.0 | 55.6 | 55.1 | 37.5 | 37.7 | 37.3 |
| Ham, sliced, do | 49.4 | 48.4 | 48.8 | 56.2 | 57.3 | 57.3 | 63.3 | 63.3 | 63.3 | 42.9 | 45.4 | 45.4 |
| Lamb, leg of, do | 38.0 | 29.9 | 29.9 | 40.8 | 34.8 | 34.0 | 43.1 | 39.6 | 38.9 | 42.5 | 37.9 | 37.2 |
| Hens, do | 38.3 | 33.3 | 33.5 | 35.0 | 35.7 | 35.0 | 44.5 | 42.8 | 43.5 | 36.9 | 34.7 | 33.5 |
| Salmon, red, canned, do | 34.2 | 36.3 | 35.5 | 33.6 | 33.2 | 32.9 | 28.1 | 30.0 | 29.9 | 33.2 | 32.6 | 32.5 |
| Milk, fresh, quart | 12.0 | 11.0 | 11.0 | 10.0 | 10.0 | 10.0 | 14.0 | 14.0 | 14.0 | 17.5 | 18.0 | 18.0 |
| Milk, evaporated, 16-ounce can | 11.5 | 10.3 | 10.3 | 10.0 | 9.9 | 9.9 | 9.9 | 9.8 | 9.8 | 10.8 | 10.0 | 10.0 |
| Butter, pound | 50.3 | 42.6 | 44.4 | 50.1 | 41.9 | 43.9 | 52.8 | 46.9 | 49.1 | 57.4 | 48.1 | 47.9 |
| Oleomargarine (all butter substitutes), pound | 24.5 | 23.7 | 23.7 | 25.2 | 27.4 | 26.9 | 24.9 | 24.9 | 24.9 | 30.6 | 28.9 | 27.4 |
| Cheese, do | 35.5 | 34.9 | 34.0 | 29.9 | 28.9 | 28.8 | 39.3 | 40.8 | 40.8 | 35.8 | 31.1 | 30.4 |
| Lard, do | 19.0 | 16.5 | 16.8 | 20.3 | 18.6 | 18.9 | 22.3 | 21.0 | 20.8 | 18.3 | 18.6 | 16.7 |
| Vegetable lard substitute, do | 27.1 | 26.6 | 26.2 | 29.3 | 29.1 | 29.1 | 27.5 | 28.2 | 28.2 | 17.0 | 16.6 | 16.6 |
| Eggs, strictly fresh, dozen | 31.9 | 29.2 | 29.1 | 30.1 | 32.9 | 30.2 | 35.7 | 36.4 | 36.0 | 33.5 | 32.0 | 33.8 |
| Bread, pound | 9.3 | 9.3 | 9.3 | 9.7 | 9.5 | 9.5 | 9.3 | 9.2 | 9.2 | 10.7 | 10.4 | 10.4 |
| Flour, do | 4.6 | 4.7 | 4.6 | 3.6 | 3.6 | 3.6 | 5.2 | 5.2 | 5.1 | 6.5 | 6.1 | 6.0 |
| Corn meal, do | 5.3 | 5.4 | 5.4 | 5.9 | 6.3 | 6.2 | 7.2 | 7.3 | 7.3 | 3.6 | 3.4 | 3.5 |
| Rolled oats, do | 9.9 | 9.6 | 9.3 | 8.8 | 8.5 | 8.5 | 10.0 | 9.8 | 9.8 | 8.4 | 8.6 | 8.5 |
| Corn flakes, 8-ounce package | 10.3 | 9.9 | 9.7 | 10.3 | 9.9 | 9.9 | 9.6 | 9.8 | 9.8 | 9.6 | 9.6 | 9.6 |
| Wheat cereal, 28-ounce package | 26.2 | 26.1 | 25.9 | 25.5 | 25.4 | 25.4 | 25.1 | 25.3 | 25.3 | 24.0 | 24.9 | 24.9 |
| Macaroni, pound | 18.7 | 18.0 | 17.6 | 19.5 | 19.2 | 19.5 | 16.2 | 17.1 | 17.1 | 17.9 | 18.0 | 17.9 |
| Rice, do | 10.9 | 10.1 | 9.8 | 8.6 | 9.2 | 9.0 | 9.5 | 9.4 | 9.4 | 9.2 | 8.5 | 8.5 |
| Beans, navy, do | 14.6 | 12.7 | 12.0 | 12.3 | 10.4 | 9.8 | 13.3 | 12.9 | 12.8 | 14.7 | 13.5 | 13.4 |
| Potatoes, do | 1.3 | 3.0 | 3.2 | 1.7 | 2.7 | 3.0 | 2.8 | 4.4 | 4.9 | 2.8 | 4.1 | 4.2 |
| Onions, do | 8.4 | 4.6 | 5.3 | 6.8 | 3.1 | 2.9 | 6.7 | 4.2 | 4.1 | 9.0 | 4.6 | 5.9 |
| Cabbage, do | 5.0 | 8.5 | 10.1 | 5.1 | 7.0 | 10.8 | ---- | ---- | ---- | 3.7 | 7.3 | 6.7 |
| Pork and beans, No. 2 can | 13.8 | 13.1 | 12.8 | 12.3 | 12.5 | 12.7 | 12.6 | 12.2 | 12.1 | 10.7 | 10.3 | 10.0 |
| Corn, canned, do | 15.1 | 14.8 | 14.2 | 14.1 | 13.7 | 13.8 | 17.3 | 17.4 | 17.4 | 14.8 | 14.9 | 15.1 |
| Peas, canned, do | 14.9 | 14.6 | 14.5 | 14.8 | 14.7 | 14.6 | 17.8 | 17.5 | 17.8 | 16.8 | 17.3 | 17.2 |
| Tomatoes, canned, do | 14.7 | 14.5 | 14.4 | [4] 13.8 | [4] 13.8 | [4] 13.8 | [4] 15.3 | [4] 15.5 | [4] 15.7 | 11.6 | 10.0 | 10.0 |
| Sugar, granulated, pound | 6.8 | 6.7 | 6.4 | 6.8 | 6.8 | 6.9 | 6.2 | 6.2 | 6.2 | 5.9 | 5.9 | 5.8 |
| Tea, do | 72.3 | 68.9 | 65.8 | 85.5 | 84.7 | 84.7 | 71.7 | 75.0 | 75.0 | 79.9 | 83.5 | 80.1 |
| Coffee, do | 52.8 | 46.9 | 46.4 | 55.1 | 50.1 | 49.4 | 53.5 | 46.7 | 46.1 | 46.3 | 36.8 | 35.1 |
| Prunes, do | 14.5 | 17.8 | 18.4 | 13.8 | 18.7 | 18.5 | 12.1 | 16.5 | 16.6 | 13.0 | 17.3 | 17.2 |
| Raisins, do | 13.9 | 13.2 | 13.0 | 11.6 | 12.1 | 11.7 | 10.0 | 10.8 | 11.0 | 11.8 | 12.3 | 12.0 |
| Bananas, dozen | [2] 10.4 | [2] 10.4 | [2] 10.0 | [2] 11.8 | [2] 10.2 | [2] 9.5 | 29.8 | 29.3 | 30.0 | 27.5 | 27.3 | 25.5 |
| Oranges, do | 42.5 | 60.4 | 62.7 | 33.7 | 55.8 | 65.1 | 40.0 | 58.5 | 56.6 | 23.9 | 38.5 | 57.5 |

[2] Per pound.

[4] No. 2½ can.

TABLE 5.—AVERAGE RETAIL PRICES OF THE PRINCIPAL ARTICLES OF FOOD IN 51 CITIES, APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| Article | Scranton, Pa. | | | Seattle, Wash. | | | Springfield, Ill. | | | Washington, D. C. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | | 1929 | 1930 | |
| | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 | Apr. 15 | Mar. 15 | Apr. 15 |
| | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. | Cts. |
| Sirloin steak, pound | 60.7 | 59.8 | 58.7 | 42.9 | 43.0 | 43.3 | 42.7 | 41.7 | 41.3 | 55.0 | 51.6 | 52.3 |
| Round steak, do | 49.7 | 50.4 | 49.5 | 39.2 | 38.5 | 39.0 | 42.7 | 41.7 | 41.7 | 49.5 | 46.6 | 46.3 |
| Rib roast, do | 41.5 | 41.0 | 40.1 | 34.8 | 34.5 | 34.4 | 31.6 | 31.5 | 31.9 | 39.4 | 38.2 | 38.5 |
| Chuck roast, do | 33.8 | 35.2 | 34.4 | 27.9 | 27.0 | 26.9 | 28.6 | 28.3 | 28.7 | 31.3 | 30.5 | 30.4 |
| Plate beef, do | 19.4 | 20.6 | 19.5 | 22.2 | 21.6 | 21.3 | 20.5 | 21.4 | 21.5 | 20.5 | 18.5 | 17.7 |
| Pork chops, do | 41.0 | 37.3 | 40.5 | 39.5 | 40.0 | 39.1 | 33.5 | 32.9 | 34.5 | 39.0 | 37.9 | 39.9 |
| Bacon, sliced, do | 47.1 | 45.8 | 45.8 | 54.8 | 52.6 | 53.9 | 42.7 | 41.8 | 41.6 | 40.1 | 42.0 | 40.8 |
| Ham, sliced, do | 59.3 | 58.2 | 58.4 | 59.1 | 58.5 | 59.0 | 50.9 | 50.9 | 50.5 | 58.7 | 57.7 | 57.5 |
| Lamb, leg of, do | 48.5 | 41.5 | 40.5 | 42.3 | 38.0 | 36.8 | 45.0 | 37.9 | 35.7 | 42.9 | 37.6 | 36.0 |
| Hens, do | 47.8 | 41.8 | 42.8 | 36.1 | 37.1 | 36.4 | 37.0 | 34.2 | 33.8 | 45.1 | 41.6 | 42.5 |
| Salmon, red, canned, do | 32.7 | 33.0 | 32.8 | 33.3 | 33.4 | 32.9 | 33.8 | 33.8 | 33.6 | 28.9 | 30.6 | 31.0 |
| Milk, fresh, quart | 13.0 | 14.0 | 14.0 | 12.0 | 12.0 | 12.0 | 14.4 | 14.4 | 14.4 | 14.8 | 15.0 | 15.0 |
| Milk, evaporated, 16-ounce can | 11.8 | 11.1 | 11.3 | 10.3 | 10.0 | 10.1 | 11.6 | 9.7 | 9.8 | 11.7 | 11.1 | 10.9 |
| Butter, pound | 57.4 | 46.3 | 47.5 | 54.2 | 46.2 | 49.0 | 53.9 | 45.4 | 45.9 | 58.4 | 49.9 | 51.5 |
| Oleomargarine (all butter substitutes), pound | 27.5 | 25.8 | 22.5 | 24.9 | 24.6 | 24.5 | 28.2 | 27.1 | 27.2 | 26.5 | 25.5 | 25.4 |
| Cheese, do | 38.1 | 37.3 | 37.6 | 35.4 | 35.9 | 35.2 | 36.5 | 34.6 | 34.9 | 41.2 | 37.2 | 37.1 |
| Lard, do | 19.5 | 18.1 | 18.1 | 20.0 | 19.1 | 19.1 | 18.2 | 15.2 | 15.6 | 16.6 | 16.2 | 15.9 |
| Vegetable lard substitute, do | 26.2 | 26.8 | 26.8 | 27.0 | 26.3 | 25.9 | 27.5 | 27.1 | 26.7 | 24.6 | 24.3 | 24.6 |
| Eggs, strictly fresh, dozen | 40.4 | 37.9 | 36.6 | 35.5 | 35.5 | 34.5 | 30.8 | 27.4 | 27.3 | 37.0 | 35.3 | 35.9 |
| Bread, pound | 9.7 | 9.8 | 9.9 | 9.6 | 9.7 | 9.7 | 10.1 | 10.3 | 10.3 | 8.9 | 8.9 | 8.9 |
| Flour, do | 5.4 | 5.4 | 5.4 | 4.7 | 4.5 | 4.5 | 4.7 | 4.6 | 4.5 | 5.3 | 5.2 | 5.1 |
| Corn meal, do | 7.7 | 7.6 | 7.6 | 5.9 | 6.5 | 6.3 | 4.7 | 4.7 | 4.7 | 4.9 | 5.0 | 5.0 |
| Rolled oats, do | 10.0 | 9.7 | 9.7 | 9.3 | 9.9 | 9.9 | 9.6 | 9.4 | 9.6 | 8.7 | 9.0 | 9.0 |
| Corn flakes, 8-ounce package | 9.9 | 9.8 | 9.8 | 9.6 | 9.6 | 9.6 | 9.5 | 9.4 | 9.4 | 9.1 | 9.1 | 9.1 |
| Wheat cereal, 28-ounce package | 25.3 | 25.8 | 25.8 | 26.8 | 26.3 | 26.3 | 27.5 | 26.7 | 26.7 | 24.2 | 24.1 | 24.1 |
| Macaroni, pound | 22.8 | 22.5 | 22.6 | 17.7 | 17.6 | 17.6 | 18.9 | 18.7 | 18.6 | 20.5 | 21.5 | 21.5 |
| Rice, do | 10.0 | 10.0 | 10.0 | 10.4 | 10.1 | 10.1 | 10.5 | 9.7 | 9.6 | 11.5 | 10.1 | 10.5 |
| Beans, navy, do | 13.5 | 13.1 | 12.8 | 14.2 | 13.0 | 12.8 | 14.3 | 10.7 | 9.7 | 14.0 | 11.6 | 11.2 |
| Potatoes, do | 2.0 | 3.6 | 3.7 | 1.9 | 3.7 | 4.1 | 1.7 | 3.9 | 4.2 | 2.3 | 4.2 | 4.3 |
| Onions, do | 8.7 | 5.2 | 5.3 | 7.1 | 4.1 | 3.8 | 9.9 | 5.1 | 6.6 | 8.3 | 4.7 | 5.4 |
| Cabbage, do | 5.9 | 9.1 | 10.5 | 6.8 | 10.1 | 11.2 | 5.5 | 8.2 | 11.2 | 4.9 | 8.8 | 9.7 |
| Pork and beans, No. 2 can | 12.2 | 11.8 | 11.8 | 12.8 | 11.8 | 11.9 | 11.4 | 10.0 | 10.0 | 10.8 | 10.3 | 10.3 |
| Corn, canned, do | 16.9 | 16.7 | 16.0 | 17.8 | 17.2 | 17.3 | 14.9 | 14.3 | 14.6 | 15.1 | 15.2 | 15.2 |
| Peas, canned, do | 17.6 | 17.5 | 16.5 | 18.1 | 17.6 | 17.6 | 15.4 | 15.6 | 15.6 | 14.9 | 16.2 | 16.3 |
| Tomatoes, canned, do | 13.6 | 13.1 | 13.1 | [4] 16.3 | [4] 15.9 | [4] 15.5 | 13.8 | 13.5 | 13.7 | 12.2 | 11.2 | 11.1 |
| Sugar, granulated, pound | 6.3 | 6.6 | 6.5 | 6.3 | 6.3 | 6.4 | 6.9 | 6.7 | 6.6 | 5.9 | 6.1 | 5.8 |
| Tea, do | 67.0 | 67.1 | 66.4 | 79.1 | 77.4 | 77.8 | 83.5 | 81.5 | 81.5 | 89.6 | 89.2 | 88.5 |
| Coffee, do | 50.5 | 43.7 | 42.5 | 52.0 | 44.5 | 43.8 | 51.7 | 45.8 | 44.7 | 47.1 | 38.9 | 38.2 |
| Prunes, do | 14.8 | 17.8 | 17.9 | 14.3 | 15.6 | 15.8 | 14.7 | 19.9 | 19.1 | 15.3 | 20.0 | 19.6 |
| Raisins, do | 11.9 | 12.1 | 12.3 | 10.7 | 11.5 | 11.4 | 11.6 | 12.6 | 12.8 | 12.8 | 12.7 | 12.6 |
| Bananas, dozen | 31.9 | 31.5 | 28.8 | [2] 10.5 | [2] 10.1 | [2] 9.6 | [2] 8.9 | [2] 8.3 | [2] 8.0 | 27.7 | 29.0 | 27.0 |
| Oranges, do | 46.4 | 49.4 | 63.6 | 33.3 | 58.3 | 58.6 | 38.0 | 62.9 | 66.9 | 40.9 | 44.9 | 54.6 |

