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CHAPTER XIX

CHARTING THE COURSE OF EMPLOYMENT

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"To inquire into the volume and distribution of unemployment" was the first object of the Conference on Unemployment as defined by President Harding in his telegram of invitation in the autumn of 1921.

How inadequate was the information then available has been set forth in earlier chapters. Even after a thorough examination of all the facts in the possession of state or federal bureaus of labor statistics, the official estimate of the government had to be a guess "that there are variously estimated from three and one-half to five and one-half millions unemployed." The Committee on Unemployment Statistics of the Conference included in its work, therefore, the consideration of a program for improving and extending statistics of employment and unemployment.

I. THE LACK OF SATISFACTORY EMPLOYMENT STATISTICS

The Committee found that facts were available showing the number on the pay-roll and the total earnings in manufacturing industries in New York State and Wisconsin, and that for a limited number of industries the same information was being secured monthly by the federal Bureau of Labor Statistics. The United States Employment Service was making monthly surveys based on local estimates in various cities in the country. Through the Interstate Commerce Commission facts regarding employment on the railroads were collected monthly. Only in Massachusetts, through quarterly reports from trade unions, was information about unemployment secured. No facts were obtainable regarding the state of employment on the farms, and only an estimate could be made for the mining industry. Even the information available was less useful than it might have been because it was not brought together promptly from all sources and published in a single report for the use of those groups in the community who must be counted upon to act in the prevention or the relief of unemployment.

It was clear to the Committee from a study of past experience that it would be impossible to make a count of the number of unemployed throughout the country with sufficient regularity to be a guide for action.

The most satisfactory data which could be collected at a reasonable expense seemed to be the kind gathered by the federal Bureau of Labor Statistics and by the New York and Wisconsin bureaus, showing for a sample list of establishments in typical manufacturing industries the number employed and the total pay-roll each month. From this information, if it were sufficiently inclusive, an estimate could be made, showing whether employment was decreasing or increasing, and from this could be inferred the increase or decrease of unemployment.

II. RECOMMENDATIONS OF THE CONFERENCE ON UNEMPLOYMENT

It was with this purpose in view, to secure not statistics of unemployment, but information necessary for charting the course of employment, that the Committee on Unemployment Statistics made the following recommendations which were adopted by the Conference on October 13, 1921:

1. That the present practice of the federal Bureau of Labor Statistics of collecting from manufacturing concerns as of the fifteenth of each month data concerning the number of employees on pay-rolls and the amount of their earnings and of publishing monthly indexes of the changes therein be extended to cover transportation, trade, mining, and quarrying.
2. That in getting the data concerning the state of employment in mining and quarrying, the Bureau of Labor Statistics collaborate with the Geological Survey.
3. That in getting data concerning the state of employment in railroad transportation the Bureau of Labor Statistics collaborate with the Interstate Commerce Commission.
4. That where competent, reliable state bureaus of labor statistics exist or become established, like the Massachusetts and New York bureaus, the Bureau of Labor Statistics collect through such bureaus within such states instead of collecting directly from the establishments.

It was recognized that these recommendations would not be put into effect without further study which would result in a comprehensive plan for extending and strengthening the statistics. It was, therefore, urged by the Conference that "an Interdepartmental Committee be constituted to consider means of extending and improving employment and unemployment statistics and of coordinating the informational service of local, state, and federal agencies."

The organization of this committee was made unnecessary for the moment because the program of work undertaken by the Committee on the Business Cycle, which followed the President's Conference on Unemployment, included employment statistics as one of the subjects to be covered in its report. This was necessary because, in the view of the Committee on the Business Cycle, no adequate program for mitigat-

ing the extreme fluctuations from a business boom to the depths of depression could be successfully put into effect without the basic facts currently available to show the condition of business. Employment statistics constitute one of the most important of the indexes of business conditions.

III. THE USES OF EMPLOYMENT STATISTICS

To devise and apply remedies for either seasonal or cyclical fluctuations in employment, it is necessary not merely to know the facts as a basis for planning, but also to know them each step of the way in carrying out a policy. For instance, if public works are to be pushed forward in dull periods, it is necessary, not only to know that dull periods recur at more or less regular intervals, but also to know at any one moment whether the curve of employment is going down or up and whether a program for construction or road building should be expanded or contracted. The same information is needed by the business man who plans construction work in connection with his own business and finds it good policy to do it in periods when employment is less extensive. This is but one of the uses of employment statistics to the business man. He must know the trend if he is to stabilize his own output whether he is selling goods or services. No matter what he sells, it is important to him also to know whether the wage-earners of the country, who will be included among his ultimate customers, have the money to buy, and this is largely dependent upon the state of employment. Finally, the facts are needed for employment exchanges in order that they may move employees from one place to another or from one occupation to another when the dull season in one happens to come at the time of a busy season elsewhere.

