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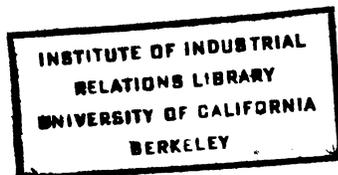
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INTERNATIONAL COMPARISON OF UNEMPLOYMENT RATES

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### 1. Introduction

When first they approached the preparation of this paper, the authors had in mind the calculation of a uniform set of unemployment rates for the major industrial nations of the world, excluding the United States and the Soviet Union, which would lend themselves to precise international comparison. Ideally, this would imply uniformity in definition, coverage, and collection and collation of the underlying data, as well as consistency over time. We realized that the available data were not sufficiently homogeneous to render the task of international comparison one of mere statistical manipulation, but it was hoped that with a minimum of adjustment, the desired results could be obtained. This expectation was doomed to early disappointment. It became clear immediately that published unemployment statistics, far from being a cultivated garden through which one might stroll at his leisure, presented instead the aspect of a dense jungle through which the investigator must hack his way, with only a clearing here and there due to the pioneer efforts of predecessors.

Anyone who has followed the recent controversy over American unemployment statistics is aware of the definitional and technical pitfalls involved in the preparation of a single unemployment series, to say nothing of the problems involved in comparing several series for the same country emanating from different sources. Such difficulties are thrice compounded in international comparisons in which the data to be compared have no common basis in economic structure and political and social

institutions. On its face, unemployment among industrial workers appears to be a fairly simple concept. In fact, it is a complex multi-dimensional phenomenon, imperfectly measured even in the industrial nations of the West. Nevertheless, interest in unemployment, both as an aspect of the comparative development of national economies and as a factor powerfully influencing the role of nations in the world economy, has stimulated efforts in the past to secure some measure of unemployment going beyond national boundary lines. The most ambitious attempt was the construction of an international index of unemployment by John Lindberg of the ILO.<sup>1</sup> Successive international conferences of labor statisticians have agreed upon the importance of altering statistical practice to the end of facilitating international comparison, but actual progress in this direction has been slow.<sup>2</sup> Helpful in this respect have been several reports of the International Labor Office dealing with specific problems involved in reconciling unemployment statistics on an international basis.<sup>3</sup>

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<sup>1</sup>This index was computed by averaging percentages of unemployment for 15 countries, weighted by occupied industrial population as indicated by census data. The figures are available for the years 1929 to 1938. For the details of method and calculation, see John Lindberg, "An Attempt to Construct International Measures of Unemployment," International Labor Review, Vol. XXVI, No. 4, 1932, p. 491; ibid., "Some Problems in the Construction of Index Numbers of Unemployment," International Labor Review, Vol. XXIX, No. 4, 1934, p. 472; "World Index Numbers of Unemployment," International Labor Review, Vol. XXXIX, No. 1, 1939, p. 118; "World Level of Unemployment," International Labor Review, Vol. XXXIX, No. 6, 1939, p. 812.

<sup>2</sup>See International Labor Office, The Second International Conference of Labor Statisticians, Studies and Reports, Series N, No. 8, pp. 48-64; ibid., The Sixth International Congress of Labor Statisticians, Studies and Reports, New Series, No. 7.

<sup>3</sup>International Labor Office, Methods of Compiling Statistics of Unemployment, Studies and Reports, Series C, No. 7, 1922; ibid., Methods of Statistics of Unemployment, Series N, No. 7, 1925; ibid., The International Standardization of Labor Statistics, Series N, No. 25, 1943; ibid., Employment, Unemployment and Labor Force Statistics, Studies and Reports, New Series, No. 7, Part 1, 1948.

The procedure we have adopted for the purposes of this paper is in some respects more ambitious than previous endeavors, in others much less so. We have attempted to assemble unemployment data for some ten countries, all of them relatively industrialized, for the period 1900 to 1950, insofar as possible. The choice of countries was governed a) by the availability of unemployment statistics; b) by the availability to us of a minimum of material describing and evaluating these statistics; and c) by the amount of time at our disposal. Thus, Italy was ruled out by the unsuitable character of its unemployment statistics for much of the period in which we are interested, while Eastern Europe was not considered because of the difficulty of securing evaluating material. The United States and the Soviet Union were excluded on the ground that they are to be the subjects of special papers at this Conference.

For each of the countries with which we deal, we have endeavored to prepare a statement setting forth the available unemployment series. The purpose was to secure some basis for judging the degree to which available data express adequately the extent of unemployment, defined as indicated below. Heavy reliance has been placed in each case upon published evaluations of the data by government statisticians, parliamentary commissions, and private economists and statisticians of the countries concerned.

From the available series, we have either selected the one which appeared to us most appropriate for purposes of international comparison, or constructed a new series on the basis of existing ones. Adjustments were made wherever feasible to bring the national data into closer conformance one with the other. However, no attempt was made at fine

adjustment to an ideal standard, a project which would have required considerably greater resources than we had at our disposal, if indeed it were possible at all. For example, a correction factor was applied to the official Australian unemployment series to eliminate unemployment due to illness and causes other than lack of work, but no adjustment was made to reconcile the Australian definition of unemployment due to lack of work with that, say, of Great Britain.

The resultant unemployment series, expressed in percentages representing the ratio of the unemployed to the number of persons subject to the risk of unemployment, are then brought together and compared. It is at this point that the national expert is apt to throw up his hands in horror. Yet we feel that despite the obvious discrepancies, the results are not without significance. We are not concerned with pinpointing small international differences in the levels of unemployment at particular points of time, but rather with the gross behavior of the data over half a century. We are seeking to detect differences in unemployment rates, secularly and internationally, which appear to be of such magnitude as to render unlikely the legitimate ascription of cause to differences in definition and measurement techniques. In the final analysis, this must remain a matter for individual judgment until a great deal more work has been done on detailed international reconciliation of concepts. In our view, even the brief review that we have undertaken of individual country statistics provides the basis for the exercise of far more informed judgment than would otherwise be possible.<sup>1</sup>

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<sup>1</sup>We are by no means the first to engage upon such an undertaking. For previous attempts, see Paul H. Douglas and Aaron Director, The Problem of Unemployment, New York, 1931, Ch. III, IV; Royal Institute of International Affairs, Unemployment: An International Problem, London, 1935, Ch. III-V; Wladimir Woytinsky, Three Sources of Unemployment, International Labor Office, Studies and Reports, Series C, No. 20, 1935.

## 2. The Definition of Unemployment

The 1925 International Conference of Labor Statisticians resolved that each participating country should investigate the representative qualities of its unemployment statistics in relation to the following criteria:

"(1) that the ideal population 'field' to which the statistics should relate should be all persons whose normal means of livelihood is employment under contract of service, as well as those persons not hitherto wage earners who seek to become so;

(2) that the unemployment measured should exclude that due to sickness, invalidity, participation in trade disputes, or voluntary absence from work, and should be limited to unemployment due to lack of employment or to lack of work while in employment.

(3) that the necessary and sufficing condition for being enumerated as unemployed is that the individual must have been at work for one day at least."<sup>1</sup>

The next Conference to consider the question, that of 1947, resolved in favor of a considerably different definition. The population at risk was broadened to include employers, the self-employed, and unpaid family workers. All persons "able to take a job if offered one, who are out of a job on a given day and have remained out of a job and seeking work for a specified minimum period not exceeding one week" were to be counted as unemployed.<sup>2</sup> Some members of the Conference maintained that a minimum period of one week would serve to understate the "true" level of unemployment, but the majority was of the opinion that "the procedures currently in use, as well as the requirement of maximum accuracy in the count of the unemployed, necessitated the use of a period longer than one day."<sup>3</sup>

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<sup>1</sup>International Labor Office, The Second International Conference of Labor Statisticians, Studies and Reports, Series N, No. 8, 1925, p. 72.

<sup>2</sup>International Labor Office, The Sixth International Conference of Labor Statisticians, Studies and Reports, New Series, No. 7, Part 4, p. 54.

<sup>3</sup>Ibid., p. 17.

It may be noted parenthetically that an ILO staff report submitted to the Conference suggested that it would be consonant with usual practice to count as unemployed all persons seeking work "on a given day who are not employed but are able to take a job if offered one."<sup>1</sup>

Unfortunately for our purposes, such resolutions had little effect upon actual practice for the period with which we are concerned.<sup>2</sup> No two countries defined unemployment in precisely the same manner. With reference to time, for example, an unemployed person in Australia was one who had been out of work for three days or more during a specified survey week; in Sweden, it was one who had less than 24 hours of employment a week in his regular trade, or a person working outside his regular trade whose weekly earnings were below those paid in his own trade. The remaining countries, however, appear to have measured unemployment status with reference to a particular day, the precise day

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<sup>1</sup> International Labor Office, Employment, Unemployment and Labor Force Statistics, Studies and Reports, New Series, No. 7, 1948, Part 1, p. 12. The report stated, in part: "For the basic definition, the time reference should be of a given day. The reason for this is not only that it is the common practice in most countries, but also that, as far as unemployment and employment statistics are concerned, it yields an unimpeachable result; furthermore, the different sources when compared will be compared on the basis of the same definition instead of a series of different definitions. The basic difficulty in the choice of a week or a month is not the length of the period, but the error involved if the condition is imposed that the status of employment or of unemployment must last throughout that period, or that the status of employment and unemployment must be counted if it appears at any time during the period. The clear definition of the numbers employed or unemployed, therefore, requires the time reference to a given day." Ibid., p. 17.

<sup>2</sup> Particularly since 1945, a number of countries have revised their methods of tabulating unemployment. The changes, however, have not been concerned so much with the definition of unemployment as with the collection of data from different sources.

depending upon the operating requirements of the institution from which the statistics emanated.<sup>1</sup> Differences also prevailed with respect to industrial and occupational coverage, the causes of unemployment taken into account, the treatment of temporary and partial unemployment, and of persons engaged in emergency public works.

However, that statistics exhibit greater uniformity of definition than the above list of variables might suggest. The cause may be ascribed to a more or less uniform development of the economic and social institutions which permitted the accumulation of unemployment statistics in the first place. For example, in most countries of the West the earliest statistics of unemployment were compiled by trade unions as a by-product of their activities. The development of the organized labor movement exhibits a remarkable uniformity: skilled craftsmen almost always organize before semi-skilled factory workers; certain industries, such as building and mining, tend to be early in the timetable of organization; and white collar and farm workers are generally the last to organize, if indeed they organize at all. Thus, coverage of trade union unemployment statistics is generally confined at first to the skilled trades and then gradually broadened to the remainder of manufacturing, mining, transportation and communication, with commercial and agricultural coverage coming much later. With respect to the registration of unemployment, there are usually two major motives involved: the payment of out of work benefits, either entirely from union funds or pursuant to some variant

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<sup>1</sup>For a discussion of this point, see International Labor Office, Employment, Unemployment and Labor Force Statistics, Studies and Reports, New Series, No. 7, Part 1, pp. 14-18.

of the Ghent system of unemployment insurance, and the waiver of dues payments during unemployment. There are numerous definitional possibilities, depending upon the precise statutes of the union involved, but imitation among union movements, and the choice of simple methods owing to the limited time available to the average union secretary to process his data, combine to produce greater uniformity than is commonly believed.

This question will be dealt with at greater length in the following section, which deals with the sources of unemployment data. It is proposed here merely to specify that definition of unemployment which appears to us most closely to approach the norm actually employed in practice. This is by no means an "ideal" definition, nor necessarily a modal definition, but rather that definition about which the various available unemployment series tend to cluster, and toward which it seemed practicable to work in making our adjustments. In selecting among the various series available for purposes of international comparison, where a choice was possible, this normative definition also played an important role.

a. The time period.

As already indicated, most unemployment series are based upon the employment status of the individual worker on a single day. This is the simplest statistic to prepare; the trade union secretary or the employment exchange manager need merely tabulate the number of persons receiving benefits, or registered for work, on a particular day. Where the Ghent system of unemployment insurance is well developed, as in Belgium, Denmark and Holland, detailed figures on total man-days of unemployment during a period may be available as a by-product of reports that must be

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rendered to the supervising authorities, but in the more usual case there is only the one-day count. The current U. S. Census definition has virtually no counterpart in most of the earlier statistics, for the distinction between no work at all and some work, no matter how little, during a week was not very relevant to the operations of trade unions, employment exchanges, or relief authorities.

Some effort has been made in the past to separate from the unemployed those persons who were on temporary layoff. Canadian retrospective estimates for the years 1931 to 1950 attempted to exclude persons on a maximum 30-day layoff with definite instructions to return, but earlier Canadian unemployment series made no such distinction. The British unemployment insurance statistics recorded separately temporarily unemployed persons, that is persons who had a definite expectation of being re-engaged within six weeks, together with persons employed on a part-time schedule, as temporarily stopped. In the Belgian unemployment insurance statistics, workers who had not definitely broken their employment contract with their employer were distinguished from those wholly unemployed. In general, however, persons on temporary layoff would have been treated as unemployed for most purposes in the countries under review.

It is clear that as the minimum period for which a man must be unemployed in order thus to be counted lengthens, the less will be the reported amount of unemployment, but little can be said beyond this.<sup>1</sup> A ratio of, say, full weeks' unemployment to single day unemployment for

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<sup>1</sup>This subject is discussed in Louis J. Ducoff and Margaret J. Hagood, Labor Force Definitions and Measurement, Social Science Research Council, Bulletin 56, New York, 1947.

one country would not necessarily hold true for another, since the relationship is dependent upon the pattern of work force reduction undertaken during periods of recession. For example, if in Country A work sharing were more commonly practiced than in Country B, the ratio of full week to single day unemployment would tend to be smaller in Country A than in B.

b. Employment status.

Historically, statistics of unemployment are usually limited to wage-earners, that is, persons working for hire in manual jobs. "Independent workers, shopkeepers, handicraftsmen, farmers, the liberal professions, etc., are generally excluded; so also as a rule are salaried employees."<sup>1</sup> In the case of trade union data, the reason is obvious. Unemployment insurance schemes were generally limited to wage earners until recent years, while labor exchanges have usually catered to industrial wage earners (though in some countries they have long been an important factor in the farm labor market.)

This generalization is not without exceptions. In Australia, Denmark, and Sweden, organization of white collar workers resulted in their inclusion in unemployment statistics in increasing numbers for the past quarter of a century, though less than in proportion to their labor force strength. In Germany and Great Britain, salaried employees earning less than specified amounts have been insured for some time against unemployment and therefore included in the statistics of unemployment based upon this source. The labor force survey technique

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<sup>1</sup>John Lindberg, "Some Problems in the Construction of Index Numbers of Unemployment," International Labor Review, Vol. XXIX, April, 1934, p. 484.

that has been adopted by several countries since World War II generally results in full coverage of salaried employees and the self-employed, which is one reason for exercising considerable care in comparing such data with the traditional unemployment statistics.

One other type of person who may be mentioned is the new entrant to the labor market who cannot immediately find a job. Since he was not ordinarily eligible for union membership or qualified for unemployment insurance benefits, he was usually excluded from unemployment series of this character. However, freedom of access to labor exchanges meant that he was often counted among the number of job seekers, as well as among the unemployed in the newer labor force surveys. Exclusion was sometimes accomplished by eliminating both from the labor force count and the count of the unemployed individuals below a certain age.<sup>1</sup>

c. Industrial coverage.

There is less uniformity in this respect than on either of the two preceding points, but the situation is by no means hopeless. The general practice has been well summarized as follows:

"...agriculture is either wholly excluded or but feebly represented. . . Mining is generally included where this branch of economic activity is of practical importance. . . Transport and communications, banking, commerce, etc., are unevenly represented, but are not, as a rule, numerically strong. By far the most important group is 'industry' (including building and mining). And, very broadly speaking, the existing statistics can be said to represent conditions among industrial workers. The fact that some categories of non-industrial workers are included is not likely to affect the comparisons much."<sup>2</sup>

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<sup>1</sup>Before the war, for example, in Belgium, persons under 15 years of age were not eligible for unemployment insurance, while those between 15 and 18 years were eligible only if they had worked for an employer for at least six months.

<sup>2</sup>John Lindberg, op. cit., p. 484.

The source of the particular unemployment series has largely determined the scope of industrial coverage. Since trade unionism traditionally made scant inroads into agriculture, domestic service, commercial pursuits, and government employment, these areas are poorly represented, if at all.<sup>1</sup> Unemployment insurance statistics usually commenced on a narrow industrial base and broadened out in the course of time to include most industries; the British statistics are a case in point. In other countries, however, agriculture, domestic service, and government are excluded from the unemployment insurance system, and therefore from the statistics.

Changes in coverage over time complicate the problem. While one might plot a general trend of industrial coverage, beginning with segments of mining, manufacturing and building, and expanding gradually to the rest of manufacturing the non-manufacturing industries, the difficulty is that there is no uniformity either in the precise time of change or in the rate of change internationally. In consequence, even if at a particular point in time it were ascertained that there was close correspondence between the unemployment series of two countries, there would not necessarily be a similar degree of correspondence either earlier or later. Since there is considerable variation in unemployment rates among

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<sup>1</sup>The fact that in many countries, the railroads and the telephone and telegraph system are nationally owned, and their employees civil servants like our own postal workers, has often meant the exclusion of a large portion of transportation, and virtually all of communications, from unemployment statistics. Trucking has generally been included, though for much of the period under consideration it did not play an important role. No generalization can be made with respect to the maritime trades; exclusion, where it occurred, was based upon the special character of hiring and contract practices in that industry.

industries — for example, unemployment is normally much lower among government and commercial employees than among manufacturing wage earners — this factor must be kept in mind in any international comparison of rates of unemployment.

d. Other elements in the definition.

It has been general practice to limit the concept of unemployment to involuntary idleness due to lack of work, excluding idleness due to labor disputes, illness, vacations, etc. Where idleness due to any of the latter causes is included in the general unemployment data, as in Australia, it is usually possible to correct the series on the basis of accompanying classifications of unemployment cause.

The usual intent has been to keep total and partial unemployment separate; i.e., a worker on short time on the census day will not ordinarily be counted as unemployed. On the other hand, a worker employed intermittently rather than for a reduced number of hours each day would generally be included among the unemployed if an off-day happened to coincide with the census day. Moreover, there is not always a consistent concept of part time employment; "persons are often included among the unemployed who either are performing various odd jobs or are working on such a reduced schedule of hours that for social reasons they are admitted to relief and are included among the unemployed."<sup>1</sup> It may be noted that a consequence of the adoption of a calendar week as the census unit of time, as in the U. S. monthly labor force survey, is that partial unemployment does not appear, except insofar as it may be of the skip-a-week type as practiced, for example, by New England textile firms.

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<sup>1</sup>John Lindberg, op. cit., p. 477.

To summarize the foregoing, the concept of unemployment which has been taken as normative for the purposes of this paper is total (as distinguished from partial) involuntary idleness due to lack of work on a particular day, regardless of layoff status, among wage earners whose normal occupation is in manufacturing or mining, and who held jobs previous to the inception of unemployment. It is scarcely necessary to add that none of the series considered below conforms precisely to this definition. Nevertheless, the definition conveys the sense of what is being compared when we juxtapose available unemployment series internationally more proximately than any alternative definition that we have been able to construct.

### 3. The Sources of Unemployment Statistics.

It is not our purpose to present a disquisition on the sources of unemployment statistics. The subject has been dealt with adequately elsewhere.<sup>1</sup> However, it is necessary to consider the question briefly in order that the statistical material dealt with below shall be more intelligible, and also because some of our conclusions regarding the value of the statistics are somewhat at variance with those of other commentators.

#### a. Trade union and trade union unemployment fund statistics.

For anyone who desires to study trends of unemployment going back any distance into the past, the statistics relating to unemployment among members of trade unions constitute an invaluable source of information. These data, for all their faults, constitute the first systematic record of unemployment in most of the industrial nations of the West.

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<sup>1</sup>See the sources cited supra, p. 2.

The trade union statistics are subject to numerous and serious deficiencies. a) The sample of workers which they represent is not a random one; usually skilled craftsmen have been the first to organize, so that they are disproportionately heavily represented in the earlier years. Since skilled workers tend to be less subject to the risk of unemployment, the argument runs, there is an upward bias in trade union unemployment percentages as the labor movement embraces a progressively larger portion of the labor force.<sup>1</sup> b) Certain industries, such as building construction and the metal trades, which tend to come relatively early in the timetable of trade union organization, partly because of the craft element and partly for other reasons, are unusually sensitive to cyclical movements, so that when these industries are given heavy weights, the resultant index of unemployment is less stable than would be one representing the entire population. c) Some of the trade union statistics are compiled by union secretaries who are simultaneously administering insurance funds, and are thus apt to be reasonably accurate; but in the absence of accompanying insurance schemes, the data may be mere rough estimates rather than careful observations.<sup>2</sup> d) The trade union statistics typically exclude certain industries, such as agriculture, government service and rail transport, in which employment tends to be relatively stable. e) In some countries the number of reporting trade unions has not been held constant, and there is some

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<sup>1</sup>See International Labor Office, Employment, Unemployment and Labor Force Statistics, Studies and Reports, New Series, No. 7, Part 1, p. 87.

<sup>2</sup>International Labor Office, Methods of Statistics of Unemployment, Studies and Reports, Series N, No. 7, p. 24.

evidence that the errors in this respect may vary systematically with the business cycle.<sup>1</sup>

Notwithstanding these objections, we have been obliged to rely heavily upon the trade union unemployment statistics. For a number of countries, e.g., Australia, Canada, Denmark, the Netherlands, Norway and Sweden, they have been the principal, if not the exclusive source of information on unemployment until recent years. For the other countries with which we have dealt -- Germany, Great Britain, France -- they provided the sole source of information for earlier years, and an important supplementary source until fairly recent times.

Necessity has not been the only consideration, however. Upon closer examination, the trade union series do not appear to be as objectionable in particular as they seem in general. In the first place, it was widely conceded that they did provide a fairly accurate index of the trend, as opposed to the absolute level, of unemployment over shorter periods. There were greater reservations with respect to longer periods. For example, a Swedish parliamentary commission came to the conclusion that until the nineteen-thirties, the Swedish trade union unemployment series was biased in the direction of greater unemployment over time because of changes in coverage. However, a widely held belief of a similar nature

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<sup>1</sup>"The real drawback is that from month to month the number of unions reporting their unemployment varies, and more particularly that the sample reporting varies in kind according to employment conditions. When employment is on the up-grade the reports of the union seem to be fairly representative; when it is on the down-grade there is a clearly marked tendency for the reporting unions to have better employment conditions than the non-reporting unions." Seventh Census of Canada, 1931, Monographs, Unemployment, Vol. XIII, 1942, p. 222.

regarding the Danish statistics was not substantiated by a special study conducted in 1934. The Dutch trade union statistics were considered without such bias up to 1935 at least; while the Australian and Norwegian statistics do not suffer from this defect. The German and British trade union series have long been regarded as good indices of the trend of unemployment.

Even when one considers absolute levels of unemployment, the trade union statistics do not come off as badly as might be supposed from the character of the criticism noted above. Going down the roster of the countries with which we deal, we may note that the Australian series, which has been widely based for many years, differed substantially from the results of the 1921 Census, but checked fairly closely with the Censuses of 1933 and 1947. Years of criticism have not caused the discontinuation of the series as the principal measure of Australian unemployment, and it is currently regarded by the Commonwealth Statistician as a good measure of trends and as a measure of absolute employment if used "with caution."<sup>1</sup> The voluntary unemployment insurance statistics of pre-World War II Belgium, which were tied in with the trade unions, checked closely with several censuses, though the same could not be said of the pre-World War I data. A comprehensive estimate of Canadian unemployment from 1920 to 1940 by the Bureau of Statistics revealed a significant divergence between this series and the trade union series from 1932 to 1940; during this period, average unemployment was 15% according to the trade union series and 17.8% according to the Bureau's estimates. The trade union unemployment insurance statistics of Denmark

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<sup>1</sup>See Appendix A.

are regarded in that country as a satisfactory index of the level of unemployment. While before World War I, the German trade union statistics appeared significantly to understate unemployment, the data for 1919 to 1933 appear to have been quite satisfactory. The French trade union data are among the least satisfactory of those with which we have dealt, but the same statement may be made of French unemployment statistics in general. Early adoption of a national unemployment insurance scheme in Great Britain, independent of the trade unions, rendered less necessary reliance upon trade union returns. For the years in which both the unemployment insurance and the trade union unemployment percentages were available, it was found that much better agreement existed than had been anticipated. The trade union unemployment insurance statistics of the Netherlands "could safely be considered as representative up to the 1930's. After 1935, however, they presented in all probability a too unfavorable picture of the size of unemployment."<sup>1</sup> The Norwegian trade union data, despite a somewhat limited base, were found by comparison with the 1930 Census of that country to be representative of the unemployment situation among all industrial wage earners at the time. During the subsequent decades, the trade union data are believed to have exaggerated the extent of unemployment, though the facts are difficult to ascertain in the absence of benchmark data. The conclusion was reached with respect to the Swedish trade union data that they provided a good index of unemployment in the country after 1920 for the industries they covered, but were less reliable prior to World War I.

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<sup>1</sup>Letter to the authors from Dr. Ph. J. Idenburg, Director General of Statistics, the Netherlands, July 29, 1953.

The fact that the trade union unemployment statistics, despite their defects, do not come off so badly after all may be ascribed to the following factors:

(1) In some cases the sample of employment covered is relatively large, e.g., 25% of all male employment in Australia as early as 1912, 65% of all Danish wage earners in 1930. This renders the problem of error in collection and sampling less critical.

(2) Given the difficulties involved in defining unemployment to begin with, there are certain advantages in having the initial collection and processing of the data done by experts. The local trade union secretary, particularly if he is concurrently operating an unemployment insurance fund, is uniquely in a position to know the state of trade in his area and to appraise the employment status of each individual worker. By contrast, the labor force survey enumerator is often not well prepared, and the informant not always cognizant of the precise employment status of the person under investigation.<sup>1</sup>

(3) One of the limitations of certain types of unemployment statistics, e.g., those emanating from public employment offices, is that reporting is incomplete because of lack of incentive of the unemployed worker to report himself as such. In the case of the trade union statistics, reporting may be of personal advantage to the unemployed on one or more of three counts: he may be eligible for unemployment benefits; he may be excused from paying his union dues; and he may be able to secure a new job by referral from the union in the event that

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<sup>1</sup>See, e.g., Gertrude Bancroft, "The Census Bureau Estimates of Unemployment," The Review of Economics and Statistics, February, 1950, p. 60.

unemployment registers are kept. In a specific situation, the greater the advantage that accrues to the worker from registering, the more complete the count of unemployment is apt to be.

b. Unemployment insurance statistics.

In those countries in which the Ghent system of unemployment insurance prevails, there is generally a combined set of trade union-unemployment insurance statistics based upon the voluntary unemployment insurance societies closely allied, in the main, with local trade unions.<sup>1</sup> Where there is a national system of unemployment insurance, however, the two types of statistics are always separate.

The limitations of unemployment insurance data for measuring unemployment, and particularly for comparing rates of unemployment, are too well known to require extensive comment. The principal problems arise out of variations in the qualifying formulae. Here again, however, it seems to us that often too great stress is placed upon differences and not enough upon uniformity. An ILO study published in 1925, when unemployment insurance covered a much smaller proportion of the working population of most countries than it does now, and when benefits were much more limited in scope, mapped out certain principles of coverage and benefit payment which were of quite general application.<sup>2</sup> As the systems became more complete, initial differences tended to disappear.

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<sup>1</sup>This is not universally true, however. In Sweden, for example, the trade unions issue one set of statistics and the unemployment insurance funds another.

<sup>2</sup>International Labor Office, Unemployment Insurance, Studies and Reports, Series C, No. 10, 1925.

One might cite by way of example the United States system of unemployment insurance: originally there was great divergence in coverage based upon the size of the employer, but the tendency has been to broaden the scope of state acts to cover all employers with one or more employees. The same might be said of industrial and occupational coverage and maximum duration of benefits, two of the major variables.

Unemployment insurance statistics have the unique advantage of permitting the calculation of the total volume of compensable unemployment during a specified period, thus avoiding some of the problems involved in selecting a time period for which to measure unemployment. Thus, Danish and Dutch series are available showing the relationship of the number of days lost per annum due to unemployment to the potential number of days worked by all persons covered by the statistics.

We do not mean to suggest that it is possible blithely to compare unemployment insurance data over time, or internationally, on the assumption that they are always sufficiently similar to eliminate the possibility of substantial error. But the pitfalls are well marked, and the student can determine for himself from available data whether correction factors are imperative even for the carrying out of rough comparisons.

c. Employment exchange and relief statistics.

When registration at an employment exchange is a compulsory qualifying prerequisite for unemployment insurance benefits, unemployment exchange registration is likely to parallel closely the unemployment insurance figures. Even there, however, differences may arise because of registration of employed persons seeking to change jobs, or continued registration by unemployed workers who have exhausted benefits.

However, when registration is voluntary, employment exchange data are of much more limited value. In such cases percentages of unemployment calculated from them cannot be compared internationally; they can only be used to measure differences in trend from a common base year for which comparative rates of unemployment are available from other sources. For our purposes, these statistics have been useful primarily for international comparison. Serious divergence between, say, the unemployment insurance series and the employment exchange series would at least serve to raise some question about the representativeness of the former at a particular point in time.

Statistics of unemployment relief were of little value for the purpose at hand. As has been well stated:

"To a much greater extent than the statistics of compulsory insurance, those obtained from relief institutions are lacking in comparability at different dates owing to changes in the conditions under which relief has been granted, changes which have been much more frequent than in the case of insurance schemes.... It may be concluded that despite their imperfections and limitations, these statistics, in the absence of other sources of information, have been of some value in indicating the general movement of unemployment...."<sup>1</sup>

d. Labor force surveys and censuses.

The periodic labor force survey technique, which was pioneered by the United States and is currently being used in several other countries, would clearly come at the head of the list if the subject under discussion were current rather than historical international unemployment rate comparisons. Given a uniform definition of unemployment, the results of such surveys are likely to be directly comparable with little

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<sup>1</sup>International Labor Office, Methods of Statistics of Unemployment, Series and Reports, Series N, No. 7, 1925, pp. 16-17.

adjustment, since virtual universal coverage appears to be characteristic of them.<sup>1</sup> For historical purposes, however, labor force surveys do not enter into the picture except in the case of Canada.

Census information is invaluable in providing benchmark data from which to evaluate the various series of unemployment enumerated above. However, since such information usually relates to a single day of the year, and is available only at long intervals, it is obviously of little value for annual international comparisons of unemployment.

#### 4. The Statistics of Unemployment

There are shown in Table 1 statistics of unemployment for nine countries, based upon Appendices A to K, and stated in terms of percentages of unemployment. The French unemployment percentages, since they are rough estimates, are not included. The series were selected, and in some cases constructed, from available data according to the criteria considered above. The data go as far back to the starting year of 1900 as possible, but only for the United Kingdom did it prove feasible actually to begin with that year. Gaps appear in several cases for wartime years because of the lack of published information.

##### a. Levels of unemployment during six major periods.

The half century 1900-1950 is not an historically homogeneous time period. Rather it is an era containing several fairly well-defined periods marked off by great historical events, the effects of which penetrated all national boundaries. This is not to say that the course of historical development in these sub-periods was independent of what occurred in past periods or had no influence on development in following periods. Certainly the histories of the countries under consideration displayed important elements of continuity in their development over the

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<sup>1</sup>This would appear to be true, at least, of the figures for the United States and Canada. We have not examined the data for France (commencing 1950), Denmark (commencing 1951) or Sweden (under contemplation) with sufficient care to be able to render any judgments on their comparability.

Table 1

PERCENTAGES OF UNEMPLOYMENT IN NINE COUNTRIES, 1900-1950

Year	Aus- tralia	Belgium	Canada	Den- mark	Germany	The Nether- lands	Norway	Sweden	United Kingdom
1900									2.5
1901									3.3
1902									4.0
1903				13.0	4.4				4.7
1904				12.0	3.7		3.9		6.0
1905				13.0	3.1		4.4		5.0
1906				6.0	3.0		3.2		3.6
1907				7.0	3.5		2.5		3.7
1908				11.0	5.1		3.7		7.8
1909				13.0	4.1		5.0		7.7
1910				10.7	3.5		2.9		4.7
1911				9.5	3.5	2.5	1.9	5.6	3.0
1912				7.6	3.7	4.0	1.3	5.4	3.2
1913	5.4			7.5	5.2	5.0	1.7	4.4	2.1
1914	7.4			9.9	7.2	13.8	2.3	7.3	3.3
1915	8.3			8.1	3.2	12.0	1.9	7.2	1.1
1916	4.8		1.9	5.1	2.2	5.1	0.9	4.0	0.4
1917	6.1		1.9	9.7	1.0	6.5	0.9	4.0	0.7
1918	4.6		1.3	18.1	1.2	7.5	1.5	4.6	1.3
1919	4.6		3.4	10.9	3.7	7.7	1.7	5.5	5.2
1920	5.5		4.6	6.1	3.8	5.8	2.3	5.4	3.2
1921	10.4	9.7	8.9	19.7	2.8	9.0	17.7	26.6	17.0
1922	8.5	3.1	7.1	19.3	1.5	11.0	17.1	22.9	14.3
1923	6.2	1.0	4.9	12.7	10.2	11.2	10.7	12.5	11.7
1924	7.8	1.0	7.1	10.7	13.1	8.8	8.5	10.1	10.3
1925	7.8	1.5	7.0	14.7	6.8	8.1	13.2	11.0	11.3
1926	6.3	1.4	4.7	20.7	18.0	7.3	24.3	12.2	12.5
1927	6.2	1.8	2.9	22.5	8.8	7.5	25.4	12.0	9.7
1928	10.0	0.9	2.6	18.5	8.6	5.6	19.2	10.6	10.8
1929	10.2	1.3	4.2	15.5	13.3	5.9	15.4	10.2	10.4

(Continued on next page)

Table 1 (Continued)

<u>Year</u>	<u>Aus- tralia</u>	<u>Belgium</u>	<u>Canada</u>	<u>Den- mark</u>	<u>Germany</u>	<u>The Nether- lands</u>	<u>Norway</u>	<u>Sweden</u>	<u>United Kingdom</u>
1930	18.4	3.6	12.9	13.7	22.7	7.8	16.6	11.9	16.1
1931	26.5	10.9	17.4	17.9	34.3	14.8	22.3	16.8	21.3
1932	28.1	19.0	26.0	31.7	43.8	25.3	30.8	22.4	22.1
1933	24.2	16.9	26.6	28.8	36.2	26.9	33.4	23.3	19.9
1934	19.6	18.9	20.6	22.2	20.5	28.0	30.7	18.0	16.7
1935	15.6	17.8	19.1	19.7	16.2	31.7	25.3	15.0	15.5
1936	11.3	13.4	16.7	19.3	12.0	32.7	18.8	12.7	13.1
1937	8.4	11.5	12.5	21.9	6.9	26.9	20.0	10.8	10.8
1938	7.8	14.0	15.1	21.5	3.2	25.0	22.0	10.9	12.9
1939	8.8	15.9	14.1	18.4	0.9	19.9	18.3	9.2	10.5
1940	7.1		9.3	23.9		19.8	23.1	11.8	5.0
1941	2.8		4.5	18.4			11.4	11.3	1.5
1942	0.7		2.2	15.1				7.5	1.0
1943	0.2		0.8	10.7				5.7	0.5
1944	0.3		0.5	8.3				4.9	0.5
1945	0.3	9.1	1.4	13.4				4.5	1.0
1946	0.5	3.9	1.4	8.9	7.5		3.6	3.2	2.5
1947	0.3	2.2	1.3	8.9	5.0		3.1	2.8	2.0
1948	0.3	5.3	2.2	8.6	4.2		2.7	2.8	1.6
1949	1.4	11.1	3.0	9.6	8.3		2.2	2.7	1.6
1950	0.4	10.1	3.8	8.7	10.2		2.7	2.2	1.6

SOURCE: Appendices A - K.