[2] Per pound.

[4] No. 2½ can.

### Comparison of Retail Food Costs in 51 Cities

TABLE 6 shows for 39 cities the percentage of increase or decrease in the retail cost of food[3] in April, 1930, compared with the average cost in the year 1913, in April, 1929, and March, 1930. For 12 other cities comparisons are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average family consumption of these articles in each city.[4]

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month of April, 99.2 per cent of all the firms supplying retail prices in the 51 cities sent in a report promptly. The following-named 39 cities had a perfect record; that is, every merchant who is cooperating with the bureau sent in his report in time for his prices to be included in the city averages: Atlanta, Baltimore, Boston, Buffalo, Bridgeport, Charleston, S. C., Chicago, Cincinnati, Cleveland, Columbus, Dallas, Denver, Detroit, Fall River, Indianapolis, Jacksonville, Little Rock, Los Angeles, Louisville, Manchester, Memphis, Milwaukee, Minneapolis, Mobile, Newark, New Haven, New York, Omaha, Peoria, Pittsburgh, Portland, Me., Rochester, St. Louis, Salt Lake City, San Francisco, Savannah, Scranton, Springfield, Ill., and Washington.

TABLE 6.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN APRIL, 1930, COMPARED WITH THE COST IN MARCH, 1930, AND APRIL, 1929, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

| City | Percentage increase April, 1930, compared with 1913 | Percentage decrease April, 1930, compared with April, 1929 | Percentage increase April, 1930, compared with March, 1930 | City | Percentage increase April, 1930, compared with 1913 | Percentage decrease April, 1930, compared with April, 1929 | Percentage increase April, 1930, compared with March, 1930 |
|---|---|---|---|---|---|---|---|
| Atlanta | 50.0 | 4.2 | 0.5 | Minneapolis | 52.7 | 0.3 | 0.5 |
| Baltimore | 54.6 | [a].6 | .9 | Mobile | ---------- | 1.0 | .9 |
| Birmingham | 53.7 | 2.1 | 1.5 | Newark | 45.6 | .5 | .7 |
| Boston | 53.3 | [a]9.6 | .5 | New Haven | 50.3 | 1.1 | 0 |
| Bridgeport | ---------- | 1.2 | .3 | New Orleans | 51.3 | 1.2 | [b].1 |
| Buffalo | 54.7 | [a].2 | .4 | New York | 53.1 | 1.3 | .3 |
| Butte | ---------- | [a]1.7 | .4 | Norfolk | ---------- | 2.3 | .7 |
| Charleston, S. C. | 54.4 | .7 | .4 | Omaha | 46.8 | .3 | 1.4 |
| Chicago | 64.4 | [a].3 | .6 | Peoria | ---------- | [a]2.3 | .7 |
| Cincinnati | 61.2 | [a]3.0 | 1.4 | Philadelphia | 52.1 | .3 | .6 |
| Cleveland | 48.2 | [a].5 | 1.5 | Pittsburgh | 49.8 | 2.4 | .4 |
| Columbus | ---------- | [a]2.8 | 1.1 | Portland, Me | ---------- | 1.6 | 1.3 |
| Dallas | 49.9 | 2.8 | [b].7 | Portland, Oreg | 40.2 | [a]1.2 | .5 |
| Denver | 35.6 | .5 | 1.3 | Providence | 52.3 | [a].5 | .6 |
| Detroit | 56.4 | .7 | 1.6 | Richmond | 56.9 | 1.4 | 1.0 |
| Fall River | 46.7 | 1.8 | 0 | Rochester | ---------- | .4 | 1.0 |
| Houston | ---------- | .9 | .2 | St. Louis | 58.2 | [a]1.4 | 1.2 |
| Indianapolis | 51.4 | [a]1.6 | 1.7 | St. Paul | ---------- | 0 | .8 |
| Jacksonville | 38.1 | 1.2 | [b].9 | Salt Lake City | 32.0 | [a].6 | 1.6 |
| Kansas City | 51.5 | [a]1.5 | .6 | San Francisco | 51.7 | [a]1.9 | 1.2 |
| Little Rock | 46.1 | 1.2 | .5 | Savannah | ---------- | 1.6 | .2 |
| Los Angeles | 40.2 | .9 | 1.7 | Scranton | 57.6 | [a].3 | .4 |
| Louisville | 49.3 | 2.8 | 1.9 | Seattle | 47.4 | [a]1.9 | 1.2 |
| Manchester | 47.7 | [a].1 | .7 | Springfield, Ill | ---------- | [a]2.5 | 1.4 |
| Memphis | 46.4 | .7 | 1.4 | Washington | 57.3 | .4 | .8 |
| Milwaukee | 56.3 | [a]2.3 | .6 | | | | |

[a] Increase. [b] Decrease.

[3] For list of articles see note 1, p. 3.

[4] The consumption figures used from January, 1913, to December, 1920, for each article in each city are given in the Labor Review for November, 1918, pp. 94 and 95. The consumption figures which have been used for each month, beginning with January, 1921, are given in the Labor Review for March, 1921, p. 26.

## Retail Prices of Coal in the United States[a]

THE following table shows the average retail prices of coal on April 15, 1929, and March 15 and April 15, 1930, for the United States and for each of the cities from which retail food prices have been obtained. The prices quoted are for coal delivered to consumers, but do not include charges for storing the coal in cellar or coal bin where an extra handling is necessary.

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.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930

| City, and kind of coal | 1929 | 1930 | |
|---|---|---|---|
| | Apr. 15 | Mar. 15 | Apr. 15 |
| United States: | | | |
| Pennsylvania anthracite— | | | |
| Stove— | | | |
| Average price | $15.04 | $15.33 | $15.32 |
| Index (1913=100) | 194.6 | 198.4 | 198.3 |
| Chestnut— | | | |
| Average price | $14.71 | $15.00 | $14.99 |
| Index (1913=100) | 185.8 | 189.6 | 189.4 |
| Bituminous— | | | |
| Average price | $8.76 | $9.02 | $8.84 |
| Index (1913=100) | 161.3 | 166.0 | 162.7 |
| Atlanta, Ga.: | | | |
| Bituminous, prepared sizes | $7.33 | $7.77 | $7.28 |
| Baltimore, Md.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | [1] 16.00 | 14.25 | 14.25 |
| Chestnut | [1] 15.50 | 13.75 | 13.75 |
| Bituminous, run of mine— | | | |
| High volatile | 7.93 | 7.89 | 7.89 |
| Birmingham, Ala.: | | | |
| Bituminous, prepared sizes | 6.85 | 7.54 | 7.11 |
| Boston, Mass.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.25 | 16.25 | 16.25 |
| Chestnut | 16.00 | 15.75 | 15.75 |
| Bridgeport, Conn.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 14.50 | 15.50 | 15.25 |
| Chestnut | 14.50 | 15.50 | 15.25 |
| Buffalo, N. Y.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 13.31 | 13.77 | 13.77 |
| Chestnut | 12.81 | 13.32 | 13.32 |
| Butte, Mont.: | | | |
| Bituminous, prepared sizes | 10.91 | 11.09 | 11.07 |
| Charleston, S. C.: | | | |
| Bituminous, prepared sizes | 9.67 | 9.67 | 9.67 |
| Chicago, Ill.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.85 | 16.85 | 16.85 |
| Chestnut | 16.45 | 16.40 | 16.40 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 8.27 | 8.41 | 8.52 |
| Low volatile | 11.85 | 12.04 | 12.18 |
| Run of mine— | | | |
| Low volatile | 8.25 | 8.25 | 8.25 |
| Cincinnati, Ohio: | | | |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | $5.55 | $6.30 | $5.55 |
| Low volatile | 7.38 | 8.78 | 7.53 |
| Cleveland, Ohio: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 15.10 | 15.19 | 15.24 |
| Chestnut | 14.50 | 14.75 | 14.85 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 7.04 | 7.10 | 7.18 |
| Low volatile | 9.03 | 9.94 | 10.03 |
| Columbus, Ohio: | | | |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 5.75 | 5.91 | 5.93 |
| Low volatile | 7.25 | 8.25 | 8.25 |
| Dallas, Tex.: | | | |
| Arkansas anthracite—Egg | 15.50 | 15.50 | 14.25 |
| Bituminous, prepared sizes | 13.08 | 12.92 | 11.92 |
| Denver, Colo.: | | | |
| Colorado anthracite— | | | |
| Furnace, 1 and 2 mixed | 14.25 | 15.06 | 14.75 |
| Stove, 3 and 5 mixed | 13.00 | 15.06 | 14.75 |
| Bituminous, prepared sizes | 8.96 | 10.35 | 10.41 |
| Detroit, Mich.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.00 | 16.00 | 16.00 |
| Chestnut | 15.50 | 15.50 | 15.50 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 8.30 | 8.09 | 8.05 |
| Low volatile | 10.31 | 10.12 | 9.46 |
| Run of mine— | | | |
| Low volatile | 8.00 | 7.83 | 7.67 |
| Fall River, Mass.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 15.75 | 16.50 | 16.50 |
| Chestnut | 15.50 | 16.25 | 16.25 |
| Houston, Tex.: | | | |
| Bituminous, prepared sizes | 12.20 | 13.60 | 12.00 |
| Indianapolis, Ind.: | | | |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 6.19 | 6.01 | 5.94 |
| Low volatile | 8.29 | 8.75 | 8.44 |
| Run of mine— | | | |
| Low volatile | 6.88 | 7.08 | 6.96 |

[1] Per ton of 2,240 pounds.

[a] Prices of coal were formerly secured semiannually and published in the March and September issues of the Labor Review. Since June, 1920, these prices have been secured and published monthly.

AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON APRIL 15, 1929, AND MARCH 15 AND APRIL 15, 1930—Continued

| City, and kind of coal | 1929 | 1930 | |
|---|---|---|---|
| | Apr. 15 | Mar. 15 | Apr. 15 |
| Jacksonville, Fla.: | | | |
| Bituminous, prepared sizes | $12.00 | $14.00 | $14.00 |
| Kansas City, Mo.: | | | |
| Arkansas anthracite— | | | |
| Furnance | 12.60 | 12.55 | 12.55 |
| Stove No. 4 | 14.17 | 13.67 | 13.67 |
| Bituminous, prepared sizes | 7.23 | 7.15 | 7.15 |
| Little Rock, Ark.: | | | |
| Arkansas anthracite—Egg | 13.50 | 13.50 | 13.50 |
| Bituminous, prepared sizes | 10.20 | 10.10 | 9.75 |
| Los Angeles, Calif.: | | | |
| Bituminous, prepared sizes | 16.50 | 16.50 | 16.50 |
| Louisville, Ky.: | | | |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 5.66 | 7.03 | 5.83 |
| Low volatile | 8.00 | 9.50 | 8.10 |
| Manchester, N. H.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.00 | 17.00 | 17.00 |
| Chestnut | 16.00 | 17.00 | 17.00 |
| Memphis, Tenn.: | | | |
| Bituminous, prepared sizes | 7.39 | 7.80 | 7.69 |
| Milwaukee, Wis.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.30 | 16.30 | 16.30 |
| Chestnut | 15.90 | 15.85 | 15.85 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 7.80 | 7.68 | 7.68 |
| Low volatile | 11.08 | 10.99 | 10.99 |
| Minneapolis, Minn.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 18.28 | 18.30 | 18.30 |
| Chestnut | 17.90 | 17.85 | 17.85 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 10.90 | 10.56 | 10.56 |
| Low volatile | 13.50 | 12.39 | 12.39 |
| Mobile, Ala.: | | | |
| Bituminous, prepared sizes | 9.12 | 9.53 | 8.70 |
| Newark, N. J.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 13.40 | 13.96 | 13.96 |
| Chestnut | 12.90 | 13.46 | 13.46 |
| New Haven, Conn.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 14.90 | 15.17 | 15.17 |
| Chestnut | 14.90 | 15.17 | 15.17 |
| New Orleans, La.: | | | |
| Bituminous, prepared sizes | 9.29 | 10.96 | 10.96 |
| New York, N. Y.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 13.83 | 14.58 | 14.58 |
| Chestnut | 13.33 | 14.08 | 14.08 |
| Norfolk, Va.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 15.00 | 14.00 | 14.00 |
| Chestnut | 15.00 | 14.00 | 14.00 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 7.81 | 7.25 | 7.25 |
| Low volatile | 10.50 | 8.50 | 8.50 |
| Run of mine— | | | |
| Low volatile | 7.00 | 6.50 | 6.50 |
| Omaha, Nebr.: | | | |
| Bituminous, prepared sizes | 9.51 | 9.67 | 9.64 |
| Peoria, Ill.: | | | |
| Bituminous, prepared sizes | 6.90 | 6.78 | 6.52 |
| Philadelphia, Pa.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | [1] 14.00 | [1] 15.00 | [1] 15.00 |
| Chestnut | [1] 13.50 | [1] 14.50 | [1] 14.50 |
| Pittsburgh, Pa.: | | | |
| Pennsylvania anthracite— | | | |
| Chestnut | $15.00 | $15.00 | $15.00 |
| Bituminous, prepared sizes | 5.25 | 5.36 | 5.29 |
| Portland, Me.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 15.84 | 16.80 | 16.80 |
| Chestnut | 15.84 | 16.80 | 16.80 |
| Portland, Oreg.: | | | |
| Bituminous, prepared sizes | 13.04 | 13.32 | 13.26 |
| Providence, R. I.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | [2] 15.25 | [2] 16.00 | [2] 16.00 |
| Chestnut | [2] 15.25 | [2] 16.00 | [2] 16.00 |
| Richmond, Va.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 15.00 | 15.00 | 15.00 |
| Chestnut | 15.00 | 15.00 | 15.00 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 8.38 | 8.38 | 8.38 |
| Low volatile | 9.78 | 9.11 | 9.09 |
| Run of mine— | | | |
| Low volatile | 7.50 | 7.25 | 7.25 |
| Rochester, N. Y.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 14.00 | 14.75 | 14.63 |
| Chestnut | 13.50 | 14.25 | 14.13 |
| St. Louis, Mo.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 16.80 | 16.70 | 16.70 |
| Chestnut | 16.50 | 16.45 | 16.45 |
| Bituminous, prepared sizes | 6.45 | 6.75 | 6.75 |
| St. Paul, Minn.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 18.30 | 18.28 | 18.25 |
| Chestnut | 17.90 | 17.85 | 17.85 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | 10.68 | 10.27 | 10.27 |
| Low volatile | 13.50 | 12.63 | 12.63 |
| Salt Lake City, Utah: | | | |
| Colorado anthracite— | | | |
| Furnace, 1 and 2 mixed | 18.00 | ------ | ------ |
| Stove, 3 and 5 mixed | 18.00 | ------ | ------ |
| Bituminous, prepared sizes | 6.94 | 8.38 | 8.38 |
| San Francisco, Calif.: | | | |
| New Mexico anthracite— | | | |
| Cerillos egg | 26.00 | 26.00 | 26.00 |
| Colorado anthracite— | | | |
| Egg | 25.50 | 25.50 | 25.50 |
| Bituminous, prepared sizes | 16.75 | 16.88 | 16.88 |
| Savannah, Ga.: | | | |
| Bituminous, prepared sizes | [3] 9.54 | [3] 10.24 | [3] 9.84 |
| Scranton, Pa.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | 10.00 | 10.28 | 10.28 |
| Chestnut | 9.63 | 9.92 | 9.92 |
| Seattle, Wash.: | | | |
| Bituminous, prepared sizes | 10.55 | 10.79 | 10.75 |
| Springfield, Ill.: | | | |
| Bituminous, prepared sizes | 4.24 | 4.34 | 4.34 |
| Washington, D. C.: | | | |
| Pennsylvania anthracite— | | | |
| Stove | [1] 14.93 | [1] 15.73 | [1] 15.73 |
| Chestnut | [1] 14.34 | [1] 15.23 | [1] 15.23 |
| Bituminous— | | | |
| Prepared sizes— | | | |
| High volatile | [1] 8.63 | [1] 8.63 | [1] 8.63 |
| Low volatile | [1] 11.00 | [1] 11.43 | [1] 11.43 |
| Run of mine— | | | |
| Mixed | [1] 7.81 | [1] 7.75 | [1] 7.75 |

[1] Per ton of 2,240 pounds.

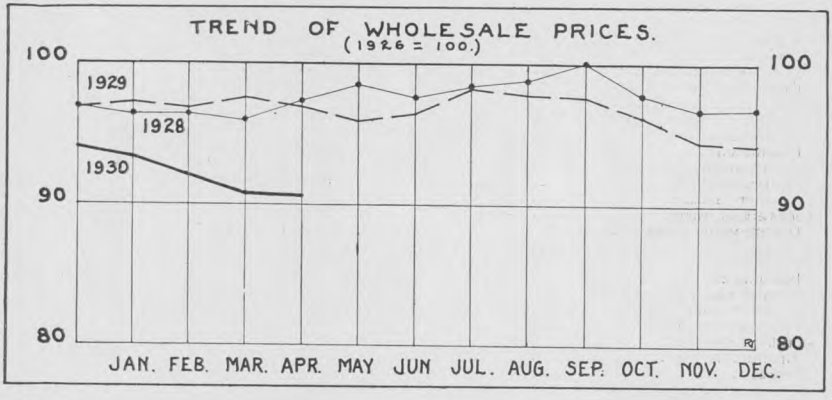
[2] The average price of coal delivered in bin is 50 cents higher than here shown. Practically all coal is delivered in bin.

[3] 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.

## Index Numbers of Wholesale Prices in April, 1930

A CHECK to the recent downward movement of wholesale prices is shown for April by information collected in leading markets of the country by the Bureau of Labor Statistics of the United States Department of Labor. The bureau's weighted index number, based on average prices in 1926 as 100.0, stands at 90.7 for April compared with 90.8 for March, a decrease of only one-tenth of 1 per cent. Compared with April, 1929, with an index number of 96.8, a decrease of nearly 6⅓ per cent is shown. Based on these figures the purchasing power of the 1926 dollar was $1.033 in April, 1929, and $1.103 in April, 1930.

Farm products as a group increased over 1 per cent in average prices from March to April, due to advances in corn, cotton, oranges, lemons, hay, onions, and potatoes. April prices were, however, 8⅔ per cent below those of April, 1929.




Foods averaged three-fourths of 1 per cent above the March level, with increases for butter and most corn products. The level for April was, however, over 3 per cent lower than that for the corresponding month of last year. Fuel and lighting materials also averaged higher than in the month before, due mainly to appreciable increases for petroleum products.

Hides and leather products were somewhat lower than in March, with decreases shown for most kinds of leather. Textile products also were noticeably lower, due to declines in raw silk and certain woolen and worsted goods.

Metals and metal products decreased 1¾ per cent, with slight declines in iron and steel and larger declines in nonferrous metals. Building materials, chemicals and drugs, and house-furnishing goods likewise all averaged lower than in the preceding month, while cattle feed in the group designated as miscellaneous caused that group to advance slightly.

An increase is shown for the group of raw materials, while semi-manufactured articles weakened slightly and finished products showed a decrease of almost 3 per cent.

Of the 550 commodities or price series for which comparable information for March and April was collected, increases were shown in 103 instances and decreases in 171 instances. In 276 instances no change in price was reported.

Comparing prices in April with those of a year ago, as measured by changes in the index numbers, it is seen that decreases have taken place in all groups of commodities, such decreases ranging from one-half of 1 per cent in the case of house-furnishing goods to 10½ per cent in the case of textile products.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES. [1926=100.0]

| Groups and subgroups | April, 1929 | March, 1930 | April, 1930 | Purchasing power of the dollar April, 1930 |
|---|---|---|---|---|
| All commodities | 96.8 | 90.8 | 90.7 | 1.103 |
| Farm products | 104.9 | 94.7 | 95.8 | 1.044 |
| Grains | 94.3 | 83.5 | 84.1 | 1.189 |
| Livestock and poultry | 114.7 | 99.6 | 96.9 | 1.032 |
| Other farm products | 101.8 | 95.2 | 99.0 | 1.010 |
| Foods | 97.7 | 93.9 | 94.6 | 1.057 |
| Butter, cheese, and milk | 106.1 | 98.5 | 99.3 | 1.007 |
| Meats | 111.5 | 104.2 | 103.2 | .969 |
| Other foods | 86.0 | 86.2 | 87.7 | 1.140 |
| Hides and leather products | 107.9 | 103.2 | 102.7 | .974 |
| Hides and skins | 108.2 | 95.8 | 95.8 | 1.044 |
| Leather | 111.3 | 107.4 | 105.3 | .950 |
| Boots and shoes | 106.6 | 103.8 | 103.8 | .963 |
| Other leather products | 105.0 | 105.8 | 105.3 | .950 |
| Textile products | 95.5 | 86.5 | 85.5 | 1.170 |
| Cotton goods | 100.2 | 91.9 | 91.4 | 1.094 |
| Silk and rayon | 82.4 | 73.7 | 72.0 | 1.389 |
| Woolen and worsted goods | 100.3 | 91.0 | 89.6 | 1.116 |
| Other textile products | 85.3 | 70.6 | 72.3 | 1.383 |
| Fuel and lighting materials | 80.6 | 77.4 | 77.9 | 1.284 |
| Anthracite coal | 88.1 | 91.2 | 90.2 | 1.109 |
| Bituminous coal | 89.3 | 89.9 | 88.4 | 1.131 |
| Coke | 84.7 | 84.2 | 84.2 | 1.188 |
| Gas | 93.4 | 94.1 | (1) | |
| Petroleum products | 71.1 | 63.7 | 65.6 | 1.524 |
| Metals and metal products | 106.4 | 100.6 | 98.8 | 1.012 |
| Iron and steel | 98.2 | 94.9 | 93.8 | 1.066 |
| Nonferrous metals | 113.1 | 98.6 | 90.5 | 1.105 |
| Agricultural implements | 98.8 | 95.0 | 95.0 | 1.053 |
| Automobiles | 112.2 | 106.8 | 106.8 | .936 |
| Other metal products | 98.5 | 98.4 | 98.4 | 1.016 |
| Building materials | 97.9 | 95.4 | 94.7 | 1.056 |
| Lumber | 95.4 | 91.6 | 91.8 | 1.089 |
| Brick | 92.4 | 88.3 | 88.4 | 1.131 |
| Cement | 94.6 | 92.7 | 92.7 | 1.079 |
| Structural steel | 97.0 | 91.9 | 91.9 | 1.088 |
| Paint materials | 85.2 | 92.1 | 91.4 | 1.094 |
| Other building materials | 109.6 | 106.4 | 104.0 | .962 |
| Chemicals and drugs | 94.9 | 91.2 | 91.0 | 1.099 |
| Chemicals | 100.5 | 96.8 | 96.6 | 1.035 |
| Drugs and pharmaceuticals | 70.7 | 68.3 | 68.0 | 1.471 |
| Fertilizer materials | 94.6 | 88.2 | 88.1 | 1.135 |
| Mixed fertilizers | 96.2 | 94.8 | 94.4 | 1.059 |
| House-furnishing goods | 96.7 | 96.5 | 96.2 | 1.040 |
| Furniture | 95.0 | 96.6 | 96.6 | 1.035 |
| Furnishings | 97.8 | 96.3 | 95.8 | 1.044 |
| Miscellaneous | 79.2 | 78.2 | 78.5 | 1.274 |
| Cattle feed | 108.9 | 103.8 | 117.1 | .854 |
| Paper and pulp | 87.8 | 87.0 | 86.0 | 1.163 |
| Rubber | 44.0 | 31.6 | 30.9 | 3.236 |
| Automobile tires | 55.8 | 55.2 | 54.7 | 1.828 |
| Other miscellaneous | 103.8 | 108.6 | 108.3 | .923 |
| Raw materials | 97.0 | 89.3 | 89.8 | 1.114 |
| Semimanufactured articles | 97.4 | 90.6 | 87.9 | 1.138 |
| Finished products | 96.9 | 92.0 | 91.9 | 1.088 |
| Nonagricultural commodities | 94.7 | 89.8 | 89.4 | 1.119 |

[1] Data not yet available.

## Trend of Wholesale Prices of Farm Products, Foods, and Other Commodities, 1920 to 1930

A COMPARISON of recent price trends of farm products and foods with all other commodities as a group is afforded by the figures in the table which follows. This comparison is facilitated by the chart also given herewith.

