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**Fact-Finding Activities**  
**of the**  
**Bureau of Labor Statistics**



*Bulletin No. 831*

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## Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,  
BUREAU OF LABOR STATISTICS,  
*Washington, D. C., May 17, 1945.*

**The SECRETARY OF LABOR:**

I have the honor to transmit herewith a report on the fact-finding activities of the Bureau of Labor Statistics, prepared by Harold R. Hosea in cooperation with the Bureau's branch chiefs.

**A. F. HINRICHS,**  
*Acting Commissioner.*

**HON. FRANCES PERKINS,**  
*Secretary of Labor.*

(II)

## Foreword

One of the more striking results of the war's impact on the national economy has been a widespread recognition of the necessity for having dependable facts in solving the many complex problems faced by labor, management, the Government, and the public in general. Achievement of the goal of high-level postwar employment, and successful control of potential inflationary forces, will require even more emphasis on policies developed on the foundation of an intimate and detailed knowledge of potential problems and the probable outcome of various methods of attacking them.

The Bureau of Labor Statistics, in its capacity as a fact-finding agency, has compiled and made available a substantial volume of materials on employment, wages, working conditions, prices, and other subjects which are directly pertinent to many of the Nation's economic problems. The principal purpose of this bulletin is to describe the more important types of information compiled by the Bureau, their characteristics, uses, and limitations, and the forms in which they are available. More systematic reference sources are, of course, to be found in its official publication, the *Monthly Labor Review*, in the semi-annual subject index to its contents, and in the separate lists of Bureau publications issued from time to time.

It is obviously impossible to publish all of the large volume of information which is collected and analyzed. Some of it, indeed, is assembled as a basis for solving unique or specialized policy problems; important as such data are for these specific purposes, they do not, in some cases, warrant presentation for general use. Frequently, however, these unpublished materials would be of great use to labor groups, individual employers, or associations if they were aware that such information is available. It is hoped that this bulletin will be of some assistance in indicating the fields in which data are likely to be accessible.

The Bureau of Labor Statistics is a service agency operated not only for labor and Government departments, but for the public generally; and complying with requests for information on subjects in the broad field of labor economics is an important part of that service. Requests may be sent to the Commissioner of Labor Statistics in Washington or to one of the field offices, a list of which appears on the inside back cover of this bulletin. The services of the Bureau's eight regional directors, all of whom are specialists in labor economics, are also available to all organizations and individuals. They or their assistants are in a position to supply copies of Bureau materials and to provide advice and suggestions on these and related matters.



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## Fact-Finding Activities of the Bureau of Labor Statistics

The act of Congress under which the Bureau of Labor Statistics operates defines its function as that of acquiring and diffusing information on subjects connected with labor "in the most general and comprehensive sense of that word." During its 60-year history, the Bureau has become the Government's principal fact-finding agency in the field of labor economics, particularly with respect to the collection and analysis of data on employment and manpower developments, wages, working conditions, price trends, and the costs and standards of living. The present war, as did World War I, the depression of the 1930's, and other economic and social crises, necessitated some redirection of the Bureau's work in order to meet the needs of the times. The changes, however, have been in the nature of shifts in emphasis, and there has been no modification in basic approach. The Bureau's activities continue to be geared to provide the kinds of facts required for the solution of present-day and probable future economic problems as they arise or can be predicted with some assurance.

The complex problems which grew out of the present conflict, together with consideration of the postwar adjustments that will have to be made, are reflected in the scope of the Bureau's current operations to a marked degree. Typical of recent developments is the extension of its work in the collection of price and wage data to provide a factual basis for administration of the stabilization programs by the agencies charged with those responsibilities. This and other tasks assigned to the Bureau have resulted in a very great increase in the volume of data available in its files. Simultaneously, shortages in manpower and materials have made it impossible to prepare much of this information for general distribution. The purpose of the present discussion is to provide a brief description of the Bureau's more important activities, together with some notes on the types of data which are published, or can be made available on request, and the purposes which they may serve.

The Bureau of Labor Statistics has no enforcement or administrative functions of any sort. Virtually all of the basic data it collects from workers, businessmen, and other governmental agencies are supplied by these individuals through voluntary cooperation based on their interest in and need for the analyses and summaries which result. It follows, therefore, that the research and statistical projects planned by the Bureau grow out of the needs of these same groups for informa-

tion of one kind or another, and its program is based on these requirements as they are made known by the representatives of labor, management, and other Government agencies. Cooperation is facilitated by the fact that the materials compiled by the Bureau are presented typically as statistical summaries. The confidential data supplied by individuals cooperating in its studies are never released, even to another Government agency, in a form which would disclose information on the operations of an individual firm or organization, unless permission has been obtained in advance from those who furnished the materials.

Space does not permit anything approaching a complete enumeration of the wide variety of statistical and research materials assembled by the Bureau. It is hoped, however, that the following description of the general nature of the Bureau's work in the several broad fields will help to make this large volume of information more readily accessible.

### *Employment and the Labor Force*

One of the Bureau's most important continuing functions is the task of providing current information on the status and characteristics of the employed segment of the Nation's labor force. Basic data on the total working population are compiled by the Bureau of the Census through the decennial censuses and the Monthly Report on the Labor Force. This information is collected from the individuals who constitute the labor force; the Bureau of Labor Statistics, on the other hand, is responsible for assembling and presenting the materials on total nonagricultural employment furnished by industrial and commercial establishments, i.e., employers. These activities and, consequently, the data which result fall into two general groups. The first is made up of a series of regular or periodic reports on the trends of employment and the characteristics of the workers in a wide variety of industries. The second type of undertaking is concerned with analyses of special problems relating to the characteristics of the labor force, the outlook for employment in the future, manpower needs, and allied subjects.

#### TREND OF EMPLOYMENT

In order to provide basic information on the trend of employment, more than 115,000 establishments voluntarily supply the Bureau with regular reports on the numbers of workers during a representative pay period in each month. Information on total man-hours worked and aggregate wages paid are also shown on the same questionnaire. The firms which report constitute a carefully selected cross section of some 150 manufacturing industries; consequently, it is possible to estimate the general trend for each of these industries by relating the experience of these sample firms to benchmark data in the form of complete counts made at infrequent intervals. Similar information is made available for the more important nonmanufacturing industries such as retail trade, construction, and utilities. To these data are added the information in reports from Federal, State, and local government agencies. The result is an estimate of the total volume of nonagricultural employment.

This information may be found in a mimeographed monthly report entitled "Employment and Pay Rolls: Detailed Report," which also includes the corresponding pay-roll indexes and State estimates of total nonagricultural employment. War conditions have made it necessary to reduce the numbers and distribution of most of the Bureau's publications. For this reason, the detailed reports are sent only to organizations urgently in need of the data at the earliest possible moment. Much of this information is also published in the Monthly Labor Review approximately 3 to 4 weeks after the appearance of the preliminary release. A brief general summary of the employment situation, providing an over-all estimate and data for broad industry groups, is issued in the form of a release about the middle of the month following that to which the information relates. Another mimeographed monthly release provides indexes of employment in manufacturing industries for about 100 metropolitan areas or cities. Summaries showing the numbers of women employed in manufacturing industries are also prepared from time to time.

#### *Scope of the Data*

The types of information outlined in the foregoing paragraphs have evolved over a period of nearly 25 years. Indexes of employment and pay rolls, based on this voluntary reporting system by employers, are available back to 1923; prior to that date, and extending back to 1909, similar but less detailed material was compiled from the several Censuses of Manufactures. For a number of reasons, none of the series can be regarded as completely continuous over the entire period. In the first place, the number of industrial and commercial establishments is so great as to preclude the possibility of a complete monthly census; consequently, sampling procedures must be used. Irrespective of the adequacy of any sample, biases are likely to develop over periods of time, partly as a result of changes in the characteristics of the industry as a whole. It is necessary, therefore, to evaluate the sample from time to time as benchmarks (i.e., data based on complete enumerations) become available. From 1923 to 1939, the Bureau's estimates were revised, as necessary, on the basis of the biennial Census of Manufactures. No such census has been undertaken since 1939, and the revisions have therefore been made largely on the basis of reports to the Bureau of Employment Security in connection with the unemployment-compensation program and to the Bureau of Old Age and Survivors Insurance.