PERCENT

PERCENT

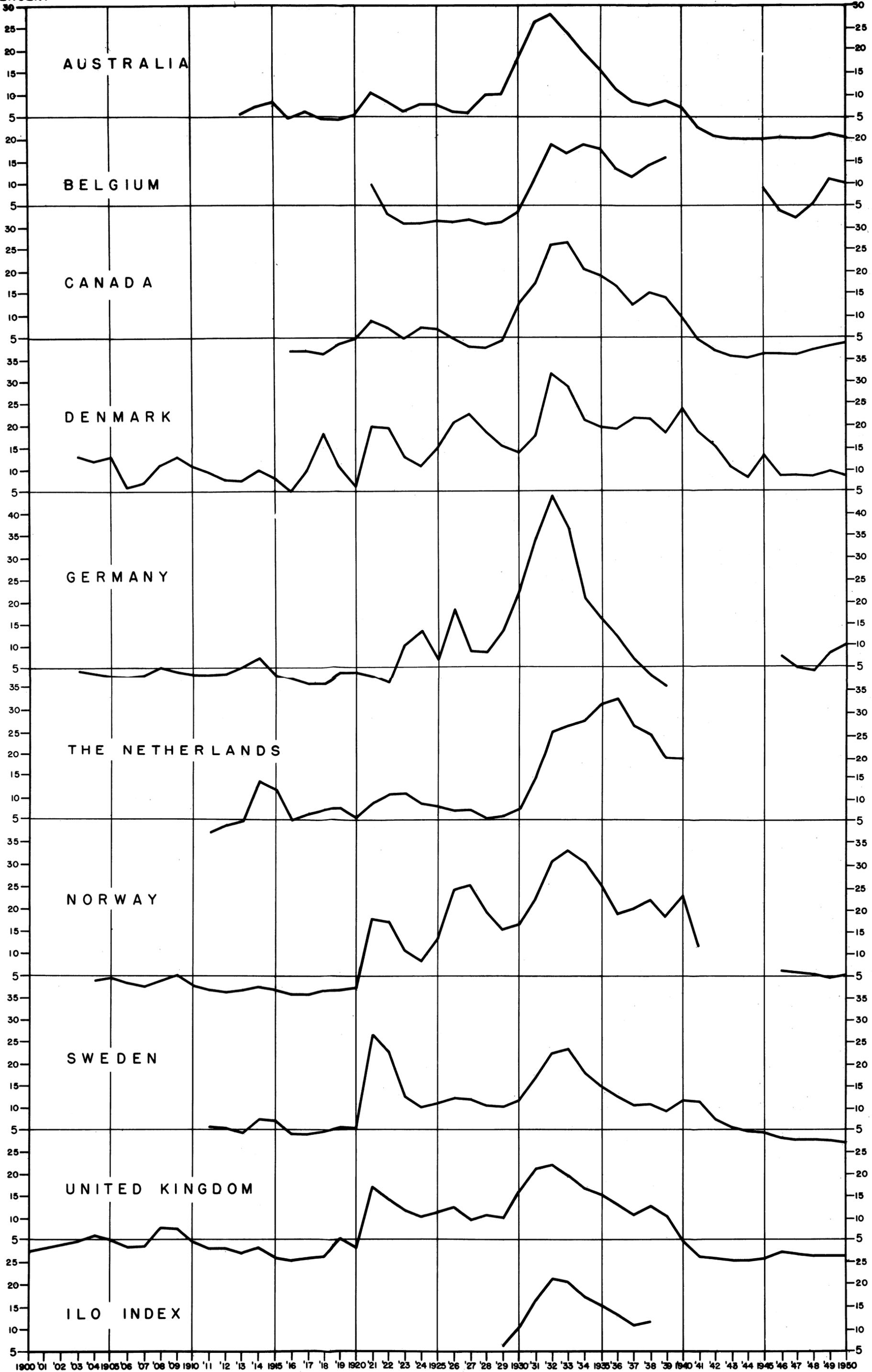


FIG. 1 PERCENTAGES OF UNEMPLOYMENT IN NINE COUNTRIES, 1900-1950

AVERAGE PERCENTAGE OF UNEMPLOYMENT

0 5 10 15 20 25

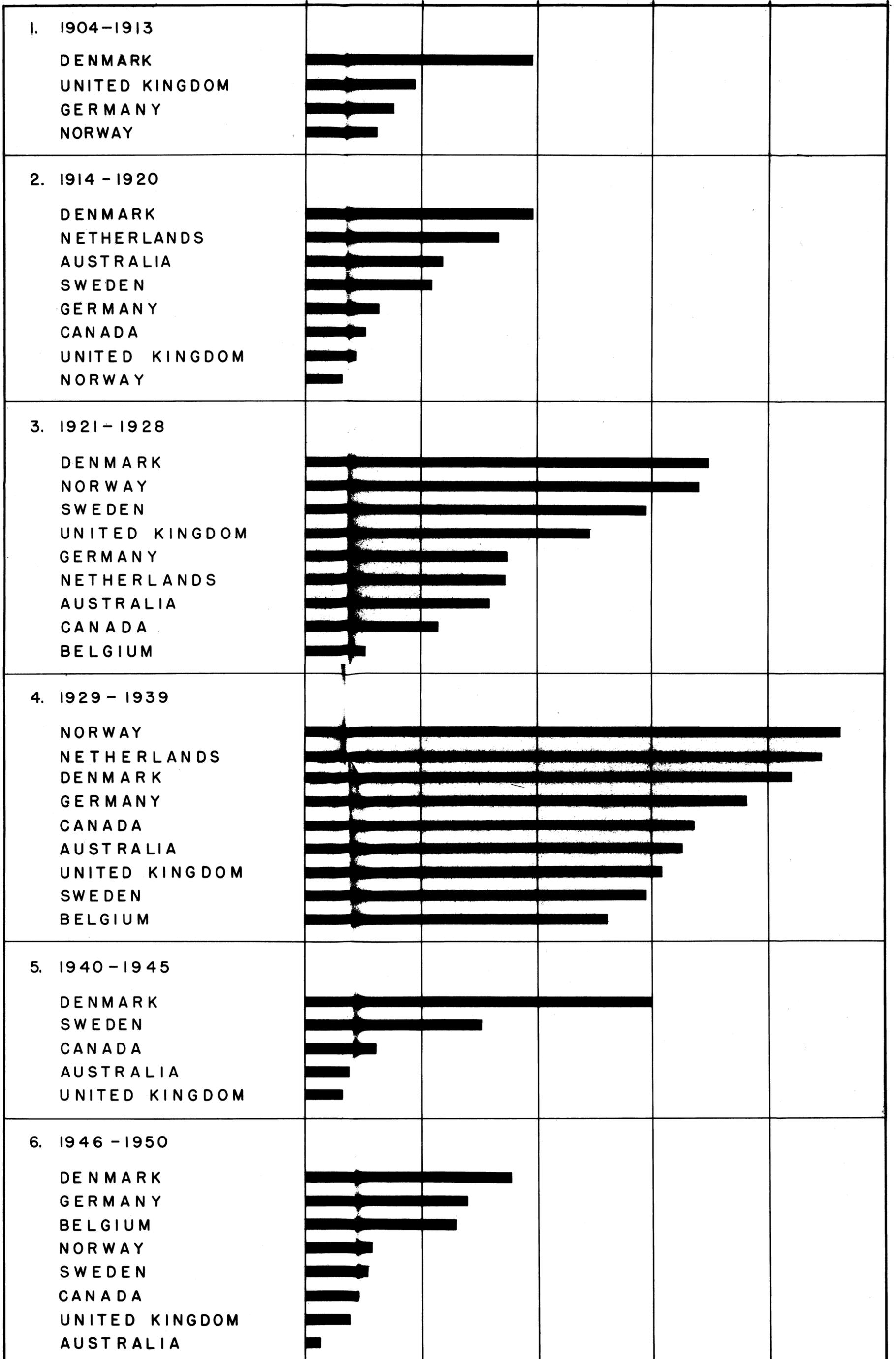


FIG. 2 AVERAGE LEVELS OF UNEMPLOYMENT IN NINE COUNTRIES, SIX MAJOR PERIODS, 1904-1950

whole period 1900-1950. It is true, however, that in certain time periods the world economy was subjected to the action of major forces which were inoperative in other periods; the action of these forces delineated certain periods to such an extent that detailed study of them is justified. Of course, in each sub-period there was important variation in the experience of different countries. Unfortunately, it is impossible to isolate the effects of international influences from those produced by forces which were confined within the boundaries of particular nations.

It is generally agreed that the first World War in many respects marked the end of one era and the beginning of another. Fundamental changes occurred in the relative power of nations, the patterns and nature of international trade, and rates of industrial expansion. We have selected 1904-1913 as the first period in which to attempt to measure the average level of unemployment in the countries whose statistics extend back that far. The choice of 1904 as the initial year of this period was determined by the availability of unemployment statistics. The Norwegian statistics commenced in 1904, while the German statistics which began in 1903 appeared for only three quarters of that year.

In the period 1904-1913, except for Denmark and Australia, the averages of the annual unemployment percentages, shown in Table 2 and displayed graphically in Figure 2, were all below 5 per cent. It should be remarked that even though the annual German trade union figures have been corrected for an understatement of seasonal unemployment, their average, 3.8 per cent, remained well below 5 per cent and almost one percentage point below the British average of 4.7 per cent. A study in

Table 2

AVERAGE LEVELS OF UNEMPLOYMENT IN DESIGNATED PERIODS

Country	Average percentage unemployed <sup>a</sup>					
	1904-1913	1914-1920	1921-1928	1929-1939	1940-1945	1946-1950
Australia	---	5.9 (0.20)	7.9 (0.16)	16.3 (0.40)	1.9 (1.05)	0.6 (0.50)
Belgium	---	---	2.6 (0.77)	13.0 (0.33)	---	6.5 (0.51)
Canada	---	2.6 <sup>b</sup> (0.42)	5.7 (0.33)	16.8 (0.27)	3.1 (0.81)	2.3 (0.35)
Denmark	9.7 (0.23)	9.7 (0.29)	17.4 (0.20)	21.0 (0.19)	15.0 (0.25)	8.9 (0.02)
Germany	3.8 (0.16)	3.2 (0.47)	8.7 (0.44)	19.1 (0.59)	---	7.0 (0.29)
Netherlands	---	8.3 (0.31)	8.6 (0.16)	22.3 (0.33)	---	---
Norway	3.1 (0.32)	1.6 (0.31)	17.0 (0.28)	23.1 (0.22)	---	2.9 (0.17)
Sweden	---	5.4 (0.20)	14.7 (0.34)	14.7 (0.27)	7.6 (0.34)	2.7 (0.07)
United Kingdom	4.7 (0.34)	2.2 (0.68)	12.2 (0.15)	15.4 (0.23)	1.6 (0.75)	1.9 (0.16)

<sup>a</sup> Figures in parentheses are means of absolute deviations from the period averages divided by the period averages.

<sup>b</sup> 1916-1920.

a report of the British Committee on Industry and Trade<sup>1</sup> which attempted to compare British and German levels of unemployment before the World War I reached a conclusion in agreement with the figures given above, namely, that the German level of unemployment was somewhat lower than the British. While continuous series for France and Belgium could not be constructed for the years of this period, what data is available suggests that the average level of unemployment in these two countries was below 5 per cent. Unemployment in Australia for the years 1906-1913, 1906 marking the beginning of the Australian trade union series, averaged 5.7 per cent according to the trade union percentages. This figure, however, is subject to a downward bias since the annual unemployment figures were for periods of low unemployment during each year, rather than annual averages. On the other hand, the high percentage for Denmark, an average of 9.7 per cent unemployed for the years 1904-1913, contains an upward bias which is difficult to evaluate quantitatively.

The second period which we have marked out, 1914-1920, embraces the years most directly influenced by the effects of the war. Since the inclusion of two post-war years, during which some countries were recovering from the ravages of war while others were faced with serious problems of inflation and reconversion, may unduly influence the period averages, the analysis will be extended to cover subdivisions of this period as well as the total period. For the entire period, it will be noted that the disruption of world economic relations caused by the war

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<sup>1</sup>Survey of Industrial Relations, Committee on Industry and Trade, London, 1926, pp. 246-250.

was responsible for high levels of unemployment in several countries. For example, Denmark's recorded average level of unemployment was 9.7 per cent, while the Netherlands experienced a level of 8.3 per cent. For Belgium, there is no satisfactory series available for these years. However, the results of the Unemployment Census of February-March 1915 and the behavior of the Ghent trade union series indicate that the level of unemployment in Belgium during this period was extremely high. The levels of unemployment in Australia and Sweden, 5.9 and 5.4 per cent respectively, were moderate while those for the United Kingdom, Germany, Norway, and Canada (1916-1920) were all below 3.2 per cent, the average for Germany.

Presented below are average levels of unemployment for the war years, 1914-1918, and for the two post-war years, 1919-1920:

	<u>Aus- tralia</u>	<u>Canada</u>	<u>Den- mark</u>	<u>Ger- many</u>	<u>Nether- lands</u>	<u>Norway</u>	<u>Sweden</u>	<u>U.K.</u>
1914-1918	6.2	1.7 <sup>a</sup>	10.2	3.0	9.0	1.5	5.4	1.4
1919-1920	5.1	4.0	8.5	3.8	6.8	2.0	5.5	4.2

<sup>a</sup>1916-1918

It is generally the case that countries with low employment levels during the war years suffered higher levels of unemployment in the post-war years. On the other hand, countries with high levels during the War experienced generally lower unemployment rates following the War. The average wartime level of unemployment in Germany, given as 3.0 per cent above, is somewhat high because of the relatively high unemployment percentage in 1914 which resulted principally from panic conditions following the institution of certain monetary policies. The average for 1915-1918 is 1.9 per cent, a somewhat lower figure than that for 1914-1918. The percentage for the United Kingdom for 1919-1920, 4.2, is very approximate

since the statistics for 1919 are incomplete, but there is no question that unemployment in these two years was higher than during the war years.

The third period we have considered, 1921-1928, probably contains more elements of diversity than do any of the others studied. It is really an interim period, influenced by the changes wrought by the war, subject to the vagaries of national policies, and containing the seeds of the Great Depression.

The unemployment statistics of this period reveal a condition of world disequilibrium. Average levels of unemployment for certain countries, 17.4 per cent for Denmark, 17.0 per cent for Norway, 14.7 per cent for Sweden, and 12.2 per cent for the United Kingdom, approached those experienced by many countries during the following period, 1929-1939, a period of international crisis. Other countries, notably Belgium with an average of 2.6 per cent, and France, exhibited average levels of unemployment paralleling the low pre-World War I levels. The remaining countries suffered unemployment levels which appreciably exceeded their previous peacetime levels -- Germany 8.7 per cent, The Netherlands 8.6 per cent, Australia 7.9 per cent and Canada 5.7 per cent. In sum, levels of unemployment reached heights rarely recorded before in the majority of nations.

The years of world-wide economic crisis, 1929-1939, constitute the fourth period of our study. In these years, no country escaped the scourge of extensive unemployment. Average levels of unemployment ranged from a high of 23.1 per cent for Norway to a low of 13.0 per cent for Belgium, as shown in Table 2. For every country except Sweden<sup>1</sup>,

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<sup>1</sup>Even in the case of Sweden, it seems likely that the general rate prevailed, for the high peak of the early twenties is somewhat doubtful statistically.

the average level of unemployment was greater than in the preceding period. Countries with relatively low levels of unemployment in the years 1921-1928 exhibited the greatest relative and absolute increases in the years 1929-1939. Belgium's average level of unemployment increased fivefold, those of Canada and The Netherlands nearly threefold, and those of Australia and Germany more than doubled. The countries which had experienced high levels of unemployment in the period 1921-1928, Denmark, Norway, and the United Kingdom, showed an increase of about one quarter. In absolute terms, the general level of unemployment in the 1929-1939 period exceeded that of the 1921-1928 period by about 10 percentage points for Belgium, Canada, Australia, and Germany, by about 14 percentage points for the Netherlands, and by about 3 to 6 percentage points for Denmark, Norway and the United Kingdom. Sweden, as remarked above, suffered little absolute increase in its average level of unemployment. While precise data are lacking for France, it is probable that the average levels of unemployment in these two periods most closely resembled those of Belgium.

The advent of World War II radically changed employment conditions in virtually all nations. The United Kingdom, Australia, and Canada, with average unemployment percentages of 1.6, 1.9, and 3.1, respectively, displayed the lowest levels of unemployment in the period 1940-1945. The seemingly high average for Canada reflects the relatively high unemployment rates of 9.3 in 1940 and 4.5 in 1941. Similarly for the United Kingdom, the adaptation of its peacetime economy to a wartime full employment basis took time as evidenced by unemployment rates of 5.0 in 1940 and 1.5 in 1941. Denmark with an average unemployment rate of 15.0, and Sweden with an average of 7.6 per cent for the period

1940-1945, present good examples of the dislocating effects which the war had on the economies of countries not directly engaged in actual combat.

In the post-war period, 1946-1950, the average level of unemployment was low in all countries with the exception of Denmark, Germany and Belgium for which the averages stood at from 7.0 to 8.0 per cent. Australia's average unemployment level, 0.6 per cent, represents the lowest national level for the period. Unemployment in Canada, Norway, Sweden, and the United Kingdom ranged from levels of 2 to 3 per cent. The available evidence for France, the behavior of the series of the number of unplaced applicants for work and of the number of unemployed in receipt of relief as well as the results of sampling surveys of L'Institut National de la Statistique et des Études Économiques, indicate that post-war unemployment in France has been low, undoubtedly below 2.5 per cent and probably below 2.0 per cent.

Some mention should be made of the dispersion of the annual unemployment percentages in each period for each country. We have adopted the mean of the absolute deviations from the period average divided by the period average as a relative measure of dispersion. In Table 2 the values of this relative coefficient of dispersion are presented in parentheses below each period average. The coefficient values are of most interest for the periods 1904-1913, 1921-1928, and 1929-1939. In the first of these periods, the data for the United Kingdom and Norway show the greatest variation relative to their respective period averages. The coefficient values are 0.34 for the British series and 0.32 for the Norwegian series. One of the major sources of variation in both these series arose from unemployment

percentages much above the period averages recorded in 1908 and 1909. In the period 1921-1928, the Belgian data exhibit the greatest variation, giving rise to a coefficient value of 0.77. Whereas in the case of Belgium variation took place about a low level of unemployment, such was not the case with Germany, the country whose data displays the next greatest degree of variation. The countries during the twenties whose annual unemployment percentages show the least dispersion relative to their period averages are the United Kingdom, the Netherlands, Denmark, and Australia whose coefficient values are 0.15, 0.16, 0.20, and 0.16 respectively. The degree of variation in the data of individual countries for the 1929-1939 period is largely determined by the extent to which the peak unemployment exceeded the period average and by the degree and rate of recovery achieved. Since both Germany and Australia experienced sharp and sizeable rises in unemployment coupled with very rapid and extensive recoveries, the data for these two countries show the greatest degree of variation. The countries showing the lowest coefficient values for this period, ranging from 0.19 to 0.23, are Denmark, Norway and the United Kingdom.

b. The trend of unemployment in individual countries

In considering the course of unemployment in the several countries for which we have gathered statistics, no effort will be made to determine the specific causes of unemployment in each case. This would involve a major essay in economic history, and is obviously beyond the scope of the present paper. Any analysis of this nature requires a framework broad enough to include the multitude of factors affecting the supply of and demand for labor in each country. On the supply side, study would have to be made of the development and growth of the labor

force of each country, which would entail detailed consideration of demographic factors; factors determining the supply of female, juvenile and aged workers; the effects of changing economic conditions, particularly wage levels and the availability of work, on the number of persons seeking work; the growth of trade unionism; the influence of various institutions for combating unemployment and its effects, and the operation of factors determining the proportion of skilled and unskilled labor. For consideration of the demand for labor in each country, no less than a general explanation of the level and composition of output would suffice. In addition to the variables included in the usual short-run, closed-economy Keynesian and classical analyses, it would be necessary to consider for each country the stage of economic development; the rate of industrial growth; the nature and magnitude of cyclical and seasonal fluctuations; the changing structure of industry with special reference to national policies governing trusts and cartels; the path of technological progress with its effects on productivity and on the kinds of labor demanded; the internal effects of changing patterns of world trade and of national policies regulating international trade; and the destructive and dislocating effects of war. This lengthy enumeration, undoubtedly incomplete, provides a basis for appreciating the difficulty inherent in any attempt to isolate the specific causes of unemployment in each country.

The major studies of unemployment that have been made are generally limited to single countries,<sup>1</sup> or if they are international in scope, do

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<sup>1</sup>See particularly W. H. Beveridge, Unemployment - A Problem of Industry, New York, 1930; Paul H. Douglas and Aaron Director, The Problem of Unemployment, New York, 1931.

very little in the way of true international comparison.<sup>1</sup> Moreover, serious work in the field generally dates back to the early nineteen-thirties, when unemployment was a pressing question involving immediate governmental action. The students of that period were writing against a background of thirty years of secularly rising unemployment, and did not have our vantage point of a much longer sweep of time, with a sharp reversal of the previous trend during and after World War II.

All that we hope to do in what follows is to indicate for each of the countries with which we deal its general position in the spectrum of unemployment rates, and to assess the validity of our conclusions in each case in the light of our knowledge of the particular unemployment series involved.

(1) Australia. During the pre-World War I years, Australian unemployment stood at a relatively high level. This conclusion is reinforced by the fact that the Australian data shown in Table A-1 of Appendix A for the years prior to 1913 are for periods of low unemployment during the year, rather than annual averages. In the interwar years unemployment remained relatively low, but rose rapidly beginning in 1929 to reach a maximum of 28.1% in 1932. The recovery after 1932 was remarkably rapid and persistent, however. For no country with the exception of Germany (and the German figures are suspect for this period) was the rate of decline of unemployment from 1932 to 1938 as sharp as that for Australia. By 1938 recorded unemployment was under 8%, less

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<sup>1</sup>Royal Institute of International Affairs, Unemployment - An International Problem, London, 1935, is perhaps the best single study of unemployment internationally.

than for any of our countries except Germany.

There was a slight increase in unemployment in 1939, a year later than the secondary peak of the nineteen-thirties for most of the other countries. With the entrance of Australia into the war, unemployment declined almost to the zero level, and remained extraordinarily low to the end of our period in 1950. While the post World War II Australian unemployment percentages may be understated somewhat by virtue of the application of an arbitrary correction factor to eliminate unemployment for causes other than lack of work, there can be little doubt of the extreme tightness of the Australian labor market since 1940, compared with those of most countries of Western Europe.

(2). Belgium. The pre-World War I statistics of unemployment, though incomplete, do indicate that unemployment was low up to the depression year of 1908. From 1908 up to the outbreak of World War I, there is evidence that Belgium experienced a somewhat higher level of unemployment. An estimate in the Census Report of 1910 put normal average unemployment for industrial wage earners in manufacturing, mining, transportation, and construction at 5.1 per cent. During the wartime German occupation of Belgium unemployment reached extremely high levels as evidenced by the finding of the Unemployment Census of February-March 1915 that the number of unemployed amounted to a little less than 50 per cent of the number of workers enumerated in the census of 1910. While the exact percentage unemployed is not known, since the accuracy of the Unemployment Census is questionable on certain grounds, there can be no doubt that unemployment was high at the time of the 1915 census.

The first postwar statistics of the newly formed voluntary unemployment insurance scheme showed 9.7 per cent unemployed in 1921 and 3.1 per

cent unemployed in 1922. The experience of the next eight years, during which Belgian unemployment percentages did not exceed 2.0 per cent and even dropped below 1.0 per cent in 1928, stands in sharp contrast to the experience of virtually every other one of our countries. It should be noted that the Belgian unemployment statistics were very satisfactory in this period since they covered a large number of workers and agreed closely with the unemployment percentages recorded by the censuses of 1930 and 1937.

Depression unemployment in the thirties reached a peak of 19.0 per cent in 1932, a peak lower than that recorded in any other country studied. Unemployment dipped about 2.0 percentage points in 1933 only to rise again in 1934 to 18.9 per cent. Thereafter, unemployment started downward, reaching 11.5 per cent in 1937. The descent was reversed in the 1938 recession, with unemployment increasing to 14.0 per cent in that year and to 15.9 per cent in 1939.

Unemployment statistics are not available for the war period. In the postwar period the level of unemployment has been relatively high, in contrast with the prewar experience, averaging 6.5 per cent for the years 1946-1950. After a reduction of unemployment from 9.1 per cent in 1945 to 2.2 per cent in 1947, unemployment increased to a high of 11.1 per cent in 1949 and then receded slightly to 10.1 per cent in 1950. These postwar percentages refer to workers in mining, manufacturing, transportation, and construction, with all other occupations insured under the postwar compulsory unemployment insurance scheme excluded insofar as is possible. The limitation of coverage in this manner makes it more comparable with the prewar series.

(3) Canada. The history of unemployment in Canada is in many ways parallel to that of Australia. Canadian unemployment statistics go back only as far as 1916, so that no comparison can be made for the pre-World War I period. Beginning in 1919, however, and until 1926, Canadian and Australian unemployment moved together with remarkable precision.

From 1926 to 1928, when Australian unemployment was on the rise, Canadian unemployment declined to what was for the time an extremely low level, reaching a low of 2.6 per cent in 1928, only to rise to a maximum of 26.6 per cent in 1933, slightly lower than the Australian maximum and later by one year to reach the peak. The Canadian recovery, as measured by the decline in unemployment, was at about the average rate for the countries studied, with a fairly sharp retardation in 1938. Immediately after World War II, Canadian unemployment was below the 2 per cent mark, but from 1948 to 1950 a progressive increase brought the level in the latter year to 3.8 per cent. However, postwar Canada must certainly be included among the low unemployment countries.

(4) France. The course of unemployment in France can be traced only very approximately because of incomplete unemployment statistics. Before World War I, the unemployment statistics of four quinquennial censuses, each relating to a single day of March of the census year, provide some basis for asserting that there was a low level of unemployment. The percentages of unemployment for wage and salary earners in industry, i.e., mining, quarrying, building, manufacturing, communications, and transportation, according to the censuses, were 4.5 in 1896, 4.6 in 1901, and 3.8 in 1906. For March 5, 1911, an unemployment percentage limited to the above groups is not available; however,

1.9 per cent of all wage and salary earners were found to be unemployed on this date compared with a similar percentage of 2.6 in 1906. While trade union percentages are available for the years 1895-1913 and indicate higher levels of unemployment, for example, annual averages of 6.7 per cent in 1896, 7.8 in 1901, 7.6 in 1906, and 5.7 in 1911, these percentages are suspect for a variety of reasons, particularly because of the smallness of the sample of unionists upon which they were based and because of the questionable accuracy of reporting.

In the interwar period, the result of the quinquennial census of March 6, 1921, 7.6 per cent unemployed among wage and salary earners in industry, as defined above, shows that France did not escape the depression of that year. During the remainder of the twenties, except for 1927, the behavior of the series of unplaced applicants for work and of the number of unemployed in receipt of relief suggests that unemployment was very low, a parallel to the Belgian experience in these years. The tightness of the French labor market in the twenties, aside from what L'Institut de Recherches Économiques et Sociales has called "the not very intense crises of 1921-1922 and 1926-1927,"<sup>1</sup> is pointed to by the fact that it was found necessary to bring in large numbers of foreign workers to supplement the French labor force which had been depleted during the war. The census of March 7, 1926 found only 2.6 per cent of the total number of wage and salary earners in industry unemployed. In 1927, a peak in both the number of unplaced applicants for work and in the number of unemployed in receipt of relief was

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<sup>1</sup>"Le Chômage en France de 1930 à 1936," Institut de Recherches Économiques et Sociales, Paris, 1938, p. 11.

recorded. Unfortunately, since only a small and variable proportion of the unemployed registered at the employment exchanges or applied for relief, an accurate translation of these peak values into the number actually unemployed is extremely difficult. After 1927, both of these series turned downward, reaching low points in 1929, after which year both series turned up. The census of March 8, 1931 found 5.0 per cent of the total number of industrial wage and salary earners unemployed. With the intensification of the depression came large increases in the numbers of unemployed in receipt of relief and the numbers of unplaced applicants for work. The annual averages of both series reached a peak in 1936. The employment index for industrial establishments employing 100 or more workers reached a low point in 1935, approximately 30 points below the value of the index in 1930, the year in which the index began. The census of March 8, 1936 showed an unemployment percentage of 11.6.

In interpreting the statistics cited above, full cognizance must be taken of the following complicating features of the French labor market in the nineteen-thirties:

(a) In the early thirties large numbers of foreign workers left France. While the exact number in each year is not known accurately, the decrease in the number of foreign wage and salary earners (excluding those in agriculture, forestry and fishing) was revealed to have been 387,000 between the years 1931 and 1936, according to the census results.

(b) The censuses of 1931 and 1936 show a large decrease in the number of persons gainfully occupied — a total decrease of 830,000 wage and salary earners, or 443,000 after exclusion of the decrease of foreign wage and salary earners given above.

(c) It is undoubtedly the case that as the depression wore on, a progressively larger proportion of the unemployed came to make use of the employment exchanges in their efforts to secure work of unemployment relief. Recognition of this fact provides a reason for doubting the validity of dating peak unemployment on the basis of the series of unplaced applicants for work or on the basis of the series of unemployed in receipt of relief.

In view of these complicated phenomena, which are quite imperfectly measured by the available statistics, it is clear that any estimate of the level of unemployment in these years will be subject to error. To construct estimates of unemployment among wage and salary earners in manufacturing, construction and mining, it was necessary to assume that the total number of wage and salary earners in these lines of activity decreased linearly between the census dates, 1931 and 1936, the decrease representing the aforementioned exodus of foreigners and the withdrawal from gainful occupation.<sup>1</sup> Further, it was assumed that the employment index for establishments employing 100 or more workers, mainly in manufacturing and mining, could be taken as representative of the course of employment for all wage and salary earners in manufacturing, construction, and mining. Using the number employed given in the census of 1931, the monthly figures of the employment index were used to establish an annual figure for employment. Then the annual index numbers of employment were used to construct estimates of employment for other years. With estimates of the total number of wage and salary earners and the numbers employed so determined, we were able to determine the

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<sup>1</sup>The estimates are contained in Appendix E.

number unemployed by subtraction. The only check of the assumption that the employment index for large establishments could be taken as applicable to all wage and salary earners is provided by the results of the 1935 census. This census recorded 4,223,000 employed wage and salary earners in manufacturing, mining and construction, while our estimated number was calculated to be 4,218,000. The agreement is seen to be surprisingly good. The validity of this assumption for other years, as well as the validity of the assumption of a linear intercensal decrease in the total number of wage and salary earners, can be established only by comparing the derived figures of unemployment with estimates made using other methods.

Perhaps the best estimate of unemployment in France in this period is W. Woytinsky's estimate of 1,300,000 unemployed in 1932. When the unemployed in activities other than manufacturing, mining, and construction are eliminated, Woytinsky's estimate becomes 960,000. This estimate, derived from calculations based mainly on the movement of the index of industrial production, the average number of hours worked per week, an estimate of productivity, and an estimate of normal unemployment, is not much in excess of the estimated 841,000 unemployed, derived by the method described above.

A study of various other estimates, none of them as well founded or as carefully worked out as Woytinsky's, suggests no reason for doubting the reasonableness of the estimates derived as described above. The derived estimates show a peak unemployment percentage of 15.4 in 1932, the year in which the index of industrial production reached its lowest

value,<sup>1</sup> followed by a decrease to 13.8 per cent unemployed in 1934. In 1935 unemployment increased to 14.5 per cent, while in 1936, 10.4 per cent of the wage and salary earners in manufacturing, mining, and construction were estimated to have been unemployed. After 1936, all of the available statistical data point to an improvement in the unemployment situation with a possible set-back of slight magnitude occurring in 1938.

In the postwar years unemployment in France has been low. The peak number of unplaced applicants for work, 153,000, was recorded in 1950. In this year estimates of the total number of unemployed persons in France, based on the results of surveys covering 10,314 dwelling places, were 290,000 in April and 190,000 in October. These figures, when viewed in relation to the total number of wage and salary earners recorded by the 1946 census, 13,392,000, substantiate the conclusion of low unemployment in postwar France.