If the facts are to be useful for any of these purposes they must report fairly all the important industries of the country; they must be widely enough scattered geographically not to be over-influenced by conditions which may be merely local in one section of the country; they must be made available by some central agency which can correlate and interpret them; and, perhaps most important of all, they must be made public with sufficient promptness to be approximately true measures of the state of employment at the time when they are issued. Thus the problem of extending and improving employment statistics is less statistical in its nature than it is administrative. It demands a machinery strong enough and simple enough to work smoothly and rapidly without breakdowns.

The Committee on the Business Cycle undertook to examine the available data and the methods of their collection in order to set up a plan which might be recommended with confidence as a feasible task in the numerous states which at present have no provision for collecting statistics of employment. The Russell Sage Foundation was requested by the Chairman of the President's Conference on Unemployment,

Herbert Hoover, to make the investigation necessary for the development of such a plan, in cooperation with the National Bureau of Economic Research.

At about the same time the American Statistical Association appointed a Committee on Employment Statistics, composed of members of the Association who were either responsible for the collection of employment statistics in state or federal bureaus or engaged in using them so intensively as to give a basis for judgment of their value.¹ This committee has served in an advisory capacity in the preparation of this chapter and in the inquiry which preceded it.

IV. STATISTICS NOW AVAILABLE

The governmental agencies concerned at present in the collection of statistics, from which the trend of employment can be estimated, include the federal Bureau of Labor Statistics, the New York State Department of Labor, the Industrial Commission of Wisconsin, the Illinois State Department of Labor, the Division of Statistics of the Massachusetts Department of Labor and Industries, and for special industries the Interstate Commerce Commission and the Geological Survey in the Department of the Interior. Certain states in addition to those listed are collecting facts about the state of employment, either through their employment offices or their statistical bureaus, but these statistics are not discussed in this chapter because they are not uniform and therefore not usable in charting the course of employment for the country as a whole. The figures of the United States Employment Service are not now being published but they will be included in this discussion because the experience in collecting them is suggestive.

The Federal Bureau of Labor Statistics.—It was at the time of the unemployment crisis of 1914 and 1915 that plans were developed for the

¹ The membership of this committee is as follows: A. J. Altmeyer, Secretary, Industrial Commission of Wisconsin; Charles E. Baldwin, Chief Statistician, U. S. Bureau of Labor Statistics; Joseph A. Becker, Statistician, Bureau of Agricultural Economics, U. S. Department of Agriculture; W. A. Berridge, Assistant Professor of Economics, Brown University; R. D. Cahn, Statistician in Charge, General Advisory Board, Illinois Department of Labor; Frederick E. Croxton, Assistant Professor of Economics, Ohio State University; Ralph G. Hurlin, Director, Division of Statistics, Russell Sage Foundation; Don D. Lescohier, Professor of Economics, University of Wisconsin; Max O. Lorenz, Director, Bureau of Statistics, Interstate Commerce Commission; Eugene B. Patton, Chief Statistician, New York Department of Labor; Roswell F. Phelps, Director, Division of Statistics, Massachusetts Department of Labor and Industries; W. H. Steiner, formerly Acting Chief of the Division of Analysis and Research, Federal Reserve Board; W. W. Stewart, Director, Division of Analysis and Research, Federal Reserve Board; F. G. Tryon, in charge of Coal and Coke Statistics, U. S. Geological Survey; Leo Wolman, New School for Social Research; Mary Van Kleeck, Chairman, Director, Department of Industrial Studies, Russell Sage Foundation.

collection of employment statistics by the federal government. At that time the Mayor's Committee on Unemployment in New York City obtained data from establishments in various industries through a questionnaire, and to supplement this information the Committee asked the federal Bureau of Labor Statistics to take a census, block by block, in certain sections of the city to determine how many were out of work. The facts were interesting, but the whole experience showed that a census of the unemployed was a time-consuming and expensive undertaking and that a count of the number on the pay-rolls was more feasible and likely to be as significant, if carefully interpreted.

It was for these reasons that Royal Meeker, who was then Commissioner of Labor Statistics, decided to ask employers in the more important industries of the country to furnish information monthly as to the number of persons in their employ and the amount of their pay-rolls. The plan was to select a large enough number of establishments in each industry to constitute a fair sample, but it was a sample of the industry which was selected, regardless of possible geographical differences in employment in different sections of the country. The first reports, for October, 1915, included only four industries—cotton, cotton finishing, hosiery, and boots and shoes. In the following month iron and steel were added, and gradually the list was extended until in the early part of 1921 it included thirteen manufacturing industries, with reports from 700 establishments employing about 500,000 wage-earners. Coal mining was added in May, 1920, but discontinued at the time of the strike of 1922. In the latter part of 1922 the list was again expanded to forty-three industries, with reports from 3,233 establishments employing more than 1,500,000 persons, and having an actual weekly pay-roll of approximately \$50,000,000,

The questions asked employers are exceedingly simple. The two important items are: (1) "amount of pay-roll" for the pay-roll period nearest the fifteenth of the month and (2) "total number of persons who worked the whole or any part of this period." To throw light on these two facts the schedule provides also for a statement of the length of the pay-roll period, any change in rates of wages and the date on which it was made, and an explanation of any marked increase or decrease in the amount of the pay-roll or the number of persons employed since the preceding month.