One of the most complex problems has been the industrial classification of individual establishments which are, of course, grouped according to principal product or service. This perennial difficulty has been greatly aggravated by the wholesale conversions brought about by the war production program. Because the Bureau's indexes are designed primarily to measure trends, the reporting firms have been retained in the industrial classifications which correspond to their products or services in 1939; the actual employment estimates have been revised on the basis of 1943 data from the Bureau of Employment Security. The monthly employment and pay-roll indexes are available back to January 1939 on the current base. The data for earlier periods have been prepared only in terms of indexes based on the average for 1923-25 as 100.

It is possible in some cases to link the employment and pay-roll trend data for periods prior to January 1939 with the more recent information; the extent to which this can be done depends on the degree of stability of the industry in question, as currently defined. In some cases—apparel manufacturing, for example—individual plants are unlikely to change the nature of their products sufficiently to require shifting them from one industry classification to another. On the other hand, a plant originally producing automobile parts, for instance, may, with comparative ease, shift to radio manufacturing and thus bring about a change in its classification. These problems are complicated further in some cases by the necessity for revising and amplifying the classification system itself in order to keep pace with technological changes and the development of new products and consumption patterns. The Bureau recognizes the genuine need of management, labor, and governmental agencies for long-time trend data on employment and pay rolls, particularly in connection with the planning of future operations, and is glad to consider special requests for data of this type when they are not available in the published series.

#### EMPLOYMENT IN INDIVIDUAL MANUFACTURING INDUSTRIES

The demands of the war on industry, particularly for munitions, have made it necessary for the Bureau to devote increasing attention to the movement of employment and earnings in plants manufacturing aircraft, ships, arms, ammunition, and similar items. These activities have involved the preparation of data for industries made up of plants classified on the basis of current output rather than peacetime products or services as in the case of the regular trend series. The summaries made available include detailed data on employment, working conditions, and production in the aircraft and shipbuilding industries. Typical are articles entitled "Employment in the Shipbuilding Industry, 1935-43," and "Wartime Development of the Aircraft Industry," which appeared in the Monthly Labor Review for May and November 1944, respectively. In addition to these statistical reports, the Bureau has prepared numerous estimates of manpower requirements in the more important war industries for the use of the Army, the Navy, the War Manpower Commission, and other operating agencies. Some of these materials are available for general use; an article entitled "Current Developments in Manpower Requirements and Labor Supply," which appears in the Monthly Labor Review for December 1944, is illustrative.

#### EMPLOYMENT IN THE CONSTRUCTION INDUSTRY

As noted earlier, the principal sources of the Bureau's extensive data on employment and pay rolls are employers throughout the United States. The construction industry, however, presents a number of unique problems, three of which are sufficiently important to warrant brief mention here. In the first place, the typical construction contractor does not operate continuously in a fixed location as do factories, wholesale houses, and similar establishments. The contractors' principal operations are at the construction sites and change from month to month or even from week to week. Second, the fluctuations

in employment and pay rolls tend to be frequent and large. Both of these factors detract seriously from the effectiveness of a current reporting system such as that used for industries in which employment is relatively stable and fixed. Finally, it is essential, for numerous reasons which are obvious, to distinguish between private construction and building operations financed wholly or in part from public funds.

The necessity for finding solutions to these technical problems has resulted in the development of numerous series, related to construction activities, which provide a considerable background in addition to the trend of employment and pay rolls. One of the principal sources of primary data on the volume of building construction is found in the files of building permits which are required in the great majority of urban communities; it is estimated that 80 to 85 percent of the Nation's urban population is in municipalities which require such permits. The Bureau receives information from this source from virtually all of these communities. Although the permits do not contain information on employment and pay rolls, the data on type of construction, numbers of structures, and estimated costs provide accurate guides to the volume of employment in this segment of the building-construction industry. Another important source of information is that pertaining to construction financed from Federal funds. Data of this sort, including employment and pay-roll information, are supplied to the Bureau by the governmental agencies involved. Supplementary sources of information at present are available in the files of priorities on materials issued by the War Production Board; employment reports are also obtained by the Bureau from certain groups of individual contractors. Thousands of construction projects of all types have been analyzed by the Bureau, and these experience records, together with the current reports from various sources on construction activities, provide the basis for estimating employment in the construction industry as a whole, public as well as private.

The principal statistical results of these regular compilations are summarized for general use in the special section on Building Construction, in each issue of the Monthly Labor Review. They are also given in more detail in the publication, Construction, a monthly summary which makes available, under a single cover, the various data which formerly appeared only in individual releases. In addition to employment and pay-roll indexes for the construction industry, this latter publication includes current and detailed monthly data on construction expenditures by type of project and source of funds, together with building-construction valuations by State, city, size of community, and source of funds. The statistics show also the numbers of dwelling units started each month, wholesale and retail prices of building materials, and similar types of data.

At least equal in importance to these current statistical reports are special analyses of the construction industry undertaken from time to time. The sharp decline in construction activities during the war has resulted in a backlog of essential building, both residential and non-residential. It follows that this industry is likely to become vastly more important after the cessation of hostilities and will play a vitally essential role in a postwar full-employment program, irrespective of whether it is necessary to supplement privately financed construction with a program of public works. The Bureau's fund of knowledge on

the volume and nature of the employment furnished by different types of construction activities is invaluable in this connection. Detailed analyses of project operations involved in the public-works program of the 30's have been completed, and, on the basis of these data, it is possible to determine with a high degree of accuracy the numbers and types of workers required for an individual project as well as the amount of employment provided both at the site and in other areas where the necessary construction materials are manufactured. The postwar plans for public works in a number of States and individual communities have been analyzed by the Bureau, and estimates of the amounts and types of on-site and off-site employment involved have been supplied.

Broad summaries of this important industry, for general use, are contained in three recent Bureau publications. The first, entitled "The Construction Industry in the United States," is an exhaustive analysis of the industry's characteristics and trends during the period 1915-43. The probable future of the industry, with particular reference to its importance as a stabilizing factor, is discussed in detail in two recent publications under the titles, "Postwar Capacity and Characteristics of the Construction Industry," and "Probable Volume of Postwar Construction," which are available in Bureau Bulletins Nos. 786 and 825, respectively.

#### PUBLIC EMPLOYMENT

The Bureau's regular reports also include information on employment and pay rolls in Federal, State, and local governments as well as statistics on military personnel. Special studies undertaken from time to time include such analyses as the geographic distribution of Federal civilian employees, occupations and salaries in the Federal Government, and municipal pay rolls. The trend of public employment in the United States from 1929 to 1939 and some of the possible postwar developments were discussed in the February 1945 issue of the Monthly Labor Review. Although considerations of safety make it impossible to release all of the data on military personnel at present, this information will be made available later, to assist in solving the numerous complex problems which are almost certain to arise during the demobilization and postwar periods.

#### COLLABORATION IN REPORTING IN STATE AND LOCAL AREAS

The companies which now supply the Bureau with regular reports on employment and pay rolls, as noted previously, constitute a large and representative Nation-wide cross section of some 150 manufacturing industries and selected nonmanufacturing industries. With comparatively few exceptions, however, these samples of establishments are not sufficiently large in number to provide an adequate basis for employment estimates in individual industries for States and metropolitan areas. In the postwar readjustment period the emphasis will be upon local and State problems in the solution of which the general Nation-wide data are not particularly useful. Thus, employment-trend data for the machine-tool industry as a whole will not provide the facts necessary for detailed planning in a particular area. A substantial expansion of the Bureau's employment-reporting system,

operated principally through its eight regional offices, is now in progress and will make it possible to provide data on employment, pay rolls, and earnings for each State.

It is also important to note that this expanded program is based on a continuation and extension of the Bureau's policy of compiling these data, as far as possible, in collaboration with the several State Departments of Labor.<sup>1</sup> In 19 States, the Bureau and the States collect the employment and pay-roll data on a single form, thus avoiding duplication of reporting by employers. In many cases, the data are analyzed and published by the State agency and reports are sent to the Bureau in Washington for inclusion in the national totals. In return, the Bureau underwrites a part of the expense incurred by the States in collecting the information. This cooperative arrangement has proved to be effective and economical, and further decentralization and extension of these Federal-State programs are now in progress.