(5) Germany. Unemployment in Germany before World War I was low according to the fairly reliable trade union unemployment percentages. Except for a relatively high level of unemployment in 1914, 7.2 per cent, unemployment in Germany was also extremely low during World War I and in the inflationary period following the war. There was a mere 3.8 per cent recorded in 1920, followed by 2.8 per cent unemployed in 1921.

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<sup>1</sup> The index numbers of industrial production were:

1928	100	1934	82
1929	109	1935	80
1930	108	1936	85
1931	94	1937	89
1932	79	1938	83
1933	88	1939	95 (January-July)

Source: Annuaire Statistique, Vol. 57, 1946, p. 99.

In 1923, a sharp increase of 8.7 percentage points, from 1.5 per cent unemployed in 1922 to 10.2 per cent in 1923, was indicated by the trade union series. Thereafter, unemployment increased to 13.1 per cent in 1924, fell sharply to 6.8 per cent in 1925, and then spiralled up to 18.0 per cent in 1926. The sharpness of the 1926 peak was unique for Germany, although Norway and Denmark, and to a lesser extent Great Britain, were subject to increasing unemployment during this year. In 1927 the level of unemployment fell about 10 points below the 1926 peak where it remained until the first effects of the Great Depression took hold in Germany. It is clear that instability was one of the distinguishing features of the German labor market in the twenties, as was the case in Scandinavia. The high average level of unemployment in Germany during these years contrasts sharply with the low levels experienced in Belgium and France.

The Great Depression struck Germany with unusual severity. Unemployment coursed upward from a level of 8.6 per cent in 1928 to 13.3 in 1929, to 22.7 in 1930, and by 1932 had reached a pinnacle of 43.8 per cent. This peak is the highest attained by any of the countries studied. That the peak percentage is no statistical mirage is evidenced by the fact that the census of 1933 recorded 37.3 per cent of the workers and employees in manufacturing, mining and construction unemployed. After 1932, the statistics of the number of registered unemployed, as well as those of the number of applicants seeking work, give evidence of an extensive and swift recovery. Since there are no suitable unemployment percentages for the period of recovery (the trade union series terminated early in 1933), a series was constructed employing the results

of the census of 1933 and the trend of the series of registered unemployed. The percentages of this constructed series, which are in good agreement with the trade union percentages for several years before the census of 1933, set peak unemployment at 42.0 per cent in 1932. The decrease in unemployment from this high point was rapid and unbroken. In 1934, 20.5 per cent of the workers and employees in manufacturing, mining, and construction are estimated to have been unemployed while by 1938, this percentage had decreased to 3.2. The introduction of forced labor and other Nazi practices renders the figures somewhat suspect for the 1933-1940 period, though the main outlines of the trend in unemployment seem clear enough.

After World War II, the statistics of unemployment reveal a substantial volume of unemployment in Germany. Unemployment percentages for the U. S. and British occupation zones showed a fall from 7.5 per cent of the total wage and salary earning labor force unemployed in 1946 to 4.7 per cent in 1948, and then a steep rise to 8.1 per cent in 1949. Similar percentages for the German Federal Republic also display a sharp increase in unemployment in 1949, an increase from 4.2 per cent unemployed in 1948 to 8.3 per cent in 1949. Unemployment rose still further in 1950, reaching 10.2 per cent. Thus Germany, like Belgium and Denmark, experienced a relatively high level of unemployment in the postwar period.

(6) The Netherlands. The unemployment picture of The Netherlands is quite atypical. In the immediate post-World War I years (1918 to 1923) unemployment was relatively high. However, from 1923 to 1929, when in most other countries there was at least one cycle of unemployment, the Dutch level of unemployment declined almost steadily. In this

respect, the Dutch experience was reminiscent of the Belgian, though the absolute level of unemployment in the latter country was considerably below that of Holland.

In 1929, Dutch unemployment began to rise, relatively slowly at first, and then more rapidly as the depression deepened. The unusual feature of the Dutch unemployment trend, however, was that the peak was not reached until 1936, four years later than the modal peak year of 1932. Moreover, while Dutch unemployment declined after 1936, it remained almost until the outbreak of the war at a higher level (percentage-wise) than that of any of the countries studied. Part of this excess is in all probability a statistical rather than a real phenomenon, but nonetheless it is probably true that during the late thirties, the Netherlands experienced an abnormally high rate of unemployment.<sup>1</sup> On the other hand, the 1938 recession had no repercussions in Holland in terms of unemployment.

Percentages of unemployment are not available for the Netherlands after 1940. However, employment exchange statistics indicate that after World War II, unemployment was far below the immediate prewar level. For example, whereas some 235,600 persons were registered as totally unemployed in 1939, the 1950 total was only 57,700. In all probability, Dutch unemployment from 1946 to 1950 was at a lower level than at any peacetime quinquennium in its recorded unemployment history.

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<sup>1</sup> A dearth of available material on Dutch unemployment statistics made it impossible for us to examine the data for this period as intensively as we would have liked, in order to determine the extent to which the high rate of unemployment was a real phenomenon.

(7) Scandinavia. The contiguity and close economic ties of the Scandinavian countries, Denmark, Norway, and Sweden, have made for certain similarities in their unemployment histories, although in many ways it is the differences among them that are the more interesting. Recorded unemployment for Denmark was very high throughout the entire half century. However, at least until World War I the Danish statistics were relatively overstated, and it is doubtful that average unemployment in Denmark from 1904 to 1913 was twice as high, on the average, as that of Great Britain, as the figures in Table 1 suggest. Throughout this same period Norwegian unemployment was undoubtedly much lower than that of Denmark, and somewhat lower than Swedish unemployment as well, for the Swedish figures are in all probability understated.

Although all the Scandinavian countries were neutral in World War I, the Danish economy was subject to the greatest adverse effects of the war, as indicated by the rise of unemployment to 18 per cent in 1918, whereas Norway and Sweden experienced much lower rates, 1.5 per cent and 4.6 per cent respectively, in the same year.

The Scandinavian unemployment pattern of the twenties is of particular interest. While unemployment rose in most countries from 1920 to 1921, the increase was particularly sharp for the three Scandinavian countries. Only the United Kingdom showed a rise of comparable magnitude. Swedish unemployment, until that time always moderate, reached the highest peak thitherto recorded in any of our countries, 26.6 per cent, although there is some reason to believe that the increase shown by the data exceeded the real rise. Norwegian unemployment, which had averaged 3.1 per cent from 1904 to 1913, rose to 17.7 per cent. Denmark

was intermediate with 19.7 per cent, and the United Kingdom just short of the Norwegian figure.

Scandinavian unemployment remained at record levels in 1922, and then fell sharply until 1924, in which year it was roughly comparable to the British level. In 1925, however, at a time when unemployment in all of our countries with the exception of Germany was either stable or declining, a sharp rise in the Danish and Norwegian levels set in, culminating in peaks of 22.5 per cent and 25.4 per cent, respectively, in 1927. This time Swedish unemployment did not follow suit, remaining on a par with the relatively high but stable British level. Thus, during the nineteen-twenties, Denmark and Norway had two major cycles of unemployment, and Sweden one, quite in contrast with what was happening elsewhere.

Denmark and Norway were very badly hit by the Great Depression, with only Germany exhibiting more unemployment. The Norwegian peak of 33.4 per cent must in all probability be discounted, for the composition of the Norwegian unemployment index was such as to make it unduly volatile. Nevertheless, it is difficult to escape the conclusion that a major change in the structural characteristics of the Norwegian labor market occurred after World War I. Unemployment remained high in both Denmark and Norway right up to the beginning of World War II, only the Netherlands exhibiting a greater degree of unemployment in the late thirties.

The effects of the Great Depression upon the Swedish economy were not nearly as drastic. Reaching a maximum of 23.3 in 1933, Swedish unemployment declined steadily until 1940; the 1937-1938 unemployment increase in Denmark and Norway had no counterpart in the Swedish economy.

Swedish neutrality during World War II was reflected in a somewhat higher unemployment rate than that which prevailed in the belligerent nations (the wartime figures shown for Denmark were due to the extraordinary conditions of the German occupation). From 1946 to 1950, Norwegian unemployment averaged 2.9 per cent, Swedish unemployment 2.7 per cent, these figures indicating a situation of "overfull" employment. By way of contrast, the Danish labor market was much looser, with unemployment remaining fairly steady at about 9 per cent, about the same average level as that which prevailed from 1904 to 1913. In 1950, Denmark, along with Belgium and Germany, was one of the relatively high unemployment countries of Europe, while Norway and Sweden were down at the low British level.

(8) United Kingdom. Unemployment in the United Kingdom was only roughly measured in the pre-World War I period by the trade union percentages of unemployment. The average of the trade union figures for the years 1900-1913 is 4.4 per cent, which, according to most authorities, is a satisfactory estimate. The highest pre-World War I trade union percentage, 7.8, was observed for 1908, followed by 7.7 in 1909. While these high percentages may be biased upward on account of overrepresentation of certain groups of workers in cyclically sensitive trades, it is probable that the overstatement is not great.

During World War I, unemployment fell to very low levels, reaching 0.4 per cent in 1916. Directly after the war, however, unemployment rose severely. The unemployment insurance data for 1919 are incomplete, while the trade union percentage, 2.4, does not properly portray the extent of unemployment in the demobilization period. We have estimated unemployment in 1919 rather roughly at about 5.2 per cent. This

percentage was followed by the recorded unemployment insurance rate of 3.2 in 1920. In 1921, the unemployment curve for the United Kingdom shows a very sharp peak of 17.0 per cent followed by a percentage of 14.3 for 1922. The height of this peak was only exceeded by those of similar peaks occurring in Scandinavian unemployment. During the remaining years of the twenties the level of unemployment displayed remarkable stability, varying between a high of 12.5 in 1926, partly influenced by the coal strike of that year, to a low of 9.7 in 1927. The average level of unemployment for the years 1921-1928, 12.2 per cent, is exceeded only by the averages for the Scandinavian countries.

Starting from a level of 10.4 per cent in 1929, unemployment increased to a peak of 22.1 per cent in 1932 and declined thereafter. However, the decline was far from complete, the 1939 unemployment percentage being 10.5.

As in World War I, unemployment rates in World War II were low, though it is of interest to note that although the war broke out in 1939, unemployment in the United Kingdom stood at 5.0 per cent in 1940 and 1.5 per cent in 1941. It was not until 1942 and later that unemployment rates of 1.0 per cent or lower were achieved.

In the postwar years 1946-1950, recorded unemployment averaged 1.9 per cent. This percentage is somewhat too low to use in making comparisons with the prewar averages. The principal reason for this is the greater scope of the postwar unemployment insurance schemes. If all the additional persons covered by unemployment insurance in the postwar period are excluded from the denominator used in the calculation of percentages in the postwar period and no change is made in the numbers unemployed, the maximum difference in the postwar percentages due to changes

in coverage of the unemployment insurance schemes can be obtained. The results of this calculation indicate that an upward correction of about 0.6 percentage points would be the maximum correction needed to make the postwar percentages comparable to the prewar percentages with respect to coverage. In actuality the correction should be smaller, since it was assumed in excluding persons from the denominator that none of them was unemployed. Probably a postwar average of 2.2 per cent is about right for comparisons with the prewar date.

(9) The ILO World Index of Unemployment.<sup>1</sup> For the years 1929 to 1938, the International Labor Organization calculated a world index of unemployment based upon the statistics of some fifteen countries.<sup>2</sup> Several alternate systems of weights were tried, including totally gainfully occupied, and totally gainfully occupied in mining, manufacturing, transport, and commerce, without producing great variations in the results. Two indices, one including the National Industrial Conference Board unemployment estimates for the United States, and the other the higher American Federation of Labor estimates for the United States, are shown in Table 3.

The ILO unemployment percentages are below those shown for most of our countries during the entire period, Belgium excepted, as will be seen from Table 1. The explanation for this discrepancy appears to lie chiefly in the inclusion in the ILO index of several countries with

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<sup>1</sup>For details regarding this measure, see the sources cited above on page 2, note 1.

<sup>2</sup>France, Italy, and the Soviet Union were the only countries of industrial importance excluded from the index.

Table 3

ILO WORLD INDEX OF UNEMPLOYMENT, 1929-1938  
(in percentages of unemployment)

<u>Year</u>	<u>Series 1</u>	<u>Series 2</u>
1929	5.4	6.2
1930	10.3	10.8
1931	16.2	16.5
1932	21.1	21.5
1933	20.1	20.7
1934	16.3	17.1
1935	14.8	15.3
1936	12.4	13.2
1937	10.1	10.8
1938	11.4	11.6

SOURCE: International Labor Review, Vol. **XXIX**, 1939, p. 813.

Series 1 and Series 2 differ only with respect to the unemployment estimates employed for the United States.

relatively low unemployment with which we have not dealt, namely, Japan, Poland, and Czechoslovakia. Reported Japanese unemployment for 1929 to 1937 averaged only 5.0 per cent, while Poland averaged 12.6 per cent, and Czechoslovakia, 11.2 per cent. While the ILO index figures for the countries we have covered do not agree with our figures in every particular, there is substantial agreement between them.

The foregoing analysis of country trends in unemployment may be summarized by listing the salient phenomena that emerge from the statistics, and appear to be real rather than merely statistical in origin:

- a. The very rapid decline in Australian and German unemployment after 1932.
- b. The relatively low level of Belgian unemployment during the nineteen-twenties, and its contrastingly high post-World War II level.
- c. The cycles of unemployment in Germany during the nineteen-twenties, culminating in the extraordinarily high rate of almost 44 per cent in 1932.
- d. The consistently high level of unemployment in the Netherlands from 1932 to 1940.
- e. The peculiar "extra" cycles of unemployment in Scandinavia during the nineteen-twenties, and the transformation of Norway from a "low" to a "high," then back to a "low" unemployment country.
- f. The low levels of unemployment in the United Kingdom before World War I and after World War II in contrast to the high levels experienced in the entire interwar period.
- g. The low level of unemployment in France in the years before the decade of the nineteen-thirties and in the post-World War II period.

### Conclusions

In the foregoing pages we have presented statistical information on the course of unemployment in ten countries during the first half of this century. The unemployment data alone obviously provide no basis for treating the complex problem of causation. Unemployment is only one aspect, albeit an important one, of the business cycle, and it cannot be handled adequately in isolation. The generalizations which do emerge from a consideration of the data are primarily of a negative character:

(1) Unemployment has not followed a simple trend, that is, its course cannot be described by a simple monotonically increasing or decreasing function. One might rather be tempted to describe the unemployment of the last half century as a single long wave, with the peak centered in the early thirties.

(2) There is important variation in the unemployment records of various countries, variation so pronounced in many cases that it cannot be ascribed to elements of incomparability in the available statistics.

(3) The differing degree of unemployment experienced by the several nations during this period does not appear to be capable of simple explanation in terms of a few economic variables. In particular, there appears to be no obvious relation between the degree of unemployment experienced and the stage of economic development attained for the countries studied.

(4) The parallel movement of the national unemployment series over a number of cycles reveals what has long been known, namely, that unemployment is an international phenomenon. This does not mean, however, that individual countries or groups of countries do not experience milder

and shorter-lived spells of unemployment which seemingly have little or no counterparts elsewhere.

(5) Progress toward more refined and accurate measures of unemployment and more uniform and conceptually complete definitions of unemployment was observed to be related to the stage of development of institutions primarily concerned with combating unemployment and its effects.

(6) Our study, limited as it is to a single gross measure of unemployment, provides only a rough index of the relative intensity of unemployment in the countries studied. It is our impression that a more intensive examination of the available data on a comparative basis, including a study of seasonality, industrial and geographical distribution of unemployment, and its incidence among various segments of the labor force, might yield interesting results in terms of our understanding of the causes of unemployment and of the mechanism by which it transmitted internationally.

## APPENDIX A

### Australia

Perhaps the best way to introduce a discussion of Australian unemployment statistics is to quote from a statement made by Mr. S. R. Carver, Acting Commonwealth Statistician:

"There is only one series of unemployment data for Australia which is available continuously over a long period, namely, the percentages of unemployment in reporting Trade Unions. Such tests of significance as have been made indicate that this series affords a good measure of trend but must be used with caution in comparisons of absolute levels. The only records available showing the total number of persons unemployed are those of the various Censuses, which include all persons who state that they are unemployed and distinguish between unemployment on account of sickness, accident, scarcity of work, industrial dispute and all other causes combined.

"As from 1st July, 1945, with the commencement of operations under the Unemployment and Sickness Benefits Act, 1944, a new series of unemployment statistics is available. This gives details of persons in receipt of unemployment benefit and gives a better indication of absolute levels of unemployment than that afforded by the Trade Union Series. Owing, however, to the existence of a means test and a waiting period before such benefits are payable the cover is still to some extent incomplete."<sup>1</sup>

It is apparent from the foregoing that an historical analysis of Australian unemployment must be based upon the so-called trade union series. This series has the following major characteristics:

1. Beginning with the year 1913, quarterly figures on unemployment were collected from a number of trade unions. For selected years from 1891 to 1912, the Commonwealth Bureau of Census and Statistics endeavored to obtain retrospective estimates of unemployment from a number of trade

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<sup>1</sup>Letter to the authors, dated July 3, 1953.

unions as of the end of the year only. These figures are shown, together with the number of reporting unions and membership of reporting unions, in Table A-1.

With respect to the earlier series, we are warned that few trade unions paid any form of unemployment benefit, so that accurate records of unemployment were difficult to obtain. Nor were returns available for the same unions throughout the period. Moreover, since the data are year-end data, they cannot be taken to represent average unemployment for the specified year.

With respect to extent of coverage, the data for 1912 represented 75 per cent of the total number of local unions existing at the time, and 52 per cent of union membership. However, coverage drops off rapidly as we go backward from 1912. Thus, in 1891, only 20 per cent of the local unions with 12 per cent of total union membership were covered. The corresponding figures for 1896 were: 19% and 8%; for 1901, 20% and 9%; and for 1906, 16% and 6%.<sup>1</sup> It was estimated that for 1912, 44 per cent of all male employees, and 8.4 per cent of all female employees, in all professions, trades and occupations in the Commonwealth were members of trade unions,<sup>2</sup> so if it is assumed that all trade union members were males,<sup>3</sup> the percentage coverage among male employees in 1912 would have been about 25.

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<sup>1</sup> Commonwealth Bureau of Census and Statistics, Trade Unionism, Unemployment, Wages, Prices, and Cost of Living in Australia, 1891 to 1912, Melbourne, 1913, pp. 13, 18.

<sup>2</sup> Ibid., p. 12.

<sup>3</sup> In fact, some 96 per cent of trade union members were males in 1912. Ibid., p. 11.

Table A-1.

AUSTRALIAN UNEMPLOYMENT AS REPORTED BY TRADE UNIONS  
AS OF THE END OF THE YEAR, 1891-1912

<u>Year</u>	<u>Number of reporting unions</u>	<u>Membership of reporting unions</u>	<u>Per cent of members unemployed at end of year</u>
1891	25	6,445	9.29
1896	25	4,227	10.81
1901	39	8,710	6.59
1906	47	11,299	6.67
1907	51	13,179	5.74
1908	68	18,685	5.98
1909	84	21,122	5.79
1910	109	32,995	5.63
1911	160	67,961	4.67
1912	464	224,023	5.55

SOURCE: Commonwealth Bureau of Census and Statistics, Trade Unionism, Unemployment, Wages, Prices and Cost of Living in Australia, 1891 to 1912, Melbourne, 1913.

The Bureau of Census was of the opinion that the particular industries covered in this sample did not result either in upward or downward bias. The building and metal trades were heavily represented, while such comparatively stable industries as railways were not represented at all. Unskilled casual labor was poorly represented. "Thus, for some reasons, the percentage given is likely to be greater, and for other reasons less, than the true average percentage unemployed throughout the country."<sup>1</sup> Moreover, the following comparisons with census returns were adduced in favor of the reliability of the data:<sup>2</sup>

	<u>Percentage Unemployed</u>		
	<u>1891</u>	<u>1901</u>	<u>1911</u>
Trade union returns	9.29	6.59	4.67
Census returns*	7.46 <sup>†</sup>	6.50	4.53

\*All male wage earners, excluding "professional" occupations.

<sup>†</sup>New South Wales and Victoria only.

The difference shown for 1891 was ascribed to the fact that the Census was taken in March while the trade union data were for the end of the year, the intervening months having witnessed a depression following upon a long strike of maritime workers and sheep shearers.

The validity of these observations has been challenged, however. It has been asserted that since the Census dates were for the end of March,

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<sup>1</sup>Trade Unionism, Unemployment, Wages, Prices and Cost of Living in Australia, 1891 to 1912, p. 18.

<sup>2</sup>Ibid.

whereas the trade union figures were as of the end of December, any resemblance in the results "is only an accident and does not support a claim that the trade union returns are representative of the state of unemployment in Australia."<sup>1</sup> The relatively small membership of the reporting unions in each of the Census years is another limiting factor.

As to the first objection, it may be noted that for the years 1913 to 1920, for which quarterly trade union data are available (for the last week in the months of February, May, August and November), and which, except for 1914, were years in which unemployment was comparable absolutely to that reported for the years 1901-1912, the percentage of unemployment in the fourth quarter of any year was within one percentage point of unemployment in the first quarter of the following year.<sup>2</sup> The first and fourth quarters of the year normally mark the period of lowest unemployment in Australia. Since the Census date was in the first quarter, and the trade union report was at the end of the fourth quarter (prior to 1913), the possibility of divergence between the two was not as great as implied by the above quotation. However, neither the Census nor the trade union figures prior to 1913 can be said accurately to represent average unemployment throughout the year, precisely because they were both in quarters of lowest unemployment.

2. Coming now to the quarterly trade union data collected since 1913, it has already been observed that the data are available on a

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<sup>1</sup>J. L. K. Gifford, Economic Statistics for Australian Arbitration Courts, Melbourne, 1928, p. 7.

<sup>2</sup>The average difference for the years 1913 to 1920 inclusive was 0.9%. In five of the seven years, unemployment in the first quarter was higher than in the preceding quarter (by an average of 0.7%), while in the two remaining years, the reverse was true (by an average of 1.4%).

quarterly basis, and represent unemployment in the last weeks of the months of February, May, August and November. The annual averages derived from the quarterly reports are shown in Table A-2.

These figures have certain limitations, of which the following are the most important.

a. Coverage. The relative magnitude of the sample of workers represented by the series is indicated by the following data:<sup>1</sup>

<u>Year</u>	<u>Percentage of trade union membership in sample</u>	<u>Estimated percentage of coverage in relation to all male wage and salary earners</u>
1921	51.4	31.1
1933	56.2	35.0
1939	48.2	31.6
1947	53.6	40.0
1950	52 <sup>2</sup>	25-30 <sup>2</sup>

It is apparent from this table that thanks to the high degree of union organization among Australian workers, the Australian trade union

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<sup>1</sup>The data are from various issues of Commonwealth Bureau of Census and Statistics, Labour Report. The years chosen are those for which census data are available.

For the earlier years, the omission of female wage and salary earners did not constitute a serious distorting factor in indicating degree of coverage, since the labor force participation of women was low. For later years, however, and particularly since the war, the greatly increased labor force participation of women, plus the smaller extent to which they are unionized, produce quite different results if they are included in the comparison. Thus, for 1947, the ratio of covered trade union membership to all wage and salary earners is only 29%, compared with the 40% ratio to male wage and salary earners shown in the table.

<sup>2</sup>These figures are from Labour Report, 1950, No. 39, p. 122. The last figure is the ratio of reporting membership to all wage earners, including women.

Table A-2.

AVERAGE ANNUAL PERCENTAGE OF UNEMPLOYMENT AMONG REPORTING  
TRADE UNIONS IN AUSTRALIA, ALL CAUSES, 1913-1951

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1913	6.5	1933	25.1
1914	8.3	1934	20.5
1915	9.3	1935	16.5
1916	5.8	1936	12.2
1917	7.1	1937	9.3
1918	5.8	1938	8.7
1919	6.6	1939	9.7
1920	6.5	1940	8.0
1921	11.2	1941	3.7
1922	9.3	1942	1.6
1923	7.1	1943	1.1
1924	8.9	1944	1.2
1925	8.8	1945	1.2
1926	7.1	1946	1.4
1927	7.0	1947	1.2
1928	10.8	1948	0.9
1929	11.1	1949	2.0
1930	19.3	1950	0.8
1931	27.4	1951	0.7
1932	29.0		

SOURCE: Annual Labour Report of the Commonwealth Bureau of Census and Statistics.

unemployment series has long covered a remarkably large proportion of the Australian labor market, in comparison to similar types of statistics found in other countries.

The principal industrial coverage omissions are for the pastoral and agricultural trades, for industries in which workers have permanency of employment, such as railway and tramway employees and civil servants, and for such casual trades as longshore work. However, there appears to be no reason to suspect any particular bias toward greater or less unemployment for the industrial fields covered, which include, in addition to manufacturing, mining, building construction, land transport other than railways, and domestic service. Salaried individuals as well as wage earners appear to be represented in the sample, though whether to the same relative extent cannot be determined from the data.

b. Methods of collecting information. The basic reports are prepared quarterly by local trade union secretaries and submitted to the Bureau of the Census for processing. The Bureau has made the following observations regarding the reporting mechanism:

"Very few unions pay unemployment benefits, but the majority of the larger organizations have permanent secretaries and organizers who are in close touch with the members and with the state of trade in their particular industries. In many cases unemployment registers are kept, and employers apply to the union officials when labor is required. Provision is also made in the rules for members out of work to pay reduced subscriptions."<sup>1</sup>

An intensive examination of the reporting procedure in thirty reporting unions yielded the following conclusions:

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<sup>1</sup> Labour Reports, 1936, No. 27, p. 108. Virtually identical statements are to be found in prior and subsequent volumes of this publication.

"Some kept unemployment registers, which members signed when they became unemployed. In unions paying unemployment benefit, such a record would probably be fairly accurate, but in others, the majority, where there is no advantage in registering, for a time at least, the records and the returns based on them would obviously be liable to error. There would be no reliable check on members working in other occupations, up to one or two years at least, when they are removed from the register . . . some unions try to allow for these errors by guessing the probable numbers affected. Such returns are based on records plus guesswork. Other unions keep no record at all, and simply send in a return based on 'general observation.' The character of the occupations represented by some unions, e.g., seasonal work, prevents any accurate record being kept. Some unions return men on relief work as employed, while others, probably the majority, do not. Generally speaking, the information which unions have about unemployment amongst their own members is, in a few cases, fairly complete, and in the majority approximate to very dubious."<sup>1</sup>

In addition to these difficulties, there is an additional weakness in the reporting system, namely, that it may sometimes be in the interest of unions to conceal unemployment if they are seeking wage increases through a court of arbitration, and at other times to exaggerate unemployment in order to justify restrictions on entry to the trade.<sup>2</sup>

Notwithstanding these imperfections in the reporting process, the Commonwealth Statistician is of the opinion that the trade union series do provide a good measure of the trend of unemployment, even though the absolute figures must be used with caution, apparently on the theory that the errors cancel out, in a rough way.<sup>3</sup>

c. Definitions. A person is recorded as unemployed if he is out of work for three days or more during the specified survey week. Part time

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<sup>1</sup>E. E. Ward, "A Sample of Unemployment in Victoria," Economic Record, 1938, Vol. 14, p. 23.

<sup>2</sup>J. L. K. Gifford, op. cit., p. 5.

<sup>3</sup>E. Ronald Walker, Unemployment Policy, Sydney, 1936, pp. 64-65.

unemployment is not reported separately, the particular work pattern of the individual on less than full time determining whether he is classified as employed or unemployed.

Persons who are out of work due to direct involvement in a strike or lockout are not counted as unemployed, but those in other industries who are indirectly affected are considered unemployed.<sup>1</sup> However, persons unemployed for any other cause, such as illness and accident, are included among the unemployed. Fortunately, data were collected for a number of years from some of the reporting unions which permitted a breakdown of unemployment by cause. These data have been used to correct the unemployment percentages in Table A-2 by eliminating unemployment for all causes other than lack of work. The corrected series is shown in Table A-3.

3. The trade union unemployment data may be checked against Census data for 1921, 1933, and 1947. The comparisons are shown in Table A-4. The substantial difference between the figures in 1921 led to the observation that "the trade union unemployment percentages for those unemployed through scarcity of work very much exaggerated the amount of unemployment due to scarcity of work."<sup>2</sup> However, the close correspondence between them in 1933, when the Census figure was, if anything, higher than the trade union data, indicates that at least in periods of very high unemployment, the trade union data mirrored with considerable accuracy the prevailing level of unemployment. The same, of course, would perforce be true when unemployment was very low, as indicated by the data for 1947.

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<sup>1</sup>Labour Reports, 1939, No. 30, p. 103.

<sup>2</sup>J. L. K. Gifford, op. cit., p. 9.

Table A-3

AVERAGE PERCENTAGE OF UNEMPLOYMENT AMONG  
REPORTING TRADE UNIONS IN AUSTRALIA, DUE TO LACK OF WORK, 1913-1951<sup>a</sup>

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1913	5.4	1932	28.1
1914	7.4	1933	24.2
1915	8.3	1934	19.6
1916	4.8	1935	15.6
1917	6.1	1936	11.3
1918	4.6	1937	8.4
1919	4.6	1938	7.8
1920	5.5	1939	8.8
1921	10.4	1940	7.1
1922	8.5	1941	2.8
1923	6.2	1942	0.7
1924	7.8	1943	0.2
1925	7.8	1944	0.3
1926	6.3	1945	0.3
1927	6.2	1946	0.5
1928	10.0	1947	0.3
1929	10.2	1948	0.3
1930	18.4	1949	1.4
1931	26.5	1950	0.4
		1951	0.3

SOURCE: Commonwealth Bureau of Census and Statistics, Labour Reports, passim.

<sup>a</sup>For the years up to and including 1929, a special sample of unemployment by cause is shown separately in the annual Labour Reports. For some years, however, total unemployment for all causes as shown in this special sample differs from total unemployment for all causes for all reporting unions. In making the adjustment, the ratio of unemployment due to lack of work to unemployment for all causes, derived from the special, restricted sample, was applied to the global unemployment figure derived from the total reporting population.

From 1929 to 1947, the Labour Reports simply note that the percentage of unemployment due to a) sickness and accident, and b) all other causes except lack of work, remained uniform at 0.7% and 0.2%, respectively. Thus, a constant factor of 0.9% has been deducted from the global unemployment percentages to adjust for these years. Beginning with 1948, the adjustment factor was put at 0.6% for accident and illness, and "insignificant" for other causes; for the years 1948-1951, therefore, a 0.6% adjustment factor has been deducted.

Table A-4

COMPARISON OF AUSTRALIAN UNEMPLOYMENT DUE TO WORK SCARCITY,  
AS SHOWN BY CENSUS AND TRADE UNION RETURNS,  
1921, 1933, and 1947

	<u>Percentage of unemployment</u>	
	<u>Census</u>	<u>Trade Union Returns</u>
1921 (male workers)	6.0 <sup>a</sup> (April 4)	10.4 (1 quarter)
1933 (male workers)	24.9 <sup>b</sup> (June 30)	24.8 (2 quarter)
1947 (male and female workers)	1.3 (June 30)	0.4 (2 quarter)

SOURCES: 1921 -- J. L. K. Gifford, Economic Statistics for Australian Arbitration Courts, Melbourne, 1928, p. 9.

1933 -- Census of the Commonwealth of Australia, June 30, 1933, Vol. II.

1947 -- Year Book of the Commonwealth of Australia, 1953, p. 549.

<sup>a</sup>The corresponding figure for males and females together is 5.0%.

<sup>b</sup>The corresponding figure for males and females together is 22.4%. This percentage makes no allowance for youths and girls who would normally have been wage and salary earners, but who were never employed on account of the depression, and were thus not classified as wage and salary earners. Such an allowance would raise the percentage of unemployment.

A comparison of unemployment in Queensland for the years 1925-1927, based upon unemployment insurance statistics in that state, yielded the conclusion that "the trade union percentage very much exaggerated at certain times the amount of unemployment due to lack of work, though at other times it fell below the percentage based on the Department of Labour statistics. From August to November, 1924, from February to May, 1925, from May to August, 1926, and from August to November, 1926, even the direction of movement of the two series was different, and in general the trade union percentage fluctuated more than the other."<sup>1</sup>

A more careful and elaborate study of unemployment in the State of Victoria in 1937 revealed the following: of a sample of 2,000 men receiving public assistance, only 12 per cent were or ever had been members of unions, reporting or otherwise, whereas the reporting unions constituted a sample of 20 to 25 per cent of the wage and salary earners in Victoria at the time. In fact, only about six per cent of the group studied were currently registered as unemployed with reporting unions. Despite this great discrepancy, total unemployment in Victoria was estimated at 10 per cent from public labor exchange data, and 9.3 per cent on the basis of the trade union reports. This fairly close correspondence is attributed to "a fortuitous cancelling of errors which may or may not persist."<sup>2</sup>

Conclusions. The only series of unemployment other than the trade union reports available for Australia is that emanating from the unemployment insurance system, commencing in 1945. For each year between

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<sup>1</sup>Ibid., p. 11.

<sup>2</sup>E. E. Ward, op. cit.

1945 and 1952, the direction of movement was the same for the two series; but the absolute level of unemployment as shown by the two series cannot be compared, since there are qualifications for the receipt of unemployment benefits, including a means test, which restrict the coverage of the unemployment insurance data.

The trade union series, therefore, must be used if one is interested in Australian unemployment statistics for any considerable period of time. That this series as corrected to eliminate unemployment for causes other than lack of work, has certain drawbacks must be obvious from the foregoing. To an outside observer it would seem that much of the criticism levied against the series was provided by individuals who were attempting to make out the strongest possible case against it. The sample is, and has been for many years, a substantial one; industrial coverage has been wide, and not obviously biased; and several tests of the trade union data against Census and other benchmarks have revealed fairly close correspondence between the two, with the conspicuous and important exception of the year 1921. It cannot be said that prima facie, the trade union series either "overstated" or "understated" unemployment as compared with some theoretical norm of perfection, on the basis of the available evidence. All things considered, the Australian trade union series appears to be one of the better of the unemployment series, when compared with the character of the data available for other countries.