The question about total wages paid is asked primarily in order to check the data on number employed. The number on the pay-roll includes usually some who have been employed for only part of the pay-roll period. The count of the number employed is important in showing how many individuals actually worked for any length of time during the pay-roll period, but the total wage bill is a more accurate measure of the volume of employment, provided of course there has

not been a change in wage rates. The total pay-roll is not a safe measure of the trend of wages and should not be so used without careful interpretation. It has, however, some use in measuring the trend of the purchasing power of wage-earners.

In the beginning it was difficult to persuade employers to answer even these simple questions. It was necessary to send agents to the establishments to secure the information. It has been the experience of the bureau that with the increasing interest in unemployment and with the development of appreciation of statistics in business, employers have become convinced that employment statistics have practical uses for them.

After the cooperation of employers was secured, it was possible to maintain the work by sending a questionnaire by mail each month. In general the Bureau of Labor Statistics does not collect facts by correspondence, and they believe that the questionnaire method is feasible for the collection of employment statistics only if the questions are simple and few.

The figures which, as we have seen, are taken for the pay-roll period nearest the fifteenth of the month, are made available early in the following month in mimeographed form and given out to the newspapers, but it is usually about two months before the report is printed in the *Monthly Labor Review*. How the federal bureau cooperates with state bureaus will be discussed after the work of the state bureaus has been described.

Employment Statistics in New York.—The statistics now gathered by the New York State Department of Labor are similar to those gathered by the federal bureau, and the series was begun at about the same time. The total number of firms reporting since early in 1917 has been 1,648, employing about 500,000 wage-earners and the list has not been changed, except for a few necessary substitutions. In sending out the first questionnaire in June, 1915, firms were asked to report for the corresponding month in the preceding year, so that data are available since 1914. The two facts—number of employees on the pay-roll and the total pay-roll for the pay-roll period nearest the fifteenth of the month—are asked in substantially the same form as on the schedule of the federal bureau, except that New York asks for the numbers and wages for shop and office force separately.

It is the experience of the New York department that it would not be possible to extend the number of questions asked in this monthly report without going through a long process to convince the firms that the additions were worth while. For instance, the department is often asked whether there are fewer women employed than there were during the war. The reports of numbers of employees monthly include both men and women without separating the numbers of each. Many firms do not keep their pay-rolls separately for men and women, and for them it would

be very difficult to report total wages for each sex. The significant point is that if any governmental bureau desires a periodic report as frequently as every month, the questions must be simple and must be framed so as to ask for facts which are readily obtainable from the customary records of an industry.

It is the theory of the Department of Labor in New York, as it is in the federal bureau, that the wages paid, taken in relation to the number of employees, show the effect of part-time or overtime employment on earnings. In order to test out the importance of part time, the bureau prepared in December, 1921, and again in June, 1922, a separate schedule which asked specifically the normal number of weekly hours, and the number of employees actually working each specified schedule of hours in a week for which the report was made. Some of the employers had been asked in advance whether they would be willing to have these questions added and the form of questions was discussed with them. The additional data required on these schedules to show part time took a considerably longer time to report, and the bureau had to extend the period for reporting. This again illustrated the necessity for simplicity in the monthly questionnaire. To 1,600 inquiries about 1,350 replies were received. This was the first time that any information had been secured on part time other than that reflected in changes in the pay-rolls. The survey was made because of the emphasis given by the President's Conference on Unemployment to the need for facts about part time. In general the conclusion was that part time was a minor factor in the amount of unemployment as compared with the total loss of employment of workers who are laid off, which is indicated in the reports of numbers on the pay-roll. The department has concluded, however, that it might be desirable to make a special survey of part time and overtime twice or possibly four times a year. This suggests the feasibility of adding to the periodical collection of employment statistics occasional special inquiries of this kind which make interpretation of the periodical figures more adequate.