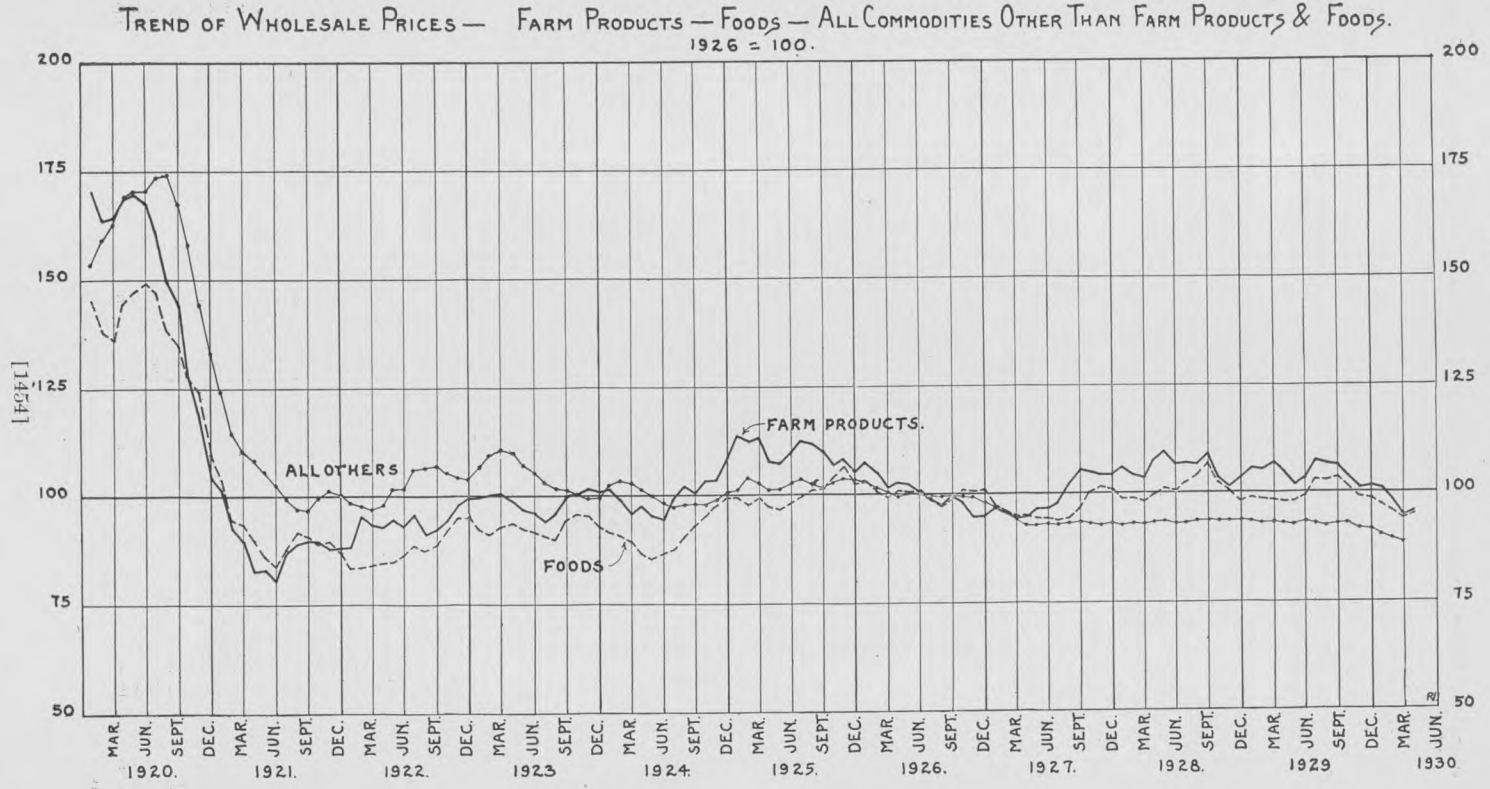
INDEX NUMBERS OF WHOLESALE PRICES OF FARM PRODUCTS, FOODS, AND OTHER COMMODITIES

[1926=100.0]

| Month | 1920 | | | 1921 | | | 1922 | | | 1923 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities |
| January | 170.2 | 145.1 | 153.3 | 101.6 | 103.9 | 124.2 | 88.0 | 83.3 | 98.1 | 99.6 | 92.3 | 107.0 |
| February | 163.3 | 138.2 | 159.2 | 92.7 | 94.6 | 114.1 | 95.1 | 83.7 | 97.5 | 100.0 | 91.2 | 109.3 |
| March | 164.5 | 136.1 | 162.8 | 89.9 | 93.6 | 110.0 | 93.4 | 84.2 | 97.0 | 100.2 | 92.6 | 110.6 |
| April | 168.7 | 144.6 | 169.0 | 82.8 | 89.9 | 108.3 | 92.6 | 84.3 | 97.8 | 98.5 | 93.3 | 110.0 |
| May | 169.8 | 147.3 | 170.6 | 83.1 | 86.0 | 105.5 | 94.3 | 84.8 | 101.9 | 96.7 | 92.3 | 107.4 |
| June | 167.4 | 149.0 | 170.5 | 80.6 | 83.9 | 102.4 | 92.8 | 86.2 | 102.2 | 96.0 | 91.7 | 105.1 |
| July | 160.4 | 146.8 | 173.4 | 86.5 | 87.5 | 99.2 | 95.6 | 88.4 | 106.3 | 94.0 | 90.5 | 103.4 |
| August | 149.9 | 138.4 | 174.2 | 88.9 | 91.8 | 96.7 | 91.2 | 87.3 | 106.9 | 95.8 | 89.9 | 102.0 |
| September | 143.9 | 134.8 | 167.4 | 89.7 | 90.6 | 96.8 | 92.4 | 88.6 | 107.1 | 100.0 | 94.0 | 101.8 |
| October | 127.8 | 127.7 | 158.0 | 89.7 | 89.6 | 99.8 | 94.2 | 91.6 | 105.4 | 100.6 | 95.8 | 100.6 |
| November | 118.7 | 123.9 | 144.0 | 87.6 | 89.4 | 101.4 | 97.8 | 94.8 | 104.3 | 101.8 | 95.1 | 99.3 |
| December | 104.6 | 109.7 | 133.3 | 87.9 | 86.8 | 100.1 | 99.2 | 95.0 | 104.1 | 101.0 | 92.9 | 99.5 |
| Year | 150.7 | 137.4 | 161.3 | 88.4 | 90.6 | 104.9 | 93.8 | 87.6 | 102.4 | 98.6 | 92.7 | 104.3 |

| Month | 1924 | | | 1925 | | | 1926 | | | 1927 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities |
| January | 101.4 | 91.4 | 102.4 | 113.8 | 99.7 | 101.4 | 107.4 | 102.6 | 103.0 | 96.5 | 96.9 | 96.8 |
| February | 98.8 | 90.8 | 103.5 | 112.4 | 97.7 | 104.0 | 105.1 | 100.5 | 101.8 | 95.4 | 95.9 | 96.0 |
| March | 95.7 | 89.2 | 102.8 | 112.8 | 99.1 | 102.8 | 101.7 | 99.1 | 100.6 | 94.2 | 94.5 | 94.2 |
| April | 97.3 | 86.7 | 101.4 | 107.6 | 97.3 | 101.3 | 102.8 | 100.4 | 99.6 | 94.3 | 94.6 | 92.8 |
| May | 95.1 | 85.3 | 100.0 | 107.3 | 96.7 | 101.6 | 102.4 | 100.1 | 100.0 | 96.3 | 94.4 | 92.8 |
| June | 94.3 | 86.5 | 98.1 | 109.3 | 97.8 | 102.9 | 100.9 | 100.5 | 100.0 | 96.5 | 94.4 | 92.9 |
| July | 98.6 | 87.4 | 97.4 | 112.1 | 99.4 | 103.8 | 98.6 | 98.8 | 99.4 | 97.6 | 93.9 | 92.9 |
| August | 102.0 | 90.3 | 97.7 | 111.6 | 101.2 | 102.3 | 97.2 | 97.5 | 99.6 | 102.2 | 94.2 | 93.1 |
| September | 100.4 | 92.8 | 97.7 | 110.0 | 101.6 | 101.9 | 99.3 | 99.8 | 99.7 | 105.9 | 96.5 | 93.4 |
| October | 103.2 | 94.9 | 97.7 | 107.0 | 103.8 | 102.7 | 97.9 | 100.8 | 99.4 | 105.0 | 100.0 | 93.1 |
| November | 103.6 | 97.1 | 98.8 | 108.1 | 106.2 | 103.8 | 94.7 | 100.5 | 99.3 | 104.3 | 101.5 | 92.6 |
| December | 108.3 | 99.3 | 100.6 | 105.4 | 102.4 | 103.7 | 94.9 | 100.7 | 98.0 | 104.4 | 100.7 | 93.0 |
| Year | 100.0 | 91.0 | 99.7 | 109.8 | 100.2 | 102.6 | 100.0 | 100.0 | 100.0 | 99.4 | 96.5 | 93.7 |

| Month | 1928 | | | 1929 | | | 1930 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | Farm products | Foods | Other commodities | | | |
| January | 106.1 | 98.5 | 92.8 | 105.9 | 98.8 | 93.4 | 101.0 | 97.2 | 90.3 | | | |
| February | 104.5 | 98.7 | 92.9 | 105.4 | 98.1 | 93.0 | 98.0 | 95.5 | 89.6 | | | |
| March | 103.5 | 98.0 | 92.7 | 107.1 | 98.1 | 93.2 | 94.7 | 93.9 | 88.7 | | | |
| April | 107.6 | 99.5 | 92.9 | 104.9 | 97.7 | 92.9 | 95.8 | 94.6 | 88.3 | | | |
| May | 109.8 | 101.2 | 93.3 | 102.2 | 97.7 | 92.5 | | | | | | |
| June | 106.7 | 100.3 | 92.8 | 103.3 | 98.9 | 93.1 | | | | | | |
| July | 107.1 | 102.3 | 93.0 | 107.6 | 102.8 | 92.9 | | | | | | |
| August | 107.0 | 104.1 | 93.5 | 107.1 | 103.1 | 92.5 | | | | | | |
| September | 108.8 | 106.9 | 93.6 | 106.6 | 103.2 | 92.7 | | | | | | |
| October | 103.5 | 102.3 | 93.6 | 103.9 | 101.2 | 92.7 | | | | | | |
| November | 101.6 | 100.1 | 93.5 | 101.1 | 98.8 | 91.7 | | | | | | |
| December | 103.6 | 98.0 | 93.6 | 101.9 | 98.6 | 91.4 | | | | | | |
| Year | 105.9 | 101.0 | 93.2 | 104.9 | 99.7 | 92.6 | | | | | | |



## Wholesale Prices in the United States and in Foreign Countries, 1923 to March, 1930

IN THE following table the more important index numbers of wholesale prices in foreign countries and those of the United States Bureau of Labor Statistics have been brought together in order that the trend of prices in the several countries may be compared. The base periods here shown are those appearing in the sources from which the information has been drawn, in most 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, there are important differences in the composition of the index numbers themselves.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN CERTAIN FOREIGN COUNTRIES

| Country | United States | Canada | Austria | Belgium | Czechoslovakia | Denmark | Finland | France | Germany | Italy |
|---|---|---|---|---|---|---|---|---|---|---|
| Computing agency | Bureau of Labor Statistics | Dominion Bureau of Statistics (revised) | Federal Statistical Bureau | Ministry of Industry and Labor | Central Bureau of Statistics (revised index) | Statistical Department | Central Bureau of Statistics (revised) | General Statistical Bureau | Federal Statistical Bureau | Riccardo Bachi (revised) |
| Base period | 1926 | 1926 | January-June, 1914 | April, 1914 | July, 1914 | 1913 | 1926 | 1913 | 1913 | 1913 |
| Commodities | 550 | 502 | 47 | 126 | 69 | 118 | 139 | 45 | 400 | 138 |
| *Year and month* | | | | | | | | | | |
| 1923 | 100.6 | 98.0 | 124 | 497 | 977 | | | 419 | | [1] 503.9 |
| 1924 | 98.1 | 99.4 | 136 | 573 | 997 | | | 488 | 137.3 | [1] 497.4 |
| 1925 | 103.5 | 102.6 | 136 | 558 | 1008 | 210 | | 550 | 141.8 | [1] 612.0 |
| 1926 | 100.0 | 100.0 | 123 | 744 | 954 | 163 | 100 | 703 | 134.4 | [1] 618.2 |
| 1927 | 95.4 | 97.7 | 133 | 847 | 979 | 153 | 101 | 617 | 137.6 | [1] 466.7 |
| 1928 | 97.7 | 96.4 | 130 | 843 | 979 | 153 | 102 | 620 | 140.0 | [1] 453.1 |
| 1929 | 96.5 | | 130 | 851 | 924 | 150 | 98 | 611 | 137.2 | [1] 439.7 |
| 1923 | | | | | | | | | | |
| January | 102.0 | | | 434 | 991 | | | 387 | | 516.1 |
| April | 103.9 | | | 480 | 1012 | | | 415 | | 525.7 |
| July | 98.4 | | | 504 | 949 | | | 407 | | 503.9 |
| October | 99.4 | | | 515 | 960 | | | 421 | | 499.6 |
| 1924 | | | | | | | | | | |
| January | 99.6 | | | 580 | 974 | | | 494 | | 504.4 |
| April | 97.3 | | | 555 | 1008 | | | 450 | | 510.3 |
| July | 95.6 | | | 566 | 953 | | | 481 | | 497.4 |
| October | 98.2 | | | 555 | 999 | | | 497 | | 522.0 |
| 1925 | | | | | | | | | | |
| January | 102.9 | | | 559 | 1045 | 243 | | 514 | | 568.2 |
| February | 104.0 | | | 551 | 1048 | 240 | | 515 | | 571.1 |
| March | 104.2 | | | 546 | 1034 | 236 | | 514 | | 571.2 |
| April | 101.9 | | | 538 | 1020 | 230 | | 513 | | 570.1 |
| May | 101.6 | | | 537 | 1006 | 227 | | 520 | | 571.2 |
| June | 103.0 | | | 552 | 998 | 223 | | 543 | | 590.9 |
| July | 104.3 | | | 559 | 1009 | 212 | | 557 | | 612.0 |
| August | 103.9 | | | 567 | 993 | 197 | | 557 | | 630.6 |
| September | 103.4 | | | 577 | 996 | 186 | | 556 | | 621.5 |
| October | 103.6 | | | 575 | 989 | 179 | | 572 | | 617.1 |
| November | 104.5 | | | 569 | 977 | 176 | | 605 | | 612.8 |
| December | 103.4 | | | 565 | 977 | 176 | | 633 | | 613.8 |