## APPENDIX B

### Belgium

The principal series yielding information on unemployment in Belgium are:

- (1) Early trade union, communal fund, and employment exchange statistics.
- (2) Voluntary unemployment insurance statistics.
- (3) Compulsory unemployment insurance statistics.

The properties of these series are described below.

1. Early Trade Union, Communal Fund, and Employment Exchange Statistics

a. The Ghent trade union percentages of unemployment were the first official unemployment statistics to appear. They were published monthly in the Revue du Travail beginning December, 1895. The unions covered were classified in ten groups: clerical workers, commercial agents and foremen; workers in printing; textiles; building; wood; metals; food; clothing; transport; and a miscellaneous group. The size of the Ghent union sample increased from 13,591 members in 29 unions in the first year of operation, to 19,028 members in 49 unions in 1907. The data are set forth in Table B-1, Column 1.

Reporting was on a voluntary basis in the years before the creation of the Ghent Communal Unemployment Fund<sup>1</sup> in 1901. The collection of early statistics was largely due to the efforts of M. L. Varlez who

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<sup>1</sup>E. Mahaim, Le secours de chômage en Belgique pendant l'occupation Allemande, Les Presses Universitaires de France, Paris, (Publications de la Dotation Carnegie pour la Paix), Yale University Press, New Haven, 1926, states: "The Ghent unemployment fund was the best organized institution of unemployment insurance before the war." p. 150.

Table B-1.

PERCENTAGES OF UNEMPLOYMENT IN BELGIUM, 1896 TO 1918

Year	(1) <u>Ghent Trade Unions<sup>a</sup></u>	(2) <u>National Trade Unions<sup>b</sup></u>	(3) <u>Communal Funds<sup>b</sup></u>
1896	3.5 (4.3)	--	--
1897	2.8 (3.6)	--	--
1898	3.1 (3.9)	--	--
1899	2.4	--	--
1900	2.9 (2.7)	--	--
1901	2.7 (2.9)	--	--
1902	2.9 (3.3)	--	--
1903	2.6 (3.6)	3.4	--
1904	2.8 (3.4)	3.0	--
1905	2.2 (2.9)	2.1	--
1906	1.9 (2.3)	1.8	--
1907	1.6 (2.1)	2.2	--
1908	2.9	5.8	--
1909	3.1	3.3	3.0
1910	1.9	2.0	3.6
1911	1.5	1.9	4.4
1912	1.2	1.3	4.8
1913	1.5	2.0	--
1914	13.5	--	--
1915	32.3	--	--
1916	59.3	--	--
1917	58.4	--	--
1918	53.7	--	--

<sup>a</sup>1896-1913: Averages of monthly percentages in the Revue du Travail. Figures in brackets exclude clerks, commercial travelers and foremen and were calculated from annual data (based on 12 months from December through November) appearing in the Revue du Travail through 1907.

1914-1918: Calculated from data in E. Mahaim, op. cit., pp. 152-153.

<sup>b</sup>Averages of monthly data appearing in the Revue du Travail.

later became director of the fund. After the fund came into operation in August, 1901, participating unions, receiving communal unemployment subsidies, were required to submit monthly statements of the amount of unemployment to a special communal comptroller. Article 7 of the Regulations of the Ghent Unemployment Fund provided for the appointment of an auditor whose duty it was to examine the correctness of the information furnished by the affiliated unions. This auditor was given the right to examine the books of the affiliated associations in regard to insurance against unemployment.

Duration of benefit was limited to not more than sixty days a year. Persons on strike or locked out, or idle as a consequence of strike or lock out, as well as those sick or physically incapacitated for work, were not eligible for communal unemployment benefit. Any unemployed person who refused employment offered by the Ghent Unemployment Fund Committee, composed of three communal councilors, five union members, and two others, was excluded from benefit. To administer the application of this condition, the committee cooperated closely with other institutions, public or private, which made efforts to combat unemployment, principally the employment exchanges.

Increased unemployment in 1903 and 1908-1909 produced several modifications in the constitution of the Ghent fund, which in 1903 had become inter-communal. During 1903, the duration of the unemployment grants was prolonged for those who had exhausted their rights to benefit. The depression of 1908-1909 was responsible for closer control of the affiliated unions by the communal fund committee. All unions desiring communal aid were required to submit their plans and any subsequent changes for the approval of the committee. In 1909, unemployment of less than three days' duration in any calendar year became ineligible for benefit. Finally, to allow for closer supervision of the unemployed and to insure that those

collecting benefit were willing to work, the fund obliged every unemployed member of an affiliated union who wished to qualify for communal subsidy to appear at the communal employment exchange at a specified hour each day and to present a card for signature. These close controls by the communal authorities, as well as supervision by individual unions, insured accurate reporting.

The industrial distribution of workers covered by the Ghent scheme is compared below with that of all workers in the commune of Ghent and of industrial wage earners in Belgium. While the classifications may not be perfectly comparable, it is evident that with respect to industrial wage earners in Belgium, the Ghent sample under-represented workers in building, food and tobacco, and clothing, and over-represented workers in textiles and metals. Other important groups, workers in ceramics, mining, quarrying, and transport (after 1904) were not represented in the sample at all. In addition, the published Ghent percentages are based upon a sample which includes a considerable number of clerical workers, sales agents, and foremen.

<u>Industry</u>	<u>Ghent Trade Union</u>		<u>Census of 1910</u>	
	<u>Sample</u>		<u>Ghent Commune</u>	<u>Entire Country</u>
	1902	1907		
Book	2.8	3.0	2.2	-- <sup>b</sup>
Textile	61.7	53.4	46.2	18.9
Building	4.0	6.8	7.6	9.5
Wood	6.3	7.9	7.1	6.8
Metal	15.7	17.3	9.6	14.8
Food & Tobacco	2.3	2.6	3.6	5.1
Clothing	2.8	2.8	9.3	7.7
Transport	0.7	0.0	} 14.4	3.6
Other	3.7	6.2		
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
Total number in samples (000s)	14.1 <sup>a</sup>	16.1 <sup>a</sup>	43.8	1,270.0

SOURCES: Ghent trade union statistics from annual reports appearing in issues of the Revue du Travail; census data from Recensement de l'Industrie et du Commerce, 1910, Vol. I, p. 519 and p. 554.

<sup>a</sup>Excludes clerical workers, sales agents and foremen: this group numbered 2,513 persons in 9 unions in 1902 and 2,924 persons in 9 unions in 1907.

<sup>b</sup>Included in "Other" group.

b. With the spread of trade union unemployment plans, there appeared in 1902 the so-called National Trade Union percentages of unemployment. These percentages which were reported monthly in the Revue du Travail, covered 115 unions with 29,920 members in 1902. By 1912, the coverage had expanded to include 276 unions with 77,526 members. Annual percentages, averages of the monthly data, appear in Table B-1, Column 2.

Since the trade union unemployment schemes developed to meet the needs of special trades, unions, and localities, it is not surprising to find that there were many differences among them. The following summary statement by C. A. Kiehel is illuminating:<sup>1</sup>

"Membership might be optional or obligatory; conditions of admission were different in every union and qualifying periods ranged from three months to three years, though over 70 percent of the plans required one year. . . .

"The plans covered only involuntary unemployment but definitions were vague, and were sometimes left to the interpretation of the executive committee. Both short time due to stoppages in production and total unemployment, usually for a minimum period of three days, were compensated. Unemployment resulting from strike, lock out, undue union activity and occupational disease was frequently considered involuntary and compensatable. The commonest exclusions were on account of sickness, voluntarily leaving the job and discharge on moral grounds.

"Five plans made provision for a waiting period (initial). . . . After a person had exhausted his right to benefit, a second waiting period of one to two years was generally demanded before he again became eligible, but here too, variation occurred. As a condition of benefit the worker usually had to accept any work offered him by the union or communal placement bureau. . . .

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<sup>1</sup> C. A. Kiehel, Unemployment Insurance in Belgium, Industrial Relations Counselors, Inc., New York, 1932, pp. 117-119. The information upon which Kiehel relied was drawn mainly from an analysis of 219 Belgian trade union benefit plans collected in 1905 by M. Varlez, director of the Ghent Unemployment Fund, for the German Imperial Statistical Office. Kaiserliches Statistisches Amt, Die bestehenden Einrichtungen zur Versicherung gegen die Folgen der Arbeitslosigkeit im Ausland und in Deutschen Reich, Berlin, 1906, Teil 3, pp. 75-159.

"Duration of benefit varied according to unemployment risk, rate of benefit, financial resources of the union and local customs . . . Nearly 50 percent of the unions, however, paid benefit for from six to ten weeks; duration over 12 weeks was uncommon . . . Only one small union paid benefit until work was found. The benefit period was flexible and capable of extension."

This analysis of trade union practice suggests that the trade union unemployment percentages had a considerable downward bias, particularly in times of depression, because of the limited duration of benefit payments and because of the requirements governing eligibility to receive unemployment benefit. Additional biases in the trade union sample, with respect to industrial representation and representation for males and females, undoubtedly existed but can not be established explicitly because of insufficient data.

c. From 1909 through 1912, monthly unemployment statistics of the communal unemployment funds were published in the Revue du Travail as part of the annual report on communal and provincial unemployment subsidies. This set of statistics, which was based on a rapidly expanding base is presented in Table B-1, Column 3. In 1909, the percentages were based on the reports of 310 trade unions affiliated with communal funds whose members numbered 58,413. By 1912, coverage had extended to include 370 unions with a membership of 103,537. The communal fund statistics included wage earners in mining, transportation, industry, and salary earners. Since the majority of the communal funds were modeled after the Ghent fund their operation exhibited some degree of uniformity.

Study of the industrial distribution of workers included in the communal fund statistics in December, 1910, the date of the census, reveals that workers in construction, mining, and clothing were under-represented, while those in textiles, wood and furniture, printing and arts and crafts

were over-represented with respect to the total population of industrial wage earners.

d. Public and subsidized private employment exchange statistics are available beginning with 1896. They provide data on the number of applications for work, of vacancies, and of placements. The early figures are poor since the number of exchanges was small and reporting irregular. In 1904, only 10 exchanges were in operation. By 1914, the number had increased to 50. While useful as an indicator of fluctuations in the labor market, the statistics do not provide anything approaching a suitable measure of the number of unemployed persons. Many unemployed registered at more than one exchange and were therefore included in the statistics twice. Other unemployed persons did not use the exchanges when seeking work. The limited number of employment exchanges in the early years meant that many unemployed persons did not have the services of an employment exchange at their disposal. Later when the statistics of the employment exchanges became more comprehensive, the far better insurance statistics make it unnecessary to refer to them for a measure of unemployment. The employment exchange statistics from 1896 through 1930 are presented in Table B-2.

e. There are available two unemployment censuses which afford an opportunity to gauge the value of the trade union and communal fund unemployment percentages. The results of the first census,<sup>1</sup> that of

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<sup>1</sup> See Recensement général des industries et des métiers (31 octobre 1896) Ministère de l'Industrie et du Travail, Office du Travail, Vol. 18, p. 424; M. E. Waxweiler, "Le statistique des ouvriers industriels sans travail en Belgique" in Compte Rendu de la Conférence Internationale du Chomage, Vol. II, (1910), report No. 8, pp. 1-15; B. Seebohm Rowntree, Land and Labour, Lessons from Belgium, London, 1910, pp. 502-503; C. A. Kiehel, op. cit., p. 41.

Table B-2.

BELGIAN PUBLIC AND SUBSIDIZED PRIVATE EMPLOYMENT EXCHANGE STATISTICS, 1896 to 1930<sup>a</sup>

<u>Year</u>	<u>Number of Exchanges</u>	<u>Number of Applications</u>	<u>Number of Vacancies</u>	<u>Placements</u>	<u>Vacancies per 100 Applicants<sup>g</sup></u>
1896	-- <sup>b</sup>	13.1	16.8	4.3	128
1897	--	12.0	16.7	6.4	139
1898	--	13.5	16.4	6.3	121
1899	--	10.9	16.7	6.7	153
1900	--	10.0	16.5	8.2	165
1901	--	14.1	13.1	7.7	93
1902	--	17.0	11.1	6.4	65
1903	--	23.4	12.4	7.1	53
1904	10	20.5	13.3	8.0	65
1905	10	17.2	14.9	8.2	87
1906	10	19.2	16.3	10.6	85
1907	12	23.8	18.5	11.9	78
1908	14	39.9	21.6	15.1	54
1909	17	51.6	28.0	18.7	54
1910	31	60.1	40.8	24.9	68
1911	39	69.7	56.0	31.7	80
1912	43	71.2	64.8	36.1	91
1913	49	88.2	74.7	43.7	85
1914 <sup>c</sup>	50	88.6	54.9	34.0	62
1919 <sup>d,e</sup>	47	92.2	26.8	14.9	29
1920	38	141.6	90.2	57.4	64
1921 <sup>f</sup>	--	181.3	96.8	71.4	53
1922 <sup>f</sup>	--	192.3	136.9	89.8	71
1923	30	161.3	144.3	93.2	89
1924	33	168.9	125.5	86.0	74
1925	36	166.0	101.6	74.1	61
1926	37	179.5	98.0	73.0	55
1927	40	176.8	107.8	75.8	61
1928	42	148.5	143.3	89.5	97
1929	42	141.2	146.1	89.2	103
1930	44	190.1	100.8	72.9	53

SOURCES: 1896-1906, 1914 and 1919, C. A. Kiehel, *op. cit.*, p. 62.  
 1907-1930, excluding 1914 and 1919, Revue du Travail, February, 1931, p.334.

<sup>a</sup>From 1896 to 1907, figures were particularly poor. Failure to report and typographical errors which cannot be corrected were frequent.

<sup>b</sup>Omitted because they are not comparable with other figures.

<sup>c</sup>Covers first seven months.

<sup>d</sup>No data available for 1915-1918.

<sup>e</sup>Covers last six months. The exchanges did not function in the first six months.

<sup>f</sup>No reports from subsidized private exchanges.

<sup>g</sup>Calculated for years 1896-1906, 1914 and 1919; taken from Revue du Travail for other years.

October 31, 1896, were marred by several methodological defects. In particular, workers' returns understated the amount of unemployment in certain seasonal trades, counted as unemployed some persons who were sick, and included among the unemployed some older persons who were not looking for work. Data in the census report (see Addendum 1) suggest that between 4 and 5 per cent of the total number of industrial wage earners were unemployed on the date of the census.

The results of the census of December 31, 1910, are shown below:<sup>1</sup>

	<u>Wage earners</u>			<u>Salary earners</u>			<u>Wage and salary earners</u>		
	(1) <u>Total</u>	Un- <u>employed</u>	%	(2) <u>Total</u>	<u>Unemployed</u>	%	(1) and (2) <u>Total</u>	<u>Unemployed</u>	%
A. Industry	1,270,484	79,861*	6.3 <sup>2</sup>	87,463	1,138**	1.3	1,357,947	80,999	6.0
B. Commerce	40,494	2,783	6.9	50,443	1,621	3.2	90,937	4,404	4.8
C. Industry and Commerce	1,310,978	82,644	6.3	137,906	2,759	2.0	1,448,884	85,403	5.9

\*5,242 wage earners on strike, included among the unemployed in the census have been excluded.

\*\*23 salary earners on strike, included among the unemployed in the census have been excluded.

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<sup>1</sup> Recensement de l'Industrie et du Commerce, Vol. 8, p. 37 and Vol. 2, p. 1414. In addition to those enumerated above, the census lists 215,696 family helpers in industry and 91,693 in commerce.

<sup>2</sup> The census report states that "normal average unemployment is about 5.3 unemployed per 1000 employed for industrial wage earners." The term "normal average unemployment" is not defined explicitly, but from the context in which it appears, it can be taken to mean the level of unemployment corrected for seasonal distortion. Of the total number of industrial wage earners unemployed, 31,485 were construction and ceramic workers whose unemployment rates were 21.2 and 21.9 respectively. See Census Report, Vol. 8, p. 22.

A comparison of the trade union and communal fund unemployment percentages with those of the censuses follows:

<u>Date</u>	<u>Census</u> Percentage of industrial wage earners unemployed	Unemployment percentages of Ghent Trade <u>Unions</u>	National Trade <u>Unions</u>	<u>Communal</u> <u>Funds</u>
October 31, 1896	4-5	2.9 Annual Average 3.5 (4.3) <sup>a</sup>		
December 31, 1910	6.3 (5.1) <sup>b</sup>	2.2 Annual Average 1.9	1.8 2.0	4.2 3.6

<sup>a</sup>Excluding clerical workers, sales agents and foremen.

<sup>b</sup>"Normal average unemployment", as estimated in the census report.

It is apparent that the divergences encountered above are substantial. Some of the reasons for these divergences have already been mentioned. The local nature of the Ghent statistics, diversities in trade union practices and definitions, unrepresentative small samples, all contributed to produce the observed differences.

f. What then may be said of the level of unemployment in Belgium before World War I? B. Seebom Rowntree, in an admittedly rough approximation, employed the trend in the Ghent trade union series in conjunction with the census results of 1896 in order to estimate the level of unemployment in the years from 1896 through 1907. After remarking that the Belgian economy prospered in the closing years of the nineteenth century and in the early years of the twentieth century, he writes:

"Thus, the percentage of men out of work, which was shown by the census to have been 4 1/2 percent in 1896, has been considerably smaller since then. If it has declined in the same ratio as the percentage of unemployed in Ghent, it will have

averaged 3 1/2 percent for the seven years 1896 to 1902, and 2 3/4 percent from 1903 to 1907 . . . These are the only statistics upon which any estimate of the amount of unemployment in Belgium can be based. So far as they go, they appear to show that, taking an average of years, the percentage of unemployed workers in Belgium is somewhere about 3 percent, but for reasons given on p. 503, this figure can only be taken as approximately correct."<sup>1</sup>

Rowntree cites personal communications from M. Louis Varlez, director of the Ghent unemployment fund, M. Vandervelde, leader of the Belgian Labor Party, and M. De Leener, a Belgian economist, to the effect that 3 percent is a good estimate of the average level of unemployment in Belgium for the period from 1896 through 1907.

The depression of 1908 is undoubtedly not adequately reflected in the trade union series. Many workers exhausted their unemployment benefits, and, though still unemployed, did not appear in the trade union unemployment statistics. The Ghent percentage rose to only 2.9 in 1908 and then to 3.1 in 1909. In 1910, when normal average unemployment was put at 5.1 per cent by the census report, the Ghent percentage stood at 1.9. The National Trade Union percentage reached a peak of 12.0 in January, 1908, while the annual average for 1908 was 5.8, followed by percentages of 3.3 and 2.0 for 1909 and 1910 respectively.

Several rough calculations<sup>2</sup> indicate that the level of unemployment in 1908 and 1909 was about 7 to 9 per cent for industrial wage earners.

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<sup>1</sup>B. Seebohm Rowntree, op. cit., p. 504.

<sup>2</sup>The 1910 census recorded 843,000 wage earners in the industries represented in the Ghent sample. If the Ghent unemployment percentages for these industries are weighted by the number of wage earners in each as determined by the census, the percentages of unemployment derived by taking a weighted average are:

1905	5.4	1908	5.6	1911	3.7
1906	4.2	1909	7.4	1912	2.7
1907	3.8	1910	3.7		

For the years 1910 to the beginning of World War I, the level of unemployment probably fluctuated between 3 and 6 per cent.

g. During World War I, with the German invasion and occupation, unemployment rose to extraordinary heights. The Ghent trade union percentages, the only series which continued to appear, representing relief figures more than unemployment figures, reached very high levels (see Table B-1). The Unemployment Census of February-March, 1915, which was limited to occupied Belgium, showed that a little less than 50 per cent of the total number of wage and salary earners, as given by the 1910 census, were unemployed.<sup>1</sup> While the accuracy of the census is questionable since it was not carefully planned and was rushed to completion under the disturbing influence of an occupying power, there can be little doubt but that there actually existed an extremely high level of unemployment at the time of the census and throughout the war years.

## 2. Voluntary Unemployment Insurance Statistics<sup>2</sup>

After World War I, steps were taken toward the formation of a system of voluntary unemployment insurance societies to replace the relief measures which had been instituted during the war. A ministerial order of

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Another rough calculation is made on the assumption that the relation between the census estimate of normal unemployment in 1910, 5.1 per cent, and the Ghent Trade Union percentages (1.9 in 1910) is a stable one. Thus multiplying the Ghent figures by a factor of three should approximate the average level of unemployment for years not too far removed from 1910.

1907	4.8	1910	5.1	1913	4.5
1908	8.7	1911	4.5		
1909	9.3	1912	3.6		

The Ghent Trade Union sample was used in these calculations since it was the most stable and also because the practices and methods employed in other unemployment statistics displayed such diversity.

<sup>1</sup>E. Mahaim, op. cit., p. 50.

<sup>2</sup>Sources: Revue du Travail; International Labour Organization Yearbook, Vol. II, p. 171; C. A. Kiehel, op. cit., chapters 3, and 9-14.

April 1, 1919, announced that material relief (secours alimentaire) must disappear progressively and as rapidly as possible be replaced by unemployment relief (secours chômage) and later on by unemployment insurance (assurance chômage). On June 1, 1920, the communal funds were informed that the existing system of relief would cease, to be replaced by state encouragement of unemployment insurance societies on a large scale. In spite of difficulties encountered in the depression of 1920-21, the government's program was a success. Whereas in 1913, there were only 101 communes participating in 29 funds, by the end of 1920, 627 communes had formed 84 communal and inter-communal unemployment funds and the total membership in the unemployment insurance societies increased in the same period from 126,300 to 668,000.

Since the main financial burden of unemployment insurance came to be shouldered by the national government, there was a real need to achieve uniformity in the operation of the various funds. The general provisions of the Royal Order of December, 1920, which instituted generous national subsidies to unemployment insurance societies, were succeeded by further orders which provided detailed regulations for the operation of these societies. Societies that did not incorporate suggested amendments in their by-laws within a stated period might be penalized by withdrawal of national subsidy. If these by-laws were not applied as required, the minister's approval might be suspended. Illegal payment of benefit or failure to meet liabilities might bring as a penalty deduction of one third of the amount involved from the society's next subsidy. The minister was empowered to prescribe any measure he saw fit for the purpose of ascertaining the genuineness and the involuntary nature of the unemployment benefited.

State supervision, in addition to requiring uniformity of operation, entailed a more careful and uniform definition of involuntary unemployment.

Persons incapable of working, on strike or locked out, and those definitely dismissed from their previous employment who refused to accept suitable work under customary working conditions (as determined by the employment exchanges with the help of the executive committees of the unemployment funds) were excluded from benefit and hence not considered unemployed. Registration at the employment exchange was required on the first day of unemployment. Unemployment benefit was paid for both total unemployment and partial or temporary unemployment. A person was considered as wholly unemployed (chômeur complet), if he met the above conditions and if his employment were definitely terminated for an indeterminate period or for a limited period of more than one month.

The statistics of the voluntary unemployment insurance societies, published monthly in the Revue du Travail, cover workers above 15 years of age engaged in mining, industry, building, transport, etc., but exclude those in agriculture, fishing and personal service. The inclusion of persons under 18 is qualified however, since such persons received benefit only if they had been working for an employer for at least 6 months and had been insured for at least 12 months. In October, 1930, persons over 65 years of age were excluded from benefit. Persons in their waiting period, or having exhausted their right to benefit, or receiving relief from the emergency relief funds (fonds de crise), were counted as unemployed. The unemployment percentages and membership statistics of the voluntary unemployment insurance societies are presented in Table B-3.

The results of two censuses,<sup>1</sup> those of December 31, 1930, and of February 27, 1937, provide information which is of great value in assessing

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<sup>1</sup>The census definition of unemployment closely paralleled that employed in the voluntary unemployment insurance statistics for wholly unemployed persons. The census of 1937 considered a person as unemployed if he was able to work, desired to work, and was not employed. Persons without work, whether they were receiving unemployment benefit or not, were counted as unemployed.

Table B-3.

BELGIAN UNEMPLOYMENT INSURANCE STATISTICS, 1921 to 1952<sup>c</sup>

Year	Voluntary Unemployment Insurance		Year	Compulsory Unemployment Insurance	
	Membership (thousands)	Percentage Wholly Unemployed <sup>a</sup>		Membership (thousands) <sup>d</sup>	Percentage Wholly Unemployed
1921	688	9.7	1945	1,554	7.4 (9.1) <sup>b</sup>
1922	705	3.1	1946	1,880	3.2 (3.9)
1923	654	1.0	1947	1,995	1.8 (2.2)
1924	607	1.0	1948	2,004	4.3 (5.3)
1925	598	1.5	1949	2,047	8.7 (11.1)
1926	611	1.4	1950	2,047	8.4 (10.1)
1927	629	1.8	1951	2,095	7.5 (8.6)
1928	632	0.9	1952	2,095	8.2 <sup>e</sup>
1929	640	1.3			
1930	693	3.6			
1931	761	10.9			
1932	920	19.0			
1933	980	16.9			
1934	955	18.9			
1935	900	17.8			
1936	911	13.4			
1937	916	11.5			
1938	987	14.0			
1939	1,016	15.9			

<sup>a</sup>Percentages calculated from monthly data. The monthly percentages are formed by comparing the daily average of the registered unemployed with the total number of persons subject to unemployment insurance.

<sup>b</sup>Percentages in brackets, calculated as described in text, exclude the following groups: agriculture, forestry, hunting, fishing, hotels, restaurants, personal and welfare services, salary earners, artists, and domestic service.

<sup>c</sup>Sources: Revue du Travail and ILO Yearbooks of Labour Statistics.

<sup>d</sup>June of indicated years.

<sup>e</sup>10 months.

the accuracy of the voluntary unemployment insurance percentages of unemployment. In Table B-4, the industrial distribution of insured wage earners is compared with that of the total population of industrial wage earners. The comparison reveals that the insurance sample's industrial representation closely approximated that of the total population of industrial wage earners. Other properties of the insurance sample are also brought out in Table B-5.

It is seen from the data in Table B-5 that the insurance sample included a preponderance of industrial wage earners (93.2 per cent of the total sample). Percentage wise, the representation of salary earners and wage and salary earners in commerce was much smaller than in the total population of wage and salary earners. Males represented 86.6 per cent of the total insurance sample (86.7 per cent of insured wage earners), while in the census count of wage and salary earners in industry and commerce, males accounted for 81.3 per cent of the total (81.9 per cent of the total number of wage earners).

On the basis of this analysis of the insurance sample, it would appear that the insurance percentages can be taken to represent the level of unemployment among industrial wage earners subject to the following biases:

(1) The inclusion of some salary earners, 13.4 per cent of the total sample on December 31, 1930, should produce a downward bias since salary earners usually experienced lower unemployment rates than did industrial wage earners.

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However, children and persons whom sickness or age rendered temporarily or permanently incapable of working were not considered unemployed; similarly persons who voluntarily preferred not to work and those who were partially unemployed were not counted as unemployed. Bulletin de Statistique, Vol. 24, No. 4, April, 1938, p. 1.

Table B-4.

COMPARISON OF THE INDUSTRIAL DISTRIBUTION OF INSURED WAGE EARNERS  
WITH THAT OF CENSUS WAGE EARNERS IN INDUSTRY, BELGIUM

(DECEMBER 31, 1930)

<u>Industry</u>	<u>Percentage of the total number of insured industrial wage earners</u>	<u>Percentage of the total number of industrial wage earners</u>
Fishing	0.4	0.1
Mining	9.8	10.9
Quarrying	3.1	2.4
Metal	21.3	19.7
Ceramics	2.6	2.5
Glass	1.8	1.8
Chemical	2.9	3.6
Food	2.7	4.7
Textile	21.4	15.2
Clothing	1.3	5.3
Construction	9.2	10.9
Wood and furnishing	6.5	6.8
Hides and leather	2.7	2.8
Tobacco	1.2	0.9
Paper	1.0	1.1
Book	1.7	1.4
Art and crafts	3.3	2.5
Transport	<u>7.0</u> 100.0	<u>7.4</u> 100.0
Total number	610,886	1,480,753

SOURCE: Revue du Travail, June (1934), pp. 760-761.

Table B-5.

REPRESENTATION OF INDUSTRY AND COMMERCE, WAGE EARNERS AND SALARY EARNERS, AND  
 MALES AND FEMALES IN THE INSURANCE SAMPLE ON DECEMBER 31, 1930

A. <u>Representation of persons in industry and commerce:</u>			
	<u>Industry</u>	<u>Commerce</u>	<u>Industry and Commerce</u>
Wage earners:			
Insured	610,886 98.6	8,643 1.4	619,529 <sup>a</sup> 100
Census	1,480,753 95.9	63,818 4.1	1,544,571 100
Salary earners:			
Insured	27,336 76.8	8,284 23.2	35,610 <sup>a</sup> 100
Census	184,850 60.8	118,986 39.2	303,836 100
Wage and salary earners:			
Insured	638,222 97.4	16,927 2.6	655,149 <sup>a</sup> 100
Census	1,665,603 90.2	182,804 9.8	1,848,407 100
B. <u>Representation of wage and salary earners:</u>			
	<u>Industry</u>		
	Wage earners	Salary earners	Wage and salary earners
Insured	610,886 95.8	27,336 4.2	638,222 <sup>a</sup> 100
Census	1,480,753 88.9	184,850 11.1	1,665,603 100
	<u>Commerce</u>		
Insured	8,643 51.0	8,284 49.0	16,927 <sup>a</sup> 100
Census	63,818 34.9	118,986 65.1	182,804 100
	<u>Industry and Commerce</u>		
Insured	619,584 94.5	35,646 5.5	655,230 <sup>b</sup> 100
Census	1,545,377 83.5	304,895 16.5	1,850,272 <sup>b</sup> 100

Table B-5 (continued)

C. <u>Representation of males and females:</u>	<u>Industry and Commerce</u>		Total
	Male	Female	
Wage earners			
Insured	536,732	82,852	619,584
	86.7	13.3	100
Census	1,265,003	280,374	1,545,377
	81.9	18.1	100
Wage and salary earners			
Insured	568,666	86,564	655,230
	86.6	13.4	100
Census	1,505,680	344,592	1,850,272
	81.3	18.7	100

SOURCE: Revue du Travail, June 1934, pp. 722-725.

<sup>a</sup> Excluding 26 insured salary earners and 55 insured wage earners who could not be assigned to industry or commerce.

<sup>b</sup> Including those insured referred to in footnote a and 1,059 census salary earners and 806 census wage earners who could not be definitely assigned to industry or commerce.

(2) The inclusion of a small number of wage and salary earners in commerce, 2.6 per cent of the total insurance sample, should act to lower the insurance percentages relative to the "true" percentages for industrial wage earners.

(3) The over-representation of males in the insurance sample should tend to raise the insurance percentages, since male unemployment rates usually exceeded those of females.

On two dates, those of the two censuses, it is possible to discover the quantitative effects of the biases set out above. The data,<sup>1</sup> presented below, reveal that on December 31, 1930, the insurance unemployment percentage, based on the total number of insured persons, was 0.5 percentage points below that of the census percentage for industrial wage earners; on February 27, 1937, the insurance percentage exceeded the census percentage for industrial wage earners by 2.0 percentage points.

That the insurance percentage stood below the census percentage in 1930 and above it in 1937 may be attributable to the operation of the biases

<sup>1</sup> <u>Date</u>	<u>Insurance percentages (wholly unemployed)</u>	<u>Census unemployment percentages for industrial wage-earners<sup>a</sup></u>	
December 31, 1930	9.2	Male	10.1
		Female	7.8
		Total	9.7
February 27, 1937	13.7	Male	13.6
		Female	3.3
		Total	11.7

<sup>a</sup>See Addendum 2 for fuller results of these two censuses.

listed above. In 1930, the difference between the male and female industrial wage earners' unemployment rate as given by the census, was much smaller than in 1937. This implies that bias (3) due to the over-representation of males in the insurance sample operated more strongly in 1937 than in 1930. Further, unemployment rates for salary earners and unemployment rates for wage and salary earners in commerce were both lower relative to unemployment rates for industrial wage earners in 1930 than in 1937 according to the censuses.<sup>1</sup> This means that biases (1) and (2) arising from the inclusion of some salary earners and a small number of wage and salary earners in commerce in the insurance sample, probably influenced the insurance percentages more in 1930 than in 1937. Since biases (1) and (2) act to depress the insurance percentage while bias (3) acts to raise it, all relative to the "true" percentage for industrial wage earners, the combined action of these biases may have caused the observed direction of the differences between the insurance percentages and the census percentages for industrial wage earners on these two dates.

### 3. Compulsory Unemployment Insurance Statistics<sup>2</sup>

After World War II, Belgium instituted compulsory unemployment insurance. The scheme covers all wage and salary earners in all lines of economic activity except: civil servants appointed permanently by the state, the provinces and the municipalities; employees of the Société nationale des chemins de fer belges with the exception of temporary workers; persons performing military service; family helpers; apprentices; and private domestic

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<sup>1</sup> See Addendum 2.

<sup>2</sup> Sources: "Rapport sur la possibilité d'une coordination et d'une comparaison des statistiques du chômage dans les pays de Benelux", Commission de Coordination des Statistiques, Groupe de travail: Statistiques du chômage (1952); Revue du Travail; International Labour Review, December (1948), pp. 827-828.

servants (except in Eupen, Malmedy and Saint Vith). Also excluded are unemployed persons who have a right to old age pensions (65 years old and above in general), or who receive a pension from public authorities.

Conditions for admission to the scheme are as follows: (1) contribution for a period of 10 months preceding the demand for benefits and having been employed at least six months during that period; (2) for persons under 18 years of age, this period is three months; (3) persons engaged in an independent activity have the right to benefit only if they have made contributions for at least 450 work days in the course of the 24 months preceding their request for benefits if they are between 36 and 50 years of age, and 600 work days in the course of 36 months preceding the request for benefits if they are over 50 years of age; (4) young persons who have finished a course of training lasting at least 2 years can be admitted to the scheme if they have been registered at an employment exchange as seeking work for 75 days and have not refused a suitable offer of employment without a legitimate reason.