#### EMPLOYMENT AND OCCUPATIONAL OUTLOOK

The most effective use of the Nation's labor force, whether under a program of maximum production in wartime or a plan for full employment in peace, is not a mere matter of equating the number of jobs and the total available labor force. During the war the Bureau's activities in this field of analysis have centered around problems of manpower requirements and labor supply. Aside from the special needs arising out of the war, information as to probable changes in employment are required by governmental agencies, by labor and industry, and by individuals. The Bureau has therefore attempted to bring its experience in the measuring and analysis of employment trends to bear on the problems of anticipating future developments.

To meet the needs of vocational counselors and agencies with responsibility for assisting demobilized soldiers and war workers to find the most suitable jobs after the war, the Bureau has been expanding its work in the field of occupational studies. These studies are designed to provide information on employment opportunities in specific occupations, the training and other requirements, wages, and working conditions and, so far as possible, some indication of the kind of a life such an occupation affords. Occupational studies published include "Employment Opportunities for Diesel-Engine Mechanics," in the Monthly Labor Review for February 1945 and a series on "Postwar Employment Outlook in Aviation Occupations," beginning in the April 1945 issue.

Studies of the outlook for employment in each major industry are of value both in themselves and as a necessary step in appraising the outlook for the occupations each industry employs. The Bureau has conducted studies in this field, reviewing historical trends in employment, and analyzing the factors affecting future employment trends. Underlying the industry studies is a broad analysis of major trends in employment. An example of this type of study is the article "Factors Affecting Postwar Job Transfers and Unemployment," in the February 1944 issue of the Monthly Labor Review. Examples of the industry studies include an article on "Trend of Employment in the

<sup>1</sup> In Pennsylvania, part of the information is compiled by the Philadelphia Federal Reserve Bank and in Texas, by the State University.

Aluminum-Products Industry," in the February 1944 issue of the Monthly Labor Review, and the articles on postwar construction activity referred to above.

#### *Manpower Requirements and Labor Supply*

Since the beginning of the defense program, a continuous analysis has been carried on with respect to labor requirements for munitions production and the changes in employment in all other components of the economy resulting from the war program. The purpose of these analyses has been to indicate, in the changing phases of the war, the demands for industrial and military manpower in relation to the available sources of labor supply. The work has involved, particularly, the development of techniques of estimating future labor requirements based upon official war production schedules, and has been carried on cooperatively with the War Manpower Commission and with the assistance of the War Production Board and other Government agencies. The joint statements prepared by the Bureau of Labor Statistics and the Reports and Analysis Service of the War Manpower Commission have been officially submitted to the Chairman and members of the War Manpower Commission and subsequently issued to the public by means of press releases and in articles in the Monthly Labor Review and the Labor Market. The seventh in the series of joint public statements appeared in the February 1945 issue of the Monthly Labor Review.

In conjunction with the Bureau's studies of manpower requirements, work in the field of labor-force analysis was initiated early in 1942. Changes in the size and composition of the labor force during the war have been analyzed primarily from two points of view—the availability of additional sources of labor supply to meet wartime industrial and military needs, and the probable size of the labor force after the war. The results of the labor-supply studies have been incorporated in the periodic manpower-requirements statements issued jointly by the Bureau and the War Manpower Commission, and have been presented in detail in articles in the Monthly Labor Review (see, for example, Sources of Wartime Labor Supply in the United States, in the August 1944 issue, and Teen-Age Youth in the Wartime Labor Force, in the January 1945 issue).

In many areas, the war has caused drastic changes in labor requirements and in industrial organization. At the same time, the character of the labor force has undergone marked changes because of migration, the induction of large numbers into the armed forces, and the addition of "extra" workers (estimated at about 6.7 million in 1944) who would normally be outside the labor market. In collaboration with State and local authorities, the War Manpower Commission, and other agencies, the Bureau has studied the impact of the war on more than 175 communities and thus provided the factual basis for implementation of State and local postwar plans.

#### **PRODUCTIVITY AND TECHNOLOGICAL DEVELOPMENTS**

The productivity of labor is a significant factor in determining manpower requirements and employment levels, whether the objective be maximum production as in war or full employment under peacetime conditions. Adam Smith's classic description of the effects

of the introduction of machinery in the manufacture of pins is still indicative of the industrial changes that are going on today, with far-reaching implications to labor. New techniques are noted by the Bureau in a monthly Summary of Technological Developments which contains abstracts from a large number of trade and technical journals. An extensive record of such changes in techniques and processes is included in a recapitulation of the materials carried in the monthly reports for 1942 and 1943, arranged by subject and index. This summary, now in press, is designed to supply employers, labor, and Government officials responsible for framing national policy with guidance on trends in productivity and technological innovations.

The Bureau has also prepared indexes of productivity and unit labor cost for the more important manufacturing and nonmanufacturing industries. Annual indexes are currently available for about 25 manufacturing industries, 6 mining industries, steam-railroad transportation, agriculture, etc. Special studies have been completed or are under way for shipbuilding, alumina and aluminum production, and aircraft. During the war, it has not been possible to continue the preparation of productivity indexes for a number of important manufacturing industries. The Census of Manufactures, the most complete source of production data, has not been taken since 1939. In some industries, which have converted to war production, the industry structure has become exceedingly complex and it has not been possible to obtain the comparable statistics for production and labor which are necessary in the preparation of an index of productivity. The productivity data are published in a series of mimeographed releases. In addition, more detailed reports analyzing the changes in productivity have appeared as articles in the Monthly Labor Review. Among the articles which have been published in recent years are studies on flour milling, cement, meat packing, steam-railroad transportation, copper mining, lead and zinc mining, electric-energy generation, and agriculture.

It is possible, by means of field studies, to obtain more complete and detailed information on productivity than is ordinarily available from secondary sources. Usually the analysis within each plant is made on a departmental basis, and records of labor input, production, equipment in use, and equipment changes are obtained. A field study thus permits a rather complete analysis of the absolute level of output per man-hour, the reasons for productivity changes within an industry, and the effects of productivity changes on employment and on occupations; also, such studies usually provide some basis for anticipating future changes.

Few such field studies have been possible for complete industries during the war period. For those made, the reports have usually been issued in mimeographed or printed form and have almost invariably appeared in shortened form in the Monthly Labor Review.

Both the technological developments in particular industries and the technological relations among industries are analyzed by the Bureau. Data relative to the flow of goods and services among the different industries are compiled and the information so obtained is used to estimate the effect on employment and output in each industry of a given volume and kind of final demand. The output of any one industry is dependent upon the level of activity in those other industries which utilize its products. The output of lumber depends,

for example, upon the volume of construction; freight-car mileage is in turn related to the output of the lumber industry, while bituminous-coal production is partly determined by the fuel demands of freight trains. Insofar as these relations grow out of technological ties or settled customs, they may be expected to remain relatively stable and to provide some basis for anticipating the effects of a major change in one segment of the national economy on the output and employment of all the other segments.

A systematic study of these relations has been completed for 1939 and the results have been published in summary form in a large table which shows for each of 20 main industries both the distribution of its output among the other 19 industries and the distribution of its purchases from them. The relationships shown by the table have been used in several unpublished studies and are now being applied in a study of possible postwar full-employment patterns. In addition to use in studying broad economic questions, the data may be used by an industry to measure the extent of its dependence, both direct and indirect, on the activity of any other industry.

#### LABOR TURNOVER

One important guide in ascertaining the degree of stability in the employed segment of the labor force is found in the rate of turnover, i. e., the relative frequency with which workers leave or are added to the pay rolls of individual establishments. About 98,000 establishments, which currently employ some 8 million workers, supply turnover data to the Bureau each month. The results are issued in the form of preliminary mimeographed releases and are also published regularly in the Monthly Labor Review. Separate rates, which are in terms of separations and accessions per 100 employees, are shown for about 100 industries; some 90 of them are manufacturing industries. The data on separations provide considerable detail including rates for quits, lay-offs, discharges, and military and miscellaneous separations. Separate figures for men and women are computed for 3 industries important to the war effort. Although the published summaries of these data provide only Nation-wide totals for individual industries, rates for individual areas are compiled from time to time in response to special requests. As in the case of many other types of information prepared by the Bureau, these data on turnover rates have proved highly useful to individual companies and labor organizations because they provide a norm against which the experience of an individual plant may be checked and evaluated.