[1] July.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN CERTAIN FOREIGN COUNTRIES—Continued

| Country | United States | Canada | Austria | Belgium | Czechoslovakia | Denmark | Finland | France | Germany | Italy |
|---|---|---|---|---|---|---|---|---|---|---|
| Computing agency | Bureau of Labor Statistics | Dominion Bureau of Statistics (revised) | Federal Statistical Bureau | Ministry of Industry and Labor | Central Bureau of Statistics (revised index) | Statistical Department | Central Bureau of Statistics (revised) | General Statistical Bureau | Federal Statistical Bureau | Riccardo Bachi (revised) |
| Base period | 1926 | 1926 | January-June, 1914 | April, 1914 | July, 1914 | 1913 | 1926 | 1913 | 1913 | 1913 |
| Commodities | 550 | 502 | 47 | 126 | 69 | 118 | 139 | 45 | 400 | 138 |
| *Year and month* | | | | | | | | | | |
| 1926 | | | | | | | | | | |
| January | 103.6 | 103.0 | 122 | 560 | 966 | 172 | ---------- | 634 | 135.8 | 608.0 |
| February | 102.1 | 102.1 | 120 | 556 | 950 | 165 | ---------- | 636 | 134.3 | 603.5 |
| March | 100.4 | 101.3 | 119 | 583 | 938 | 158 | ---------- | 632 | 133.1 | 592.3 |
| April | 100.1 | 101.2 | 119 | 621 | 923 | 157 | ---------- | 650 | 132.7 | 590.0 |
| May | 100.5 | 100.2 | 118 | 692 | 928 | 158 | ---------- | 688 | 132.3 | 595.8 |
| June | 100.5 | 100.2 | 124 | 761 | 926 | 157 | ---------- | 738 | 131.9 | 604.9 |
| July | 99.5 | 100.2 | 126 | 876 | 948 | 158 | ---------- | 836 | 133.1 | 618.2 |
| August | 99.0 | 99.1 | 126 | 836 | 963 | 162 | ---------- | 769 | 134.0 | 632.5 |
| September | 99.7 | 98.5 | 123 | 859 | 973 | 162 | ---------- | 787 | 134.9 | 622.0 |
| October | 99.4 | 98.1 | 125 | 856 | 972 | 178 | ---------- | 751 | 136.2 | 596.7 |
| November | 98.4 | 97.6 | 128 | 865 | 978 | 170 | ---------- | 684 | 137.1 | 594.2 |
| December | 97.9 | 97.9 | 127 | 860 | 978 | 158 | ---------- | 627 | 137.1 | 573.6 |
| 1927 | | | | | | | | | | |
| January | 96.6 | 97.8 | 130 | 856 | 979 | 157 | 100 | 622 | 135.9 | 558.2 |
| February | 95.9 | 97.6 | 130 | 854 | 975 | 156 | 101 | 632 | 135.6 | 555.8 |
| March | 94.5 | 97.3 | 133 | 858 | 976 | 153 | 101 | 641 | 135.0 | 544.7 |
| April | 93.7 | 97.5 | 135 | 846 | 979 | 152 | 100 | 636 | 134.8 | 521.3 |
| May | 93.7 | 98.5 | 137 | 848 | 988 | 152 | 100 | 628 | 137.1 | 496.2 |
| June | 93.8 | 98.9 | 142 | 851 | 990 | 152 | 101 | 622 | 137.9 | 473.4 |
| July | 94.1 | 98.6 | 140 | 845 | 992 | 152 | 101 | 621 | 137.6 | 466.7 |
| August | 95.2 | 98.3 | 133 | 850 | 983 | 153 | 102 | 618 | 137.9 | 465.4 |
| September | 96.5 | 97.1 | 130 | 837 | 975 | 153 | 101 | 600 | 139.7 | 465.4 |
| October | 97.0 | 97.2 | 129 | 839 | 966 | 154 | 101 | 587 | 139.8 | 467.5 |
| November | 96.7 | 96.9 | 127 | 838 | 967 | 154 | 103 | 594 | 140.1 | 466.0 |
| December | 96.8 | 97.3 | 127 | 841 | 975 | 154 | 103 | 604 | 139.6 | 462.9 |
| 1928 | | | | | | | | | | |
| January | 96.3 | 96.9 | 129 | 851 | 982 | 153 | 102 | 607 | 138.7 | 463.5 |
| February | 96.4 | 96.8 | 128 | 848 | 985 | 152 | 102 | 609 | 137.9 | 461.3 |
| March | 96.0 | 97.7 | 129 | 848 | 978 | 153 | 103 | 623 | 138.5 | 463.9 |
| April | 97.4 | 98.3 | 131 | 847 | 984 | 154 | 103 | 624 | 139.5 | 464.4 |
| May | 98.6 | 97.7 | 131 | 844 | 987 | 155 | 103 | 632 | 141.2 | 464.9 |
| June | 97.6 | 97.1 | 133 | 844 | 986 | 155 | 103 | 626 | 141.3 | 461.7 |
| July | 98.3 | 96.2 | 133 | 841 | 979 | 155 | 103 | 624 | 141.6 | 453.1 |
| August | 98.9 | 95.4 | 133 | 831 | 996 | 154 | 103 | 617 | 141.5 | 456.2 |
| September | 100.1 | 95.5 | 131 | 830 | 986 | 151 | 101 | 620 | 139.9 | 457.8 |
| October | 97.8 | 95.4 | 129 | 835 | 971 | 150 | 101 | 617 | 140.1 | 463.3 |
| November | 96.7 | 94.9 | 128 | 847 | 957 | 151 | 101 | 626 | 140.3 | 465.6 |
| December | 96.7 | 94.5 | 127 | 855 | 955 | 151 | 101 | 624 | 139.9 | 464.4 |
| 1929 | | | | | | | | | | |
| January | 97.2 | 94.5 | 128 | 867 | 953 | 151 | 100 | 630 | 138.9 | 461.2 |
| February | 96.7 | 95.7 | 130 | 865 | 950 | 159 | 100 | 638 | 139.3 | 462.7 |
| March | 97.5 | 96.1 | 133 | 869 | 964 | 154 | 100 | 640 | 139.6 | 461.1 |
| April | 96.8 | 94.1 | 134 | 862 | 963 | 150 | 99 | 627 | 137.1 | 455.0 |
| May | 95.8 | 92.4 | 135 | 851 | 948 | 148 | 98 | 623 | 135.5 | 451.6 |
| June | 96.4 | 92.6 | 134 | 848 | 917 | 146 | 98 | 611 | 135.1 | 446.6 |
| July | 98.0 | 96.0 | 132 | 858 | 922 | 149 | 97 | 613 | 137.8 | 439.7 |
| August | 97.7 | 98.1 | 132 | 850 | 916 | 150 | 97 | 597 | 138.1 | 437.4 |
| September | 97.5 | 97.3 | 128 | 846 | 902 | 150 | 96 | 597 | 138.1 | 437.0 |
| October | 96.3 | 96.7 | 127 | 838 | 895 | 149 | 96 | 590 | 137.2 | 435.8 |
| November | 94.4 | 95.8 | 125 | 834 | 888 | 147 | 95 | 584 | 135.5 | 430.8 |
| December | 94.2 | 96.2 | 123 | 823 | 876 | 146 | 95 | 576 | 134.3 | 424.5 |
| 1930 | | | | | | | | | | |
| January | 93.4 | 95.6 | 125 | 808 | 863 | 143 | 94 | 564 | 132.3 | 417.4 |
| February | 92.1 | 94.0 | 123 | 791 | 849 | 140 | 93 | 563 | 129.3 | 408.0 |
| March | 90.8 | 91.9 | 121 | 774 | 831 | 136 | 92 | 553 | 126.4 | -------- |

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN CERTAIN FOREIGN COUNTRIES—Continued

| Country | Netherlands | Norway | Spain | Sweden | Switzerland | United Kingdom | Australia | New Zealand | South Africa | Japan | China | India |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Computing agency | Central Bureau of Statistics | Central Bureau of Statistics | Institute of Geography and Statistics | Chamber of Commerce | Federal Labor Department | Board of Trade | Bureau of Census and Statistics | Census and Statistics Office (revised) | Office of Census and Statistics | Bank of Japan, Tokyo | National Tariff Commission, Shanghai | Labor Office, Bombay |
| Base period | 1913 | 1913 | 1913 | 1913 | July, 1914 | 1913 | July, 1914 | 1913 | 1913 | 1913 | 1913 | July, 1914 |
| Commodities | [2] 48 | 95 | 74 | 160 | 118 | 150 | 92 | 180 | 188 | 56 | [3] 117 | 44 |
| *Year and month* | | | | | | | | | | | | |
| 1923 | 151 | 232 | 172 | 163 | 181 | 158.9 | 170 | 158 | 127 | 199 | 156.4 | 181 |
| 1924 | 156 | 268 | 183 | 162 | 175 | 166.2 | 165 | 165 | 129 | 206 | 153.9 | 182 |
| 1925 | 155 | 253 | 188 | 161 | 162 | 159.1 | 162 | 161 | 128 | 202 | 159.4 | 163 |
| 1926 | 145 | 198 | 181 | 149 | 145 | 148.1 | 161 | 154 | 123 | 179 | 164.1 | 149 |
| 1927 | 148 | 167 | 172 | 146 | 142 | 141.4 | 159 | 146 | 124 | 170 | 170.4 | 147 |
| 1928 | 149 | 161 | 168 | 148 | 145 | 140.3 | 157 | 147 | 121 | 171 | 160.7 | 146 |
| 1929 | 142 | 153 | 171 | 140 | 141 | 136.5 | ------- | 147 | 116 | 166 | 163.7 | 145 |
| 1923 | | | | | | | | | | | | |
| January | 157 | 223 | 170 | 163 | ------- | 157.0 | 163 | ------- | 131 | 184 | 152.7 | 181 |
| April | 156 | 229 | 174 | 168 | ------- | 162.0 | 167 | ------- | 126 | 196 | 157.7 | 180 |
| July | 145 | 231 | 170 | 162 | ------- | 156.5 | 180 | ------- | 124 | 192 | 155.4 | 178 |
| October | 148 | 235 | 171 | 161 | ------- | 158.1 | 171 | ------- | 125 | 212 | 156.1 | 181 |
| 1924 | | | | | | | | | | | | |
| January | 156 | 251 | 178 | 161 | ------- | 165.4 | 174 | ------- | 131 | 211 | 155.8 | 188 |
| April | 154 | 263 | 184 | 161 | ------- | 164.7 | 166 | ------- | 126 | 207 | 153.7 | 184 |
| July | 151 | 265 | 182 | 157 | ------- | 162.6 | 163 | ------- | 125 | 195 | 151.5 | 184 |
| October | 161 | 273 | 186 | 167 | ------- | 170.0 | 163 | ------- | 133 | 213 | 152.8 | 181 |
| 1925 | | | | | | | | | | | | |
| January | 160 | 279 | 191 | 169 | ------- | 171.1 | 163 | 166 | 130 | 214 | 159.9 | 173 |
| February | 158 | 281 | 192 | 169 | ------- | 168.9 | 162 | 162 | ------- | 210 | 159.2 | 173 |
| March | 155 | 279 | 193 | 168 | ------- | 166.3 | 160 | 162 | ------- | 204 | 160.3 | 171 |
| April | 151 | 273 | 190 | 163 | ------- | 161.9 | 158 | 162 | 130 | 202 | 159.3 | 165 |
| May | 151 | 262 | 191 | 162 | ------- | 158.6 | 159 | 162 | ------- | 199 | 157.8 | 164 |
| June | 153 | 260 | 187 | 161 | ------- | 157.2 | 162 | 162 | ------- | 200 | 157.3 | 160 |
| July | 155 | 254 | 188 | 161 | ------- | 156.9 | 162 | 161 | 127 | 198 | 162.8 | 158 |
| August | 155 | 249 | 184 | 159 | ------- | 156.2 | 162 | 161 | ------- | 200 | 160.3 | 160 |
| September | 155 | 237 | 185 | 157 | ------- | 155.1 | 162 | 160 | ------- | 201 | 160.2 | 157 |
| October | 154 | 223 | 187 | 154 | ------- | 153.9 | 163 | 162 | 124 | 200 | 159.0 | 158 |
| November | 154 | 220 | 186 | 155 | ------- | 152.7 | 165 | 161 | ------- | 198 | 158.4 | 160 |
| December | 155 | 220 | 187 | 156 | ------- | 152.1 | 160 | 160 | ------- | 194 | 158.1 | 154 |
| 1926 | | | | | | | | | | | | |
| January | 153 | 214 | 186 | 153 | 153 | 151.3 | 161 | 159 | 124 | 192 | 164.0 | 154 |
| February | 149 | 211 | 186 | 152 | 147 | 148.8 | 160 | 159 | ------- | 188 | 163.0 | 151 |
| March | 145 | 205 | 183 | 149 | 146 | 144.4 | 163 | 157 | ------- | 184 | 164.4 | 150 |
| April | 143 | 199 | 179 | 150 | 145 | 143.6 | 168 | 156 | 120 | 181 | 162.8 | 151 |
| May | 143 | 197 | 179 | 151 | 143 | 144.9 | 167 | 156 | ------- | 177 | 159.7 | 151 |
| June | 144 | 194 | 177 | 150 | 143 | 146.4 | 163 | 155 | ------- | 177 | 155.8 | 150 |
| July | 141 | 192 | 178 | 148 | 145 | 148.7 | 162 | 156 | 122 | 179 | 156.9 | 149 |
| August | 139 | 193 | 180 | 147 | 142 | 149.1 | 162 | 154 | ------- | 177 | 160.5 | 148 |
| September | 140 | 193 | 178 | 146 | 142 | 150.9 | 158 | 153 | ------- | 176 | 164.2 | 149 |
| October | 143 | 198 | 179 | 148 | 144 | 152.1 | 154 | 153 | 127 | 174 | 171.1 | 147 |
| November | 147 | 199 | 185 | 148 | 142 | 152.4 | 155 | 151 | ------- | 171 | 174.4 | 146 |
| December | 147 | 184 | 186 | 150 | 142 | 146.1 | 155 | 153 | ------- | 170 | 172.0 | 146 |

[2] 52 commodities in 1920; 53 commodities from August, 1920, to December, 1921.
[3] 147 items.