Counted as unemployed in the statistics are unemployed persons who must register at the employment exchanges in order to receive benefit and wholly unemployed persons seeking work who voluntarily register at an employment exchange. A person is counted as unemployed from the day he registers at the employment exchange of the municipality in which he resides. An unemployed person who does not keep up his registration (whether because he has found a job or for any other reason) is immediately excluded from the series. Since the right to unemployment benefits is of unlimited duration, the problem of unemployed persons not receiving benefit, and hence possibly not being motivated to register at the employment exchange, does not arise.

Partial unemployment, which is differentiated from total unemployment, is defined as a period of unemployment alternating regularly with periods of employment. Accidental unemployment refers to unemployment resulting from floods, freezing weather, lack of power, machinery breakdown, etc. Unemployment percentages, published in the Revue du Travail, are calculated for the wholly unemployed and for the partially or accidentally unemployed, these two latter groups being lumped together.

In order to establish a percentage of unemployment comparable to the pre-war percentages, the data of the compulsory insurance scheme, presented in Table B-3, have been subjected to the following adjustments:

(1) For the years 1947 and on, unemployed persons in the following groups have been excluded from the monthly totals of wholly unemployed persons: agriculture, forestry, hunting, fishing, hotels, restaurants, personal and welfare services, salary earners, artists, and domestic service. The monthly numbers of wholly unemployed persons remaining after excluding these groups were averaged to obtain an annual average.

(2) Annual estimates of the total number of insured persons outside the groups listed in (1) were constructed by excluding persons in these groups from the total number insured on December 31, 1946. On this date the total number insured was 1,880,268. After excluding the above named groups, there remained 1,242,000 insured persons. To obtain estimates for the following years, it was assumed that this group of insured persons which numbered 1,242,000 in 1946, grew at the same rate as did the total number of insured persons.

(3) From the annual average of wholly unemployed persons developed

in (1) and from estimates derived in (2), annual unemployment percentages<sup>1</sup> were calculated which are presented in Table B-3.

The unemployment percentages, calculated in the manner described above, are probably not perfectly comparable with the pre-World War II percentages of the voluntary unemployment insurance societies. However, the calculated percentages do provide a better basis for comparing post- and pre-World War II levels of unemployment for industrial wage earners than do the unaltered compulsory unemployment insurance percentages. This is so because the post war insurance system includes many groups outside industry not included in the pre-war voluntary unemployment insurance sample.

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<sup>1</sup> Data is not available to perform this calculation for 1945 and 1946. The calculated percentages for 1947-1951 bear a fairly constant relationship to the published percentages for the wholly unemployed for all insured persons. For 1947, the ratio of the calculated percentage to the percentage based on the total number insured is 1.22, and for following years is 1.23, 1.21, 1.37, 1.19, and 1.15. The average of these ratios, 1.23, was used to obtain percentages for 1945 and 1946.

4. Summary

a. Before 1921, the available unemployment statistics are too fragmentary to derive reliable annual percentages of unemployment for industrial wage earners in Belgium. The Ghent Trade Union series, relating to a limited geographical region, can not be assumed to represent the level of unemployment in the whole of Belgium. The National Trade Union series, based on the returns of unions with extremely diverse unemployment benefit schemes embodying varying definitions of unemployment, is of little or no value as a measure of unemployment. Finally, the unemployment percentages of the trade unions affiliated with communal funds cover only a few years and are based on a sample which was rapidly changing.

b. After 1920, the unemployment insurance statistics, with wide coverage in all years, provide an excellent measure of unemployment in Belgium. The unemployment percentages of the voluntary unemployment insurance scheme can be taken to approximate closely the level of unemployment among industrial wage earners in mining, manufacturing, construction and transportation.

c. The data of the more inclusive compulsory unemployment insurance scheme, available for the post-World War II period, have been adjusted to obtain unemployment percentages as comparable as possible to the pre-war percentages.

APPENDIX B, ADDENDUM 1

The census report comments as follows on the results of the census of October 31, 1896:<sup>1</sup>

"According to Part A of the schedule [employers' returns], the enterprises which were inactive on October 31, 1896 would have employed about 26,000 workers if in operation; but it has been estimated that approximately a third of this number were employed at that time in other industries then in operation (bricklayers and masons in the sugarworks for example). Therefore 18,000 workers were unemployed because of stoppages in certain seasonal industries.

"However, about 37,000 were found unemployed; there remains about 19,000 workers unemployed for reasons other than the complete interruption of production. In fact the deviation would be even greater, for the 18,000 unemployed workers estimated from the returns under Part A include about 12,000 bricklayers, tile makers and potters. But in Part B [workers' questionnaire] only 6,000 unemployed are found in this category, the error arising as it has been stated in the revised bulletin from the fact that a very great number of bricklayers had named the enterprise which had employed them during the last season.

"If bricklayers, tilemakers, and potters are left out [6,000 unemployed, Part B], there would remain [of the 37,000 unemployed, Part B]:

6,000 unemployed chiefly because of the interruption of production.  
25,000 occasional unemployed (chômeurs occasionnels), not indicated in the employers' returns.

This last number is composed of the following:

4,000 clothing workers  
5,000 workers over 55 years of age, concerning whom it is a question whether they are "sans travail" or whether they preferred to stop working.  
16,000 of whom the great majority (9,000) belong to the construction industry. The remaining 7,000 include the sick, invalid, etc., and in a word all the workers who were not able to name an employer."

On the basis of this exposition the following adjustments will be made to the number unemployed:

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<sup>1</sup>Recensement Industriel 31 octobre 1896, Vol. 18, p. 424.

APPENDIX B, ADDENDUM 2

Results of the Belgian Census of December 31, 1930<sup>a</sup>

	<u>Wage earners in industry</u>			<u>Salary earners in industry</u>			<u>Wage and salary earners in industry</u>		
	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>
Male	1,211,896	122,487	10.1	159,553	2,663	1.7	1,371,449	125,150	9.1
Female	268,857	20,983	7.8	25,297	472	1.9	294,154	21,455	7.3
Total	1,480,753	143,470	9.7	184,850	3,135	1.7	1,665,603	146,605	8.8

	<u>Wage earners in commerce</u>			<u>Salary earners in commerce</u>			<u>Wage and salary earners in commerce</u>		
	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>
Male	52,444	3,075	5.9	80,363	2,346	2.9	132,807	5,421	4.1
Female	11,374	541	4.8	38,623	969	2.5	49,997	1,510	3.0
Total	63,818	3,616	5.7	118,986	3,315	2.8	182,804	6,931	3.8

	<u>Wage earners in industry &amp; commerce<sup>b</sup></u>			<u>Salary earners in industry &amp; commerce<sup>c</sup></u>			<u>Wage and salary earners in industry &amp; commerce</u>		
	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un-employed</u>	<u>%</u>
Male	1,265,003	125,935	9.9	240,677	5,483	2.3	1,505,680	131,418	8.7
Female	280,374	21,557	7.7	64,218	1,599	2.5	344,592	23,156	6.7
Total	1,545,377	147,492	9.5	304,895	7,082	2.3	1,850,272	154,574	8.3

<sup>a</sup>Revue du Travail, June (1934), pp. 758-759. Helpers, 49,980 in industry and 164,456 in commerce, none of whom were listed as unemployed, are not included above.

<sup>b</sup>Included are 806 wage earners (663 males of whom 373 were unemployed and 143 females of whom 33 were unemployed) who were not able to be assigned to industry or commerce.

<sup>c</sup>Included are 1,059 salary earners (761 males of whom 474 were unemployed and 298 females of whom 158 were unemployed) who were not able to be assigned to industry or commerce.

(1) The employers' returns showed 12,000 bricklayers, tilemakers, and potters out of work while only 6,000 were enumerated in the workers questionnaires. Assume as is done in the census report that about 1/3 of the 12,000, or 4,000, accepted employment in other industries, leaving 8,000 actually unemployed. Thus 2,000, it will be assumed, was the number in this occupational category who reported an employer when in actuality they were unemployed.

(2) Of the 5,000 unemployed over 55 years of age, it will be assumed that 2,000 were actually not seeking work and therefore not unemployed.

(3) Of the 7,000 which the report describes as the "sick, invalid, etc., and in a word all the workers who were not able to name an employer," it will be assumed that 4,000 of this number were unemployed while 3,000 (approximately 4-1/2 per cent of the total number of industrial workers) were sick and unable to work.

Thus the net adjustment consists of subtracting 4,000 from the number which the census reported as unemployed, namely, 37,230. The corrected number unemployed is then 33,000 or about 4.7 per cent of the total number of industrial wage earners.

APPENDIX B, ADDENDUM 2 (Continued)

Results of the Belgian Census of February 27, 1937<sup>a</sup>

	<u>Wage earners in industry</u>			<u>Salary earners in industry</u>		
	<u>Total Number</u>	<u>Number Un- employed<sup>c</sup></u>	<u>%</u>	<u>Total Number</u>	<u>Number Un- employed</u>	<u>%</u>
Male	1,047,237	142,324	13.6	147,382	5,955	4.0
Female	228,723	6,936	3.3	23,905	748	3.1
Total <sup>b</sup>	1,275,960	149,260	11.7	171,287	6,703	3.9

	<u>Wage earners in commerce</u>			<u>Salary earners in commerce</u>		
	<u>Total Number</u>	<u>Number Un- employed</u>	<u>%</u>	<u>Total Number</u>	<u>Number Un- employed</u>	<u>%</u>
Male	74,515	8,531	11.4	67,856	4,689	6.9
Female	21,762	1,233	5.7	38,472	1,688	4.4
Total <sup>b</sup>	96,277	9,764	10.1	106,328	6,377	6.0

<sup>a</sup> Source: Annuaire Statistique de la Belgique et du Congo Belge, Vol. 70 (1950), pp. 128-129.

<sup>b</sup> Helpers (aidants), none of whom are listed as unemployed in the census, are excluded. Their numbers were as follows:

	Industry	Commerce
Male	28,057	30,058
Female	14,476	111,858

<sup>c</sup> The census definition of unemployment is given in Bulletin de Statistique, Vol. 24, No. 4, April 1938, p. 1. A person was considered as unemployed if he was able to work, desired to work, and was not employed. Persons without work, whether they received unemployment benefit or not were counted as unemployed. However, children and persons whom sickness or age rendered temporarily or permanently incapable of working were not considered unemployed; similarly, persons who voluntarily preferred not to work and those who were partially unemployed were not counted as unemployed.

## APPENDIX C

### Canada

Canadian unemployment statistics go back only as far as December, 1915, when the government began to compile and publish data relating to unemployment among trade union members. This series was published quarterly until 1920, monthly from 1920 to 1943, and quarterly from 1944 to June 1950, when it was discontinued. The principal characteristics and limitations of the series are as follows:<sup>1</sup>

1. There has been variation from month to month in coverage. Local unions, which supplied the basic data, were not always faithful in submitting returns. In 1950 there were 2,643 local unions with 570,600 members submitting returns (the total numbers of paid workers in non-agricultural industry on June 1, 1950, was estimated at 3,378,000), but it cannot be said that either the extent of coverage or the industrial scope of the coverage in that year typified the situation at any other time. Roughly speaking, the trade union sample included between 10 and 20% of the total number of non-agricultural wage earners in Canada.

2. The representative nature of the sample was found to vary with business conditions. When employment was rising, the trade union data were found to approximate more closely the degree of unemployment, as measured by more comprehensive censuses, than when employment was de-

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<sup>1</sup>A detailed analysis of the trade union series may be found in Seventh Census of Canada, 1931, Monographs, Unemployment, Vol. XIII, 1942, pp. 222-228.

clining, since there was a tendency for the reporting unions to have better employment conditions than the non-reporting unions. Moreover, persons dropping out of unions on the downswing of the cycle were more apt to be unemployed than those remaining in the unions.

3. The industrial coverage of the trade union data included fishing, lumbering, mining, manufacturing, transportation, communications, trade, and services. Among major occupational groups only agriculture was excluded.

4. Because of the nature of the data, only wage earners (or paid workers, the terms being used almost interchangeably in Canadian statistics) were included in the reports. For purposes of international comparison limitation to wage earners is an advantage rather than a disadvantage.

5. Persons engaged in work other than their own trades, or idle because of illness, were not considered as unemployed, and unions engaged in industrial disputes were excluded from the tabulation. From the nature of the returns, persons who had never held non-agricultural jobs, and were therefore not likely to have joined a union, would not have been covered.

6. Mr. M. C. MacLean, who was largely responsible for the excellent monograph on unemployment which accompanied the 1931 Census, had the following to say of the trade union series:

"The objection that the organization of labor unions brings about employment conditions different from those prevailing among the generality of wage-earners is here regarded as frivolous. If we could obtain an estimate of unemployment as close to the truth as the difference caused by labor union organization we should have not only the best estimate in the world, but also figures better than those of any census, since

definitions of employment are subject to very wide variations. This is not the trouble with the labor union figures. The real drawback is that from month to month the number of unions reporting their unemployment varies, and more particularly that the sample reporting varies in kind according to employment conditions. When employment is on the up-grade the reports of the unions seem to be fairly representative; when it is on the down grade there is a clearly marked tendency for the reporting unions to have better employment conditions than the non-reporting unions."<sup>1</sup>

Annual unemployment percentages derived by arithmetic average from the quarterly or monthly trade union statistics are shown in Table C-1.

In an effort to eliminate some of the deficiencies of the trade union data, the Dominion Bureau of Statistics adjusted them for variation in the size of the sample and for decline in trade union membership during periods of recession, for the years 1920 to 1935. The corrected data are shown in Table C-2. A comparison of Tables C-1 and C-2 reveals that only in 1921 and 1932, both years of considerable unemployment, did the two series differ by more than two percentage points of unemployment.

To secure unemployment statistics free of the limitations inherent in the trade union data, the Dominion Bureau of Statistics, on the basis of the 1931 Census, an index of employment based upon monthly reports of business concerns,<sup>2</sup> and the trade union data as corrected, prepared independent estimates for the years 1920 to 1940. Annual unemployment percentages, derived from the monthly data of these

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<sup>1</sup>Ibid., p. 222.

<sup>2</sup>The Bureau of Statistics' index of employment varied in coverage from year to year, including 36% of all wage earners in 1921 and 45% in 1931. Because of sharp variations in the size of the labor force at risk, this index alone could serve only as a very rough indicator of unemployment.

Table C-1

ANNUAL PERCENTAGES OF UNEMPLOYMENT AMONG CANADIAN WAGE EARNERS,  
AS REPORTED BY TRADE UNIONS, 1915 TO 1950

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1915	7.9 <sup>a</sup>	1933	22.3
1916	1.9	1934	18.2
1917	1.9	1935	15.4
1918	1.3	1936	13.2
1919	3.4	1937	10.7
1920	4.6	1938	13.1
1921	12.6	1939	12.2
1922	7.1	1940	7.8
1923	4.9	1941	4.5
1924	7.2	1942	2.2
1925	6.4	1943	0.8
1926	5.1	1944	0.5
1927	4.9	1945	1.4
1928	4.5	1946	1.4
1929	5.7	1947	1.3
1930	11.0	1948	2.2
1931	16.9	1949	3.0
1932	22.0	1950	3.8 <sup>b</sup>

<sup>a</sup>December only.

<sup>b</sup>March and June only.

SOURCES: 1915-1919, W. A. Berridge, Report on Employment and Income of Labor in Canada, 1910-1931, World Social Economic Congress, 1931, p. 6.  
1920-1935, Seventh Census of Canada, Unemployment, pp. 283-285.  
1936-1950, Labour Gazette, passim.

Table C-2

ANNUAL PERCENTAGES OF UNEMPLOYMENT AMONG CANADIAN WAGE EARNERS,  
AS REPORTED BY TRADE UNIONS, 1920 TO 1935,  
CORRECTED FOR VARIATION IN SIZE OF SAMPLE  
AND FOR CHANGING TRADE UNION MEMBERSHIP

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1920	3.8 <sup>a</sup>	1928	2.6
1921	8.9	1929	4.2
1922	7.1	1930	12.7
1923	4.9	1931	17.5
1924	7.1	1932	24.4
1925	7.0	1933	24.1
1926	4.7	1934	18.9
1927	2.9	1935	16.0

SOURCE: Seventh Census of Canada, Unemployment, pp. 285-287.

<sup>a</sup>December only.

estimates, are contained in Table C-3.

An unemployed was defined for the purpose of these estimates as "the person who could tell a census enumerator that he had worked as a wage-earner or that he had a wage-earning occupation, but is at present out of work (not through illness, accident, strike or lockout, etc.)." Under this definition youths of working age who had never held a steady job, as well as those on farms who might have been wage earners under better employment conditions, were excluded from the unemployment census.

Several of the problems encountered in the preparation of these estimates are worthy of special note:

1. There was found to be a considerable amount of migration between the wage earner and the independent worker groups during the period studied. This was attributed to the rapid industrialization which Canada was then undergoing. For example, according to the 1921 Census, there were 3,173,000 gainfully employed persons; in 1931, 3,927,000, i.e., an increase of 23.8%. The numbers of wage earners employed rose from 1,789,000 in 1921 to 2,133,000 in 1931, i.e., by 19.2%. If the ratio of wage earners to gainfully employed population in 1931 had remained unchanged from 1921 (62.1%), there would have been in 1931 some 2,439,000 wage earners, and unemployment would have been 12.5%. In fact, the 1931 Census revealed that there were 2,570,000 wage earners in that year, so that 17% were without jobs. Consequently, estimates of the labor force based upon census projections were hazardous, and indexes of employment were only of limited value in estimating unemployment.

Table C-3

ESTIMATED PERCENTAGES OF UNEMPLOYMENT AMONG  
CANADIAN WAGE EARNERS, 1920 TO 1940

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1920	3.8 <sup>a</sup>	1931	17.4
1921	8.9	1932	26.0
1922	7.1	1933	26.6
1923	4.9	1934	20.6
1924	7.1	1935	19.1
1925	7.0	1936	16.7
1926	4.7	1937	12.5
1927	2.9	1938	15.1
1928	2.6	1939	14.1
1929	4.2	1940	9.3
1930	12.9		

SOURCES: 1920-1936, Seventh Census of Canada, Unemployment, pp. 274-276.  
1936-1937, L. Richter (editor), Canada's Unemployment Problem, Toronto, 1939, p. 9.  
1938-1940, Dominion Bureau of Statistics, Statistics Relating to Labor Supply Under War Conditions, Ottawa, 1941, p. 14.

<sup>a</sup>June to December.

2. Large scale immigration to and emigration from Canada, depending upon the phase of the business cycle, were additional complicating factors. "The immigration occurred during low unemployment but kept up until unemployment rose almost to a peak. Emigration then started and it was accompanied (or followed) by decreasing unemployment. This, of course, introduces a widely different concept of unemployment from that generally accepted, viz., that unemployment is merely the opposite of employment. Unemployment only partly declined with increasing employment. As noticed it also increased with increasing numbers of wage earners and decreased with decreasing numbers of wage earners."<sup>1</sup>

Recently, the Dominion Bureau of Statistics prepared an estimate of the labor force for the period 1931 to 1950, based in part upon the quarterly survey of the labor force which was initiated in November 1945. However, these estimates, from which unemployment percentages may be derived, differ substantially from the earlier statistics in concept and coverage:

1. The new series includes agriculture as well as non-agricultural industry. While the agricultural labor force is shown separately, no separate figure is given for agricultural unemployment.

2. As far as the labor force is concerned, paid workers (wage earners) and the self-employed (including unpaid family workers) are shown separately, but again no separation is made for the unemployed.

3. The labor force survey includes in the labor force (i.e., in the denominator of the unemployment ratio) "those who were at work

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<sup>1</sup>Seventh Census of Canada, Unemployment, p. 15.

during any part of the [survey] week, or had jobs from which they were temporarily absent, or were looking for work. . . while those who did not work for pay or profit during the survey week and had no job and were not looking for work, are classed as not in the labor force (as either permanently unable or too old to work, keeping house, going to school, retired or voluntarily idle, or other)."<sup>1</sup>

4. With respect particularly to unemployment, persons temporarily laid off with definite instructions to return to work within 30 days are regarded as employed by the labor force survey, but as unemployed under earlier definitions. This tends toward a relative understatement of unemployment under the labor force concept. Offsetting this is the fact that persons who have never worked but are looking for work are counted as in the labor force and unemployed by the labor force survey, and as neither gainfully occupied nor unemployed under the earlier Census concept.

5. The Bureau of Statistics, in its estimates, linked the post-1945 labor force survey data to the pre-1945 census data by adjusting the latter to the former concept.<sup>2</sup> The estimates were made as of June 1 for each year beginning with 1931, to take advantage of the fact that this was the population census day in 1931 and 1941.<sup>3</sup>

Two sets of unemployment percentages derived from these estimates

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<sup>1</sup>Dominion Bureau of Statistics, Canadian Labor Force Estimates 1931-1950, Reference Paper No. 23, 1951, p. 2.

<sup>2</sup>For the war years, Employment Service data were used in making the estimates. See ibid., p. 10.

<sup>3</sup>The actual day for 1941 was June 2.

are presented in Table C-4. In the first set, persons without jobs and seeking work are related to the entire civilian labor force. From 1931 to 1939 the resultant unemployment percentages are below any of the other series considered above, which is to be expected in view of the fact that while unemployment is normally restricted to the paid worker group, the labor force at risk here includes a substantial number of employees, self-employed, and unpaid family workers. After 1939, however, this series follows closely the uncorrected trade union percentage, being slightly above the latter up to 1947 and slightly below it from 1948 to 1950.

The second series in Table C-4 relates persons without jobs and seeking work to the total of paid workers with jobs and persons without jobs. This series runs consistently higher than any other series, due no doubt to the fact that the unemployment data include farm workers and some self-employed, whereas the labor force at risk excepts these categories.

For purposes of international comparison, the best of the unemployment series is that in Table C-3. Coverage is inclusive, with only agriculture being excluded; it is limited to wage earners, avoiding the pitfalls of attempting to measure unemployment among other groups; persons on temporary layoff are counted as unemployed, while those who have never worked are excluded from the count; and persons engaged primarily in keeping house, with part time employment outside, are similarly handled.

Unfortunately, this series is available only for the period 1920 to 1940. The only series which presents data prior to 1920 is the trade union series, which has the additional advantage of continuing unbroken until 1950. The trade union data diverge significantly from the Bureau

Table C-4

ESTIMATED PERCENTAGES OF UNEMPLOYMENT DERIVED FROM  
LABOR FORCE SURVEY DATA, AND PROJECTED BACK TO 1931  
BY THE BUREAU OF STATISTICS, 1931 TO 1950

<u>Year</u>	<u>Persons without jobs as a percentage of total labor force</u>	<u>Persons without jobs as a percentage of paid workers plus persons without jobs</u>
1931	11.6	19.1
1932	17.6	28.6
1933	19.3	32.5
1934	14.5	24.6
1935	14.2	24.3
1936	12.8	22.3
1937	9.1	16.3
1938	11.4	20.1
1939	11.4	20.3
1940	9.2	16.1
1941	4.4	7.1
1942	3.0	4.6
1943	1.7	2.5
1944	1.4	2.1
1945	1.6	2.4
1946	2.6	4.1
1947	1.9	2.8
1948	1.6	2.5
1949	2.0	3.0
1950	2.6	3.8

SOURCE: Dominion Bureau of Statistics, Canadian Labor Force  
Estimates, p. 15.

of Statistics estimates from 1932 to 1940; during these years, average unemployment was 15% according to the trade union series and 17.8% in the Bureau estimates. The maximum divergence was 4 percentage points in 1933, the year of greatest unemployment. The years before 1920 and after 1940 were years of relatively low unemployment. On the basis of the behavior of the two series -- and indeed, all available series<sup>1</sup> -- in such periods, it does not seem unreasonable to link to the Bureau estimates the trade union series for the pre-1920 and post-1940 years. It was not necessary to average the series for the two years in which they were linked, since they were quite close together in those years (0.8 percentage points in 1920, 1.5 percentage points in 1940). For 1950, the trade union series is extrapolated on the basis of the labor force survey series. The resultant series is shown in Table C-5.

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<sup>1</sup>From 1941 to 1949 inclusive, the labor force survey series yields average unemployment of 2.2% compared with 1.9% as shown by the trade union data.

Table C-5

ESTIMATED PERCENTAGES OF UNEMPLOYMENT IN CANADA,  
EXCLUDING AGRICULTURE, 1916-1950

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1916	1.9	1934	20.6
1917	1.9	1935	19.1
1918	1.3	1936	16.7
1919	3.4	1937	12.5
1920	4.6	1938	15.1
1921	8.9	1939	14.1
1922	7.1	1940	9.3
1923	4.9	1941	4.5
1924	7.1	1942	2.2
1925	7.0	1943	0.8
1926	4.7	1944	0.5
1927	2.9	1945	1.4
1928	2.6	1946	1.4
1929	4.2	1947	1.3
1930	12.9	1948	2.2
1931	17.4	1949	3.0
1932	26.0	1950	3.8 <sup>a</sup>
1933	26.6		

SOURCE: 1915-1920: W. A. Berridge, Report on Employment and Income of Labor in Canada, 1910-1931, World Social Economic Congress, 1931, p. 6.

1921-1940: Seventh Census of Canada, 1931, Monographs: Unemployment, 1937, Vol. XIII, pp. 274-276; Canada, Dominion Bureau of Statistics, Statistics Relating to Labor Supply Under War Conditions, Ottawa, 1941, p. 14.

1941-1950: Labour Gazette, passim.

## APPENDIX D

### Denmark

There is only one major source of information on Danish unemployment, namely, the statistics emanating from the operation of the unemployment insurance system. Denmark has the so-called Ghent system of unemployment insurance, under which the state subsidizes unemployment insurance societies operated by trade unions. The early establishment of the system -- subsidies were paid as early as 1907 -- and its relative liberality combine to render the unemployment statistics derived therefrom a generally accepted measure of unemployment in the country.

The percentages of unemployment derived from this source are shown in Table D-1, for the years 1903 to 1950. The specific characteristics of the series are as follows:

1. Prior to 1910, the data were calculated by the trade unions directly. Beginning in that year, the task of assembling and publishing the data was taken over by the Danish Statistical Department, a governmental agency. The basic reports come from unemployment insurance societies, which are open on a voluntary basis to persons aged 18 or over, who are able to work and seeking work. These societies receive government subsidies, and their operation is supervised by public employment offices.

Danish unemployment insurance provisions have always been relatively liberal, particularly with respect to duration of benefits, and so it is believed that the degree of unemployment registration is

Table D-1

AVERAGE ANNUAL PERCENTAGES OF UNEMPLOYMENT  
AMONG INSURED WORKERS IN DENMARK, 1903-1950

<u>Year</u>	<u>Percentage</u>	<u>Year</u>	<u>Percentage</u>	<u>Year</u>	<u>Percentage</u>
1903	13.0	1919	10.9	1935	19.7
1904	12.0	1920	6.1	1936	19.3
1905	13.0	1921	19.7	1937	21.9
1906	6.0	1922	19.3	1938	21.5
1907	7.0	1923	12.7	1939	18.4
1908	11.0	1924	10.7	1940	23.9
1909	13.0	1925	14.7	1941	18.4
1910	10.7	1926	20.7	1942	15.1
1911	9.5	1927	22.5	1943	10.7
1912	7.6	1928	18.5	1944	8.3
1913	7.5	1929	15.5	1945	13.4
1914	9.9	1930	13.7	1946	8.9
1915	8.1	1931	17.9	1947	8.9
1916	5.1	1932	31.7	1948	8.6
1917	9.7	1933	28.8	1949	9.6
1918	18.1	1934	22.2	1950	8.7

SOURCES: 1903-1908, F. Zeuthen, "Arbejdsløsheden," Socialt Tidsskrift, 1932, Vol. VIII, p. 305.

1909-1940, K. Vedel-Petersen, Danmarks Statistik, Copenhagen, 1946, p. 418.

1941-1950, Statistiske Meddelelser, 4R., 144 B., 2H., Arbejdsløsheden 1950, p. 13.

higher than in most other countries.<sup>1</sup> This would be particularly true of the earlier years of the century, because of the comparatively early development of the Danish unemployment insurance system.<sup>2</sup>

2. The unemployment percentages are derived by comparing the number of persons registered as unemployed on a particular day of the month (in recent years, at least, the count day has been the last Friday in each month) with the total numbers of persons insured.<sup>3</sup> Since records are kept on the basis of actual days of unemployment suffered, data are also available on the number of working days lost due to this cause. Table D-2 shows the number of working days lost per insured worker due to unemployment. Statistics on the potential number of

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<sup>1</sup>Under the Danish system of unemployment insurance, reporting is virtually mandatory even for those who may not immediately qualify for benefits. Long duration of benefits, plus the additional fact that persons who exhaust benefits are still "controlled" as long as they retain membership in the insurance society, make for full reporting.

<sup>2</sup>Thus Professor Zeuthen has noted: "The unemployment figures appear to have been relatively high for Denmark earlier; but a large part of this difference disappeared later, partly on the basis of more complete statistics in other countries after the introduction of unemployment insurance. For Germany after 1933 it would appear that the data are to a large extent influenced by changes in the right to compensation and the methods of measuring unemployment. For France and the U. S. one must also reckon with a considerable widening of the availability of support . . . while the figures for England, where there is general compulsory insurance, are much more complete . . . ." F. Zeuthen, Arbejdsløn og Arbejdsløshed, Copenhagen, 1939, p. 245.

<sup>3</sup>K. Vedel-Peterson, Danmarks Statistik, Copenhagen, 1946, p. 418. It should be emphasized that the number of persons reporting themselves as unemployed, not the number receiving benefits, is used in calculating the percentage of unemployment.

Table D-2

AVERAGE ANNUAL NUMBER OF WORKING DAYS LOST PER INSURED WORKER  
DUE TO UNEMPLOYMENT IN DENMARK, 1910-1940

<u>Year</u>	<u>Days lost</u>	<u>Year</u>	<u>Days lost</u>
1910	27.4	1926	62.0
1911	23.9	1927	68.3
1912	20.0	1928	56.2
1913	18.8	1929	47.0
1914	24.7	1930	40.9
1915	20.5	1931	53.7
1916	13.1	1932	95.9
1917	23.7	1933	88.6
1918	48.5	1934	67.3
1919	30.4	1935	59.7
1920	17.4	1936	58.1
1921	56.7	1937	64.5
1922	57.4	1938	65.6
1923	36.9	1939	56.1
1924	32.2	1940	71.7
1925	42.2		

SOURCE: The following volumes of Statistiske Meddelelser: 4 Raekke, 48 Bind, 5 Haefte; 4R., 61 B., 4H.; 4R., 74B., 2H.; 4R., 88B., 4H.; 4R., 100B., 2H.; 4R., 115B., 4H.

working days are not published, so that it is not possible to express the latter series in percentage form. However, when this series is compared with that in Table D-1, it is clear that the two move very closely together. This is not unexpected, in view of the common source, but it does indicate that basing the calculation of the unemployment percentage on an end-month count does not introduce any serious bias, as compared with a daily count.

3. The degree of coverage has varied considerably over time. The total number of members of unemployment insurance societies was as follows:<sup>1</sup>

<u>Year</u>	<u>Members</u>	<u>Year</u>	<u>Members</u>
1910	101,462	1930	288,939
1914	127,685	1935	386,080
1915	141,090	1940	501,426
1920	306,919	1950	645,000
1925	269,238		

These figures may be compared with the following statistics of employment, derived from census data. The figures exclude the self-employed, higher supervisory personnel, and those unemployed at the time of the census, and are limited to manufacturing, construction, and retail and wholesale trade.<sup>2</sup>

<u>Census Year</u>	<u>Manufacturing and</u>		
	<u>Construction</u>	<u>Commerce</u>	<u>Total</u>
1914	262,000	n.a.	
1925	309,000	114,000	423,000
1935	353,000	123,000	476,000

<sup>1</sup>Statistiske Meddelelser, 4R., 115B., 4H.; 4R., 114B., 2H.

<sup>2</sup>SOURCE: Ibid.,

Thus, in 1914, when insurance was limited almost exclusively to skilled workers in manufacturing and construction, the coverage was less than 50 per cent of this group. From 1914 to 1920 the insured group expanded considerably as a consequence of a more liberal policy of admission to funds, but the next five years witnessed a sharp decline in unemployment insurance society membership. Nevertheless, coverage in 1925 was much greater than in 1914, particularly when it is realized that the number of insured among commercial employees was very small.

An estimate of unemployment insurance coverage for 1930 indicated that 65 per cent of all wage earners and 20 per cent of salaried employees were society members, with virtually no membership among supervisory personnel and domestic employees. The wage earner group included apprentices not eligible for membership, and agricultural workers.<sup>1</sup> Excluding these two groups raised the coverage of wage earners to 79 per cent. Moreover, many of the commercial employees were young people, receiving help at home and only marginally attached to the labor market, this factor tending to understate the actual coverage among commercial employees.<sup>2</sup>

The figures for 1935 indicate increased coverage, though conceptual differences between the census and unemployment insurance figures render hazardous the determination of a precise percentage of coverage. The following statement regarding coverage in 1952 indicates roughly

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<sup>1</sup> About 20% of wage earners in agriculture and fishing were covered.

<sup>2</sup> J. S. Dich, "Arbejdsløshedstallene og Arbejdsløsheden," Socialt Tidsskrift, Vol. VIII, 1932, p. 16.

the degree of coverage since the war: "In Denmark the overwhelming majority of the insured are urban workers in crafts and industries where the coverage approaches 90 per cent of all workers. In the rural districts and among salaried employees, on the other hand, coverage does not exceed 20 per cent."<sup>1</sup>

4. At the beginning of the century, unemployment insurance coverage was confined largely to skilled workers in manufacturing. The subsequent extension of coverage resulted, first, in bringing in unskilled and semi-skilled wage earners (who in Denmark are organized in a large multi-industrial union), and secondly, in embracing many employees in retail and wholesale establishments. There has been considerable discussion in the Danish literature of the possible bias imparted to the unemployment figures by this extension of coverage.