Employment Statistics in Wisconsin.—The collection of employment statistics in Wisconsin was first proposed in the spring of 1920, and to get it under way a conference of manufacturers and labor leaders was called. The manufacturers were reluctant to promise cooperation. The representatives of the unions wished very detailed information. Fortunately, a number of the manufacturing industries of the state were represented in the groups of employers carrying their own insurance under the Workmen's Compensation Act. It was possible to require these employers to make a monthly report of the number of the employees. A few other employers consented to cooperate, and the reporting was started in July, 1920. It was found that the smaller establishments were not proportionately represented, and in December, 1921 the reports

were extended to include the smaller industries and small establishments. Trade associations gave assistance in arousing the interest of employers. Representatives of the Industrial Commission spoke at meetings of employers in order to make them see the value of employment statistics. For a month and a half the work of preparing lists, estimating the size of establishments, and writing letters to employers whose reports were desired, took the entire time of the statistician of the commission, two clerks, and a stenographer. After the first month, the routine was more and more definitely established so that by the spring of 1922, two clerks giving half their time could handle the work under the direction of the statistician of the commission, who, also, took care of special correspondence in connection with it and wrote the text for the monthly bulletin.

The questions asked in the schedule used in Wisconsin are practically identical with those in New York State, excepting that employees are classified as "clerical and manual" instead of as "office and shop." This choice of terms in Wisconsin was due to the expectation that other forms of employment besides manufacturing would be included.

Perhaps the most interesting experiment which Wisconsin is making in the collection of employment statistics is its recent effort to include enough different occupations of the state to constitute an inclusive index for the state, Wisconsin. Beginning with January, 1922, monthly statistics of employment have been collected not only for mining, quarrying, and manufacturing, but for agriculture, logging, construction including the building trades, transportation including steam railroads, electric railroads, and express, telephone and telegraph offices, wholesale trade, hotels and restaurants, retail trade (the sales force only), teaching and miscellaneous professional services. The number of employers reporting was 850 by May, 1922. Except in agriculture, building trades, and miscellaneous professional services, the reports for each employment group cover at least one-third of the total number of wage-earners in that employment in the state. The smallest representation is in agriculture, as the 498 farmers who report to the Industrial Commission employ only 0.5 per cent of the farm laborers in Wisconsin.

The base month for the new index is January, 1922, and the expectation is that the same establishments will report every month. At this time, the single index number for all groups has not yet been prepared as it is necessary first to assign the proper weighting to each of the groups, and this weighting has not yet been finally determined.

Employment Statistics in Illinois.—Illinois' published employment statistics began in the September, 1921 issue of the employment bulletin published for the employment offices of the state. The work was undertaken at the suggestion of the Advisory Board for the Free Employment Offices, which had as members two representatives of employers, two employees, and a representative of the public as chairman. Facts about

the trend of employment were needed in the administration of employment offices, and in May, 1921 the board decided to make an employment survey periodically. Questionnaires were sent in that month to 1,000 firms having one hundred or more employees. The list was made up from directories prepared by manufacturers' associations and lists submitted by the superintendents of employment offices. Of the 1,000 firms circularized, in the first month 425 reported. In the second survey, which was made at the end of August, the first request brought 275 reports and the follow-up 125 more.

In the questionnaire employers were asked to report "the number on pay-roll on last day" of each month, as men, women, and total. No question was asked at first about wages as it was felt in the early months that this would jeopardize the collection of the statistics because of the possible unwillingness of employers to report wages, but in July, 1922, this question was added and other changes made to conform with the schedule used by the federal Bureau of Labor Statistics. Somewhat over 1,400 firms employing 343,000 were reporting by October, 1922.

In addition to manufacturing establishments the Illinois Department of Labor secures reports from the building trades and from public utilities including street railways, mainly in Chicago. Plans are under way for extending the inquiry to other industries, possibly to include mining.

One of the serious difficulties encountered in Illinois has been duplication by different governmental agencies who have asked the same business establishments to report employment statistics. The federal Bureau of Labor Statistics had been collecting data in Illinois long before the state began and could not relinquish its work so long as the state schedule excluded wages, as the material would not have been comparable with that gathered by the federal bureau. At the time when the state began its collection, the United States Employment Service was conducting a monthly survey which included Illinois firms. The Federal Reserve Bank in Chicago was also collecting similar data for the Federal Reserve district which includes Iowa, Michigan, and parts of Illinois, Indiana, and Wisconsin. One of the largest companies in the state refused to give information to the state bureau on the ground that the different official agencies should get together and have only one questionnaire filled by each employer instead of having the same question asked by several different bureaus.

Employment Statistics in Massachusetts.—Massachusetts began its monthly collection and publication of statistics of employment in September, 1922, and at this writing therefore the work is in its beginnings. The feature which is new for Massachusetts is the monthly publication of the data, for Massachusetts has had employment statistics covering a very much longer period than any other state. They were, however, collected annually and published only once a year.

Since 1886 Massachusetts has taken an annual census of manufactures. One of the questions asked is the number of employees on the pay-roll each month in the preceding year. From 1889 to 1907 each report contained monthly figures which compared identical establishments for two years, but beginning with 1907 the reports gave the figures for one year for a list of establishments which was intended to be all-inclusive for manufacturing in the state. Since 1907, therefore, the comparison between identical firms has not been possible. As employment statistics are only one item in the census, and the material handled is extensive, the results are not available in print until twelve months or more after the close of the year. Therefore, it is good news that Massachusetts has begun the separate collection of employment statistics so that they may be currently available to the people of the state in letting them know month by month the trend of employment. Nevertheless, the information secured in the annual census will continue to be of great value in the future, as it has been in the past, in charting the course of employment, covering, as it does, a larger proportion of the manufacturing industries than any of the series of employment statistics which are collected monthly. It serves as a check on these other series, and aids in their interpretation. It is a unique, historical record.