In the spring of 1943 the Bureau began the compilation of data on absenteeism from a representative sample of individual plants, principally those engaged in the production of war materials. This information, which was made available in monthly mimeographed summaries showing absence rates (in percentages of total scheduled working time) by industry and sex, was used extensively in estimating manpower requirements and in developing measures designed to increase the effectiveness of the war production program. This activity was discontinued at the end of 1944 (except for the aircraft and shipbuilding industries), since, for some time, general absence rates had shown no striking changes from the general patterns suggested by the data compiled over a period of nearly 2 years.

## *Earnings and Wages*

The collection and interpretation of data on the earnings of labor have made up a substantial proportion of the Bureau's work throughout its entire history. During the past 2½ years, the need for information in this field has increased markedly, in part as a result of the wage-stabilization program. Because of its long experience in wage research, the Bureau has been the principal source of such information, and a large part of its program has been devoted to meeting the needs of the National War Labor Board and other agencies responsible for the administration of wage control.

The recurring reports on the trend of earnings and wages provide seven different types of measure, each with certain unique characteristics which reflect the need for a particular kind of yardstick. Five of these measures relate to the actual earnings of workers while the remaining two are concerned more with basic wage rates. The principal characteristics, limitations, and possible uses of each of these measures are described in the following paragraphs. A more extended discussion may be found in an article entitled, "Wartime Wage Movements and Urban Wage Rate Changes" which appeared in the Monthly Labor Review for October 1944.

### TREND OF EARNINGS

The principal source of the Bureau's data on the trend of earnings is the voluntary reporting system described above in connection with the estimates of volume of employment. The reports supplied by the 150,000 cooperating companies contain, in addition to the employment data, information on total man-hours worked and total pay rolls for the pay period nearest the 15th of each month. From these reports and certain supplementary information, the five measures of earnings prepared by the Bureau are computed.

Average weekly earnings, the first of these measures, derived merely by dividing total pay rolls by total wage earners, have been summarized in mimeographed releases and in the Monthly Labor Review since 1932 and are prepared currently for the same 200-odd industries referred to above in connection with the employment-trend data. The continuity of the earnings series is subject to the same limitations noted in that discussion, and revised data, based on the industrial classification of individual establishments in terms of their peacetime products and services, are available only from January 1939. As in the case of the employment series for certain individual industries, it is possible to link the current trend-of-earnings data with those for periods prior to 1939; the extent to which this can be done depends on the degree of stability of the particular industry involved.<sup>3</sup> The same is true of gross average hourly earnings, the second type of measure, which is computed by dividing total pay rolls in an industry by the aggregate man-hours worked.

As the need for maximum production of war materials became more urgent and manpower shortages more acute, the workweek was lengthened appreciably and night work increased. This resulted in a marked rise in gross average weekly and hourly earnings because of the added hours and the steadily increasing importance of premium

<sup>3</sup> See p. 4.

payments for overtime and night work. The Bureau's third type of measure, estimated straight-time average hourly earnings, represents an attempt to provide an index which is not affected by overtime premium earnings. The effect of the overtime premiums is eliminated through the use of a formula developed through a detailed analysis of data from earlier studies of earnings; because of the burden of clerical work involved, it has not been practicable during the war for cooperating firms to report these amounts separately.

Even this somewhat more refined index reflects the influence of a number of factors apart from the movement of wage rates themselves. In the case of data for groups of industries, the earnings averages tend to be affected by any net movements of workers from one industry to another whenever the industries involved show, as they frequently do, differences in general wage levels. This factor has been especially important during the development of the war production program, because of the heavy migration of workers into war industries which tend, in general, to show comparatively higher wage levels. Elimination of the effects of this factor is accomplished by weighting the earnings averages for major industry groups on the basis of their importance in terms of employment prior to and during the war. The Bureau prepares three series of adjusted averages of this general (i. e., the fourth) type: One, based on peacetime conditions, reflects the distribution of employment, by industry, in 1939; another, in which the employment weights are those of January 1941, provides a series on the base date used in connection with the wage-stabilization program; the third is based on October 1942.

The several series on the trend of earnings have many important general and specific uses. For example, the data on straight-time earnings form the statistical basis for wage-rate escalator clauses inserted in long-time Government contracts such as those covering the construction of battleships. Through this device, the contractor, the workers, and the Government are protected from losses or other inequities which might otherwise result from general economic changes that ordinarily cannot be predicted so far in advance.

The fifth measure of earnings developed from the Bureau's monthly reports from employers represents an attempt to trace the movement of spendable earnings. Briefly, this device is in the form of an index which, starting with the data on gross average weekly earnings, includes successive adjustments designed to take account of pay-roll deductions for social security and income taxes and bond purchases, and the movement of retail prices. Although this measure still lacks numerous refinements which would be necessary to make it a precise tool, it does nevertheless serve as a rough guide to the trend of real wages. Current trends, as revealed by these measures of earnings, are summarized briefly in the Monthly Labor Review.

## WAGES

### *Index of Wage Rates*

The remaining two measures of the pay received by wage earners involve the assembly of material on wage rates as distinguished from earnings. The collection of data on prevailing rates for specific jobs in individual industries and areas is one of the Bureau's oldest activities; studies of this general type have been made for more than 50

years. Currently, however, a general index of urban wage rates, the sixth type of measure of earnings and wages, is prepared at intervals of 6 months; this continuous series represents a new development in the field.

This index of wage rates grew out of the need for a measure which would be unaffected by changes in the length of the workweek, in the amounts of premium payments for overtime and night work, interindustry and interarea shifts in volume of employment, variations in occupational (and skill) distributions within individual plants and industries, and other factors, all of which are reflected in statistics on the levels of earnings as computed from reports on employment, man-hours, and total pay rolls. The desirability of having such a device was accentuated during the war period by the need for a means of determining the effectiveness of the wage-stabilization program in which the principal emphasis has been on control over basic rates rather than total earnings.

The Bureau's considerable experience in collecting occupational wage-rate data provided the necessary mechanics. Prior to the war these activities consisted mainly of Nation-wide studies designed to provide a detailed analysis of the wage structure and characteristics of an individual industry. The data for these studies, which still play a prominent role in the Bureau's wage work, are collected in the course of visits made by Bureau representatives to each plant in the samples selected as representative of the industries. The information is compiled from company pay rolls and other official records. The use of the questionnaire method in the collection of occupational wage-rate data is generally unsatisfactory largely because the wide differences among plants, industries, and areas in the use and meaning of occupational titles and in job content seriously undermine the comparability of the information. The Bureau's representatives are, therefore, provided with standard job descriptions, developed in consultation with employer and employee organizations, which they use in classifying the workers in each plant studied.

The preparation of a wage-rate index from data collected in this fashion necessitated the use of certain short cuts, since it is physically impossible to compile wage information on all the jobs in all industries at frequent intervals. Data available in the Bureau's files tended to substantiate the hypothesis that periodic checks on a balanced selection of the more important industries (in terms of volume of employment) would provide an adequate index. Consequently, the data collected periodically are limited to some 10 standard non-manufacturing industries and a varying number of manufacturing industries which are important in the individual areas. Further, experience showed that it was unnecessary to assemble rate data for all the occupations in an industry. It is thus possible to restrict the collection of data to a comparatively few jobs which can be defined precisely, are common to most plants in an industry, are numerically important, and represent different levels of skill. The trend of rates established for these key jobs is then applied to the remaining occupations by imputation. Finally, the index is restricted to urban areas and is currently based on the movement of rates in some 6,600 establishments distributed among 69 cities and metropolitan centers.

The effects of period-to-period changes in occupational distribution and the movement of workers between high- and low-wage areas and

industries are eliminated by the use of constant occupational and employment weights developed from the Bureau's previous studies. The influence of variations in the workweek and premium payments is excluded, since the data compiled are basic wage rates for workers paid by the hour, day, week, or other period of time, and the actual straight-time earnings of employees paid under piece-work, production-bonus, or other incentive systems. The latest report on this index of wage rates appeared in the February 1945 issue of the *Monthly Labor Review* and contained a summary of developments since January 1941.