INDEX NUMBERS OF WHOLESALE PRICES IN THE UNITED STATES AND IN CERTAIN FOREIGN COUNTRIES—Continued

| Country | Netherlands | Norway | Spain | Sweden | Switzerland | United Kingdom | Australia | New Zealand | South Africa | Japan | China | India |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Computing agency | Central Bureau of Statistics | Central Bureau of Statistics | Institute of Geography and Statistics | Chamber of Commerce | Federal Labor Department | Board of Trade | Bureau of Census and Statistics | Census and Statistics Office (revised) | Office of Census and Statistics | Bank of Japan, Tokyo | National Tariff Commission, Shanghai | Labor Office, Bombay |
| Base period | 1913 | 1913 | 1913 | 1913 | July, 1914 | 1913 | July, 1914 | 1913 | 1913 | 1913 | 1913 | July, 1914 |
| Commodities | 48 | 95 | 74 | 160 | 118 | 150 | 92 | 180 | 188 | 56 | 117 | 44 |
| *Year and month* | | | | | | | | | | | | |
| 1927 | | | | | | | | | | | | |
| January | 145 | 174 | 184 | 146 | 141 | 143.6 | 154 | 151 | 128 | 170 | 172.8 | 146 |
| February | 146 | 172 | 180 | 146 | 141 | 142.6 | 153 | 147 | ..... | 171 | 172.0 | 148 |
| March | 144 | 167 | 179 | 145 | 141 | 140.6 | 150 | 147 | ..... | 171 | 174.7 | 146 |
| April | 143 | 164 | 177 | 143 | 140 | 139.8 | 151 | 147 | 126 | 170 | 173.1 | 145 |
| May | 145 | 162 | 172 | 145 | 141 | 141.1 | 152 | 145 | ..... | 171 | 171.3 | 146 |
| June | 149 | 166 | 171 | 146 | 140 | 141.8 | 155 | 146 | ..... | 172 | 169.3 | 147 |
| July | 151 | 165 | 168 | 146 | 140 | 141.1 | 161 | 146 | 120 | 170 | 171.0 | 147 |
| August | 149 | 167 | 168 | 146 | 142 | 140.9 | 165 | 146 | ..... | 167 | 170.8 | 148 |
| September | 150 | 167 | 169 | 148 | 144 | 142.1 | 170 | 146 | ..... | 169 | 171.8 | 148 |
| October | 150 | 165 | 169 | 147 | 145 | 141.4 | 173 | 146 | 122 | 170 | 168.7 | 146 |
| November | 151 | 166 | 168 | 148 | 147 | 141.1 | 166 | 147 | ..... | 168 | 165.7 | 144 |
| December | 151 | 166 | 169 | 148 | 146 | 140.4 | 162 | 148 | ..... | 168 | 163.5 | 143 |
| 1928 | | | | | | | | | | | | |
| January | 153 | 164 | 166 | 148 | 145 | 141.1 | 163 | 150 | 123 | 169 | 163.1 | 141 |
| February | 150 | 163 | 166 | 147 | 144 | 140.3 | 160 | 147 | ..... | 169 | 164.3 | 142 |
| March | 152 | 164 | 165 | 149 | 145 | 140.8 | 160 | 147 | ..... | 169 | 163.4 | 140 |
| April | 153 | 162 | 166 | 151 | 146 | 142.9 | 162 | 147 | 121 | 170 | 163.1 | 142 |
| May | 152 | 162 | 164 | 152 | 145 | 143.6 | 159 | 148 | ..... | 171 | 164.5 | 145 |
| June | 153 | 161 | 164 | 151 | 145 | 142.6 | 158 | 148 | ..... | 169 | 160.0 | 149 |
| July | 148 | 162 | 164 | 150 | 144 | 141.1 | 157 | 148 | 119 | 169 | 159.2 | 147 |
| August | 144 | 162 | 166 | 149 | 144 | 139.3 | 154 | 147 | ..... | 170 | 157.2 | 146 |
| September | 145 | 158 | 168 | 146 | 144 | 137.6 | 153 | 148 | ..... | 174 | 156.2 | 148 |
| October | 146 | 157 | 174 | 145 | 145 | 137.9 | 152 | 149 | 120 | 174 | 158.8 | 150 |
| November | 148 | 157 | 176 | 145 | 145 | 137.9 | 152 | 150 | ..... | 173 | 159.2 | 149 |
| December | 148 | 157 | 175 | 145 | 144 | 138.3 | 154 | 149 | ..... | 174 | 159.9 | 145 |
| 1929 | | | | | | | | | | | | |
| January | 146 | 154 | 171 | 144 | 143 | 138.3 | 157 | 147 | 120 | 172 | 160.1 | 148 |
| February | 146 | 155 | 173 | 145 | 143 | 138.4 | 156 | 146 | ..... | 171 | 162.4 | 150 |
| March | 147 | 155 | 174 | 144 | 142 | 140.1 | 157 | 146 | ..... | 171 | 164.2 | 147 |
| April | 144 | 154 | 174 | 141 | 140 | 138.8 | 158 | 146 | 117 | 170 | 161.2 | 144 |
| May | 142 | 152 | 171 | 140 | 139 | 135.8 | 156 | 147 | ..... | 169 | 161.7 | 141 |
| June | 141 | 151 | 170 | 139 | 139 | 135.6 | 158 | 147 | ..... | 168 | 162.6 | 143 |
| July | 141 | 152 | 169 | 140 | 143 | 137.4 | 159 | 147 | 115 | 166 | 162.7 | 145 |
| August | 142 | 154 | 170 | 141 | 143 | 135.8 | 160 | 148 | ..... | 165 | 164.7 | 146 |
| September | 141 | 154 | 171 | 140 | 142 | 135.8 | 162 | 148 | ..... | 164 | 167.1 | 147 |
| October | 140 | 154 | 172 | 138 | 142 | 136.1 | 161 | 148 | 113 | 163 | 168.0 | 146 |
| November | 137 | 152 | 171 | 135 | 140 | 134.0 | 158 | 147 | ..... | 160 | 164.7 | 143 |
| December | 135 | 152 | 172 | 134 | 139 | 132.5 | 154 | 146 | ..... | 155 | 164.7 | 141 |
| 1930 | | | | | | | | | | | | |
| January | 131 | 150 | 172 | 131 | 136 | 131,0 | 151 | 147 | 107 | 152 | 169.6 | 139 |
| February | 126 | 147 | ..... | 128 | 133 | 127.8 | 147 | ..... | ..... | 151 | 174.7 | 137 |
| March | 122 | 146 | ..... | 125 | 131 | 124.5 | ..... | ..... | ..... | 148 | 173.9 | ..... |

# COST OF LIVING

## Cost of Living in the Philippines, 1928

THE cost of living for skilled and unskilled workers in Manila and six other towns in the Philippines in 1928 is shown in the following table, compiled from the report of the Governor General of the Islands for that year:

AVERAGE COST OF LIVING PER DAY IN MANILA AND IN SIX OTHER PHILIPPINE TOWNS IN 1928, BY CLASS OF LABOR [1]

[One peso=about 50 cents in U. S. currency]

| Class of labor | Average cost of living per day | |
|---|---|---|
| | In Manila | In 6 other towns |
| Skilled workers: | *Pesos* | *Pesos* |
| Single | 1.42 | 1.09 |
| Married | 2.54 | 2.31 |
| Common laborers: | | |
| Single | 1.10 | .89 |
| Married | 1.93 | 1.77 |

[1] Estimated by deputies of the Philippine Bureau of Labor.

## Budget of a Single Working Woman in France

THE Young Women's Christian Trade Union in France has made a study [1] of the minimum amount upon which a single woman, 20 years old or over and living alone, can live normally. As the budget is based upon the requirements for a garment worker who is supposed to be able to make her own clothes, the clothing estimate is less than would be necessary for the average woman worker.

The following is the allowance for the principal budget items for one year:

| Item | Cost per year | |
|---|---|---|
| | Francs | U. S. currency |
| Food | 5,110 | $200.31 |
| Clothing | 1,528 | 59.90 |
| Lodging, heat, and light | 2,170 | 85.06 |
| Transportation | 440 | 17.25 |
| Miscellaneous | 1,560 | 61.15 |
| Total | 10,808 | 423.67 |

[1] L'Information Sociale, Paris, Mar. 27, 1930.

The allowance for food of 14 francs (55 cents) per day, it is estimated, will buy three plain meals but will allow no extras; rent is fixed at 100 francs ($3.92) per month, with 100 francs per year for tips, etc.; maintenance of the lodging, including dishes, broom, and soap, is 150 francs ($5.88) per year; and heat and light is 720 francs ($28.22). The cost of transportation to and from work varies according to whether the worker lives in the city or in the suburbs but the minimum cost is put at 1.20 francs (4.7 cents) per day. The amount allowed for clothing is divided as follows: 1 dress, 2 blouses, 2 hats, 1 pair of gloves, 1 working blouse, and 1 coat (every two years), totaling 700 francs ($27.44); 1 pair of shoes with allowances for resoling and repairing heels three times, 1 pair of slippers, totaling 191.50 francs ($7.51); and miscellaneous articles such as an umbrella (one every two years), toilet articles, etc., 125 francs ($4.90). For laundry work an allowance of 388 francs ($15.21) is made. The other miscellaneous items include: 250 francs ($9.80) for the services of the doctor and dentist and for medicines; 350 francs ($13.72) for trade-union fees and for old-age insurance; 300 francs ($11.76) for educational purposes and for newspapers, periodicals, and books; and 620 francs ($24.30) for recreation, gifts, and charity.

# IMMIGRATION AND EMIGRATION

## Statistics of Immigration for March, 1930

By J. J. Kunna, Chief Statistician United States Bureau of Immigration

THERE was an increase in the inward movement of both aliens and citizens in March, 1930, as compared with the preceding month. The number of aliens admitted in March was 34,857, the immigrant class numbering 19,759 and the nonimmigrant 15,098. Citizens arrived this month numbered 40,727. Among the aliens departed this month, 2,900 were immigrants and 12,759 nonemigrants, making a total of 15,659, a decrease of 2,198 from the number of outgoing aliens in February, 1930.

Over two-thirds of the immigrant aliens admitted during March came from Europe, 13,698 giving countries on that Continent as their last permanent residence. Germany continues to lead the list, sending 3,087 immigrants this month, followed by Great Britain with 2,733, Italy with 1,545, Irish Free State with 1,481, Poland with 801, Scandinavian countries (Denmark, Norway, and Sweden) with 758, northern Ireland with 597, and Czechoslovakia with 436. Over 83 per cent of the European immigration this month came from these countries. During the same period, the Western Hemisphere contributed 5,717 immigrants, 4,115, or 72 per cent, coming from Canada, while only 808 came from Mexico, and 794 from other America. Compared with the corresponding month a year ago, immigration from Mexico shows the largest proportionate decrease, or 58.7 per cent. The number of immigrant aliens admitted from Mexico during March, 1929, was 1,955; in March, 1928, the number was 5,955; and in March, 1927, it was 7,900. Of the immigrants now entering the United States from Mexico, about 3 of every 5 are males and about 1 of every 5 had previously resided in this country for a period longer than one year.

During the first nine months—July to March—of the current fiscal year, a total of 337,647 aliens of all classes were admitted to the United States. Of this number, 103,364, or 20.6 per cent, came in under the immigration act of 1924 as quota immigrants; 78,657, or 23.3 per cent, were residents of this country returning from a temporary sojourn abroad; 52,098, or 15.4 per cent, entered as natives of nonquota countries, principally Canada and Mexico; 49,515, or 14.7 per cent, were temporary visitors for business or pleasure; and 19,407, or 5.7 per cent, were travelling through the United States on their way elsewhere.

Admissions during the same nine months also included 25,467 aliens who entered the country as husbands, wives, and unmarried children of American citizens. Of the miscellaneous classes admitted, 4,805 were Government officials, their families, attendants, servants, and employees; 1,693 were students; 1,159 were aliens to carry on trade under existing treaty; 845 were ministers of religious denominations and their wives and unmarried children; 197 were professors of colleges, academies, seminaries, or universities, and their wives and

unmarried children; 358 were the wives and unmarried children (born in quota countries) of natives of nonquota countries; 57 were women who had been citizens of the United States; 24 were Spanish subjects admitted into Porto Rico; and 1 was an American Indian born in Canada. The aliens charged to the quota comprised 55.8 per cent of the immigrants or newcomers for permanent residence in this country; the natives of nonquota countries comprised 28.1 per cent; the husbands, wives, and unmarried children of citizens 13.8 per cent; the ministers, professors, and other miscellaneous nonquota classes 2.3 per cent.

The figures for the nine months—July to March last—compared with the corresponding period a year ago, show a decrease of only 985 in the number of quota immigrants admitted, but an increase of 4,116, or 19.3 per cent, in the number of immigrants entering the country as husbands, wives, and unmarried children of American citizens. The other nonquota immigrants under the act of 1924, exclusive of returning residents and natives of nonquota countries, show exactly the same number, 3,175, admitted during each of said periods, although the figures vary for different countries.