Massachusetts has also a series of facts about unemployment which is unique and important to everybody concerned in the prevention of unemployment. These are the reports of the number of unemployed members in the trade unions of Massachusetts, which have been furnished to the Division of Statistics by the trade unions quarterly since 1908. As the facts are collected from officials of labor organizations they refer solely to organized wage-earners, and the question has been raised as to whether they are indicative of employment conditions in the unorganized trades. On this point the director of the Division of Statistics reports that the figures furnished by the trade unions follow closely the data in the annual census for the same industries, indicating that the reports for union membership are fairly typical for each trade as a whole. No other state in the union now collects data periodically from officials of labor unions. New York discontinued the practice when its present employment statistics were begun because the department lacked funds for both series. Students of employment statistics are earnestly hoping that Massachusetts will continue this series, since it now offers an unusual basis for charting unemployment over a period of fourteen years, and its value will be the greater as it is continued longer.

Cooperation between State and Federal Bureaus.—These four states, New York, Wisconsin, Illinois, and Massachusetts, have a plan of cooperation with the federal Bureau of Labor Statistics which eliminates duplication of reporting by firms and makes the statistics more useful from the two-fold point of view of state and nation. This plan provides

that the collection in a state will be made by the state bureau and duplicates of the reports will be sent by the state bureau to the federal Bureau of Labor Statistics. The state is likely to need reports from a larger number of establishments in its borders than are included in the federal list. The federal bureau is concerned primarily with securing a fair sample of establishments in important industries. The state bureau must have a picture of the industries in its own territory. New York, for instance, covers a third of its manufacturing industries but sends a comparatively small number of these reports to Washington. This plan of cooperation has been in effect between the federal bureau and New York since February, 1917, Wisconsin since July, 1920, Illinois since July, 1922, and Massachusetts since September, 1922.¹

This use of detailed statistics for one state, part of which are used in combination with other data to indicate the national trend, illustrates the two-fold need which must be kept in mind in discussing an adequate system of employment statistics. A state and its citizens need enough facts to show them the condition of employment within their own borders, but they also need to know of the condition of business throughout the country. Thus, not only is a national index important for use as a barometer, but the detailed facts about a section of the country or an industry are also necessary as a basis for action.

The Cost of Collection.—We have secured figures showing the approximate cost per month of collecting, publishing, and distributing statistics of employment by the federal bureau and by the cooperating bureaus in New York, Wisconsin, Illinois, and Massachusetts. The information was supplied us in December, 1922. It can be regarded only as approximate because members of the staffs of these bureaus who take part in the work on employment statistics are sometimes employed in other work. The total expense per month reported by the federal Bureau of Labor Statistics was \$766; by the New York Department of Labor, \$743; by the Illinois Department of Labor, \$590; by the Wisconsin Industrial Commission, \$234; and by the Massachusetts Department of Labor and Industries in its first three months, \$110. The number of firms covered will be increased very soon in Massachusetts so that this figure of cost will increase.

The federal bureau employs five persons on full time and covered at the time when these figures were supplied 2,000 firms in addition to 1,200 reached through state bureaus. The New York Department of Labor with reports from 1,648 firms employed for this work one person on full time and five on part time. The Illinois Department of Labor for 2,000 firms has two persons on full time and one on part time. In

¹ Similar arrangements have been made with Maryland but the collection of the statistics has not yet begun at this writing. Other states have the matter under consideration.

Wisconsin for 1,300 firms three persons gave part time. In several instances the part time represented approximately half the month. In the Massachusetts bureau the work was not yet finally organized. At that time five members of the staff were giving one to four days each month.

The significant fact brought out in this information is that the collection of adequate statistics of employment is not an expensive undertaking.

Special Industries.—In addition to the material gathered by these states and by the federal bureau for manufacturing, certain special industries are covered by other departments of the federal government or offer problems for consideration in the effort to improve employment statistics.

Steam Railroads.—In July, 1921, the Interstate Commerce Commission began the collection of statistics of employment on railroads which are more comprehensive than the data for any other industry in the country. The facts are secured from every railroad having an annual operating revenue of \$1,000,000 or more, and 90 per cent of the roads are included in this classification. The number of employees in each of 148 classes of railroad labor is reported for the middle of each month. Not merely the persons actually at work on that day are counted, but all employees, including those on vacation or sick leave. Reports are also received of the number of full-time positions in each occupation. This is estimated by dividing the total number of straight-time hours actually worked in each shop or department for the preceding month by the number of hours per man required by the normal schedule for a month. In other words, this gives the total number of men who would be required to do that month's work if no time were lost by absence. Stated more simply, this is intended to be a measure of the normal number of employees for that month. A much more complicated procedure has to be followed in reports for train service employees whose hours are dependent upon more uncertain factors. The compensation earned in each class is also reported.