The movement of wage rates, as measured by this index, is not limited to that which results from general or "across-the-board" increases or decreases, since it also reflects changes resulting from merit raises, increases in the productivity (and, ordinarily, the earnings) of incentive workers, and adjustments made in the cases of individuals or small groups of workers. The Bureau also reports the extent of general wage increases (which are defined as simultaneous adjustments applied to 10 percent or more of the workers in a plant or industry). This measure, which is the seventh type prepared by the Bureau, tends, as might be expected, to show the smallest changes of any of those described.

#### *Data for Wage-Stabilization Program*

Administration of the wage-stabilization program by the National War Labor Board has required a volume of occupational wage-rate data far greater than any collected previously. The experience of the Bureau was utilized for this purpose, and its facilities expanded to meet the requirements of the stabilization agencies. Since the inception of the program, occupational wage-rate data have been compiled from the records of more than 100,000 establishments representing virtually every type of industrial and commercial activity. The industries covered varied considerably from area to area, since the studies were geared to the needs of the several Regional War Labor Boards. The results of these studies take two forms. In the majority of cases, they represent summaries of the going or prevailing rates for specific jobs in individual industries and labor-market areas. Some 8,000 such tabulations have been prepared for the use of the War Labor Board in determining its "wage brackets" or approvable rates. In addition, substantial numbers of special studies have been undertaken to provide a factual basis for the settlement of wage disputes or the conduct of wage negotiations. These surveys ordinarily involve specialized plants or companies which present unique problems with respect to occupational or wage-rate characteristics; they are made in response to specific requests from arbitration agencies, management, or trade-union officials.

As time and facilities permit, data from studies of these two types are prepared for general use. Typical is an article entitled "Wage Rates in the Manufacture of Molded Plastics in Chicago," in the February 1945 issue of the *Monthly Labor Review*; others have been released in mimeographed form. All of these data, including unpublished materials, are, however, on file in the Bureau's several regional offices, a list of which may be found on the inside back cover of this issue of the *Review*, and summaries are supplied on request to any individual or organization in need of them.

*Industry Wage Surveys*

As already noted, for more than 50 years the Bureau has made studies of the wage-structure characteristics of individual industries. Because of the extensive field work and analysis involved, it has been possible to study but two to five complete industries each year. Among those recently covered are rayon fiber and lumber. The reports include, in addition to average hourly earnings or rates for all of the important occupations by industry branch, area, and sex, detailed information on shift operations, policies governing the payment of premiums for overtime and night work, incentive-wage systems, provisions for vacations and sick leave, wage guaranties, holiday allowances, and other conditions of employment. Ordinarily, these studies include all or a large and representative Nation-wide sample of the plants in a given industry. The results are usually presented in the form of national summaries, supplemented by special treatment of individual areas in which the industry is concentrated. Extensive descriptions of the findings of these studies are reported in the *Monthly Labor Review* and in the Bureau's bulletins. The many analyses of occupational patterns and job content, wage-structure characteristics, the labor force, technological processes and developments, and other descriptive data on individual industries resulting from these studies constitute one of the most inclusive sources of information available in this field.

The urgent need for wage data to be used in connection with the operation of the wage-stabilization program, as noted above, required some redirection of the Bureau's work in this field, and there has been less emphasis on industry-wide surveys during the war. Basic information on the wage structure, occupational characteristics, and working conditions of the Nation's more important peacetime industries will, however, be of paramount importance after the war. The development of reemployment policies, determination of wage rates and working conditions, the establishment of effective collective-bargaining procedures, vocational guidance and education programs, and the solution of many other problems which will accompany the shift to a peacetime economy will be effective only if they are based on adequate facts.

The Bureau's plans, therefore, include provision for recurring detailed surveys, similar in general pattern to those conducted in the past, of individual industries such, for example, as steel, machinery, textiles, apparel, and others which are basic in the national economy. Work on the first study of the metalworking industries is now in progress. The national summaries based on these surveys will be supplemented by tabulations for individual areas. In addition to these Nation-wide studies, a limited number of surveys will cover certain industries which are important in individual areas; typical are metal mining and petroleum refining.

*Union Wage Rates*

The wage levels and characteristics of certain important industries are, in large part, those agreed upon by individual or associations of employers and trade-unions. The Bureau has made annual studies of the rates in certain of these industries for nearly 40 years. Currently, the data are collected from employers and union officials in the more important places and cover all of the key jobs in printing

and publishing, local streetcar and bus operations, the building trades, motor trucking, and bakeries. The information now compiled reflects rates in effect as of July 1 of each year, and summaries, showing rates for individual occupations in each of about 75 cities, appear regularly in the Monthly Labor Review.

### *Special Studies*

The Bureau's program in each of the individual fields of labor economics is built around a nucleus of continuing activities, but special studies designed to provide the answers to other and often unique questions are equally important. An outstanding example is the current study of Work and Wage Experience. Changes in war schedules and military requirements have caused marked shifts of workers from plant to plant and from area to area, as well as considerable retraining for new occupations. In the period following the war, industrial shifts from war to peacetime production will entail even greater dislocations; millions of workers, either by choice or from necessity, will be leaving the war production plants and centers and, along with returning veterans, will be seeking occupational readjustment. Solution of the many problems which will arise requires detailed knowledge of the occupational earnings and the employment experiences that are associated with changes in jobs. The study now in process will cover about 5,000 workers chosen from all parts of the country and a variety of industries. They represent two broad groups: (1) Workers, including veterans, who will be directly affected by shifts in war production and by the change to peacetime activities; and (2) for purposes of comparison, workers who are unlikely to be affected markedly by these factors. The information, to be collected at least twice a year directly from the workers who have agreed to cooperate in the study, includes data on the education, training, experience, wages and income, migration, unemployment, and other economic and social characteristics of each worker and his family. The results of this survey are expected to provide important guidance in the determination of policies on reemployment, unemployment, training and vocational education, and a number of related problems.

### *Working Conditions and Industrial Relations*

Analysis of conditions of employment, other than wages, is also an important part of the Bureau's work and is based on two sources—information collected during the visits to company offices made primarily for the purpose of collecting wage data (already noted), and current union agreements of which over 15,000 are on file in the Bureau. Detailed analyses of these agreements form the basis for reports on the extent and nature of provisions for paid vacations, sick leave, grievance procedures, seniority, reemployment of veterans, dismissal pay, incentive-wage systems, employment and wage guarantees, and many other matters. Such reports are of two types: Analyses of individual problems, each ordinarily covering a number of industries; and discussions of the provisions of collective agreements in a single industry. An example of the first type was the article on dismissal-pay provisions in the Monthly Labor Review for February 1945. Illustrative of the second was the study of agree-

ments in the airframe industry, in the August 1941 issue of the same periodical; that study included data on all of the more important union-agreement provisions governing working conditions and, in addition, furnished data on the extent of unionization in the industry. The Bureau's files of union agreements also serve as a source of information for individual employer and employee groups who are in need of guidance in the preparation of agreements covering working conditions. The text of standard clauses in common use is frequently supplied in response to requests for this type of information. Numerous special analyses of these agreements have also been made at the request of the National War Labor Board for information necessary in dealing with dispute cases. Further, the Bureau has summarized the effects of certain War Labor Board directives; the effect on union membership of "escape periods" in maintenance-of-membership agreements ordered by the Board is the subject of an article in the December 1944 issue of the *Monthly Labor Review*.

Closely allied to this field are the statistics on work stoppages resulting from industrial disputes, compiled monthly by the Bureau. These data, supplied by employers and union officials in response to questionnaires, include the numbers of strikes and lockouts, workers involved, and the man-days and proportions of total scheduled working time lost. Brief monthly reports and a detailed yearly analysis are published in the *Monthly Labor Review*, as well as material on current developments having a direct bearing on labor organizations and welfare. Illustrative of the latter are summaries of the proceedings of the more important trade-union conferences, a chronology of outstanding labor events, and digests of legislation, court decisions, and administrative rulings affecting labor.