It was generally assumed that the effect of growing coverage was to impart an upward bias to unemployment statistics, on the assumption that the newer recruits were more unemployment-prone than the older members; that the closer coverage reached 100 per cent for each trade or industry, the greater would be the reported unemployment, other things being equal. This effect was particularly feared during the rapid unemployment society membership increase from 1930 to 1935. However, a special study conducted in June, 1934, indicated that newly enrolled members were less subject to unemployment than older members.

The chief explanation appears to have been that a substantial proportion of the new members enrolled between 1930 and 1934 were recent migrants from the countryside into industry, who because of

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<sup>1</sup>The Ministries of Social Affairs of Denmark, Finland, Iceland, Norway, and Sweden, Freedom and Welfare, 1953, p. 414.

age and other characteristics were able to displace older insured workers.<sup>1</sup> Nevertheless, the belief persists that in the long run, increased coverage, and in particular the greater coverage of unskilled and semi-skilled workers, has tended to result in an increase in reported unemployment, though precise estimates of the degree of the bias are not available.<sup>2</sup>

5. Low coverage among agricultural laborers, domestic servants, and commercial employees, as well as the exclusion of civil servants, results in an overstatement of reported unemployment in comparison with the unemployment for the entire labor force, since by and large the excluded groups tend to have a lower rate of unemployment than the covered groups. It was estimated that for 1930, the published data would have to be reduced by one-sixth to take the non-insured labor force into account.<sup>3</sup>

Conclusion. On the basis of the foregoing observations, it may be concluded that the Danish statistics of unemployment derived from the unemployment insurance system provide a good index of unemployment among wage earners in manufacturing and construction. They would appear to be more reliable than similar data for other countries for the following reasons: a) the early development of unemployment insurance in Denmark, which meant less of an upward bias in the data as coverage broadened; b) the high degree of coverage in manufacturing and construction in recent years; c) the

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<sup>1</sup> Vedel-Petersen, op. cit., p. 243.

<sup>2</sup> F. Zeuthen, op. cit., pp. 240-243. See also Jørgen S. Dich, Arbejdsløshedsproblemet i Danmark 1930-1938, Copenhagen, 1939, pp. 3-49, for a discussion of this factor, and of the effect of more stringent controls over registration of unemployed introduced during the nineteen-thirties.

<sup>3</sup> J. S. Dich, op. cit.

high intensity of reporting due to the liberality of the benefit system; d) and the decentralization of administration, and particularly the fact that registration of the unemployed and the payment of benefits are handled by persons completely familiar with the employment situation in the trade concerned. There has probably been some upward bias in the data over the years, although this may have been reversed in recent years as a consequence of the spread of unemployment society membership among wholesale and retail employees. However, no measure of this bias is available.

Compared with other countries, it is probable that particularly for the first quarter of the century, the Danish unemployment statistics were relatively overstated because of relative completeness of reporting and a high degree of coverage. This factor has undoubtedly diminished in importance, but the Danish unemployment statistics still remain among the most comprehensive for the several countries studied.

## APPENDIX E

### France

#### 1. The Available Statistical Information Concerning Unemployment

##### a. The Quinquennial Censuses of Unemployment<sup>1</sup>

Since 1896, the quinquennial censuses, embracing the total population of France, have included questions concerning the employment status of all persons who work under the direction of or in the service of another, with the exception of homeworkers. Wage and salary earners in all lines of activity came within the scope of the censuses. In Table E-1, the results of these censuses are presented. The percentages of unemployment in Table E-1 refer to both wage and salary earners. It is not possible to calculate percentages for wage earners alone since in all the censuses the number of unemployed (sans emploi) is given for wage and salary earners together with no separate data available.

In general, the census returns excluded from the total number unemployed those unemployed because of sickness. This is not true for the two earliest censuses. In the census of 1896, 62,407 of the 266,875 persons reporting themselves unemployed failed to indicate the cause of their unemployment. In the 1901 census questionnaire, no question concerning the cause of unemployment was included. The censuses following

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<sup>1</sup>See Census Reports; Le Chômage en France d'après les Recensements Professionnels, Bulletin du Ministère du Travail, Vol. 39, 1932, pp. 377-385; A. de la Vergne and Paul Henry, Le Chômage, Paris, 1910, p. 66.

Table E-1

UNEMPLOYMENT ACCORDING TO THE FRENCH QUINQUENNIAL CENSUSES, 1896-1936

Date	Total number of unemployed wage and salary earners (thousands)	Percent of all wage and salary earners unemployed			Number of industrial <sup>a</sup> wage and salary earners unemployed (thousands)	Percent of industrial wage and salary earners unemployed		
		Total	Male	Female		Total	Male	Female
		29 March 1896	267	3.0		3.2	2.7	170
3 March 1901	315	3.5	3.8	3.0	199	4.6	4.7	4.4
4 March 1906	239	2.6	2.8	2.3	166	3.8	3.8	3.9
5 March 1911	209	1.9	-	-	- <sup>b</sup>	- <sup>b</sup>	-	-
6 March 1921	537	5.1	4.6	5.9	426	7.6	6.2	11.6
7 March 1926	243	2.2	2.2	2.1	168	2.6	2.6	2.7
8 March 1931	453	4.0	4.0	4.0	330	5.0	4.8	5.7
8 March 1936	864	7.5	7.8	6.9	638	11.6	11.8	11.0

<sup>a</sup>Wage and salary earners in mining, quarrying, building, manufacturing, communications and transportation.

<sup>b</sup>Change in the system of industrial classification makes data not comparable to that for other years.

SOURCES: Recense Général de la Population, Paris, 1935, vol. I, Part 3, pp. 67-68.

Annuaire Statistique, Paris, 1946, vol. 56, p. 143.

Bulletin du Ministère du Travail, vol. 39, 1932, p.381.

that of 1901 included the following question which permitted the exclusion of those unemployed on account of sickness: "If you are without work (sans emploi), is it because of sickness?"

While sick persons were excluded from the number unemployed, persons idle because of strike or lock-out who reported themselves unemployed are not excluded. Furthermore, there is no basis for determining whether those who reported themselves unemployed were actually willing and able to work.

The census unemployment figures refer to wage and salary earners of all ages. A breakdown of the unemployed by age is available in the 1911 census report and in earlier ones, but is not available in reports following 1911.

b. Trade Union Unemployment Statistics<sup>1</sup>

The trade union series shown in Table E-2, which extends from 1895 through 1913, is based on trade union replies made monthly to inquiries of l'Office du Travail. The questions asked by the authorities were the following:

"What is the number of workers belonging to your union on the day of \_\_\_\_\_?"

"What is the number of these members without work (sans ouvrage) or without a job (sans place) on the above date?"

In order to make the meaning of the word unemployed more precise, the

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<sup>1</sup>See: Le Chômage en France de 1900 à 1907, Bulletin de l'Office du Travail, Vol. 15, 1908, pp. 128-134; annual reports entitled, Le Chômage en France en 191-, which appeared in the Bulletin through 1913; A. de la Vergne and Paul Henry, op. cit., p. 53.

Table E-2

COVERAGE OF FRENCH TRADE UNION UNEMPLOYMENT SERIES

Year	Number of unions			Membership of unions (thousands)		
	In existence	Responding	Percentage responding	All unions	Responding unions	Percentage of responding unions
1900	2,754	626	22.7	480	141	29.3
1901	3,448	822	23.8	578	143	24.7
1902	3,833	887	23.1	614	146	23.7
1903	4,089	1,004	24.6	642	157	24.5
1904	4,361	1,004	23.0	717	173	24.2
1905	4,768	980	20.1	772	174	22.6
1906	4,996	1,143	22.9	818	203	24.9
1907	5,475	1,059	19.3	892	207	23.2
1908	-	986	-	-	200	-
1909	-	1,034	-	-	222	-
1910	-	1,009	-	-	232	-
1911	-	912	-	-	221	-
1912	-	814	-	-	211	-

SOURCE: Bulletin de l'Office du Travail, Vol. 15, 1908, p. 129 and Vol. 20, 1913, p.122.

following instructions were added, "Do not count as unemployed those unemployed because of sickness or workers who are on strike."

At about the fifteenth of each month the Labor Ministry sent a questionnaire bearing these questions and instructions to all unions whose existence was known to the Ministry. Unions paying out of work benefits, as well as those not paying such benefits, were included in the sample. In 1900, of 2,754 unions known to the Ministry and to whom questionnaires were sent, 626 unions (22.7 per cent) replied. The responding unions had a membership of 141,000 which was 29.3 per cent of the membership of all known unions. By 1907, 1,059 of a total of 5,475 unions or 19.3 per cent responded to the Ministry's inquiries. These unions had a membership of 207,000 or 23.2 per cent of the total number of union members in France. In all the years from 1900 on, as Table E-2 indicates, the union sample included about 20 to 25 per cent of the total number of unions and of the total number of trade unionists. The number of trade unionists covered by the returns represented only about 5 per cent of the total number of wage and salary earners in manufacturing, mining, building, and transportation.

The industrial groups represented in the trade union returns were: agriculture, forestry, food, hides and leather, books, textiles, wood, metal, mining, building, and salary earners. Trade union unemployment percentages were calculated by comparing the total number unemployed to the total membership of the reporting unions. The miners' union of Pas-de-Calais with a membership of 20 to 30 thousand was generally excluded in calculation of the percentages published in the Bulletin du Ministère du Travail, since this union reported irregularly. Annual

percentages including miners, 1895-1913, appeared in Annuaire Statistique of 1913. From 1903-1912, a separate percentage for industry and commerce, that is excluding workers in agriculture, wood-cutting, fishing, and mining, was published in the Bulletin. These percentages are presented in Table E-3.

c. Public Relief Fund Statistics<sup>1</sup>

Since August, 1914, when unemployment relief funds subsidized by the state were created, monthly statistics of the number of wholly unemployed persons in receipt of relief from departmental, communal and inter-communal unemployment relief funds have appeared. Annual averages of the monthly data for 1915 and following years are shown in Table E-4.

In spite of the fact that local unemployment funds have been required to conform their operations to conditions embodied in state decrees, that of April 19, 1918 and its amendments and most recently that of March 12, 1951, far from complete uniformity of operation has been the case in practice. In general, relief has been extended to those who are involuntarily unemployed, that is, to workers who have terminated their relation with their former employer, and who satisfied certain additional conditions. To be eligible for receipt of relief, the involuntarily

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<sup>1</sup>See: Le Chômage en France d'après les Statistique des Institute Publique d'Assistance aux Chômeurs et des Offices Publics des Placement, Bulletin du Ministère du Travail, Vol. 40, 1933, pp. 1-10; ILO Yearbook, 1934-1935, p. 175; Note Francaise sur la Réglementation du Chômage et ses Rapports avec l'Elaboration des Statistiques, Commission Permanente de l'Organisation du Traité de Bruxelles, 3ème Session du Groupe de Travail des Statisticiens, Document A/1690; International Labour Review, Vol. 58, 1948, p. 830.

Table E-3

PERCENTAGE OF UNEMPLOYMENT AMONG FRENCH TRADE UNION MEMBERS, 1895-1913

Unemployment percentages based on:

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<u>Year</u>	<u>Total sample of union members</u>	<u>Total sample excluding miners</u>	<u>Union members in industry and commerce<sup>a</sup></u>
1895	7.0		
1896	6.7		
1897	6.9		
1898	7.3		
1899	6.6		
1900	6.8	8.0 <sup>b</sup>	
1901	7.8	9.9	
1902	9.9	10.9	
1903	9.4	10.2	9.1 <sup>b</sup>
1904	10.2	11.3	10.7
1905	9.0	10.0	8.7
1906	7.6	8.4	7.4
1907	7.0	7.6	6.8
1908	8.6	9.6	9.2
1909	7.3	8.1	7.1
1910	5.8	6.5	5.8
1911	5.7	6.2	5.4
1912	5.4	6.1	5.6
1913	4.7	-	-

<sup>a</sup>That is, the total number of union members excluding those in fishing, mining, agriculture, and wood-cutting.

<sup>b</sup>Not available before this year.

SOURCES: Annuaire Statistique, Paris, 1913, p. 183.  
Bulletin de l'Office du Travail, Vol. 15, 1908, p. 130 and  
 Vol. 20, 1913, p. 123.

Table E-4

FRENCH UNEMPLOYMENT ACCORDING TO  
PUBLIC RELIEF OFFICE STATISTICS, 1915-1952

<u>Year</u>	<u>Unemployed in receipt of relief<sup>a</sup> (thousands)</u>	<u>Year</u>	<u>Unemployed in receipt of relief<sup>a</sup> (thousands)</u>
1915	174	1935	427
1916	72	1936	432
1917	28	1937	355
1918	13	1938	374
1919	52	1939	382 <sup>c</sup>
1920	6	1940	-
1921	47	1941	293
1922	5	1942	70
1923	2	1943	20
1924	1	1944	-
1925	1	1945	16
1926	2	1946	16
1927	34	1947	7
1928	5	1948	17
1929	1	1949	40
1930	3	1950	52
1931	45	1951	40
1932	273 <sup>b</sup>	1952	39
1933	274		
1934	345		

<sup>a</sup>Data from 1915 through 1926 were calculated from monthly data appearing in Bulletin du Ministère du Travail, Vol. 40, 1933, p. 6; data from 1927 on are from International Labour Organization's Yearbooks of Labour Statistics.

<sup>b</sup>From July, 1932 on, unemployed in receipt of relief from the welfare offices are included.

<sup>c</sup>Average of months January through August.

unemployed person had to be capable of working and ready and willing to accept a job. As evidence of the willingness to work, unemployed workers were required to register at an employment exchange. Further, an unemployed person had to satisfy certain residency requirements and to show proof of previous employment in the period directly preceding his period of unemployment. Those unemployed on account of strikes and lockouts, misbehavior, and seasonal causes, as well as those pensioned off or retired, were generally denied relief.

The effect of these restrictions on the grant of relief has been to keep the recorded number of unemployed in receipt of relief considerably below the actual number unemployed. This understatement is further magnified for several other reasons. Since the relief payments have been very small, many unemployed persons, although eligible for relief payments, did not apply for them. Furthermore, other eligible unemployed persons who were unwilling to submit to questioning by the relief authorities or who felt that the acceptance of relief involved a certain social humiliation did not apply for relief. For the above reasons, the series of the number of unemployed in receipt of relief is of extremely limited value as a measure of the extent of unemployment in France.

d. Employment Exchange Statistics<sup>1</sup>

These statistics, covering all lines of activity, relate to persons seeking work who register at employment exchanges. The monthly figures show the number of unfilled applications for work at the end of

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<sup>1</sup>See references listed in footnote 1, p. E-6.

the week ending nearest the end of the month. The law requires that employment offices be created in all departments and all towns with more than 10,000 inhabitants; however, in normal times many unemployed workers who prefer to seek work on their own do not register with the employment exchanges. In times of economic crisis, the registration is more complete since payment of unemployment relief is subject to such registration. Annual averages of the number of unplaced applicants for work are presented in Table E-5.

e. Employment Surveys<sup>1</sup>

In April, 1950, and twice each year since then, l'Institut National de la Statistique et des Études Économiques has conducted employment surveys (les enquêtes par sondage sur l'emploi) based on a stratified sample of dwellings in an attempt to ascertain the level of unemployment and to gain other information pertaining to employment and unemployment. In December of 1951, 10,314 dwellings made up the sample upon which the Institute based its findings. The list of dwellings employed was obtained from the Census of 1946. The sample was constructed as follows: France was divided into eight regions which were each further subdivided into 10 sub-regions. The sub-regions are weighted in the random drawing of dwelling places by the number of persons in agriculture for rural communes and by the number of inhabitants for urban communes. First a random drawing of communes is made, each commune being weighted as described

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<sup>1</sup>See Une Enquête par Sondage sur l'Emploi, Institut National de la Statistique et des Études Économiques, Bulletin Mensuel de Statistique, Supplement, January-March, 1951, pp. 1-24.

Table E-5

FRENCH UNEMPLOYMENT ACCORDING TO THE STATISTICS OF  
UNPLACED APPLICANTS FOR WORK, 1921-1952

<u>Year</u>	<u>Number of unplaced applicants for work<sup>a</sup> (thousands)</u>	<u>Year</u>	<u>Number of unplaced applicants for work<sup>a</sup> (thousands)</u>
1921	28	1941	395
1922	13	1942	124
1923	10	1943	42
1924	10	1944	-
1925	11	1945	68
1926	12 <sup>b</sup>	1946	57
1927	47 <sup>b</sup>	1947	46
1928	15	1948	78
1929	10	1949	131
1930	14	1950	153
1931	64	1951	120
1932	308	1952	132
1933	305		
1934	376		
1935	464		
1936	475		
1937	380		
1938	402		
1939	418 <sup>c</sup>		
1940	-		

<sup>a</sup>Data from 1921 through 1926 were calculated from monthly data presented by Dr. Adolf Agthe, Statistische Übersicht der Arbeitslosigkeit in der Welt, in M. Saitzew, Die Arbeitslosigkeit der Gegenwart, Verein für Sozialpolitik, Vol. 185, No. 1, p. 157; data from 1927 on are from the International Labour Organization's Yearbooks of Labour Statistics.

<sup>b</sup>From February 1927 onwards, these figures include unemployed persons in receipt of relief.

<sup>c</sup>Average of months January through August.

above, and then a random selection of dwelling places within each commune is drawn.

All persons 14 years of age and over living in the selected dwelling places are questioned. The unemployed are defined as persons not having employment, having already worked, physically able to perform the work for which they are qualified, and actively seeking work. Excluded from the surveys are persons living in convents, barracks, hospitals, prisons, and other institutions. In addition, the surveys do not include the island of Corsica.

The results of three of these inquiries, together with the number of unemployed in receipt of public relief and the number of unplaced applicants for work, are shown below:<sup>1</sup>

	<u>April 1950</u>	<u>October 1950</u>	<u>June 1951</u>
a. Number in receipt of public relief	60,500	45,200	45,200
b. Number of unplaced applicants for work	175,000	138,500	123,000
c. Number unemployed as estimated by sampling technique	290,000	190,000	160,000

As had been anticipated, the estimate of the total number of unemployed persons yielded by the surveys was much larger than either the number of unemployed in receipt of relief or the number of unplaced applicants for work.

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<sup>1</sup>See reference in footnote 1, on p. E-10.

f. Employment Indexes

Since 1930, returns made by industrial establishments to the provincial offices of the Factory Inspectorate have provided information for calculating an employment index. The first index, using 1930 as a base year, covered all establishments employing 100 persons or over in mining, manufacturing, commerce and transportation. In the early thirties, the chain index covered about 2.5 million wage earners with almost 90 per cent in mining and manufacturing. A second employment index, employing April, 1939, as a base, was constructed from the returns of establishments employing 10 or more workers.<sup>1</sup> This index, which has been carried back to 1937, came to cover approximately 6.8 million workers in 1947. Index numbers of employment are presented in Table E-6.

2. Evaluation of French Unemployment Statistics

a. French unemployment statistics are singularly incomplete.

In view of this fact, it is extremely difficult to develop a satisfactory continuous measure of unemployment. The only pre-World War I continuous series is that of the trade unions. The percentage figures shown for this series, when compared with the quinquennial censuses, appear to overstate the extent of unemployment in France. The following table reveals the magnitude of this overstatement:

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<sup>1</sup>From January, 1946, the information necessary to construct the employment index numbers has been obtained from surveys of a representative sample of establishments.

Table E-6

INDEX OF THE GENERAL LEVEL OF EMPLOYMENT IN FRANCE, 1930-1951

<u>Index numbers of employment</u>			<u>Index numbers of employment</u>		
<u>Year</u>	<u>Old index<sup>a</sup></u>	<u>New index<sup>b</sup></u>	<u>Year</u>	<u>Old index<sup>a</sup></u>	<u>New index<sup>b</sup></u>
1930	100		1941		91.7
1931	92.5		1942		93.2 <sup>d</sup>
1932	80.9		1943		97.0 <sup>e</sup>
1933	79.4		1944		92.1
1934	76.9		1945		93.8
1935	73.5		1946		99.0
1936	74.1		1947		104.8
1937	78.6	100	1948		107.7
1938	81.2	102.7	1949		109.5
1939	83.4 <sup>c</sup>	104.0 <sup>c</sup>	1950		109.9
1940		-	1951		112.6

<sup>a</sup>Covers establishments employing 100 or more persons.

<sup>b</sup>Covers establishments employing 10 or more persons.

<sup>c</sup>January-August.

<sup>d</sup>January-June, September and December.

<sup>e</sup>Annual figures commencing 1943 are averages of quarterly figures except: 1944, average of March and December; 1945, average of March, June, and September.

SOURCES: ILO Yearbooks of Labour Statistics and International Labour Review.

<u>Date</u>	<u>Census percentage</u>		<u>Trade union percentage</u>	
	<u>Total</u>	<u>Industry</u>	<u>Total</u>	<u>Industry and Commerce</u>
March 1896	2.8	3.1	6.7 <sup>b</sup>	n.a.
March 1901	3.1	3.4	7.8 <sup>b</sup>	n.a.
March 1906	2.6	4.0	9.4	8.6
March 1911	1.9	- <sup>a</sup>	6.3	5.8

<sup>a</sup>In the census of 1911 a change of occupational classification was made which makes it incomparable to earlier and later censuses.

<sup>b</sup>Annual figures including miners. Other trade union figures exclude miners.

Sources: Tables E-1 and E-3; Bulletin de l'Office du Travail.

To single out the particular factors responsible for the differences between the census and trade union percentages of unemployment is a task beset with uncertainties. Possibly the trade unions replying to the inquiries of the authorities were unions experiencing high rates of unemployment and thus did not constitute a representative sample. Further, since it is generally maintained that the reporting of unions with systems of unemployment payments is more accurate than that of unions without such arrangements, the accuracy of the French trade union unemployment statistics, not limited to unions with such systems, is open to question. But most important in rendering the trade union unemployment percentages suspect is the fact that the sample of unionists covered by the returns was exceedingly small. That the census percentages did not understate the level of unemployment is difficult to establish with certainty. It should be noted, however, that in spite of the slow growth of the French labor force, the index of industrial production rose continuously, without a fall in any year, from a level of 63 in

1901 to a level of 100 in 1913.<sup>1</sup> If no large changes in productivity occurred, it would appear that France was experiencing a low level of unemployment in these years.<sup>2</sup>

b. In the interwar period, the statistics of the employment exchanges and of the unemployment relief funds understate the amount of unemployment for reasons set forth above. The extent of this understatement can be appreciated by a comparison with the numbers reported unemployed in the quinquennial censuses:

<u>Date</u>	<u>Number unemployed according to the census (thousands)</u>	<u>Number of unemployed in receipt of relief (thousands)</u>	<u>Number of unplaced applicants for work<sup>a</sup> (thousands)</u>
March 1921	537	70	32
March 1926	243	0.4	9
March 1931	453	41	57
March 1936	864	465	509

<sup>a</sup>Before February 1927, these figures do not include the number of unemployed in receipt of relief.

Source: See references in footnotes to Tables E-1, E-4, and E-5.

c. In view of the unsatisfactory nature of the available statistics, various estimates of unemployment in France in the inter-war period must be consulted to gain some idea of the actual amount of unemployment during these years. L'Institut de Recherches Économiques et Sociales in the opening paragraph of its study, "Le Chômage en France de

<sup>1</sup>Résumé Retrospectif, Annuaire Statistique, Vol. 57, 1946, p. 99\*.

<sup>2</sup>See statement of l'Institut de Recherches Économiques et Sociales quoted below.

1930 à 1936" states:<sup>1</sup>

"From the beginning of the century to the year 1930, France-- except at the beginning of hostilities in 1914 or during the short and not very intense crises of 1921-1922 and 1926-1927-- barely suffered from any unemployment except seasonal unemployment. In normal periods, it was the scarcity of manual labor and not its superabundance which was feared; in the years of prosperity which followed the war it was necessary to call in foreign workers at great expense in order to fill up the vacancies left in the economically active population."

The low level of unemployment in the 1920's referred to above is reflected in the following estimates of unemployment which Dr. Adolf Agthe constructed on the basis of the census results and the series of unplaced applicants for work.<sup>2</sup>

<u>Year</u>	<u>Average number wholly unemployed (thousands)</u>	<u>Year</u>	<u>Average number wholly unemployed (thousands)</u>
1921	362	1927	1,085
1922	182	1928	383
1923	142	1929	127
1924	240	1930	163
1925	266	1931	845
1926	278	end 1931	1,381

According to the 1926 census there were 12.25 million wage and salary earners in France, including 2.40 million in agriculture, forestry and fishing. Thus, if the above estimates are accurate, it is seen that, except for 1921 and 1927, the level of unemployment in France during the

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<sup>1</sup>Le Chômage en France de 1930 à 1936, Institut Scientifique de Recherches Economiques et Sociales, Paris, 1938, p. 11.

<sup>2</sup>Dr. Adolf Agthe, Statistische Übersicht der Arbeitslosigkeit in der Welt, in Die Arbeitslosigkeit der Gegenwart, M. Saitzew, Verein für Sozialpolitik, Vol. 185, No. 1, pp. 137-174, p. 148.

twenties probably hovered about the "irreducible minimum."

d. With the advent of the depression of the thirties, unemployment increased to levels not properly reflected in the inadequate statistics of the period. A number of estimates have been gathered in an effort to obtain some rough approximation of the true level of unemployment in these years of crisis:

<u>Date</u>	<u>Authority</u>	<u>Number wholly unemployed (thousands)</u>
1930	A. Agthe <sup>1</sup>	163
1931	A. Agthe	845
March 1931	Census <sup>2</sup>	453
End 1931	A. Agthe <sup>1</sup>	1,381
1932	W. Woytinsky <sup>3</sup>	1,300
1934	R. Cahill <sup>4</sup>	700-800
February 1935	Institut Scientifique de Recherches Économique et Sociales <sup>5</sup>	more than 1,089*, (1,140)
February 1935	A. Gilbert <sup>6</sup>	2,000
April 1935	A. Gilbert <sup>6</sup>	1,900
October 1935	ISRES <sup>5</sup>	722* (758)
March 1936	Census <sup>2</sup>	864
October 1937	ISRES <sup>5</sup>	559* (587)
1937	C. Clark <sup>7</sup>	(about 24% of the <u>non-agricul- tural</u> occupied population)

\*These estimates were made employing the provisional figure of 823,803 unemployed for the census of 1936. "Le Chômage en France de 1930 à 1936," l'Institut de Recherches Économiques et Sociales, p. 37. The actual number unemployed was 864,170 in the census of 1936. The bracketed figures are calculated employing this latter figure rather than the provisional result.

<sup>1</sup>Dr. Adolf Agthe, "Statistische Übersicht der Arbeitslosigkeit in der Welt," in M. Saitzew, Die Arbeitslosigkeit der Gegenwart, Verein für Sozialpolitik, Vol. 185, No. 1, pp. 137-174, p. 148.

<sup>2</sup>Census Reports.

<sup>3</sup>W. Woytinsky, Three Sources of Unemployment, ILO Studies and Reports,

The estimates of Dr. Agthe have been described above. R. Cahill made his estimate "on the basis of the Census and other official returns."<sup>1</sup> A. Gilbert, Chief of the First Bureau, Directorate of Labor, Ministry of Labor, presented his figures without further explanation. Colin Clark described his estimate as follows, "The figure for 1937 is roughly computed from the decline in the statistics of employment, compilation of which began in 1930."<sup>2</sup> The 1936 census enumerated 20,260,456 persons gainfully occupied, with 7,141,013 in agriculture and forestry. Thus the non-agricultural occupied population was about 13 million. Of these 13 million, 9.6 million were wage and salary earners; thus 24 per cent of this latter number would yield approximately 2.3 million unemployed in 1937 according to Clark's estimate (on the assumption that the number occupied did not vary appreciably between 1936 and 1937).

W. Woytinsky constructed his estimate of unemployment in 1932 in the following manner. He assumed that the normal level of "invisible unemployment" in France was 240,000 (the result of the 1926 census). From

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Series C, No. 20, Geneva, 1935, p. 114.

<sup>4</sup>R. Cahill, Economic Conditions in France, Department of Overseas Trade, H.M.S.O., 1934, p. 37.

<sup>5</sup>Ibid., p. 37, p. 62.

<sup>6</sup>A. Gilbert, "Public Employment Office Administration and Unemployment Insurance in France" in Administration of Public Employment Offices and Unemployment Insurance, Industrial Relations Counselors, Inc., New York, 1935, pp. 106-7.

<sup>7</sup>C. Clark, Conditions of Economic Progress, London, 1940, p. 70.

<sup>1</sup>R. Cahill, op. cit., p. 37.

<sup>2</sup>C. Clark, op. cit., p. 71.

his careful comparison of the amount of work performed and the course of industrial production, he was able to conclude that the fall of over 31 per cent in industrial production between 1926 and 1932 should have led to the dismissal of 1.7 million workers in industry; in commerce and transport he estimated that staffs were cut down by about 10 per cent, that is, by 200,000 wage earners, by 1932. The reduction in the average hours of work, according to Woytinsky, saved some 500,000 workers from dismissal. Further, account must be taken of the fall in the number of wage earners, mainly due to a net exodus of foreign workers, which he estimated at from 400 to 500 thousand. Thus Woytinsky's estimate included the following items:<sup>1</sup>

Normal unemployment before the depression	240,000
Decrease in employment in industry	1,700,000
" " " in commerce and transport	200,000
" " " in other occupations	60,000
	<hr/>
Total	2,200,000
less:	
number saved from dismissal by shortening hours of work	-500,000
decrease in number of wage earners	-400,000
	<hr/>
Total wholly unemployed in 1932	1,300,000

The estimates of the Institut Scientifique de Recherches Économiques et Sociales were made with many reservations and a complete awareness of the tentative nature of the estimates. The Institute calculated that the number of unplaced applicants for work represented 15.79 per cent of the number of unemployed reported in the census of 1931 and 61.7 per cent of the number reported unemployed in the census of 1936. To

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<sup>1</sup>W. Woytinsky, op. cit., p. 113.

estimate unemployment in February 1935, the date at which unemployment reached its peak, according to the figures of unplaced applicants for work, the Institute assumed that the number of unplaced applicants for work represented 50 per cent of the actual number of unemployed. Since there were 544,567 unplaced applicants for work in February 1935, the total number of unemployed on the above assumption must have been "more than 1,089,000".<sup>1</sup> The estimates for October 1935 and October 1937 were constructed in a similar way on the assumption that the number of unplaced applicants for work represented 58 and 61.7 per cent, respectively, of the actual number of unemployed in these two months.

e. The problem of picking one's way through these various estimates in order to arrive at reasonable figures approximating the actual number unemployed in each year is a thorny one. This task is made doubly difficult by several complicating features of the French labor market. During the thirties there was a large exodus of foreign workers from France which is only partially shown in the statistics of emigration and immigration (see Table E-7). R. Cahill, commenting on the exodus of foreign workers wrote:

"The total number of foreigners resident in France, at the census of March, 1931, was 2,890,923 (of whom 1,258,000 wage-earners), as against 2,485,047 in 1926 (1,096,000 wage-earners)...In view of the large number of departures from the latter half of 1931 onwards, consequent upon the general depression and the stricter limitation on the entry of foreign labour, it is possible that by the end of 1933 this total had declined to about 2,200,000...the central federation

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<sup>1</sup>This calculation employed the provisional results of the Census of 1936. On the basis of the actual results of this census, this figure is calculated to be 1,140,000.

Table E-7

ANNUAL NUMBER OF CONTROLLED ADMISSIONS AND DEPARTURES  
OF FOREIGN WORKERS, FRANCE, 1922-1938  
(thousands)

<u>Year</u>	<u>Admissions</u>	<u>Departures<sup>a</sup></u>	<u>Excess of admissions</u>
1922	182	50	131
1923	263	60	203
1924	265	48	218
1925	176	54	122
1926	162	49	113
1927	64	90	-26
1928	98	54	44
1929	179	39	140
1930	222	44	178
1931	102	93	9
1932	69	109	-39
1933	75	49	26
1934	72	40	32
1935	57	67	-10
1936	41	46	-15
1937	68	21	47
1938	46	21	25

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<sup>a</sup>While the number of controlled admissions is a close approximation to the actual number of foreign workers entering France, because of the strict regulations regarding entry, this is by no means the case as far as departures are concerned. It seems likely that the number of uncontrolled departures are twice as many as the controlled, or rather that the actual number of departures is three times the number given herewith." A. Gilbert, op. cit., p. 102.

SOURCES: 1922-1933: A. Gilbert, op. cit., p. 102.  
1934-1938: ILO Yearbook of Labour Statistics, 1939, p. 198.

of the metallurgical and mining industries in February, 1934, assumed that the effective total of departures was threefold that of the recorded departures, and the total net exodus for the three years since early in 1931 was between 450,000 and 500,000 workers. An official figure of December, 1933, calculated that the net excess of departures over arrivals of foreign workers since the March 1931 census at 418,000."<sup>1</sup>

The estimate of a net exodus of about 450,000 for the years 1931 to 1934 seems too high in the light of the census results giving the number of foreigners gainfully occupied in France. These results, presented in detail below, show that in 1931 there were 1,289,000 foreign wage and salary earners (employed and unemployed) in France. The 1936 census showed 911,000. The decrease in the number of foreign wage and salary earners is thus 378,000 between the years 1931 and 1936. That this smaller number is not the result of a net influx between 1934 and 1936 is easily established since the unaltered statistics of immigration and emigration show a net exodus for 1935 and 1936 in spite of the understatement of the number of departures.