Up to date no index has been computed on the basis of these figures. They are reported in detail about a month and a half or longer after the close of each month. Their immediate purpose is to provide data for the use of the Railway Labor Board, but they might be made to furnish the information desired as part of a national index of employment.

The chief difficulty in these figures at present is that their comprehensiveness causes a good deal of delay. For instance, on May 19, 1922, statistics for February were the latest available. It is the opinion of the statistician of the Interstate Commerce Commission that data as to the number of men on the railroads could be secured more promptly if a representative list of roads were to report this one item in advance

of their complete reports immediately after the count is taken, and this could then be used by a central agency in combination with the indexes for all other forms of employment.

Mining.—About 1,000,000 men are employed in mining in this country, of whom approximately 70 per cent mine coal. The Geological Survey collects weekly reports showing the production of coal in tons for the week, the total working hours for the mine, and the causes of lost time. The Survey has not gathered figures showing the number of workers or the wages paid. At the time of the President's Conference on Unemployment figures showing the production of coal in tons were used to estimate the number of men employed. To make the estimate, the total tonnage was divided by the average tonnage per man as shown in data collected by the Geological Survey.

In anthracite mining, reports from forty large producers would probably cover 95 per cent of the number of employees and the total pay-roll of that branch of the coal industry. In the production of oil and gas and the mining of iron, copper, and precious metals, control by a few large organizations would also make the collection of representative statistics comparatively easy.

The serious problem is to get the facts for the 630,000 workers in the bituminous coal industry. In that industry part-time employment is very common. A coal mine that has no orders does not discharge its working force, but tries to retain as many men as possible, and part-time operation may be said to be the normal practice. One reason for this is the fact that the distribution of railroad cars in times of car shortage is determined in accordance with the rating of the mine which varies with the total working force employed. The rating is determined by the railroads. This arrangement puts a premium upon the retention of a large number of names on the pay-roll and the giving of part-time employment. When cars are scarce and prices high, a company is eager for as many cars as possible. Thus the number of names on the pay-rolls would not be so significant for the bituminous coal industry as in manufacturing, but combined with figures showing the number of tons produced and the wages paid they would give a good index of actual employment. The bituminous mines number about 12,000, of which about 3,000 produce 60 per cent of the tonnage.

As already noted, the Bureau of Labor Statistics began in 1920 to collect facts showing numbers employed and total wages in the bituminous coal mines, but this work was interrupted by the coal strike of 1922 and has not yet been resumed. It has been suggested that the most economical arrangement would be for the Geological Survey to add these two facts to the report which they now secure and then to give the data to the Bureau of Labor Statistics to incorporate with the facts about other industries.

Agriculture.—Agriculture presents a baffling problem in the effort to complete the statistics of employment for the country. No data whatever exist which can be called an index of the trend of employment of farm labor month by month or year by year.¹ The decennial census shows the numbers employed. The Crop Estimate Service of the federal Department of Agriculture gives an estimate in the spring of the relation between the prospective demand for farm labor and the probable supply, and in December another statement is issued which describes the ease or difficulty of securing labor in the preceding harvest. The employment offices of several states and of the federal government afford another source of information, and some of these furnish valuable forecasts of demand. In Iowa, for instance, the Department of Labor issues a questionnaire to farmers which asks them to forecast their needs. In other states the employment offices have practically no record except that of orders for farm placements, and this is more significant of the activities of the employment office than of the condition of employment on the farms. As already stated, Wisconsin now includes a small proportion of the agricultural industry in the state in its collection of employment statistics. The Wisconsin Crop Reporting Service is cooperating with the Industrial Commission in sending out questionnaires to farmers. But this is the only part of the country where an effort is made to give agriculture a place in the general description of the state of employment.

The peculiar difficulty of collecting the figures is the reason why agriculture has not been included. No record exists in a central place comparable with the pay-roll of a manufacturing establishment and men employed on the farms are so scattered that only a census could give information as accurate as that supplied by the more highly organized industrial establishments. A forecast based on the probable size of crops often proves inaccurate. A farmer, for instance, may state his needs in advance, but when harvest time comes, even though the crops are equal to his expectations, he may find that he has not the money to pay for extra labor, so that his own family does the work. Variations in the general labor supply and in the rate of wages in other industries have their effect, as do also the prices secured for farm products.