#### HOURS OF WORK

No analysis of labor conditions is complete without extensive information on the length of the working day and week, since time is the basic unit in measuring labor. The relationship between work schedules and volume of employment, earnings, production, and other variables are, of course, obvious. All of the wage surveys undertaken by the Bureau since the 1880's have included detailed data on hours actually worked, as well as the length of operating schedules. The cooperative employment and pay-roll reporting system, referred to above in the discussions of employment and earnings, also provides man-hour statistics. Thus, monthly series, showing average weekly hours for each of the approximately 175 industries summarized by the Bureau, are available beginning in 1932; they appear in the mimeographed report on hours and earnings and in the *Monthly Labor Review*. The record attained in war production is, in no small measure, a result of the fact that the average factory workweek has increased by more than a full day since the beginning of hostilities. Any changes in working schedules will, naturally, have an important bearing on volume of employment and earnings during and after the shift to peacetime production. The almost certain decrease in weekly hours will be an especially significant factor in postwar earnings, because of the current importance of premium earnings for overtime.

These regular reports on hours, together with numerous special studies, have been put to a wide variety of uses. This information is

important, for example, in framing maximum-hour legislation for general use and for application to special groups such as women and children. Many of the Bureau's special studies in this field are directed toward determining the optimum work schedule under varying conditions. It is known, for instance, that productivity is related to the length of the working day and week, but numerous other variables such as physical strain, accident hazards, mental fatigue, and type of operation must be taken into consideration. The Bureau's investigations of this type are illustrated by an article entitled "Effects of Long Working Hours" which appeared in the Monthly Labor Review for October 1944.

#### INDUSTRIAL HAZARDS AND ACCIDENTS

One highly significant aspect of the whole field of working conditions has to do with accident, injuries, and the measures employed to prevent them. In order to provide a running account of the facts, the Bureau prepares monthly summaries showing accident-frequency rates for each of more than 80 manufacturing industries together with estimates of working time lost as a direct result of injuries. The data are based on voluntary reports submitted by the officials of more than 14,000 establishments. Estimates of total manpower losses resulting from disabilities caused by industrial injuries are also presented from time to time. Annual summaries of accident data include severity as well as frequency rates, and are based on reports from over 53,000 plants. This information is used extensively by labor and management groups as the basis for evaluating the experience of individual plants, and it also serves as a guide to such agencies as the Committee for the Conservation of Manpower in War Industries in connection with the planning and operation of safety campaigns. In a few cases, the data are compiled by State departments of labor in connection with industrial safety programs and are forwarded to the Bureau for incorporation in the national totals.

As in most of the Bureau's work, these regular reports are supplemented by more detailed special analyses of individual industries. Industry studies recently completed and reported in the Monthly Labor Review include foundries, longshoring operations, and shipyards. The March 1944 issue, for example, contains an article on the work injuries to women employed in shipyards. The data presented cover numbers of accidents as well as detailed information on their types and causes, the hazards commonly encountered, and the safety measures employed. The analysis of actual physical hazards is also supplemented by examination of the relationships between accident frequency, productivity, and health, on the one hand, and working conditions such, for example, as length of the work day and week, shift operations and rotation, wage-incentive systems and speed-up, rest periods, and other factors. These studies are made through actual plant visits by specially trained representatives.

#### *Handicapped Workers*

Primarily for the purpose of providing more adequate information essential to programs for the reemployment of veterans, an extensive investigation of handicapped workers has been undertaken. In addition to data on the numbers of such workers, these studies provide information on performance, absence rates, hazards to the handicapped

workers themselves and to other employees, accident frequency, and retraining experience. In each plant studied, the records of disabled workers are compared in detail with those of employees similar with respect to jobs, sex, age, and other characteristics but without physical handicaps. Precise comparisons of experience are thus possible. As a background for these statistical data, information is also being compiled on the activities of public and private agencies concerned with the rehabilitation of the handicapped.

Of special importance is the problem of compensation liability in the case of reemployed workers with disabilities resulting from previous industrial accidents. The provisions of the several State laws governing such situations differ considerably, particularly with respect to the degree of responsibility which the employer of a handicapped worker must assume in the event of a second accident. In some cases, employers are reluctant to hire disabled workers because of provisions which require them to assume all or part of the cost of compensation for a former injury if a second accident occurs. Analyses of statutes covering these situations, as well as the collection of data on the operation of public and private workmen's compensation agencies, are being undertaken to provide information essential to improvement in this field.

### *Prices and the Cost of Living*

Comparatively early in the history of the Bureau of Labor Statistics, it became apparent that adequate information for judging the relative state of welfare of the working population must include data on the prices paid for the products of their work, and the costs of various standards of living, as well as analyses of employment conditions and levels of earnings. It is not the purpose of this discussion to trace the historical development of the various attempts to measure the movement of prices and living costs, but it may be noted that much of the emphasis in the initial stages was upon wholesale prices or, as now referred to by the Bureau, prices in primary markets. The systematic compilation of retail-price indexes and their importance has been greatly increased by the economic problems of the present war period.

#### COST OF LIVING

The cost-of-living index prepared by the Bureau was developed during World War I as an aid to the Government in handling wage negotiations. Data for individual cities were published in 1919 and regular publication of the national index began in February 1921. The price data are currently collected as of the middle of each month and the cost-of-living indexes and food prices are released approximately 30 days later in mimeographed form; published reports appear in the following issue of the Monthly Labor Review. Data are shown for important subdivisions of the index and for individual cities.

An understanding of the purpose, scope, and limitations of the Bureau's cost-of-living index is essential to its proper interpretation and use for any purpose.<sup>4</sup> The index does not measure changes in

<sup>4</sup> For detailed discussion of this subject see Bureau of Labor Statistics reports, *Description of the Cost-of-Living Index of the Bureau of Labor Statistics* (May 1944), and *Changes in Cost of Living in Large Cities in the United States, 1913-41* (its Bulletin No. 699); and *What the Cost-of-Living Index Is*, by Arynnes Joy Wickens, in *Journal of Business* (University of Chicago), July 1944 (pp. 146-161).

*total* living costs—that is, in the total amount families spend for living. It is designed primarily to measure changes in the prices paid for goods and services by city families with moderate incomes. It does not show the full wartime effect on the cost of living of such factors as lowered quality, disappearance of low-priced goods, forced changes in housing, and eating away from home.

It is apparent from this statement that, first of all, the national index is based on urban prices. Food prices are collected each month in 56 cities which represent about four-fifths of the total population in cities of 100,000 or more. The prices of other important goods and services are also collected monthly in 21 cities and quarterly in 13 more; individual city indexes are published for these 34 large cities which represent somewhat over 72 percent of the total population of all cities of 100,000 or more population. Data are also compiled in 32 additional cities, and partial reports are obtained in 7 cities for use in connection with special problems which grew out of the war emergency. The resulting city indexes, however, are used locally and are not incorporated in the national average.

The prices which form the basis for the indexes are those for the more important items in the bill of goods and services purchased by the typical moderate-income family; they include food, clothing, rent, fuel, housefurnishings, transportation, personal services, and a variety of miscellaneous goods and services. Since it would obviously be impossible to price every type of article purchased by consumers, about 350 articles, including, in many instances, more than one grade or quality of item, have been selected as representative. Further, the bulk of the purchases of the typical family tends to be concentrated among relatively few items in each commodity group. Thus, for example, the price changes of canned peas, tomatoes, corn, and green beans, which ordinarily represent two-thirds to three-fourths of all canned vegetables sold, are used to represent price changes of other less-important canned items like spinach, asparagus, and carrots.

One of the most important technical problems involved in computing a single index of the price movements of such a varied bill of goods and services has to do with the relative importance or “weights” assigned to the individual priced items. The only reliable source of information on the relative importance of individual items is, of course, the actual experience of consumers. The most extensive data available are those collected in a detailed study of the expenditures of about 14,000 city wage earners’ and clerical workers’ families, made by the Bureau in 1934–36. Surveys of this type are obviously expensive and time consuming, and it has not been possible to conduct another study on a similar scale since. A less-exhaustive survey, covering the purchases of a smaller group of families in 1941 and the first quarter of 1942, however, indicated that there had been little change in the general pattern of spending since the mid-thirties. The weights used for individual items are, therefore, basically those derived from the large-scale 1934–36 survey which made available detailed information on the amounts and kinds of all types of goods and services bought by these families and the prices they paid for them.