Of the 25,467 aliens, all being classified as immigrants for permanent residence in the United States, who came in during the first nine months of the present fiscal year as husbands, wives, and children of citizens, 1,834 were born in countries of northwestern Europe, 22,265 in southern and eastern Europe, and 1,368 in Africa, Asia, Australia, and other countries. Eighty-two per cent of the southern and eastern European group are natives of four countries, namely, Italy (12,543), Poland, (3,059), Czechoslovakia (1,397), and Greece (1,293). The present annual quota for these four countries is 5,802, 6,524, 2,874, and 307, respectively; for southern and eastern European countries combined the annual quota is 24,638, and for northwestern European countries it is 125,853. The quota allotment for the Near East, Africa, Australasia, and other regions, is 3,223. The vast majority of the immigrants admitted from northwestern Europe are of the quota class, while the major portion of the immigrants coming from other Europe are of the exempt or nonquota classes, particularly the class admissible under section 4 (a) of the immigration act of 1924, as amended, which covers husbands, wives, and unmarried children under 21 years of age of United States citizens. This latter class comprises only about 2 out of every 100 immigrant aliens admitted from northwestern Europe, but about 52 of every 100 immigrants from southern and eastern Europe. The figures for certain individual countries show that the exempt class of husbands, wives, and children of citizens comprises about 35 of every 100 immigrants born in Czechoslovakia, 38 of every 100 born in Poland, 73 of every 100 born in Italy, and 82 of every 100 born in Greece. The same class comprises about 57 of every 100 immigrants who are natives of Syria, Turkey, and the other Near East; and about 16 of every 100 immigrants born in the British West Indies.

A comparison of the quota immigrant aliens admitted during the nine months—July to March last—and during the same months a year ago shows that a total of 103,364 quota immigrants entered during the first-mentioned period, of which number 81,198 gave countries in northwestern Europe as their place of birth, 18,962 were born in

southern and eastern Europe, and 3,204 in other countries. In the nine months, July to March, of the fiscal year 1929, a total of 104,349 quota immigrants were admitted, 86,711 being natives of northwestern Europe, 15,563 of southern and eastern Europe, and 2,075 of other countries.

Less than one-half of the emigrant aliens leaving the United States in the month of March, 1930, for intended future permanent residence in some foreign country were destined to Europe, 1,324 going to countries on that Continent to make their future home, while 540 went to Asiatic countries, 172 to Canada, 367 to Mexico, 239 to the West Indies, and 258 to Central and South America and other countries. The Chinese, Mexican, English, German, Scandinavian (Norwegians, Danes, and Swedes), Spanish American, Scotch, Italian, Japanese, and Spanish, in the order given, were the principal races or peoples among these emigrants; and over one-third of the total emigrants this month last made their home in the State of New York. Among these departures, the laborers numbered 698, the skilled workers 501, the commercial classes 215, and the miscellaneous 602, while 884 were listed as having no occupations, being mainly women and children.

Alien applicants for admission who were debarred from entering the country during March, 1930, numbered 649, nearly three-fourths of whom (476) were males. Of the total debarred, 384 were rejected at points along the northern land border and 126 at points on the Mexican border, the remaining 139 (only 9 of whom were females) were debarred at the seaports of entry. The principal cause for debarment was for failure to obtain proper immigration visa from American consuls. A total of 1,511 undesirable aliens were deported from the United States under warrant proceedings, making a total of 12,184 for the nine months—July to March— of the current fiscal year, compared with 9,064 for the corresponding months of the previous year. Of the 1,511 deportations during March last, Mexico received the largest number, 730 deportees going to that country, while 489 were sent to Europe, 216 to Canada, and 76 to other countries.

INWARD AND OUTWARD PASSENGER MOVEMENT FROM JULY 1, 1929, TO MARCH 31, 1930

| 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 | Non-immigrant | Total | | | | Emigrant | Non-emigrant | Total | | | |
| 1929 | | | | | | | | | | | | |
| July | 20,068 | 15,749 | 35,817 | 37,636 | 73,453 | 847 | 5,086 | 23,084 | 28,170 | 56,339 | 84,509 | 1,261 |
| August | 22,778 | 19,007 | 41,785 | 70,783 | 112,568 | 802 | 5,571 | 23,723 | 29,294 | 70,551 | 99,845 | 1,411 |
| September | 28,020 | 28,517 | 56,537 | 85,946 | 142,483 | 719 | 5,150 | 21,398 | 26,548 | 49,429 | 75,977 | 1,205 |
| October | 26,740 | 26,072 | 52,812 | 47,757 | 100,569 | 659 | 4,907 | 19,597 | 24,504 | 39,767 | 64,271 | 1,600 |
| November | 21,522 | 14,798 | 36,320 | 25,129 | 61,449 | 591 | 3,053 | 13,345 | 16,398 | 20,413 | 36,811 | 1,286 |
| December | 17,842 | 11,477 | 29,319 | 21,177 | 50,496 | 571 | 4,880 | 18,746 | 23,626 | 27,404 | 51,030 | 1,546 |
| 1930 | | | | | | | | | | | | |
| January | 14,767 | 11,142 | 25,909 | 23,985 | 49,894 | 630 | 3,947 | 20,860 | 24,807 | 31,991 | 56,798 | 1,275 |
| February | 13,585 | 10,706 | 24,291 | 34,234 | 58,525 | 514 | 3,180 | 14,677 | 17,857 | 33,796 | 51,653 | 1,089 |
| March | 19,759 | 15,098 | 34,857 | 40,727 | 75,584 | 649 | 2,900 | 12,759 | 15,659 | 37,930 | 53,589 | 1,511 |
| Total | 185,081 | 152,566 | 337,647 | 387,374 | 725,021 | 5,982 | 38,674 | 168,189 | 206,863 | 367,620 | 574,483 | 12,184 |

[1] These aliens are not included among arrivals, as they were not permitted to enter the United States.
[2] These aliens are included among aliens departed, they having entered the United States, legally or illegally, and later being deported.

# PUBLICATIONS RELATING TO LABOR

## Official—United States

FLORIDA.—Labor Inspector. *Biennial report, 1927–1928. Jacksonville, 1929. 47 pp.*

The need of a State bureau of labor statistics is strongly emphasized by the inspector, especially in view of the rapid industrial progress of Florida.

PHILADELPHIA.—Board of Public Education. Bureau of Compulsory Education. *Report for the year ended June 30, 1929. Philadelphia [1929?]. 151 pp.; maps, charts, illus.*

In the section on junior employment service there is a report on the early work of the bureau of compulsory education in vocational guidance, together with an account of the development of new phases of the work during 1928–29.

PHILIPPINE ISLANDS.—Governor General. *Annual report, 1928. Washington, 1930. 279 pp. (House Doc. No. 133, 71st U. S. Cong., 2d sess.)*

Certain sections of the report dealing with the unemployment situation, adjustment of claims by the Philippine Bureau of Labor, woman and child labor, and cost of living are reviewed in this issue.

SOUTH CAROLINA.—Department of Agriculture, Commerce, and Industries. *Year book, 1929. Columbia, [1930]. 202 pp.*

The report of the labor division of the department includes data on value of product, number of employees, and amount of wages, by industries.

UNITED STATES.—Congress. Senate. Committee on Commerce. *Unemployment in the United States. Hearings before a subcommittee on S. 3059, S. 3060, and S. 3061, 71st Congress, 2d sess., March 18, 21, and April 1, 1930. Washington, 1930. 109 pp.*

Measures for dealing with unemployment which were recommended by the president of the American Federation of Labor at these hearings are published in this issue of the Labor Review.

—— Department of Agriculture. *Circular No. 94: Farmers' cooperative associations in the United States, 1929, by Chris L. Christensen. Washington, 1929. 66 pp.; map.*

A summary account of the activities of the large-scale farmers' organizations marketing dairy products, fruits and vegetables, grain, rice, cotton, tobacco, livestock, wool, and eggs and poultry. Also covers the cooperative buying of farm supplies.

—— —— Bureau of Agricultural Economics. Division of Cooperative Marketing. *Beginnings of cooperative egg and poultry marketing—a preliminary report. Washington, 1930. 13 pp., mimeographed.*

—— Department of Commerce. Bureau of Mines. *Bibliography of fire hazards and prevention, and safety in the petroleum industry. Distributed by Petroleum Field Office, U. S. Bureau of Mines, San Francisco, Calif. January, 1930. 11 pp.*

—— —— —— *Bulletin 310: Metal-mine accidents in the United States during the calendar year 1927, by William W. Adams. Washington, 1929. 95 pp.*

Some data on metal-mine accidents in 1927 are published in this issue of the Labor Review.

UNITED STATES.—Department of Commerce. Bureau of Mines. *Bulletin 320: Metal-mine accidents in the United States during the calendar year 1928, by William W. Adams. Washington, 1930. 101 pp.*

Reviewed in this issue.

—— —— —— *Information circular 6242: Safety in Utah coal mining as affected by haulage, by D. J. Parker. Washington, March, 1930. 8 pp.*

—— —— —— *Information circular 6243: Safety in connection with haulage practices in Alabama coal mines, by F. E. Cash. Washington, March, 1930. 11 pp.*

—— —— —— *Report of investigations 2986: Experience with electrical and other means of firing shots of explosives in the anthracite region of Pennsylvania, by S. P. Howell. Washington, March, 1930. 13 pp.*

In addition to data on accidents resulting from the use of explosives, the pamphlet contains instructions on safe methods of firing shots.

—— —— —— *Technical paper 467: Production of explosives in the United States during the calendar year 1928, by W. W. Adams and L. S. Gerry. Washington, 1930. 51 pp.*

The report includes data on number of fatalities and injuries due to explosives at mines and quarries, and rates per thousand 300-day workers, from 1911 to 1928, inclusive.

—— Department of Labor. Bureau of Labor Statistics. *Bulletin No. 512: Code for identification of gas-mask canisters. Washington, 1930. 3 pp.*

—— —— Employment Service. Farm Labor Division. *Summary of activities, 1929. Washington, 1930. 4 pp.*

—— Federal Farm Board. Division of cooperative marketing. *Publications issued by farmers' business associations, revised to February 1, 1930, compiled by Chastina Gardner. Washington, 1930. 16 pp., mimeographed.*

## Official—Foreign Countries

AUSTRIA.—Federal Chancellery. Federal Press Department. *The Austrian year book, 1929. Vienna, 1929. 142 pp. (In English.)*

Contains statistical and other information in regard to the Austrian Republic for 1929, the subjects covered including savings banks, trade-unions, public insurance and other social legislation, chambers of labor, wages, etc.

—— Interministerielles Komitee unter dem Vorsitze des Präsidenten des Technischen Versuchsamtes. *10 Jahre Wiederaufbau. Die staatliche, kulturelle und wirtschaftliche Entwicklung der Republic Österreich 1918–1928. Vienna, 1928. 664 pp.; maps, illus.*

Contains a historical review of the reconstruction of the Austrian Republic during the decade of 1918–1928, the topics including education, social insurance, abor chambers, industries, transportation, etc. The volume contains numerous illustrations, charts, and statistical tables.

BUDAPEST (HUNGARY).—Statistical Bureau. *Statistical administrative yearbook for 1929. Budapest, 1929. [Various paging.]*

The yearbook contains statistical information in regard to the city of Budapest, capital of Hungary, for the year 1929, including that relating to employment offices, social insurance, housing, unemployment, wages, sickness, accidents, disability, rest periods, vocational guidance and training, labor unions, cooperation, etc. The text is in Hungarian but the table heads are in both Hungarian and German.

CANADA.—Parliament. House of Commons. Select Standing Committee on Industrial and International Relations. *Report, proceedings, and evidence of the select standing committee on industrial and international relations upon the question of insurance against unemployment, sickness, and invalidity, as ordered by the House on the 14th of February, 1929. Ottawa, 1929. 84 pp.*

Included in the data presented at these hearings are statistics on earnings, family budgets, and wage earners' dependents.

CZECHOSLOVAKIA.—Ministry of Finance. Permanent Commission on Public Burden. *The burden of taxes upon consumption in 1925 according to the budgets of household expenditure of workmen's and clerks' families. Prague, 1929. 144 pp.; charts. (In English and Czechoslovakian.)*

Contains the results of an investigation of workmen's and clerks' family budgets and of State and local taxation of articles of consumption such as salt, sugar, fats, meat, flour, bread, coffee, beer, clothing, fuel, light, dwellings, etc., in the Czechoslovakian Republic in 1925.

DRESDEN (GERMANY).—Statistisches Amt. *Dresden in Zahlen: Statistisches Jahrbuch, 1928. Dresden, 1929. 143 pp.; map.*

Contains statistical information in regard to the city of Dresden up to the year 1929, including employment offices; insurance against unemployment, sickness, and disability; welfare work; public hygiene; etc.

—— —— *Die Verwaltung der Stadt Dresden, 1928. Dresden, 1929. 198 pp., illus.*

Includes information on housing, welfare work, and social insurance in the city of Dresden in 1928.

GERMANY.—Reichsarbeitsministerium. *Arbeit und Gesundheit. Heft 1: Die Ausdehnung der Unfallversicherung auf gewerbliche Berufskrankheiten. Berlin, 1926. 56 pp., illus.*

Extension of accident insurance to occupational diseases.

—— —— —— *Heft 2: Die orthopädische Versorgung. Erster Teil—Das Kunstbein. Berlin, 1926. 64 pp., illus.*

Deals with orthopedic care, especially with artificial legs and feet.

—— —— —— *Heft 3: Die orthopädische Versorgung. Zweiter Teil—Der Kunstarm; Krankenfahrzeuge. Berlin, 1926. 61 pp., illus.*

Deals with orthopedic care, especially with artificial hands and vehicles for the sick.

—— —— —— *Heft 4: Orthopädische Stützapparate; Orthopädisches Schuhwerk; Die orthopädische Versorgung der Kriegsbeschädigten. Berlin, 1927. 118 pp., illus.*

Deals with orthopedic appliances, including those for feet, and also with orthopedic care for war cripples.