The encouraging fact to report at this moment is the keen interest of the federal Department of Agriculture in working out some method of charting the course of agricultural employment. A representative of the Department has indicated to us that as soon as a feasible plan can be developed, data will be collected on this subject. The Department is now making certain special studies of the amount of labor required for a given acreage of particular crops in different sections of the country. Information is also being collected regarding the supply of farm labor. Out of these inquiries will probably come suggestions as to the type of

¹ But see the data for 1920-1922 in Chap. VI above.

information which will most accurately measure fluctuations in employment on the farms.

Other Federal Agencies Interested.—Other federal agencies which have a vital interest in the use of employment statistics are the United States Employment Service, the Department of Commerce, and the Federal Reserve Board.

United States Employment Service.—The importance of statistics of employment as a guide in the work of a system of employment exchanges has already been indicated. In Canada it is the employment service of the Dominion which collects the facts about employment and its work has set a high standard of speed and effectiveness in making the facts available. The United States Employment Service began in January, 1921, local monthly surveys in the typical industrial centers of the country. Local agents were appointed to collect the facts. The telephone and the telegraph were used to insure speed. The results were published in a monthly bulletin of the Employment Service. The publication of this information was discontinued in June, 1922 because the work duplicated the efforts of the federal Bureau of Labor Statistics and state bureaus, and this duplication seemed likely to prevent the expansion of these other series of employment statistics. It was also felt that unless the United States had a fully developed national system of employment exchanges, it would be wiser to concentrate responsibility for statistical work in bureaus of labor statistics.

Certain defects in the data collected by the Employment Service have been pointed out by those who have studied the data. The most important of them are: (1) collection of the information under circumstances which failed to insure absolute accuracy in reporting; (2) exclusion of establishments employing less than 500 wage-earners; (3) inaccurate industrial weighting for individual cities. The achievements of the United States Employment Service in this work should be emphasized because they are suggestive for its further development by the federal Bureau of Labor Statistics. These are: (1) promptness in reporting and in publishing; (2) making information available regarding the state of employment in particular localities instead of supplying the facts only for industries without geographical classification.

The Department of Commerce.—The importance of employment statistics to the business men who seek information from the Department of Commerce is obvious. The *Survey of Current Business*, now published monthly by the Department is a recognition of the need for supplying facts about the condition of business. It is the policy of the Department to secure information from all possible sources and to make its own inquiry only when the data are not available elsewhere. The *Survey of Current Business*, therefore, is a medium through which facts about employment, as collected by the federal Bureau of Labor Statistics, may be combined

with the facts about production and the condition of business which are compiled by the Department of Commerce.

Federal Reserve Board.—The monthly bulletins published by the Federal Reserve Board and Banks give further evidence of the demand for statistics concerning the condition of business. It is the policy of the Federal Reserve Board to use the available data gathered by other agencies rather than to collect the facts itself. This is true also of the various Federal Reserve Banks. In New York, for instance, the bank uses the employment statistics supplied by the state Department of Labor.

The chief difficulty at present is that for so many districts of the Federal Reserve System employment statistics are not collected by the states nor does the federal Bureau of Labor Statistics classify its data by districts. This is why the Chicago bank for instance, collects facts for its own area, since two of the five states covered wholly or in part by the bank district publish no facts whatever about the state of employment.

Another difficulty is the date of publication of the employment statistics which are now collected. As they are gathered for the week including the fifteenth of the month, it has not been found possible to publish them before the tenth of the following month. They cannot appear, therefore, in the bulletins of the Federal Reserve System until six weeks after the date for which the returns are made. This is one of the problems which are now under consideration by the various state and federal bureaus concerned. It serves to emphasize the great importance of making employment statistics available promptly. One reason for delay is the tardiness of business establishments in making their reports, but it seems likely that this can be overcome as the practical importance of timely statistics is recognized.

V. NEXT STEPS SUGGESTED

In the past the forward steps in the collection of employment statistics have usually been taken when unemployment was serious enough to arouse interest in the facts about it. Judging by this past experience, we may watch with confidence for the strengthening at this time of our collections of employment statistics as one result of the stress of unemployment which the country has been feeling.

The Committee on Employment Statistics of the American Statistical Association, which, as has been said, includes in its membership statisticians responsible for the collection of employment statistics in state and federal bureaus, has not yet completed its work, but the following suggestions which they have under consideration will serve to indicate next steps in the extension of facts about employment:

1. That a uniform schedule be adopted as the standard, containing the facts now asked for by the federal Bureau of Labor Statistics and by the states cooperating with it, namely:

(a) Total number of wage-earners on the pay-roll for the period including the fifteenth of the month.

(b) Total wages paid in the same pay-roll period.

The supplementary information which now appears on the schedule of the federal bureau should also be included, showing whether in the period for which the report is made the establishment was operating full time or part time; whether there has been any change in wage rates during the month, and, if so, how much of a change; and whether there have been any special circumstances, such as the opening or closing of departments or branch factories, strikes or lock-outs, or other reasons for unusual increases or decreases in the number of employees or the amount of the pay-roll.