Since the outbreak of the war, however, with the great change in kinds of goods on the market for civilians, it has been necessary to compute the index without many of the articles formerly included. Most important among the omissions during the war period are new

automobiles and tires; some furniture and many types of household equipment such as washing machines and radios; and silk hosiery and other articles made of silk. Wartime substitutes, including rayon hosiery and ice refrigerators, have been added whenever they were generally available. In addition, the relative importance of other items in the index have been revised in the light of the best available information on market conditions and changes in purchasing habits resulting from rationing and wartime supply problems. Part of the weight formerly applied to the purchase of new automobiles, for example, is currently assigned to the cost of repairs, and the relative importance of streetcar fares has been increased to offset in part the decrease in expenditures for gasoline and oil.

It is also important to note that the Bureau's index is based on the purchasing habits and living standards of typical low-salaried or wage-earner families with 1934-36 incomes averaging about \$1,500 per year. Currently, of course, incomes are higher, but this index cannot, for numerous reasons, be regarded as a representative measure of the living costs of families with incomes substantially below \$1,000 or above \$3,000, single persons, households with unusually large numbers of children, or any other group with economic or social characteristics appreciably different from those of the average family as described here. It should be emphasized that the Bureau's cost-of-living index relates to changes in prices paid for goods and services and does not take account of savings and income taxes, although it does include excise and sales taxes. Therefore, in utilizing the index, it should be compared not with gross income from wages or salaries but with income available for spending. To the ordinary family it is the actual content of the pay envelope that is considered. Bond deductions and income taxes are not part of its spendable income, although bonds represent a net addition to the family's savings. In all calculations of the relative importance of goods in the index, the Bureau has based its figures upon expenditures, exclusive of bonds, other savings, and taxes.

The use of the Bureau's index as a basis for wage stabilization in the program to restrain inflation has raised numerous questions of policy, procedure, and technique which are not discussed here at length since the subject has been treated exhaustively elsewhere. Among the various reports issued in the last two years on problems of measuring the cost of living in wartime, the most important is the Report of the President's Committee on the Cost of Living,<sup>5</sup> which was made on November 17, 1944. That report summarized the reports on the Bureau's cost-of-living index of the (Mitchell) Committee of the American Statistical Association and the Technical Committee which advised the President's Committee, and presented separate statements from the labor and employer members on the Committee. The Technical Advisory Committee estimated the extent to which the Bureau of Labor Statistics has been unable to measure completely the rise in the cost of living during the war period. The President's Committee quoted from the Mitchell Report as follows:

If the BLS had obtained strictly accurate reports of all the prices it tries to collect; if it had caught the change in average prices caused by the reduction in

<sup>5</sup> See Report of President's Committee on Cost of Living, in *Monthly Labor Review*, January 1945 (pp. 168-174), and bibliographical references there included.

bargain sales; if it had priced the qualities bought by families with very low income and the qualities bought by the most prosperous of wage earners as well as those in the middle groups; and if it had made full allowance for increases in expenditures forced on families by quality deterioration that can be offset by buying more goods, its index would probably not be higher than it is now by more than three to four points.

Since the index is essentially a price index, measuring the average changes in the prices which must be paid for a more or less fixed bill of goods which is normally bought by families with moderate incomes, other types of studies are necessary to measure changes in the total dollar outlay of city families or in their planes of living. Inquiries into actual family expenditures which serve this purpose are also needed to answer certain questions concerning changes in families' well-being which are being continually raised in connection with wage policy.

Another important problem relates to the measurement of intercity differences in living costs. As already noted, the function of the Bureau's cost-of-living index is to provide a measure of time-to-time changes in prices charged to consumers. The index for each city reflects the buying patterns of families of wage earners and clerical workers in that locality. Since average income levels vary from city to city, the level of living on which the cost-of-living index is based also varies from city to city. For other purposes, however, figures are desired on the cost of the same level of living in all the cities covered. The data available at the present time are not adequate as a basis for determining whether it costs more or less for the typical family to live in the same degree of comfort in one community or another. Such a measure was prepared by the Works Progress Administration in 1935 on the basis of the comparative costs of "minimum" and "emergency" budgets.<sup>6</sup> For a period of several years, the Bureau maintained this series by periodic estimates of the costs of these budgets based on its regular reports. Additional information revealed that the basic rent measures were no longer representative in some cities and hence the series was discontinued in June 1943. Further analysis of this problem and experiments in methods of providing measures of intercity differences in living costs are in progress.

#### RETAIL PRICES

The prices on which the cost-of-living index and other summaries are based are collected for the most part by field representatives in the course of actual field visits to merchants and dealers just as in the case of occupational wage-rate data. The food prices represent those charged in about 10,500 grocery stores and meat markets patronized by moderate-income groups, and the prices for other goods and services are collected from about 3,900 stores and service establishments. Rents are obtained from tenants for about 54,000 dwellings in the 34 large cities. The Bureau's representatives engaged in collecting prices are provided with detailed specifications for each item and obtain the actual, not nominal (or ceiling), prices. In addition to their use in constructing the cost-of-living index, the data are also made available in numerous other forms for a variety of general and special purposes.

<sup>6</sup>Works Progress Administration, Research Monograph XII: Intercity Differences in the Cost of Living.

The average prices of 78 food items in each of 56 cities are issued each month in mimeographed form, and summarized for 56 cities combined, both in the monthly cost-of-living release and in the Monthly Labor Review. These data are widely used by Government agencies, manufacturers, distributors, research agencies, and other organizations and individuals in connection with price determination and control, analysis of manufacturing operations, and marketing problems. Even within specification limits, the foods priced may vary slightly from city to city, because of consumers' buying habits, and do not always permit intercity comparisons for individual food items. Similar summaries of price trends for fuel are presented monthly and for other items such as clothing and housefurnishings from time to time.<sup>7</sup>

The needs of the Office of Price Administration, War Production Board, War Food Administration, and other agencies for data on commodity prices and supplies have required some modification and a considerable extension of the Bureau's work in these fields. The cost-of-living index and price data on individual items and commodity groups have played a major role in measuring the effectiveness of the price-control program as a whole.

In connection with its collection of price data, the Bureau has also undertaken a large volume of special studies, many of which are concerned with information on supplies of individual commodities. Analyses of dealers' supplies of meats, other important foods, specific items of clothing, furniture, and numerous other goods have provided part of the basis for the distribution of supplies including rationing, allocation of raw materials to ease shortages of essential civilian items, and other policies and procedures established by the Office of Price Administration, War Production Board, and other agencies concerned with these problems. Certain of the more extensive investigations have been prepared for general distribution. Illustrative of these is the article, Supplies of Food in Independent Retail Stores, March 1945, in the May issue of the Monthly Labor Review.

Housing problems, accentuated by large-scale migration and the rapid growth of war production centers, have also been the subject of numerous Bureau studies. The periodic-rent-survey program of the Bureau has been extended to include approximately 75,000 dwellings in 73 communities. The data are used to measure changes in rents for wage earners and lower-salaried workers as a component part of the cost-of-living index, and to provide rental-change information for all dwellings in the city. In addition to the regular collection of rents, increasing attention has been paid to changes in rental conditions. Analyses of the decline in rental concessions, decreases in services supplied, and in repairs have been undertaken for the purpose of estimating the importance of such indirect or hidden rental increases. In addition to this program, the Bureau conducts special rent surveys at the request of the Office of Price Administration. These data are used to determine the need for rent control and its effectiveness, and as a check on the trend of rentals in areas where rent control has been removed. Also as an adjunct to its regular activities in this field, the Bureau collects vacancy data for the use of the National Housing Agency and similar agencies in determining the urgency of local housing needs. Special analyses of housing requirements and existing facilities

<sup>7</sup> See, for example, Cost of Clothing for Moderate-Income Families, in Monthly Labor Review, July 1944.

have also been made in several war production areas. The data collected in the course of these surveys have been prepared for distribution in mimeographed form.

#### CONSUMER INCOME AND EXPENDITURE STUDIES

The studies of consumer expenditures undertaken by the Bureau have, as one of their objectives, the function of providing data on the relative importance of the individual commodities and services purchased by families of wage earners and clerical workers. Such figures are, as already pointed out, essential in the construction of any cost-of-living index. Important as this purpose is, however, it is by no means the principal reason for making this type of inquiry.