Other complications are brought out in the following excerpt from the British Ministry of Labour Gazette:

"On the basis of the employment returns it would appear that the total reduction in the numbers employed between September, 1930, and September 1934, was nearly 1 1/2 million, whereas the number registered at the Employment Exchanges in September, 1934, was only 357,672. The French Ministry of Labour states that this difference is largely due to an exodus of about 450,000 foreign workers, coupled with the withdrawal from gainful occupation of persons who are not obliged to earn a living, and the return of workers to agricultural employment, which is not covered by the monthly employment returns."<sup>2</sup>

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<sup>1</sup>R. Cahill, op. cit., pp. 29-30.

<sup>2</sup>Ministry of Labour Gazette, March, 1935, p. 96.

The suggested shift to agricultural employment can be examined in the light of the census returns. In 1931 there were 7,704,000 occupied in agriculture, forestry and fishing (5,532,000 employers and independent workers, 6,500 salaried employees, 2,141,000 wage earners, and 24,900 unemployed). In 1936, there were 7,204,000 occupied in agriculture, forestry and fishing (5,260,000 employers and independent workers, 1,898,000 wage and salary earners, and 45,600 unemployed). Thus the total number occupied in agriculture, forestry and fishing actually decreased by about 500,000. Some of this decrease may be explained by the exodus of foreign workers and withdrawal from gainful occupation. The data, however, do not suggest that any appreciable shift to agricultural employment occurred.

As regards the above-mentioned withdrawal from gainful occupation, there does appear to be a significant decrease in the number gainfully occupied between 1931 and 1936. The 1931 census listed 21,612,000 persons gainfully occupied (including the unemployed) while the 1936 census listed only 20,260,000. This indicates a decrease of 1,352,000. The composition of this decrease is revealed below:

<u>Gainfully occupied</u> <u>(thousands)</u>		<u>Wage and salary</u> <u>earners</u> <u>(thousands)</u>		<u>Wage and salary</u> <u>earners excluding</u> <u>agriculture, forestry</u> <u>and fishing</u>	
<u>Total</u>	<u>Foreigners</u>	<u>Total</u>	<u>Foreigners</u>	<u>Total</u>	<u>Foreigners</u>
1931 21,612	1,599	12,621	1,289	10,449	1,135
1936 20,260	1,245	11,562	911	9,619	748
Decrease:					
1,352	354	1,059	378	830	387

For wage and salary earners (omitting agriculture, forestry and fishing), the total decrease was 830,000 of which 387,000 represented a decrease in the number of foreigners. Thus there remains a net decrease in this group of 443,000 between the two censuses. These 443,000 constitute the group which the French Ministry of Labor said withdrew from gainful occupation.

f. From all that has been said above, it is clear that the task of constructing unemployment percentages for France is not an easy one. Any derived percentages must, from the nature of the data, be subject to a large degree of uncertainty. The percentages presented in Table E-8 represent very crude estimates of the level of unemployment among wage and salary earners in manufacturing, construction, and mining. The estimates for 1921-1930 were derived as follows: A. Agthe's estimates of unemployment, presented above, were compared with the 12.25 million wage and salary earners enumerated in the census of 1926 to obtain annual unemployment percentages. Since both Agthe's estimates and the census figure include workers outside manufacturing, construction, and mining, a correction factor was applied to raise the percentages. The correction factor was obtained by comparing the census unemployment rate for wage and salary earners in industry (see Table E-1) with the unemployment rate for all workers and assuming that the value of this ratio varied linearly between censuses. The values of the ratio for the censuses of 1921, 1926, and 1931, were calculated to be 1.49, 1.18, and 1.25, respectively.

The estimates for 1931-1936 were derived in the following manner: The census of March, 1931, enumerated 5,385,000 wage and salary

Table E-8

ESTIMATED PERCENTAGES OF UNEMPLOYMENT AMONG WAGE AND SALARY EARNERS  
IN MANUFACTURING, MINING, AND CONSTRUCTION, FRANCE, 1921-1939

<u>Year</u>	<u>Per cent unemployed<sup>a</sup></u>
1921	5.0
1922	2.0
1923	2.0
1924	3.0
1925	3.0
1926	3.0
1927	11.0
1928	4.0
1929	1.0
1930	2.0
1931	6.5
1932	15.4
1933	14.1
1934	13.8
1935	14.5
1936	10.4
1937	7.4
1938	7.8
1939 <sup>b</sup>	8.1

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<sup>a</sup>These percentages are based on the estimates discussed in the text.

<sup>b</sup>January through August.

earners in employment in manufacturing, construction, and mining.<sup>1</sup> On the assumption that the employment index for industrial establishments employing 100 or more persons can be taken to represent the trend of employment in manufacturing, construction, and mining,<sup>2</sup> the annual figure of the number employed in manufacturing, construction, and mining in 1931 was calculated to be 5,265,000. The employment index was further used to obtain estimates for other years. The estimate for 1936, 4,218,000, is in good agreement with the number of employed wage and salary earners given by the 1936 census, namely 4,223,000 in manufacturing, construction, and mining. The total number of wage and salary earners, employed and unemployed, was 5,630,000 in the census of 1931 and 4,710,000 in the census of 1936. The lower figure for 1936 reflects both the exodus of foreign workers and the withdrawal from gainful occupation mentioned above. Lack of data permits no course other than to assume that the variation between the census dates was a linear decrease. The number unemployed was then estimated by subtracting the estimated number employed from the estimated total number of wage and salary earners. The results of these calculations are tabulated below:

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<sup>1</sup>In 1931, according to the census, there were 556,000 employed salary earners (employés) in manufacturing, mining, and construction.

<sup>2</sup>As mentioned above, almost 90 per cent of the workers covered by the returns upon which the employment index was calculated were engaged in manufacturing and mining.

Estimates of French Wage and Salary Earners in Manufacturing,  
Mining and Construction, 1931-1936

<u>Year</u>	<u>Total number (thousands)</u>	<u>Number employed (thousands)</u>	<u>Number unemployed (thousands)</u>
1931	5,630	5,265	365
1932	5,446	4,605	841
1933	5,262	4,519	743
1934	5,078	4,377	701
1935	4,894	4,184	710
1936	4,710	4,218	492

The estimates for the years 1937-1939 were not constructed in the same manner as those for 1931-1936 since there is some difficulty in estimating the total number of wage and salary earners in these years. What was done was to adopt the assumption, employed by l'Institut Scientifique de Recherches Économiques et Sociales, that the number of unplaced applicants for work represented about 61.7 per cent of the actual number of unemployed in all lines of activity. Then it was assumed that the number unemployed in all occupations bore the same relation to the number unemployed in manufacturing, mining, and construction as in the census of 1936.<sup>1</sup> The total numbers unemployed given by this calculation were 616,000 in 1937, 652,000 in 1938, and 678,000 for January through August of 1939. For manufacturing, mining, and construction, on the basis of the second assumption made above, the estimated numbers unemployed were 347,000 in 1937, 368,000 in 1938, and 382,000 in 1939 (January-August). To calculate rough percentages, it

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<sup>1</sup>The census recorded a total of 864,000 unemployed wage and salary earners of whom 487,000 were in manufacturing, mining and construction.

was assumed that the number of wage and salary earners in manufacturing, mining, and construction remained at 4,710,000 the number given in the census of 1936.<sup>1</sup>

g. It is of interest to discuss the estimates derived above in the light of the census results and of the estimates of various authorities presented above. The census of March, 1931, showed 4.3 per cent of the wage and salary earners in manufacturing, mining, and construction unemployed. While this is below the estimate of 7.0 per cent, presented in Table E-8, for 1931, the difference can be explained by the worsening of unemployment in the months after March. For example, Agthe estimated 1,381,000 unemployed in all lines of activity at the end of 1931, a much higher figure than the 453,000 recorded by the census in March. The estimate of 492,000 unemployed in 1936 agrees quite closely with the number of unemployed wage and salary earners in manufacturing, construction, and mining recorded by the census of 1936, namely 487,000.

Woytinsky's estimate of 1,300,000 unemployed in 1932 included 260,000 in commerce, transport, and occupations other than manufacturing, mining, and construction. Subtraction of these leaves 1,040,000 unemployed. Also included in this number was a figure for normal unemployment before the depression, 240,000, which Woytinsky obtained from the 1926 census. This census listed 170,000 unemployed in manufacturing, mining, construction, and transportation. Exclusion of those unemployed in transportation from this latter figure leaves

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<sup>1</sup>This assumption, when used in conjunction with the method of deriving the estimates of unemployment for 1931-1936, led to unreasonably low estimates of unemployment for 1937-1939.

about 160,000. Thus 80,000 of the 240,000 in normal unemployment must be subtracted from Woytinsky's estimate. When this is done there remains 960,000 unemployed, mainly in manufacturing, construction, and mining. This figure of 960,000, when compared with the estimated total number of wage and salary earners in manufacturing, mining, and construction in 1932, estimated to be 5,446,000, yields an unemployment percentage of 17.6. In view of the crudity of the estimates, the agreement with the estimate above, 841,000 unemployed or 15.4 per cent unemployed, is very satisfactory.

None of the other estimates presented above were as explicitly derived as was Woytinsky's and therefore it is difficult to make direct comparisons. Cahill's estimate of 700-800 thousand unemployed in all lines of activity in 1934 seems to be too low in view of the fact that the employment index fell four points from 80.9 in 1932 to 76.9 in 1934. Of course, because of the departure of foreign workers and the withdrawal from gainful occupation, as well as for other reasons, the employment index alone can not be taken as an indicator of the level of unemployment. However, when Cahill's estimate is viewed both in relation to the fall of the index and in relation to the other estimates presented above, it seems to be a low estimate. The estimates of l'Institut Scientifique de Recherches Économiques et Sociales and those of A. Gilbert for 1935, presented above, differ considerably. Gilbert's estimates suggest that the estimate of 14.5 per cent unemployed in manufacturing, mining, and construction may be too low a figure. On the other hand, the Institute's estimates for 1935, which are slightly lower than Woytinsky's estimate for 1932, are in agreement in this respect with

the estimates presented in Table E-8. If it is assumed that the unemployed in manufacturing, mining, and construction represented 60 per cent of the total number unemployed,<sup>1</sup> then, on the basis of the Institute's estimates for 1935, there were over 684,000 unemployed in these industries in February and 455,000 in October. On the basis of Gilbert's estimate of 2,000,000 unemployed in February, there were 1,200,000 unemployed in manufacturing, mining and construction in this month. The estimate of 710,000 unemployed in manufacturing, mining and construction for 1935, derived above, does not seem unreasonable compared with the results of these calculations. For 1937, C. Clark's estimate amounting to about 2.3 million unemployed, as shown above, is far above the Institute's estimate for October of 1937 which was 587,000. Since the census of 1936 showed a total of 864,000 unemployed and since there was an improvement of economic conditions between 1936 and 1937, it appears that Clark's estimate is much too high.

h. In the post World War II, years, it is assumed that before 1950, the number of unplaced applicants for work represented about 60 per cent of the total number actually unemployed. For 1950, this percentage will be taken to be 66, and for 1951, it will be assumed to be 77. These percentages were obtained by comparing the number of unplaced applicants for work with the numbers estimated unemployed by l'Institut National de la Statistique et des Études Économiques on the basis of sampling techniques (see data presented above). On the basis of these assumptions, the numbers of unemployed in France were very

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<sup>1</sup>This percentage was 56.4 according to the results of the census of 1936.

roughly:

<u>Year</u>	<u>Estimated number unemployed (thousands)</u>	<u>Estimated number unemployed as percentage of the total number of wage and salary earners enumerated in the census of 1946<sup>a</sup></u>
1946	95	0.7
1947	77	0.6
1948	130	1.0
1949	220	1.6
1950	230	1.7
1951	160	1.2

<sup>a</sup>13,392,000.

These percentages include all lines of activity. Presumably, the exclusion of workers in agriculture, forestry, commerce, transportation, and services would tend to raise the percentages. However, data is not available to make these exclusions.

## APPENDIX F

### Germany

#### 1. Trade Union Series

a. Percentages of unemployment for members of trade unions which paid unemployment benefit first appeared in 1903 as the result of an agreement between the Imperial Statistical Office and the statistical offices of these trade unions. From 1903 to June, 1906, the percentages were given quarterly. After 1906, to May, 1933, when the series terminated, the percentages appeared monthly, based on reports relating to the last day of each month. The annual trade union percentages of unemployment, averages of the monthly data, are presented in Table F-1.

b. The trade unions covered by the series reported the total number of members, the number of wholly unemployed members whether in receipt of benefit or not (unterstützte und nichtunterstützte), the number of members working short-time, and information concerning the number of hours worked in the last week of each month.<sup>1</sup> Differences in the unemployment benefit schemes of reporting unions thus did not affect the statistics of unemployment. The number reported unemployed did not include invalids who were no longer able to perform work and persons who were on strike, locked out, or sick.<sup>2</sup>

c. The numerical coverage of the series shown in Table F-1

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<sup>1</sup>See monthly reports in the Reichsarbeitsblatt.

<sup>2</sup>W. Woytinsky, Arbeitslosigkeit und Kurzarbeit, Jahrbücher für Nationalökonomie und Statistik, vol. 79, 1931, p. 18.

Table F-1

PERCENTAGE OF UNEMPLOYMENT AMONG MEMBERS OF REPORTING TRADE UNIONS  
IN GERMANY, 1903-1932.

Year	Number of trade union members covered by returns <sup>a</sup> (thousands)	Percentage wholly unemployed <sup>b</sup>	Corrected trade union percentage wholly unemployed <sup>c</sup>
1903	429	2.9	4.4
1904	642	2.1	3.7
1905	1,082	1.6	3.1
1906	1,367	1.2	3.0
1907	1,294	1.6	3.5
1908	1,262	2.9	5.1
1909	1,387	2.8	4.1
1910	1,688	2.0	3.5
1911	1,975	1.9	3.5
1912	2,100	2.0	3.7
1913	1,980	2.9	5.2
1914	1,265	7.2 <sup>d</sup>	
1915	830	3.2	
1916	804	2.2	
1917	1,078	1.0	
1918	1,601	1.2	
1919	4,497	3.7	
1920	5,545	3.8	
1921	6,076	2.8	
1922	6,455	1.5	
1923	4,625	10.2	
1924	3,483	13.1	
1925	3,639	6.8	
1926	3,420	18.0	
1927	4,039	8.8	
1928	4,484	8.6	
1929	4,583	13.3	
1930	4,445	22.7	
1931	3,968	34.3	
1932	3,347	43.8	

SOURCES: Reichsarbeitsblatt and Statistisches Jahrbuch.

Continued on next page.

Table F-1. (cont.)

<sup>a</sup> Figures refer to the last quarter of each year until 1919; for 1919 and later years, the figures relate to the last day of December of each year.

<sup>b</sup> Average of quarterly figures for 1903-1906 and monthly averages thereafter. The percentage for 1903 is based on an average of the percentages for the last three quarters of the year.

<sup>c</sup> See text for discussion of correction.

<sup>d</sup> The high percentage recorded in 1914 can be attributed to the panic conditions which accompanied the German decree of August 4, 1914, affecting the basis of the currency system.

expanded rapidly in the first few years. At the end of 1903, 429,000 trade unionists were covered by the returns. By the end of 1905, this figure had increased to 1,082,000, and at the end of 1912, exceeded two million. After World War I, the percentages came to be based on a much greater number of trade unionists, 6,076,000 at the end of 1921, 3,639,000 at the end of 1925, and 3,347,000 at the end of 1932. The number of trade union members covered by the series represented about one-half or more of all trade unionists in Germany. During the twenties and early thirties, from about one-third to one-half of the total number of wage earners in manufacturing, mining, and construction came to be included in the trade union sample.

d. The trade union returns covered workers in manufacturing, mining, building and transportation. Industrial representation in the trade union sample at several dates is shown in Table F-2 together with the industrial distribution of all workers (arbeiter) in these groups as given in the censuses of 1925 and 1933. The data in Table F-2 show that there was no gross over- or under-representation of particular groups, with the exception of clothing workers, in the trade union sample during the twenties. In 1912, it appears that workers in building and clothing were very much under-represented, while workers in the book, paper, printing, transportation, machine construction and metal groups were somewhat over-represented.

e. Before World War I, there is very little statistical information available to gauge the validity of the trade union unemployment percentages as measures of the level of unemployment among wage earners in manufacturing, mining, construction, and transportation. The only nation-wide unemployment census, that of 1895, took place before the

Table F-2

INDUSTRIAL DISTRIBUTION OF WORKERS IN THE TRADE UNION SAMPLE  
AND IN THE CENSUSES OF 1925 AND 1933

Industry	Proportion of workers in trade union sample from specified industries				Proportion of workers enumerated by the census counts, in specified industries	
	<u>1912<sup>a</sup></u>	<u>1922<sup>b</sup></u>	<u>1925<sup>c</sup></u>	<u>1929<sup>b</sup></u>	<u>1925<sup>d</sup></u>	<u>1933<sup>d</sup></u>
Mining	5.6			3.3	7.5	6.2
Stone and earthwork	7.6	2.5	2.5	5.7	5.7	5.0
Machine construc- tion and metals	25.6	27.9	23.0	22.6	21.9	17.8
Textiles	8.9	13.4	10.9	8.3	9.0	9.0
Book and paper	1.6	1.5	1.5	2.7	4.1	4.0
Printing	6.1	2.2	3.4	3.3		
Leather and shoemaking	4.4	2.8	4.0	0.2	1.2 <sup>e</sup>	1.1 <sup>e</sup>
Wood and wood- working	10.3	7.4	8.4	7.0	6.7	6.0
Food, tobacco, and drink	6.0	4.8	5.6	6.8	7.6	9.5
Clothing	0.7	1.7	2.9	3.6	8.1	8.3
Building	0.3	10.5	13.6	15.9	12.7	15.2
Transportation	10.8	8.8	6.7	8.3	7.0	7.0
Other	<u>12.1</u>	<u>16.5</u>	<u>17.5</u>	<u>12.3</u>	<u>8.5</u>	<u>10.9</u>
	100.0	100.0	100.0	100.0	100.0	100.0

SOURCES: Reichsarbeitsblatt for trade union data and Statistisches Jahrbuch für das Deutsche Reich, vol. 49, 1930, pp. 19-21 and vol. 54, 1935, pp. 20-21, for census data.

<sup>a</sup>Fourth quarter.      <sup>b</sup>End of October.      <sup>c</sup>End of June.      <sup>d</sup>June 16.

<sup>e</sup>Including linoleum.

trade union percentages appeared. While no direct comparison can thus be made between the census results and the trade union figures, the census results do give an indication of the level of unemployment in what has been described as a year of "fairly good trade."<sup>1</sup> Since the census count was performed both in June and in December of 1895, its results also shed some light on the variation of seasonal unemployment.

On June 18, 1895, the census<sup>2</sup> found 97,782 workers in mining and industry (excluding agriculture, transport, commerce, household service, public service, and the professions) unemployed. On December 2, 1895, 274,625 workers in mining and industry were unemployed. These figures, which excluded those unemployed on account of sickness, represented 1.53 and 4.18 per cent, respectively, of the total number of workers in industry and mining. The average of these percentages, 2.85, it will be noted, is quite nearly equal to the trade union percentages in the years of two cyclical lows, 1903 and 1908. This observation suggests that the trade union percentages may have understated the actual amount of unemployment in Germany in the early years of the trade union series.

The suggested understatement of the level of unemployment by the trade union percentages is also indicated by observing the magnitude of the seasonal variations of the trade union percentages. The pre-World War I percentages for June and December of each year are given below:

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<sup>1</sup>O. Most, The Problem of Unemployment in Germany, London, 1910, p. 16.

<sup>2</sup>Census data from O. Most, op. cit., p. 20.

<u>Year</u>	<u>1903</u>	<u>1904</u>	<u>1905</u>	<u>1906</u>	<u>1907</u>	<u>1908</u>	<u>1909</u>	<u>1910</u>	<u>1911</u>	<u>1912</u>	<u>1913</u>
June	3.2	2.1	1.5	1.2	1.4	2.9	2.8	2.0	1.6	1.7	2.7
December	2.6	2.4	1.8	1.8	2.7	4.4	2.6	2.1	2.4	2.8	4.8

SOURCE: Reichsarbeitsblatt

Whereas the census unemployment percentage for December, 4.18, exceeded the percentage for June, 1.53, by 2.65 percentage points in a year of recovery from the depression of 1894, the trade union percentages reveal no seasonal variation of this magnitude in any of the years, 1903-1913. It should be noted, however, that for the good years of 1905, 1906, 1907, 1911, and 1912, the trade union percentages for June were quite similar to the percentage of unemployment recorded by the census for June of 1895.

More direct evidence revealing the understatement of seasonal unemployment by the trade union percentages is afforded by the unemployment censuses taken by various municipalities in the winter of 1908-1909 which are shown in Table F-3. These censuses showed that there was a total of 62,120 workers unemployed, or 4.1 per cent of the number of workers residing in these cities. After careful consideration of the methods employed in these censuses and of criticisms which have been made of the results, O. Most concluded:<sup>1</sup>

"It is notorious, however, that this figure is very considerably less than the reality, and according to careful estimates must be increased by about one-half, so that the average of these towns would in reality be about 6 per cent."

This estimate of about 6 per cent for the winter of 1908 is considerably

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<sup>1</sup>O. Most, op. cit., p. 22.

Table F-3

THE RESULTS OF THE UNEMPLOYMENT CENSUSES  
OF VARIOUS GERMAN MUNICIPALITIES, 1908-1909

<u>Date of Census</u>	<u>Municipality</u>	<u>Number of unemployed<sup>a</sup></u>	<u>Percent of workers unemployed</u>
18 November 1908	Berlin	28,006	5.1
31 March 1909	Bochum	420	1.4
20 January 1909	Brunswick	575	1.8
18 November 1908	Charlottenburg	1,948	2.5
15 January 1909	Chemnitz	1,862	2.4
24 January 1909	Cologne	3,478	3.4
28 February 1909	Dortmund	1,078	2.1
28 November 1908	Dresden	5,004	4.2
14 February 1908	Elberfeld	703	1.7
15 October 1908	Halle-on-the-Saal	2,917	7.8
13 December 1908	Kiel	1,960	5.3
29 November 1908	Magdeburg	2,208	3.9
1 February 1909	Mannheim	1,511	3.4
10 December 1908	Nuremberg	2,513	2.7
18 November 1908	Rixdorf	3,681	7.2
14 February 1909	Shoeneberg	2,659	10.2
17 November 1908	Stuttgart	1,001	1.6
3 November 1908	Wiesbaden	596	2.8

SOURCE: O. Most, The Problem of Unemployment in Germany, London, 1910, p. 16.

<sup>a</sup> Excluding those incapable of working because of illness or causes other than lack of work.

higher than the trade union percentage for December, 1908, 4.4, which was the highest recorded in the winter of 1908-1909. The difference between the trade union percentage of June, 1908, 2.9, and Most's estimate of 6.0 for the winter of 1908-1909, is 3.1 percentage points, not far different from the seasonal variation exhibited in the census of 1895 when the seasonal variation was 2.65 percentage points in a year of recovery.<sup>1</sup>

A rough correction is indicated by the above considerations, namely, to raise the trade union percentages for December of each year by 2.9 percentage points to take full account of seasonal unemployment, and then to average the corrected December figures with the June percentages, which are assumed to be correct representations of the level of unemployment, to obtain annual unemployment percentages. While far from being perfectly satisfactory estimates, it is probable that the percentages calculated in this fashion, as shown in Table F-1, more nearly approach the actual level of unemployment in Germany before World War I than do the unadjusted figures.

f. After World War I, when the trade union percentages came to be based on reports covering a considerable number of workers, there does not seem to be much doubt but that they represent very good measures of the level of unemployment. K. I. Wiggs pointed out that the low percentages for the inflationary period, 1918-1923, represent a valid picture of the level of unemployment.

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<sup>1</sup>H. Post, Untersuchungen über den Umfang der Erwerbslosigkeit in Sammlungen Nationalökonomischer Abhandlungen, Jena, 1914, vol. 70, p. 16, remarked that 1895 was a year of recovery from the depression of 1894.

"This [the broad coverage] means that there is little danger of the low 1922 figures having been an underestimation. The feature of the period from 1918 to 1923 was the lowness of unemployment and the non-appearance of seasonal fluctuations, in spite of the existence of statistics which would certainly have revealed them had they existed."<sup>1</sup>

W. Woytinsky, evaluating the trade union percentages for the twenties, dismissed the contention that the trade unionists represented a select group and thus did not constitute a good sample as follows:

"This consideration does not hold up, however. The modern unions are not associations of the working class aristocracy, but much more are they industrial unions which encompass all occupations rather uniformly and in which the unskilled and partially skilled are just as well represented as the skilled workers."<sup>2</sup>

He then went on to write:

"I believe to have proved that the unemployment figures of the unions reflect rather exactly the situation on the whole labor market. The usual extrapolation of these figures is thus warranted. The accounts of the unions concerning unemployment and short-time among their members are characteristic of all industry."<sup>3</sup>

g. Woytinsky's conclusion is borne out by the results of the censuses of June 16, 1925 and of June 16, 1933, shown below:

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<sup>1</sup>K. I. Wiggs, Unemployment in Germany Since the War, London, 1933, pp. 31-32.

<sup>2</sup>W. Woytinsky, Arbeitslosigkeit und Kurzarbeit, Jahrbücher für Nationalökonomie und Statistik, vol. 79, January, 1931, p. 22.

<sup>3</sup>Idem., p. 23.

	<u>Manufacturing, mining, and construction</u>		<u>Trade, commerce, and transportation</u>		<u>Total</u>	
	<u>1925</u>	<u>1933</u>	<u>1925</u>	<u>1933</u>	<u>1925</u>	<u>1933</u>
Total number of workers and employees <sup>a</sup> (thousands)	11,766	11,240	3,055	3,632	14,821	14,872
Number of workers and employees unemployed (thousands)	421	4,197	130	922	551	5,119
Per cent of total number of workers and employees unemployed	3.6	37.3	4.3	25.4	3.7	34.4

SOURCE: Die Erwerbstätigkeit der Reichsbevölkerung, Statistik des Deutschen Reichs, Berlin, 1936, Bd. 453, Heft 2, p. 16.

<sup>a</sup>Arbeiter and Angestellte. The figures for 1925 included a small number of public officials (Beamte). It was assumed that the number of officials in 1925 was the same as the number enumerated in these groups in 1933.

It is seen that on June 16, 1925, 3.6 per cent of the workers and employees in manufacturing, construction, and mining were unemployed.<sup>1</sup>

For the end of same month, the trade union percentage for the wholly unemployed was 3.5 (3.6 for the end of May, 1925).

The census of June 16, 1933, showed that 37.3 per cent of the workers and employees in manufacturing, construction, and mining were

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<sup>1</sup>Those enumerated as unemployed in the census were all persons capable of working who before the census count were occupied as workers or employees and who were without employment at the time of the census because of lack of work. See Einführung in die Berufszählung Systematische und Alphabetische Verzeichnisse zur Berufszählung 1933, Statistik des Deutschen Reichs, Berlin, 1936, Bd. 453, Heft 1, pp. 6-7.

unemployed. Since no trade union percentage is available for June, 1933, a direct comparison with the census result is impossible. However, the census result does indicate that the extremely high trade union unemployment percentages of the early thirties, for example 43.1 per cent wholly unemployed at the end of June, 1932, did not represent fictitious levels of unemployment.

2. Employment Exchange Statistics before World War II

a. Reports of employment exchanges have been published monthly in the Reichsarbeitsblatt since 1907. Before the Employment Exchanges Act of 1922, which established an employment exchange in every commune and district of local administration, the published statistics, giving the number of persons seeking work, the number of vacancies, and an index number of the number of workers seeking work per hundred vacancies, covered a limited number of exchanges and for this reason are of limited value.

b. Later employment exchange returns listed the number of registered unemployed as well as the numbers seeking work. Until November, 1926, the monthly statistics of the applicants for work referred to the middle of each month. After November, 1926, these figures were given for the end of each month (although after October, 1927, they were given both for the middle and for the end of each month). The number of registered unemployed was given for the end of each month. The statistics covered all lines of activity.

c. The registered unemployed figures, shown in Table F-4, included all unemployed persons registered at the employment exchanges, whether in receipt of unemployment insurance or relief

Table F-4

NUMBERS OF REGISTERED UNEMPLOYED IN GERMANY

1925-1940

<u>Year</u>	<u>Registered Unemployed (thousands)</u>
1925	687
1926	2,028
1927	1,336
1928	1,376
1929	1,899
1930	3,076
1931	4,520
1932	5,575
1933	4,804 <sup>a</sup>
1934	2,718
1935	2,151 <sup>b</sup>
1936	1,593
1937	912
1938	429
1939	119 <sup>c</sup>
1940	52 <sup>c</sup>

SOURCES: 1925-1927: W. Woytinsky, Three Sources of Unemployment, Geneva, 1935, p. 80.

1928-1940: Statistisches Jahrbuch and ILO Yearbooks of Labour Statistics.

<sup>a</sup>The figures for July 31, 1933, and following months excluded persons employed in labor camps. In July, 1933, the number excluded amounted to 150,000.

<sup>b</sup>The monthly figures for March, 1935, and thereafter include registered unemployed persons in the Saar Territory.

<sup>c</sup>Figures exclude East Prussia, Upper Silesia, and the German Sudetenland.

benefit or not.<sup>1</sup> For example, the composition of the number of registered unemployed at the end of January, 1933, was as follows:

Recipients of standard benefit	953,117
Recipients of emergency benefit	1,418,949
Able-bodied unemployed in receipt of poor relief	2,366,259
Unemployed not in receipt of any form of relief	<u>1,275,287</u>
Total registered unemployed	6,013,612

d. There is ample evidence that during the thirties, the figures of the registered unemployed did not measure the full extent of unemployment. Many persons who lost all hope of finding work at the exchanges or who had no claim to benefits of any kind, failed to register at employment exchanges. Estimates of the numbers of such persons, that is of so-called invisible unemployment, based on incomplete statistics, are quite divergent. For example, the Institute for Business Research, in a discussion<sup>2</sup> of estimates of the extent of

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<sup>1</sup>After World War I, there were frequent changes in the form of unemployment relief. The comprehensive scheme of relief in force during the demobilization period was introduced to cover all unemployment arising out of the war. In February, 1924, the scope of the scheme was limited to cover only those unemployed who had already completed a prescribed period as employed persons. On October 1, 1927, the relief system was superseded by a system of insurance against unemployment which covered all occupations. Emergency benefit, originally supplementary to unemployment relief, was embodied in the unemployment insurance scheme. Under the strain of the widespread unemployment of the great depression, the insurance and emergency benefit schemes proved unequal to the task of providing for the masses of unemployed workers. Therefore, the poor relief system evolved into a third form of unemployment relief for those unemployed persons who for a variety of reasons were no longer covered by either unemployment insurance or emergency benefit.

<sup>2</sup>Weekly Report of the German Institute for Business Research, Berlin, August 22, 1935.

invisible unemployment made by the Economist, concluded that the Economist's estimates of 2,537,000 for June, 1933, and 2,418,000 for June, 1935, were much too high. The Institute's own estimates for these two dates were 799,000 and 722,000. W. Woytinsky's estimate<sup>1</sup> for the summer of 1932 was 2,100,000. Since there is no way of reconciling these estimates or of making more reliable ones, the actual number of unemployed persons in Germany during the thirties is only very approximately known.

e. The figures of the registered unemployed, covering all occupations and subject to the shortcomings touched upon above, can not be used directly to obtain unemployment percentages for workers in manufacturing, mining, and construction. Perhaps the best that can be done is to use the result of the census of June 16, 1933, in conjunction with the trend of the registered unemployed series to obtain percentages of unemployment for other years applicable to the above group of workers. Percentages constructed in this manner, presented in Table F-5, agree fairly closely with the trade union unemployment percentages, 1925-1932, and with the result of the 1925 census.<sup>2</sup> For the

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<sup>1</sup>W. Woytinsky, Three Sources of Unemployment, Geneva, 1935, p. 97. Woytinsky's and the other estimates presented above, were derived by noting the fall of employment, as given by Health Insurance statistics, in relation to estimates of the total number of workers in Germany.

<sup>2</sup>The census of June 16, 1933, found 37.3 per cent of the workers and employees in manufacturing, construction, and mining unemployed. By use of the monthly registered unemployed figures, the annual rate is found to be 36.2. The figures in Table F-4 serve to provide a basis for calculating percentages for other years. For June, 1925, the census date, the calculated percentage is 3.1 while the census percentage of unemployment, shown above, was 3.6 for manufacturing, mining and construction.

Table F-5

**ESTIMATED PERCENTAGES OF UNEMPLOYMENT FOR WORKERS AND EMPLOYEES  
IN MANUFACTURING, MINING AND CONSTRUCTION, 1925-1939**

<u>Year</u>	<u>Percentage Unemployed<sup>a</sup></u>
1925	5.2
1926	15.3
1927	10.1
1928	10.4
1929	14.3
1930	23.2
1931	34.1
1932	42.0
1933	36.2
1934	20.5
1935	16.2
1936	12.0
1937	6.9
1938	3.2
1939	0.9

<sup>a</sup> Estimates constructed as described in text. The estimates have been taken back to 1925 to afford comparison with the trade union percentages in the years 1925-1932.

later thirties, the calculated percentages are somewhat higher than the percentages published in the International Labour Organization's Yearbooks of Labour Statistics since these latter percentages apply to workers and employees (approximately 21 million) in all lines of activity, including agriculture, personal and domestic service, and public administration. Further, it is not clear how the problem of invisible unemployment was handled in calculating the percentages published in the Yearbooks of Labour Statistics.

### 3. Post-World War II Unemployment Statistics

After World War II, quarterly unemployment statistics for occupied Germany first appeared for March, 1946, while quarterly figures for the German Federal Republic became available for March, 1948, and after. The character of these statistics is described below.<sup>1</sup>

a. For the U. S. and British occupation zones, a series giving the number of unemployed as a percentage of the total number of wage and salary earners began in March, 1946. Annual unemployment percentages, averages of the quarterly percentages, are shown in Table F-6.

b. In 1946, and through March, 1947, the unemployed were persons not working and considered available for work under the Allied Control Council Order No. 3 of 1946. Under this order, all persons (a) in employment, (b) unemployed and seeking work, and (c) all other males between the ages of 14 and 65 and all other females between the

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<sup>1</sup>Sources: Office of Military Government for Germany (U.S.), Report of the Military Governor, Statistical Annex; International Labour Review, December, 1948, p. 830.