2. That the federal Bureau of Labor Statistics be the coordinating center; that data collected by the Interstate Commerce Commission and the Geological Survey be reported promptly to the federal Bureau of Labor Statistics to be combined with the information now collected by the federal bureau for issuance in one report.

3. That as rapidly as possible states not now collecting these figures be urged to join in the plan, adopting the same methods and the same form of collection as has now been agreed upon by the federal Bureau of Labor Statistics working with the bureaus in New York, Wisconsin, Illinois, and Massachusetts. In order that representative sections of the country may be included soon it is hoped that the next states to join in the plan will be Pennsylvania, California, Ohio, North Carolina, Georgia, Washington, New Jersey, Michigan, Connecticut, Oregon, Kansas, and North Dakota.

4. That promptness of publication by federal and state bureaus be the immediate goal and that to make feasible the issuance of at least preliminary statements as soon as possible after the date of reporting, extraordinary efforts be put forth to eliminate delays in the original reporting by firms and to facilitate prompt tabulation and publication of results.

5. That the consideration of government officials be given to the importance of prompt printing by federal and state printing offices so that periodic statistics of employment and other data regarding conditions of business and of employment may be published in time to have current significance.

6. That consideration be given by the federal Bureau of Labor Statistics to the possibility of classifying by states or by geographical zones other than states, the statistics which are now published for each industry as a whole without regard to geographical location. The Committee believes that local statistics, applying even in some instances to a single city or to an area considerably smaller than a state, are of great importance to those who are responsible for programs of prevention or relief of unemployment. It would seem possible so to plan the classification of indus-

tries as to give the facts for small areas first and then to draw the totals for the country from the sum of the facts for the smaller sections.

7. That attention now be concentrated upon making more adequate the information regarding manufacturing in its main industrial groups, mining, transportation, and agriculture. The probability that wage-earners laid off from one type of employment find work in other industries makes it essential that enough industries be included in the scope of employment statistics to give a fair picture of the conditions of employment in industry as a whole.

8. The Committee believes that ultimately all industries should be included in a national measurement of employment and it suggests the following list which they have arranged in an order determined by (a) the desirability of its inclusion in employment statistics; (b) feasibility of securing the facts: (1) manufacturing (divided into its main industrial groups in accordance with a uniform classification); (2) mining and quarrying; (3) transportation and other forms of communication; (4) building and construction; (5) wholesale trade; (6) retail trade; (7) logging; (8) agriculture. It will be noticed that agriculture is placed last on the list, not because we regard it as comparatively unimportant but because it will probably be impossible to collect the facts on a basis strictly comparable with those relating to other industries. The three criteria of desirability whereby the Committee rated the industries in this list were (a) comparative number employed; (b) strategical position in relation to other industrial groups in a business cycle; (c) extent of fluctuations in numbers employed.

9. The importance of uniform classification of manufacturing industries must be stressed here. This is a problem in which uniformity in the various bureaus has not yet been achieved, but until a classification is adopted which gives the essential facts for the same industries in different states, sound interpretation of the facts will continue to be difficult.

10. In urging inclusion of more industrial groups it should be pointed out that it is not considered necessary to include all the establishments or even a majority of the wage-earners in any industry or in any geographical division. The Committee believes that approximately thirty-three and a third per cent of the employees in any given industrial group may be assumed to constitute a safe sample, provided typical establishments of the varying sizes characteristic of the industry be selected.

11. That the Department of Agriculture be urged to develop as speedily as possible its plans for the collection of facts about employment in agricultural districts. The Committee recognizes that in agriculture and possibly in some other industries it is impossible to conform exactly to the methods of reporting which are recommended for manufacturing, since on the farms pay-roll figures similar to those in factories would not

be available. It should be possible, however, to secure facts which measure accurately the condition of employment on the farms and then to publish them in connection with pay-roll data from other industries, though the two series of facts would not necessarily be combined in a single index.

In the technical discussion of all the details of collection of employment statistics the important point to keep in mind is the purpose of collecting them. This study of the business cycle and unemployment is directed toward the possibility of action to prevent the extreme fluctuations which are described as the business cycle. As we have already indicated, the trend of employment is one of the indexes of business which managers are finding reliable as a guide in determining policies. Meanwhile, until some measure of control can be established, local communities will be responsible for relief and business itself may devise means of setting aside reserves so that men and women out of work because of conditions of business will not be called upon to bear the whole financial loss. Whatever plans for prevention or relief are contemplated, it is essential to know how many wage-earners are out of work at any given time. The difficulty of finding this out by a direct count of the unemployed has been shown. A feasible substitute for this kind of information is to be found in the statistics showing the trend of employment. The extension of these statistics of employment is urged, because they are needed in approaching constructively the problem of preventing unemployment.