In the first place, this is the only type of study which provides data on the proportions of families in the country whose purchases of consumers' goods meet American standards of well-being. It also indicates where these families live, on what occupations they depend for a living, and how many children are being brought up in the physical environment which meets American standards. Conversely this type of study points out the danger spots in the country's total consumption pattern, what proportion of families do not have adequate diets, where and how these families live, and how many children they have. It provides data on the economic situation of families with poor housing. As other quantitative measures of the American standards of living are developed, it will be possible to use the data from surveys of consumer expenditures to evaluate the adequacy of other elements of the family budget.

In addition, this type of study is one of the principal sources of information on the purchases of consumers' goods by families at different income levels, and on the distribution of families by income. The necessity for dependable information of this sort is self-evident. The production and marketing of all kinds of goods and services cannot be planned intelligently without some basis for estimating the extent and types of potential and effective demand. Such a factual basis is also needed in making decisions on tax policies and estimates of probable revenues. Equally dependent on knowledge of income levels and distribution are plans for housing facilities, utilities, and community services.

No extensive surveys of consumer incomes and expenditures has been undertaken since the studies of 1934-36 already referred to. The Bureau of Labor Statistics did, however, complete a survey of 1,300 families which provides information on consumer income, expenditure, and savings for the year 1941 and the first quarter of 1942. Unlike most previous studies, the principal objective in this case was to furnish the basis for national estimates rather than detailed information for individual cities. Extensive data, on a national basis, on urban family incomes and savings appear in Bureau Bulletin No. 724: *Income and Spending and Saving of City Families in Wartime*. In Bulletin 723, the data compiled by the Bureau are combined with those collected by the Bureau of Home Economics in a simultaneous study of 1,700 rural families, to provide general estimates for the country.

These reports also include detailed information on family-expenditure patterns for the various income groups. It is a well-established fact that expenditures for basic essentials, such as food, constitute

progressively smaller proportions of total outlays as income levels rise, but more precise information on the nature of these relationships is essential. In addition to providing the data necessary for compiling the cost-of-living index and other Bureau studies, the results of these surveys are widely used by governmental and private organizations. Manufacturers and distributors of all types of commodities make use of this information in estimating potential demands as a basis for planning their operations. In many cases, it is still necessary for individuals and organizations requiring such information to depend on the results of the 1934-36 study, despite the fact that they are 10 years old. Although the 1941-42 study made it possible to prepare revised national estimates, the comparatively small size of the sample precludes the preparation of local or State reports, or, indeed, of the extensive detailed tabulations based on the earlier study.

For the purpose of estimating the effect of the war on the prices paid by families and on the nature of their purchases, including general family-expenditure patterns in relation to income, the Bureau is currently conducting a small study covering about 1,700 families. Here again, the sample is too small to permit geographical analysis or the amount of detail obtained in the 1934-36 reports, but the results, which will be available shortly, will permit Nation-wide estimates similar to those made in 1941-42 of what city families are buying.

Another phase of this general field has to do with consumers' distributive and service cooperatives in this country which, according to the latest available estimates, number nearly 5,000 and do an annual business of about half a billion dollars. Since 1918 the Bureau has compiled data on the activities of these associations. Detailed studies of the types, membership, and operations of consumers' cooperatives and credit unions are undertaken at intervals of 4 to 5 years.

#### WHOLESALE (PRIMARY-MARKET) PRICES

The Bureau's series on prices of commodities in primary markets is one of the oldest official economic indexes in the country. Although the comprehensive monthly series dated from 1890, materials from other sources made it possible to prepare an index extending back to 1749 and, on a fragmentary basis, to 1720. Since it is an index of market prices, it includes commodities at various stages of production. The information currently assembled from manufacturers, dealers, trade publications, and Government sources includes more than 10,000 individual price quotations. Data from these extensive files form the basis for the official index as well as for several special series.

The general index has included varying numbers of commodities at different times. The present series is compiled from the primary-market prices of approximately 900 commodities selected on the basis of their importance and representativeness. The quantity weights used in combining the individual quotations are derived from exhaustive data on volume of sales, supplemented by field investigations in principal market centers. In addition to the index for all commodities, indexes are calculated for 10 major groups and 47 subgroups. The general index and the group indexes are released weekly and monthly in mimeographed form and summarized regularly in the Monthly Labor Review. Actual prices and price relatives are also given monthly in mimeographed releases.

The general index includes substantial numbers of fabricated and semifabricated items which are less sensitive than raw materials to short-time changes in market conditions. To meet the temporary wartime need for a more sensitive measure, the Bureau prepares a daily index based on the prices of 28 basic commodities (such as cotton, wool, wheat, steers, etc.) traded on organized exchanges.

The concentration of productive facilities on war materials has, of course, resulted in a reduced civilian market. Consequently, the Bureau has developed an index of the price movements of 125 items representative of commodities generally available to civilian purchasers in primary markets. Publication of this wartime index of civilian goods will begin shortly; it will supplement rather than supplant the official index.

Among the special series already referred to is a weekly index of prices of waste and scrap materials, which covers 44 commodities such as metals, textiles, paper, and rubber; the data are available beginning with 1939. Another provides information on the market prices of standard machine tools; this series is available from January 1937 to date. Indexes of the prices of general and auxiliary machinery and of construction equipment, such as pavers, cranes, tractors, etc., are also compiled. Other series are being developed as the need for them becomes apparent. Indexes of primary-market prices of goods which make up the leading exports and imports of the United States will be issued in the near future.

These various indexes are used extensively by Government agencies and private companies and organizations as a basis for planning price control and determination, raw-material allocation, volume of production, and distribution. In addition, the extensive Bureau files of data on the prices of individual items, which are not ordinarily published, make it possible to supply a large volume of special information in response to requests from individuals and all types of organizations. The Bureau is glad to comply with such requests whenever the necessary data and facilities for processing them are available.

#### GENERAL SUMMARIES OF PRICE TRENDS

General trends in price movements are the subject of several recurring and special reports issued by the Bureau, particularly during the war period. A summary of price developments is ordinarily issued each quarter and a general review appears at the end of each year. The impact of the war on wholesale and retail prices, markets, and the availability of supplies, together with a detailed analysis of the operation of the price-control program, is described in a report entitled "Wartime Prices." Part I of this study, covering the period from August 1939 to December 1941, was published in the Bureau's Bulletin No. 749, and Part II, which carries the history through 1944, is in preparation.

From its extensive files, the Bureau has prepared a summary of the various methods used in other countries for the calculation of indexes of wholesale and retail prices and the cost of living. In order that information will be available for comparisons of standards and costs of living after the war, plans are now being developed for measuring the cost of comparable levels of living in the several large nations.

## *Labor Conditions in Other Countries*

The analysis of information on developments in the labor field in other countries was included in the Bureau's original program, and through its 60-year history it has become one of the most important sources of such materials. Nearly every issue of the Monthly Labor Review contains one or more discussions of the general labor situation in individual countries throughout the world or summaries of available information on a particular subject in the field of labor economics. The Bureau's Bulletin No. 770, entitled "Cooperative Associations in Europe and Their Possibilities for Postwar Reconstruction," is typical. Since the beginning of our participation in the war the Bureau has carried on, largely for the benefit of the war agencies, extensive research on labor conditions in various countries in the war theater; reports on 19 countries have been published in the Monthly Labor Review. Summaries of current labor developments in Latin-American countries are also carried in that periodical and in a series of special reports, of which 20 have been released to date.

Materials of this sort are made available, not only for general informational purposes, but also as a basis for decisions on policies and procedures which must be made by private industry and the Government. Knowledge of conditions in other countries with respect to labor legislation, the levels of earnings, wage rates, post-war planning, the rehabilitation of veterans, trade-union activities, social-security measures, housing, price movements and control, and other allied subjects is essential for three general purposes. In the first place, decisions on foreign-trade and domestic economic policies, which are in fact hardly separable, must be made in the light of conditions abroad. The Congress and the various other Government agencies charged with the responsibility for such matters make wide use of the Bureau's materials for this purpose. Secondly, the operating plans of private industry, particularly those concerned with foreign markets and trade, as well as the activities of labor organizations, cannot be developed realistically in the absence of extensive and authoritative information of this sort. Finally, the labor problems encountered elsewhere frequently parallel those which arise in the United States, and the experience of other countries in dealing with them is helpful as a guide in the determination of policies and the development of adequate legislation.



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