—— —— —— *Heft 5: Bericht über die I. Internationale Tagung der Gewerbeärzte. Berlin, 1927. 88 pp.*

Contains papers and proceedings of the first international convention of industrial physicians, held at Düsseldorf, September 15 and 16, 1926.

—— —— —— *Heft 6: Organisation des Rettungswesens in Fabriken und Betrieben. Berlin, 1927. 88 pp., illus.*

Organization of accident prevention in factories and establishments.

—— —— —— *Heft 7: Bericht über die Ergebnisse der Staubuntersuchungen. Berlin, 1928. 91 pp.*

Results of dust investigations in England and its dominions, and America.

—— —— —— *Heft 8: Rheuma und Rheumabekämpfung. Berlin, 1928. 98 pp., diagrams.*

A study of rheumatism, intended for physicians and for purposes of social insurance and welfare work.

GERMANY.—Reichsarbeitsministerium. *Arbeit und Gesundheit. Heft 9: Staubgefährdung und Staubschädigungen der Metallschleifer. Berlin, 1928. 205 pp., illus.*

Dust hazards and diseases in metal polishing.

—— —— —— *Heft 10: Lärmarbeit und Ohr. Berlin, 1929. 47 pp., illus.*

Results of investigation and research on the influence of noise upon the hearing of workmen.

GREAT BRITAIN.—Board of Trade. *Statistical abstract for the United Kingdom for each of the 15 years, 1913 and 1915 to 1928. London, 1930. 387 pp. (Cmd. 3465.)*

Includes data on health insurance, old-age pensions, unemployment and unemployment insurance, trade-unions, strikes and lockouts, cost of living, wages, industrial accidents, workmen's compensation, and building, cooperative, and friendly societies.

—— Mines Department. Miners' Welfare Fund. *Eighth report of the committee appointed by the board of trade to allocate the fund, together with the third report of the selection committee appointed to administer the Miners' Welfare National Scholarship Scheme, 1929. London, 1930. 73 pp.; plans, illus.*

Reviewed in this issue.

—— Ministry of Labor. *Unemployment Insurance Acts, 1920–1929. Analytical guide to decisions given by the umpire respecting claims for benefit before March 13, 1930. London, 1930. 230 pp.*

March 13, 1930, was the date for the coming into effect of the new unemployment insurance act, which made material changes in the conditions for receiving extended benefit, especially in the "genuinely seeking work" provisions. To a considerable extent, however, the principles underlying the decisions here analyzed are applicable to the new act.

INTERNATIONAL LABOR OFFICE.—*Child labor legislation: A comparative survey of the child labor laws of the States members of the International Labor Organization, with appendixes relating to child employment in film studios and the child labor laws of the United States of America. (Provisional report.) Geneva, 1927. 247 pp. (Mimeographed.)*

—— *Forced labor. (Item I on agenda of International Labor Conference, 14th session, Geneva, 1930, second discussion, report I.) Geneva, 1930. 227 pp.*

—— *Hours of work of salaried employees. (Item II on agenda of International Labor Conference, 14th session, Geneva, 1930, second discussion, report II.) Geneva, 1930. 265 pp.*

ITALY.—Associazione Nazionale per la Prevenzione degli Infortuni sul Lavoro. *Relazione sull'activitá dell'associazione nell'anno 1928. Milan, 1929. 224 pp.*

An account of industrial accidents and accident prevention, by occupations, in the various districts of Italy.

—— Istituto Centrale di Statistica. *Annuario statistico Italiano, 1929. Rome, 1929. 502 pp.; maps, charts.*

The annual volume of statistics published by the Central Statistical Institute of Italy. It includes statistics on prices, cost of living, labor unions, wages, industrial accidents, unemployment, and social insurance. The data are for the most part as of January 1, 1929, and include figures for the preceding four or five years for purposes of comparison.

MOSCOW (RUSSIA (R. S. F. S. R.)).—Statistical Bureau. *Financial position of the housing industry in 1926–27. Moscow, 1929. 115 pp. (In Russian.)*

This report on the financial position of the housing industry in the city of Moscow during 1926–27, includes information on private and Soviet housing, rents, floor and air space, lighting, etc.

NEW SOUTH WALES (AUSTRALIA).—Bureau of Statistics. *New South Wales statistical register, for 1927–28. Sydney, 1930. 656 pp.*

—— —— *Official year book of New South Wales, 1928–29. Sydney, 1930. 839 pp.; map.*

NEW ZEALAND.—Census and Statistics Office. *The New Zealand official year book, 1930. Wellington, 1929. 1,063 pp.; maps, charts.*

Includes data relating to accidents, industrial disputes, unemployment, old-age and widows' pensions, production, friendly and building societies, retail and wholesale prices, labor legislation, trade-unions, etc.

QUEBEC (CANADA).—Department of Public Works and Labor. *General report for the year ending June 30, 1929. Quebec, 1929. 85 pp., illus.*

Among the subsidiary agencies of the department for which reports are made in this volume are the provincial employment bureaus, the women's minimum wage commission, and the councils of conciliation and arbitration.

QUEENSLAND (AUSTRALIA).—Registrar General's Office. Statistical Branch. *A B C of Queensland and Australian statistics. Brisbane, 1930. 304 pp.; map, charts.*

SAXONY (GERMANY).—Statistisches Landesamt. *Statistisches Jahrbuch für den Freistaat Sachsen, 1929. Dresden, 1930. 313 pp.*

Contains statistical information on public vocational guidance, public employment offices, insurance against unemployment, wages, trade agreements, strikes and lockouts, conciliation of industrial disputes, labor unions, technical assistance, etc., in the Free State of Saxony in 1929.

SWEDEN. Kommerskollegium. *Industri berättelse för år 1928. Stockholm, 1930. 102 pp.*

Treats of the industrial developments in Sweden during the year 1928, and includes data on workers employed and their occupations, sex, age, and degrees of skill, the hours worked per wage earner, etc.

## Unofficial

ALLGEMEINER DEUTSCHER GEWERKSCHAFTSBUND. *Die wirtschaftlichen Unternehmungen der Arbeiterbewegung. Berlin, 1928. 117 pp., illus.*

Contains information in regard to the industrial undertakings of labor organizations, such as consumers' cooperatives, labor buildings in the district of Brandenburg, publications, etc.

AMERICAN LABOR YEAR BOOK, 1930. *New York, Rand School of Social Science, 7 East 15th Street, 1930. 283 pp.*

BROTHERHOOD OF MAINTENANCE OF WAY EMPLOYEES. *Deaths and injuries and casualty rates per million man-hours of railway maintenance-of-way employees, 1928. Detroit, 61 Putnam Avenue, March, 1930.* [*Various paging.*]

Reviewed in this issue.

BUILDING TRADES EMPLOYERS' ASSOCIATION OF NEW YORK. *Bulletin No. 9: Industrial accident statistics, 1930 edition. New York, 2 Park Avenue, April, 1930. 8 pp.*

Reviewed in this issue.

CLARK, MARJORIE RUTH. *A history of the French labor movement (1910–1928). Berkeley, University of California Press, 1930. 174 pp. (University of California publications in economics, Vol. 8, No. 1.)*

This history of the French labor movement deals primarily with the events of trade-union history during recent years and only incidentally with syndicalist doctrines.

COMPRIX, HANS. *Die Arbeitnehmerbanken. Halberstadt, H. Meyer's Buchdruckerei, 1929. 180 pp.*

Contains information in regard to the workers' banks and their development and economic and social importance in Germany, including chapters on their organization, business methods, and influence upon workers, and on labor banks in foreign countries with special reference to these banks in the United States.

COOPERATIVE LEAGUE OF THE U. S. OF AMERICA. *First Yearbook, 1930. A survey of consumers' cooperation in the United States. New York, 1930. 316 pp.*

Contains articles on general phases and problems of the consumers' cooperative movement in the United States by well-known cooperators and economists, besides a wealth of statistical data.

DIEMER, HUGO. *Wage-payment plans that reduced production costs. New York, McGraw-Hill Book Co. (Inc.), 1930. 272 pp.; charts, illus.*

DUBREUIL, H. *Robots or men? A French workman's experience in American industry. New York, Harper & Bros., 1930. 248 pp.*

A translation into English of the original French publication entitled "Standards: Le travail américain vu par un ouvrier français." The author spent several months as a workman in various American factories, and this volume records his impressions of American industrial methods, with particular reference to scientific management.

GERMAN COMMERCE YEARBOOK, 1929. *Berlin, Struppe & Winckler, 1930. 240 pp.*

Contains information in regard to German industries, commerce, and foreign trade, and on general social conditions in Germany in 1929, including social insurance, factory management, and other phases of socio-economic conditions.

HEBERLE, RUDOLF. *Die soziale Bedeutung der Mobilität der Bevölkerung in den Vereinigten Staaten. Hamburg, 1930. (Sonderdruck aus Hamberg-Amerika-Post, Heft 2, Februar 1930, pp. 33–44.)*

Deals with the mobility of the population of the United States, including that of farm hands and industrial workers, from a social point of view.

INDUSTRIAL FUTURE OF NEW ENGLAND. *Proceedings of the First New England Labor Congress, held in Worcester, Mass., October 25–27, 1929. New York, Workers Education Bureau Press (Inc.), 1930. 71 pp.*

A brief report of this congress was given in the December, 1929, issue of the Labor Review (p. 34).

INTERNATIONAL FEDERATION OF MASTER COTTON SPINNERS' AND MANUFACTURERS' ASSOCIATIONS. *The cotton industry of Japan and China, by Arno S. Pearse. Manchester, England, 238 Royal Exchange, 1929. 254 pp.*

Contains information on wages, hours, working conditions, labor unions, and welfare activities in the industry under review.

INTERNATIONAL INDUSTRIAL RELATIONS ASSOCIATION. *Rational organization and industrial relations: A symposium of views from management, labor, and the social sciences, contributed to the 1929 I. R. I. discussion meeting on the subject of human relations in a rationally organized industry. The Hague, Javastraat 66, 1930. 279 pp., illus.*

KING, WILLFORD I. *Index numbers elucidated. New York, Longmans, Green & Co., 1930. 226 pp.*

LAIDLER, HARRY W. *Unemployment and its remedies. New York, League for Industrial Democracy, 112 East 19th Street, 1929. 31 pp.*

LEDERER, MAX. *Grundriss des österreichischen Sozialrechtes. Vienna, Österreichische Staatsdruckerei, 1929. 733 pp.*

This volume is an informative and analytical treatise on Austrian social legislation, including the laws relating to trade agreements, protection of workers, conciliation of industrial disputes, social insurance, and, under the latter, insurance against unemployment.

NATIONAL ASSOCIATION OF MANUFACTURERS AND NATIONAL INDUSTRIAL COUNCIL. Joint committee. *Public unemployment insurance. New York City, 11 West 42d Street. March, 1930. 38 pp.*

One of the sections of this report is summarized in this issue.

NATIONAL CATHOLIC WELFARE CONFERENCE. Social Action Department. *Mexicans in the United States. A report of a brief survey by Linna E. Bresette. Washington, D. C., 1312 Massachusetts Ave. NW., [1930?]. 45 pp.*

The data presented in this report were secured in 1928. While 8 States were visited, the greater part of the time on the field investigation was spent in the border States.

NATIONAL CONFERENCE OF SOCIAL WORK. *Proceedings at the 56th annual session, held in San Francisco, Calif., June 26–July 3, 1929. Chicago, University of Chicago Press, 1930. 682 pp.*

NATIONAL WOMEN'S TRADE UNION LEAGUE OF AMERICA. *Proceedings, eleventh convention (first triennial), Washington, D. C., May 6–11, 1929. Chicago, 311 South Ashland Boulevard [1929?]. 117 pp.*

ÖSTERREICHISCHES INSTITUT FÜR KONJUNKTURFORSCHUNG. *Austria to-day: An exhibition illustrating Austria's economic progress. Vienna, 1930. 46 pp.; maps, charts. (In English.)*

The publication is a guide to the diagrams exhibited at the London School of Economics from March 27 to April 5, 1930. Many of the diagrams in the Guide are reproduced in color and include those showing occupations of the population, wages and cost of living, unemployment, strikes and lockouts, etc.

RIVISTA ITALIANA DI STATISTICA. *Bologna, Presso la R. Università di Bologna.*

A quarterly magazine of statistics begun in January, 1929.

ROTHSTEIN, T. *From Chartism to laborism; Historical sketches of the English working-class movement. New York, International Publishers, 1929. 365 pp.*

Written from the standpoint of a Russian who lived in England from 1891 to 1920, working as a journalist and taking an active part in the Social-Democratic Federation and its successors down to the British Socialist Party.

SCHELL, ERWIN HASKELL. *The technique of executive control. New York, McGraw-Hill Book Co. (Inc.), 1930. 171 pp.*

This is the third edition of a volume which outlines the basis for success in dealing with problems of management. It is written in a form to stimulate the executive to think out his own answers to the questions raised. The subjects covered include the qualities necessary to a good executive, executive authority, methods of stimulating employees, the duties of an executive, and the difficulties which may arise between the executive and his subordinates and between the executive and his superiors and associates.

SPRENG, H. *La selection professionnelle et son utilité sociale. Neuchatel, Éditions Delachaux et Niestlé S. A., 1929. 148 pp.*

A discussion of vocational guidance.

VERBAND SCHWEIZERISCHER KONSUMVEREINE (V. S. K.). *Rapports et comptes sur l'activité des organes de l'union en 1929. Basel, 1930. 100 pp.*

Certain data from this report of the Swiss Union of Consumers' Cooperative Societies are given in this issue of the Labor Review.

WEYL, RICHARD. *Das deutsche Jugendrecht. Leipzig, C. L. Hirschfeld [1927?]. 330 pp.*

Contains a classified presentation and analysis of German laws covering young persons, including their welfare, juvenile courts, industrial protection, education and training, citizenship status, etc.