Table F-6

NUMBERS UNEMPLOYED AS PERCENTAGES OF THE WAGE  
AND SALARY EARNING LABOR FORCE  
IN THE U. S. AND BRITISH OCCUPATION ZONES  
AND IN THE GERMAN FEDERAL REPUBLIC, 1946-1952

Year	Unemployed as percentage of wage and salary earning labor force <sup>a</sup>	
	<u>U. S. and British Occupation Zones</u>	<u>German Federal Republic</u>
1946	7.5 <sup>b</sup>	--
1947	5.0 <sup>b</sup>	--
1948	4.7	4.2
1949	8.1	8.3
1950	--	10.2
1951	--	9.0
1952	--	8.4

SOURCES: Office of Military Government for Germany (U. S.), Report of the Military Governor, Statistical Annex, No. XXVII, May, 1949, p. 75.

<sup>a</sup>Averages of quarterly data.

<sup>b</sup>Unemployed in 1946 and through March, 1947, were persons not working and available for work within meaning of Control Council Order No. 3 (see text). June, 1948, and later figures show only persons not working and registered as seeking work.

ages of 15 and 50 were required to register at local employment offices. Persons in this last group, group (c), who were physically or mentally incapacitated, mothers of young children, housewives, or students were considered as not available for work; all other persons in this group, in addition to those in groups (a) and (b), were considered as available for work and came to be counted among the unemployed whether seeking work or not.

c. In mid-1948 and thereafter, both the unemployment statistics of the U. S. and British occupation zones and of the German Federal Republic include as unemployed only persons registered at the employment exchanges as seeking work. The wage and salary earning labor force, which serves as a base for calculating unemployment percentages, is equal to the sum of the number of registered unemployed seeking work and the number of employed wage and salary earners. Wage and salary earners in all occupations are covered. Unemployment percentages for the U. S. and British occupation zones and for the German Federal Republic are shown in Table F-6.

#### 4. Summary

a. Before World War I, the trade union unemployment percentages probably understated the actual level of unemployment in Germany. For the most part, this understatement is presumed to have arisen because seasonal trades, particularly building, were not sufficiently represented in the trade union sample. To overcome this shortcoming, a rather rough correction, described above, has been applied to the trade union percentages for the years 1903-1913.

b. The trade union unemployment percentages for the years 1914-1932, based on a large sample of union members in which industrial groups received approximately appropriate weights, represent very good measures of the extent of unemployment among workers in mining, manufacturing, construction, and transportation.

c. A calculation based on the census results of June 16, 1933, and on the trend of the numbers of registered unemployed, provides unemployment percentages for the years 1933-1939. These, when carried back before 1933, are in fair agreement with both the trade union percentages for 1925-1932, and with the results of the census of June 16, 1925.

d. In the post-World War II years, unemployment percentages covering all wage and salary earners are available from 1946 on. These percentages are probably lower than unemployment percentages for only wage earners in manufacturing, mining, and construction. The amount of the probable understatement for the years 1946-1948 is lessened since some persons who were not seeking work were included among the numbers of unemployed.

## APPENDIX G

### The Netherlands

The information that we have been able to secure on Dutch unemployment statistics is insufficient to provide the basis for a critical evaluation. It has therefore been necessary to confine this section to a presentation of the available statistics with as full a description as the material at our disposal allowed.

The principal unemployment series for the Netherlands were those emanating from trade union unemployment insurance funds, commencing in 1911 and terminating in 1941. They are shown in Table G-1. The first series, in column (1), represents ratio of unemployed workers to those insured in voluntary union funds.<sup>1</sup> The data were compiled on a weekly basis, no distinction being made with respect to the number of days per week for which benefits were paid, i.e., a worker was counted as being unemployed once in a week whether he lost one day or the entire week. Workers with separate spells of unemployment in a single week were similarly counted just once.<sup>2</sup> The series shown in column (2) represents the ratio of the precise number of man-days of unemployment to the

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<sup>1</sup>The data include also "a small number of workers who, although belonging to unions having unemployment funds, are excluded from benefit on account of age, and workers who belong to unions having no unemployment funds." International Labor Office, The I. L. O. Yearbook 1934-35, Vol. II, p. 180. It was reported in 1925 that only 7,000 workers whose employment status was reported on were in unions not having unemployment funds compared with some 270,000 thus covered.

<sup>2</sup>International Labor Office, Methods of Compiling Statistics of Unemployment, Studies and Reports, Series C, 1922, pp. 71-77.

Table G-1

PERCENTAGE OF UNEMPLOYMENT AMONG INSURED TRADE UNIONISTS  
IN THE NETHERLANDS, 1911-1940

Year	(1) Percentage of workers unemployed	(2) Ratio of days lost due to unemployment to po- tential working days of insured workers	Year	(1) Percentage of workers unemployed	(2) Ratio of days lost due to unemployment to po- tential working days of insured workers
1911	2.7	2.5	1926	8.7	7.3
1912	4.2	4.0	1927	9.0	7.5
1913	5.1	5.0	1928	6.9	5.6
1914	16.2	13.8	1929	7.1	5.9
1915	14.6	12.0	1930	9.7	7.8
1916	5.8	5.1	1931	18.1	14.8
1917	9.6	6.5	1932	29.5	25.3
1918	10.0	7.5	1933	31.0	26.9
1919	8.9	7.7	1934	32.1	28.0
1920	7.2	5.8	1935	36.3	31.7
1921	10.9	9.0	1936	36.3	32.7
1922	12.6	11.0	1937	29.2	26.9
1923	12.8	11.2	1938	27.2	25.0
1924	10.2	8.8	1939	21.7	19.9
1925	9.5	8.1	1940	22.9	19.8

SOURCE: Maandschrift van het Centraal Bureau voor de Statistiek, passim.

maximum number of days at risk of unemployment, i.e., six times the membership of the reporting organizations.

The major characteristics of these data may be outlined as follows:

1. It is obvious that the index in column (2) is more accurate than that in column (1) in measuring the total volume of unemployment. The weekly percentage of unemployed workers would be unaffected, for example, by changes in the average duration of unemployment per week, whereas the percentage of man-days unemployed would reflect such a change. The difference between the two series reflects changes in the number of days per week of average unemployment. The two percentages would be the same, for example, if all unemployed workers during a particular week were unemployed for six days. As the average number of days of unemployment per week declines, the difference between the two percentages widens.

The relationship of the two series is thus dependent upon the form taken by unemployment. If it is concentrated on a particular group of individuals, the percentages would correspond closely; if available work were spread among the work force, in the form either of a reduction in the number of days worked per week or the number of hours worked per day,<sup>1</sup> the second series would depart from the first. It may be noted from Table G-1 that the largest percentage difference in the spread came in the years 1917 and 1918, whereas during the Great Depression,

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<sup>1</sup>It would appear that days of less than full employment were tabulated as such. However, we have been able to find no precise statement to this effect.

the spread did not widen greatly (in percentage terms) from what it had been the previous decade.

2. The industrial coverage of the data appear to have been quite broad, including in addition to manufacturing, building construction, agriculture, fishing, the retail trades, and commercial work. However, manufacturing and building appear to have been most fully represented in the sample. The insured population in 1925 was said to constitute 90 per cent of the total number of organized workers in the Netherlands, so that the data presented "a very accurate idea both of the fluctuation in unemployment and of the absolute extent of unemployment among insured persons."<sup>1</sup> At the time, however, some 65 per cent of the industrial labor force was not organized, so that the data could not be said to be representative necessarily of unemployment generally.<sup>2</sup> The absolute number of workers covered by the statistics rose from 275,000 in 1925 to a high of 525,000 in 1933, declined to 468,000 in 1936, and rose again to 511,000 in 1940.<sup>3</sup> The reporting base was fairly substantial from the start, having been 65,000 in 1913 and 106,000 by 1915.

3. The method of collecting the statistics was apparently calculated to insure a considerable degree of accuracy. The trade union unemployment insurance funds, as a condition for the receipt of state aid,

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<sup>1</sup>International Labor Office, The Second International Conference of Labor Statisticians, Studies and Reports, Series N. No. 8, 1925, p. 51, n. 1.

<sup>2</sup>Estimated from Jaarcijfers von Nederland, passim. The number of trade union members on January 1, 1925, was compared with the average of the number of industrial and transport workers in 1920 and 1930.

<sup>3</sup>These figures are from Central Bureau Voor De Statistiek, Jaarcijfers von Nederland, passim.

were required to maintain comprehensive membership registers, and to record not only the days of unemployment for which benefits were paid, but also the number of benefitless days of unemployment. The funds received from the state a per capita allowance per week to cover administrative costs, including the preparation of statistics. Although persons who had exhausted their benefits sometimes failed to keep their registration as unemployed current, it was believed that this did not constitute a serious source of error.<sup>1</sup>

4. Persons out of work due to labor disputes, illness, accidents, or other causes than lack of work, were not counted as unemployed.

5. The following statement was made by the Director General of Statistics with respect to the representative character of the series:

"These percentages could safely be considered as representative up to the 1930's. After 1935, however, they presented in all probability a too unfavorable picture of the size of unemployment."<sup>2</sup>

The only other series of unemployment going back over a long period is that relating to the operation of public employment offices. Prior to the 1930's these data were incomplete, since there was no widespread registration of the unemployed by these offices. However, with the growth of unemployment during the depression, registration was made compulsory for all unemployed in receipt of relief and unemployment benefits, and those employed on public works. Registration is voluntary for others.

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<sup>1</sup>The Second International Conference of Labor Statisticians, op. cit., p. 51, n.1.

<sup>2</sup>Letter to the authors from Dr. Ph. J. Idenburg, Director General of Statistics of the Netherlands, July 29, 1953.

Coverage is quite broad. It is believed that all manual workers register as a rule, and maintain their registration even after their right to benefits has expired. Clerical workers not in receipt of benefits often do not register, however. Young workers seeking their first jobs are included in the registration, but persons formerly self-employed who are seeking employment are not. Married women who are not the sole support of their families are not included among the unemployed, even though they may be willing and able to work. Figures for unemployed agricultural workers are not considered complete.<sup>1</sup> The enumeration takes place on the last day of each month, and the annual figures are an average of the monthly tallies.

This series is shown in Table G-2.<sup>2</sup> In two respects the pre-war and post-war data are not comparable:

1. The so-called "frost unemployed," persons laid off in extremely cold weather, were included up to 1940, but excluded thereafter. These persons constituted some 15 per cent of the total unemployed during the months of December and January, and on an annual basis increased reported unemployment by perhaps 3 per cent.

2. Up to and including 1948, the unemployed aged 65 and over were included among the unemployed, but were omitted thereafter. It is estimated that the over 65 year age group constituted about 1.5 per cent of the total number of persons out of work.

In general, persons who are partially unemployed are excluded from the count of unemployment. A person without a labor contract must be

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<sup>1</sup>U. S. Bureau of Labor Statistics, Catalogue of Labor Statistics Series, The Netherlands, June, 1952 (mimeographed).

<sup>2</sup>Data for the years of the German occupation of the Netherlands are omitted.

Table G-2

PERSONS REGISTERED AT END OF MONTH AS UNEMPLOYED  
AT PUBLIC EMPLOYMENT OFFICES IN THE NETHERLANDS, 1933-1952  
(in thousands)

<u>Year</u>	<u>Totally Unemployed</u>	<u>Employed on Public Works</u>	<u>Unemployed but Receiving Pay from Employers</u>	<u>Total</u>
1933	274.8	48.1	-- <sup>b</sup>	322.9
1934	281.8	51.0	-- <sup>b</sup>	332.8
1935	328.8	55.9	-- <sup>b</sup>	384.7
1936	368.5	46.0	-- <sup>b</sup>	414.5
1937	324.0	44.9	-- <sup>b</sup>	368.9
1938	303.4	50.2	-- <sup>b</sup>	353.6
1939	235.6	60.0	-- <sup>b</sup>	295.6
1945 <sup>a</sup>	97.4	39.8	60.1	197.3
1946	53.1	35.7	4.3	93.1
1947	30.7	15.2	1.1	47.0
1948	29.0	13.4	0.8	43.2
1949	42.1	20.2	0.8	63.1
1950	57.7	21.4	1.1	80.2
1951	67.7	25.0	0.6	93.3
1952	104.3	31.8	1.5	137.6

SOURCE: Centraal Bureau voor Statistiek, Jaarcijfers voor Nederland, passim.

<sup>a</sup> Covers the months June-December only.

<sup>b</sup> Not significant.

willing and able to work for a full day in order to be included.

Persons on temporary layoff are not included among the unemployed unless they did not perform any labor during the entire week in which the census day falls.

If the data in Table G-2 are converted into index form with 1933 as a base, and the resultant index applied to the 1933 percentage of unemployment indicated under the man-days lost series of the trade union data, it appears that while the two series corresponded closely until 1935, after that time the employment exchange data showed a persistently higher level of unemployment than the trade union data.<sup>1</sup> This may have been due to the fact that the former were becoming progressively more complete during the thirties, due to stricter registration requirements.

The only unemployment data available for the post-war years are the employment exchanges statistics of Table G-2.<sup>2</sup> They indicate a level of unemployment much lower than that of the nineteen-thirties: if one were to extrapolate the pre-war unemployment percentages on the basis of this series, the result would be average unemployment of about 5 per cent from 1946 to 1950 inclusive. However, assigning specific percentages for particular years does not appear to be warranted on the basis of such an extrapolation in view of the nature of the relationship between the two series during the years 1933 to 1939.

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<sup>1</sup>However, the trend was similar from 1936 to 1939; the principal divergence came between 1935 and 1936, when the employment exchange series moved up more rapidly than the trade union series.

<sup>2</sup>Beginning with July, 1952, a new series based upon the Unemployment Act of 1949 was initiated. These data are of too recent origin to warrant consideration here.

### Conclusions

The only statistics of unemployment for the Netherlands that are appropriate for purposes of international comparison for the period with which we are concerned are those shown in Table G-1. As between the two series contained therein, that in column (2), showing the ratio of days lost due to unemployment to potential working days of insured workers would appear to be the one which is the more consistent with our normative definition.

This series has the usual defects of statistics of this character. Nevertheless, the Dutch statistical authorities consider it as generally representative of unemployment in the country until 1935, after which it probably overstated unemployment somewhat. No unemployment percentages are available for the post-war period, but it is clear from the data in Table G-2 that the post-war level of unemployment was considerably below the pre-war level.

## APPENDIX H

### Norway

#### 1. Trade Union Statistics

The major source of unemployment statistics in Norway is that provided by trade union reports to the Central Bureau of Statistics, beginning with July 1903, and continuing up to the present time. The percentages of unemployment thus derived are shown in Table H-1.

The characteristics of this series are as follows:

- a. The data cover the national trade unions in the following industries and trades: metalworking (including shipbuilding); molders; printing; bookbinding; shoe manufacture; baking; bricklaying; the remaining building trades; sawmills; and woodworking. Coverage has been limited consistently to these ten organizations, all of which operated their own unemployment funds until 1939, when a national compulsory unemployment system was adopted.
- b. In July, 1903, when the first reports were made, they covered 162 local unions with 10,200 members. At that time there were 350 local unions with 15,000 total membership.<sup>1</sup> Coverage for subsequent years was as follows:<sup>2</sup>

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<sup>1</sup>Norway, Statistisk Centralbyrå, Tillaegshefte 2 til Statistiske Meddelelser, 1920, p. 18.

<sup>2</sup>Ibid.

Table H-1

UNEMPLOYMENT AMONG MEMBERS OF TRADE UNIONS IN NORWAY  
(in percentage of total reporting membership), 1904-1951

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1904	3.9	1928	19.2
1905	4.4	1929	15.4
1906	3.2	1930	16.6
1907	2.5	1931	22.3
1908	3.7	1932	30.8
1909	5.0	1933	33.4
1910	2.9	1934	30.7
1911	1.9	1935	25.3
1912	1.3	1936	18.8
1913	1.7	1937	20.0
1914	2.3	1938	22.0
1915	1.9	1939	18.3
1916	0.9	1940	23.1
1917	0.9	1941	11.4
1918	1.5		
1919	1.7		
1920	2.3		
1921	17.7		
1922	17.1	1946	3.6
1923	10.7	1947	3.1
1924	8.5 <sup>a</sup>	1948	2.7
1925	13.2	1949	2.2
1926	24.3	1950	2.7
1927	25.4	1951	3.6

SOURCES: 1904-1947, Statistisk Centralbyrå, Statistiske Oversikter, 1948, p. 363.  
1948-1951, Statistisk Årbok for Norge, 1952, p. 223.

<sup>a</sup> Data for this year affected by a general work stoppage in the metal trades.

1906	14,500 members
1909	18,000 members
1912	27,000 members
1915	30,000 members
1918	35,700 members

In 1918, total trade union membership was 116,000 so that the coverage was less representative of trade union unemployment, though not necessarily of total unemployment, than at the outset. In 1939, the ten reporting unions had 96,000 members out of total union membership of 357,000, i.e., some 27 per cent.<sup>1</sup> The corresponding figures for December 31, 1949 were: 139,000 covered out of total trade union membership of 474,000, i.e., 29 per cent coverage. The percentage of coverage in 1949 was roughly equal to that prevailing in 1918.

- c. The statistics were gathered by trade union secretaries in charge of union unemployment funds, and were considered to be fairly reliable insofar as reporting was concerned, since the unemployed individual had a strong incentive to report his status. An individual was counted as unemployed only one time each month, regardless of the number of spells of unemployment suffered. One limitation on completeness was the fact that when the right to benefits ceased, many individuals ceased reporting, thus tending to understate the degree of unemployment during periods of severe recession.<sup>2</sup>

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<sup>1</sup>This total includes only unions affiliated with the Norwegian Federation of Labor. However, unaffiliated trade union membership was insignificant at this time.

<sup>2</sup>Tillaegshefte 2 til Statistiske Meddelelser, 1920, p. 18.

d. The most serious deficiency of the trade union series appears to be the fact that it is heavily weighted with industries which are very sensitive to cyclical fluctuations. Five of the ten unions reporting are in capital goods industries; two unions, those in the metal and building trades, have alone accounted for from 70 to 80 per cent of total reporting membership. The following conclusion emerged from an analysis of this aspect of the series:

"The percentage of unemployment for the 10 trade unions thus cannot be said to give a representative picture of unemployment in the nation -- not even for industry, since among others such important groups as the cellulose and paper industry, mining, the electrometallurgical and electrochemical industry, the textile and clothing industries, and food processing, apart from baking, are excluded. To this should be added the fact that it covers only organized workers."<sup>1</sup>

A comparison of the published trade union series with an apparently unpublished series covering working days lost due to unemployment in some 25-29 trade unions indicates absolutely lower and less severely fluctuating unemployment in the latter group. These percentages, which were read off a chart and are therefore approximate, are shown in Table H-2. For example, at the height of the depression in 1933, when the 10-union series showed 33.4 per cent unemployment, the 29-union series showed only about 22 per cent. The fact that the more comprehensive data have not been published, however, must indicate a lack of confidence in it by the Central Bureau of Statistics, perhaps because many of the unions had no unemployment funds which would ensure full reporting by the

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<sup>1</sup>Morton Tuveng, Arbeidsløshet og Beskjeftigelse i Norge Før og Under Krigen, Bergen, 1946, p. 40.

Table H-2

PERCENTAGE OF UNEMPLOYMENT AMONG MEMBERS OF FROM 25 TO 29  
NORWEGIAN TRADE UNIONS, 1920-1929

<u>Year</u>	<u>Percentage of unemployment</u>	<u>Year</u>	<u>Percentage of unemployment</u>
1920	2.0	1930	16.0
1921	14.0	1931	21.0
1922	12.5	1932	21.5
1923	8.0	1933	22.0
1924	5.0	1934	20.0
1925	9.0	1935	19.0
1926	16.5	1936	18.0
1927	19.0	1937	17.0
1928	14.0	1938	20.0
1929	13.0	1939	20.0

SOURCE: Figure 2 in Morton Tuving, Arbeidsløshet og Beskjeftigelse i Norge Før og Under Krigen, Bergen, 1946, p. 35. No published source other than this chart has been found for these data.

unemployed.

- e. A census of unemployment taken in 1930 provided an opportunity to test the validity of the trade union series. This census, taken as of December 1 of that year, included all wage earners in industrial and agricultural occupations, except that fishermen and self-employed other than artisans in manufacturing were excluded. Newly entering young persons who had not secured permanent employment but were looking for work were included among the unemployed.

The percentage of unemployment among men was 14.6 per cent (for women, it was much lower, 2.7 per cent). The percentage of unemployment among the ten reporting trade unions at the end of November, 1930, was 21.4 per cent, considerably higher than the overall census figure (virtually all the reporting trade union membership was male). However, the census percentage of male wage earner unemployment in industry, excluding transportation, agriculture and the forest trades, was 17.8 per cent; for urban industrial wage earners, it was 22.6 per cent. This led to the following evaluation of the trade union data:

"It seems, therefore, that the trade union percentage at that time was representative for industrial wage earners. If the trade union percentages in individual industries are compared with the census, there is very close correspondence between the two."<sup>1</sup>

## 2. Labor Exchange Data (to 1939)

The only other Norwegian unemployment data available for any consider-

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<sup>1</sup>Det Statistiske Centralbyrå, "Arbeidsledigheten efter folketellingen, 1930," Statistiske Meddelelser, 1933, p. 74.

able time period are those emanating from the public employment exchange. Table H-3 shows the excess of job seekers over vacancies at the exchanges, from 1919 to 1939. A drastic change in the reporting system adopted in 1940 makes it impossible to compare the data for that year and subsequently with the series in Table H-3.

The deficiencies of the labor exchange data, even apart from the manner in which they are expressed, render them of use only for comparative purposes with other Norwegian data. The number of exchanges reporting has varied over time; agricultural as well as industrial job seekers were included; registration was entirely voluntary, except where required as a condition for obtaining relief, and then the relief laws influenced registration; and a relatively small number of job vacancies were reported to the public exchanges.<sup>1</sup>

When these data are compared with the trade union statistics, it is seen that while the general movements of the two series are similar, the amplitude of the cyclical changes in the trade union series is considerably greater. The movement of the labor exchange data is closer to that of the special union series shown in Table H-2 during the period 1929 to 1939, though from 1920 to 1929 the latter exhibited greater swings.

### 3. Labor Exchange Data (since 1945)

Beginning in 1938, applicants for unemployment insurance were required to report to the labor exchanges as a condition of securing unemployment benefits. Moreover, a law enacted in 1947 required all employers who had

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<sup>1</sup>See: Arbeidsdirektorat, Arbeidsmarkedet, 1952, No. 6, p. 178; Johan Hridsten, "Unemployment in Norway," International Labor Review, Vol. VII, Nos. 2-3, February-March 1923, p. 231; Statistiske Meddelelser, 1926, p. 82.

Table H-3

EXCESS OF JOB SEEKERS OVER VACANCIES AT NORWEGIAN  
PUBLIC EMPLOYMENT EXCHANGES, 1919-1939

<u>Year</u>	<u>Excess</u>	<u>Year</u>	<u>Excess</u>
1919	110	1930	19,353
1920	1,726	1931	27,478
1921	17,375	1932	33,831
1922	19,492	1933	36,279
1923	14,425	1934	36,339
1924	11,263	1935	36,103
1925	14,956	1936	32,643
1926	23,467	1937	28,520
1927	23,889	1938	28,923
1928	21,759	1939	26,777
1929	19,089		

SOURCE: Morton Tuveng, op. cit., p. 91.

in their employ persons subject to the insurance law (which includes virtually all workers except those in fishing, domestic service, and civil service) to notify the labor exchanges of all vacancies.<sup>1</sup> For these reasons, the labor exchange data of the last decade or so are likely to have been more representative than the earlier statistics. It must be borne in mind, however, that employees who are either not covered by the unemployment insurance system, or are not eligible for benefits, although covered, are not required to report.

These data, shown in Table H-4, confirm the fact that there has been a very low rate of unemployment in Norway since the war. Their movement does not follow in detail the trade union series of Table H-1, which is not unexpected because of the nature of the data and the low levels of employment involved. Both sets of data, however, show an increase in unemployment in 1951, perhaps the only significant movement during the period 1946-1951.

#### 4. Conclusion

Despite its inadequacies, the trade union series provides the only useable index of Norwegian unemployment over any considerable period of time. Its most serious defect is the exaggerated swing during the depression of the nineteen-thirties by virtue of the heavy weighting accorded to business cycle-sensitive industries. The data in Table H-2 indicate that some of the extreme figures shown for this period should be discounted, but the information necessary for making this correction is lacking.

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<sup>1</sup>Norsk Forening for Sosialt Arbeide, Sosial Håndbok for Norge, Oslo, 1953, Vol. II, p. 26.

Table H-4

UNEMPLOYMENT IN NORWAY, 1945-1951, AS  
INDICATED BY LABOR EXCHANGE DATA

<u>Year</u>	<u>Job-seekers</u>	<u>Vacancies</u>	<u>Excess (+) or deficit (-) of job-seekers over vacancies</u>
1946	196,243	225,621	-29,378
1947	191,121	219,259	-28,138
1948	198,612	223,011	-24,399
1949	200,095	234,673	-34,578
1950	219,759	244,781	-25,022
1951	384,369	351,870	+32,499

SOURCE: Statistisk Årbok for Norge, passim.

## APPENDIX J

### Sweden

There are for Sweden two published series measuring unemployment which go back to the first decade of this century: one based upon reports of trade unions, the other upon reports of labor exchanges. A series based upon unemployment insurance statistics is available only since 1936.

#### 1. Trade Union Statistics

These data, which are shown in Table J-1, are based upon reports submitted by trade unions to the Royal Social Board. An exhaustive analysis of their validity as a general gauge of unemployment was presented in 1931 by a governmental commission,<sup>1</sup> with the following results:

- a. The trade union series is based upon reports submitted by co-operating trade unions to the Royal Social Board, first commencing in 1911. At the outset, about 30 national unions with members in manufacturing, transportation, building, and commerce reported. This included virtually all the trade unions in these branches of the economy. Unions of agricultural workers, railroad workers, seamen, and, until 1920, lumber workers, did not report, however.
- b. Since reporting was voluntary, not all locals of these

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<sup>1</sup> Socialdepartementet, Arbetslöshetens Omfattning, Karaktär och Orsaker, Statens Offentliga Utredningar, No. 20., Stockholm, 1931.

Table J-1

PERCENTAGE OF UNEMPLOYMENT AMONG MEMBERS OF  
REPORTING TRADE UNIONS IN SWEDEN, 1911-1952

<u>Year</u>	<u>Percentage of Unemployment</u>	<u>Year</u>	<u>Percentage of Unemployment</u>
1911	5.6	1932	22.4
1912	5.4	1933	23.3
1913	4.4	1934	18.0
1914	7.3	1935	15.0
1915	7.2	1936	12.7
1916	4.0	1937	10.8
1917	4.0	1938	10.9
1918	4.6	1939	9.2
1919	5.5	1940	11.8
1920	5.4	1941	11.3
1921	26.6	1942	7.5
1922	22.9	1943	5.7
1923	12.5	1944	4.9
1924	10.1	1945	4.5
1925	11.0	1946	3.2
1926	12.2	1947	2.8
1927	12.0	1948	2.8
1928	10.6	1949	2.7
1929	10.2	1950	2.2
1930	11.9	1951	1.8
1931	16.8	1952	2.4

SOURCES: 1911-1929, Statens Offentliga Utredningar 1931, No. 20.,  
p. 58. 1930-1952, Sociala Meddelanden, passim.

national unions submitted reports each month. In 1911, 64 per cent of the members of reporting national unions were accounted for in the reports submitted. This declined to a low of 42 per cent in 1920, but rose thereafter to 69 per cent in 1929, reaching 87 per cent in 1940. At the end of 1949, the percentage of the membership covered by reports was 97.5 per cent.

- c. A special study made in 1923 of 27 reporting national unions (the percentage of membership covered in 1923 was 49 per cent) indicated that in only three cases -- the bricklayers, painters, and miners -- did the reporting locals appear to be unrepresentative of unemployment in the union as a whole. "With regard to other unions the data seem quite accurately to portray changes in unemployment for the organized members, and when the data for the various unions are combined, the average unemployment percentage appear quite accurately to represent the situation in the trade unions."<sup>1</sup> The high reporting percentages during the thirties and forties would tend to reinforce the conclusion that the trade union data were representative of unemployment among trade union members.
- d. The trade unions report the total number of members and the number unemployed on the last day of each month, the monthly data being averaged to secure an annual figure. As a rule, unemployment comes to the notice of the local union secretary because unemployed members are exempted from the payment of

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<sup>1</sup>Ibid., p. 50.

union dues, the so-called "free-stamping" of their membership cards. "The right of free-stamping due to unemployment is general in the case of total absence from work because of lack of work; it is sometimes given when employment is less than 24 hours a week, sometimes when a man has work outside the trade and his weekly earnings do not amount to more than 24 hours of work at the rate of pay provided in the collective agreement."<sup>1</sup> Since in addition to this right some unions have long paid unemployment insurance benefits, there has been considerable incentive for the unemployed trade unionist to report himself as such. The union secretary, through the shop committee and by other means, may seek to verify the claim, or he may simply accept the statement of the worker, depending upon the circumstances. The local union has no obligation to pay per capita tax to the national union for "free stamped" workers, but the national union must continue its per capita to the Federation of Labor, so that it has an incentive to police the system. In some unions the local officer is personally liable for underpayment to the national union, serving to offset a tendency to grant "free stamping" on account of age, partial unemployment, or personal reasons. Although the "free stamping" rules were found to vary in detail among unions, the Commission found a rough uniformity to exist. However, no distinction was made between voluntary and involuntary unemployment. Also, some unions maintained a closed door policy

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<sup>1</sup>Ibid., p. 45.

to new members, which made them less representative.

- e. The principal drawbacks which the Commission found in the trade union statistics stemmed from changes in absolute trade union membership, and in the composition of the membership. As a consequence of a disastrous general strike in 1909, Swedish trade union membership fell drastically, and did not again attain what the Commission considered to be a representative magnitude until after World War I,<sup>1</sup> though this is a matter of judgment rather than of proof. After World War I, however, there can be little question of the representative character of the Swedish trade unions within the economic sector which they covered. By 1929, the unions included over half of all persons employed in manufacturing, commerce and transport and communications. For manufacturing alone, the coverage was two-thirds. The 1950 organization in manufacturing, building and transportation has been estimated at 95 per cent of the labor force.<sup>2</sup>

When unemployment reporting first started, the Swedish trade union movement was largely craft in character. With the spread of organization to factory industry, as well as with increasing organization of women and youths, groups which were more unemployment-prone were represented in the statistics to a greater extent. As a consequence, at least until the thirties, the trade union unemployment series is subject to a bias in the

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<sup>1</sup>Ibid., p. 97.

<sup>2</sup>Walter Galenson, Comparative Labor Movements, New York, 1952, p. 119.

direction of greater unemployment, though no estimate of the magnitude of the bias is available.

- f. Nor is there any specific information on the effects upon representativeness of cyclical movements in employment. It is generally true that during severe downswings in employment, trade union unemployment statistics do not fully reflect the degree of unemployment because of withdrawals or exclusion of unemployed members. This phenomenon was noted in 1921,<sup>1</sup> but specific information on this point is not available for later periods.
- g. The growth of trade unions, while it has had the effect of making them more representative of the labor force at large, has had an offsetting effect in that it becomes more difficult to verify claims of unemployment, due to the greater burden of work upon union officials. An inquiry into the operation of three unions in the twenties revealed that on occasion persons who were not working because of age or illness, or those working on their own account, were included with the unemployed. Married women not looking for jobs were sometimes retained as members and accorded "free stamping," thus being included among the unemployed. However, better training of union officials, and more important, the increasing importance of trade union unemployment funds, tended to make for stricter control.
- h. On the basis of the foregoing factors, the Commission reached

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<sup>1</sup>Statens Offentliga Utredningar No. 20, 1931, p. 50.

the following conclusions:

"... the conclusion may be drawn that the data based upon the trade union unemployment series yield too low a result for the prewar (World War I) period and that the post-1920 data better reflect unemployment than the prewar figures. The errors discovered for the years after 1920 are difficult to measure precisely, but they appear to increase the magnitude to some extent. However, the data can be used to describe changes in unemployment during the latter period."<sup>1</sup>

- i. Several attempts have been made to check the trade union unemployment percentages against special censuses of unemployment. A census of May 5, 1927, when appropriately adjusted to the trade union concept, indicated a considerably lower percentage of unemployment than that shown by the trade union statistics.<sup>2</sup> Better results were obtained with respect to an unemployment census of March 2, 1936. It was estimated that for the entire country, 211,000 persons were unemployed on that date. However, since white collar workers and women were not well represented in the trade union statistics, the appropriate figure to compare with the latter was an estimated 175,000 male manual workers unemployed. At that time, the unions reported unemployment of

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<sup>1</sup>Ibid., p. 61. Professor Bagge has commented on the data as follows: "The prewar figures are probably somewhat too low in relation to the post-war figures, but as a general picture of the development of unemployment the above-mentioned conclusion that the general level of unemployment during the period 1922-23 to 1929-30 was about twice as high as before the war will hold good." Gösta Bagge, "Wages and Unemployment in Sweden 1920-30," Economic Essays in Honor of Gustav Cassel, London, 1933, p. 691.

<sup>2</sup>Ibid., p. 94. The discrepancy appears to have been due largely to the failure of the census adequately to enumerate the unemployed. See Harrison Clark, Swedish Unemployment Policy - 1914 to 1940, Washington, 1941, p. 66.

96,000, which was adjusted to 123,000 to take into account the non-reporting unions. In addition, 58,000 persons applied for unemployment relief, of whom between 38,000 and 43,000 were estimated not to belong to trade unions. Thus total unemployment by this method was 161-166,000, and male worker unemployed, 150-155,000.

The difference of 20,000 to 25,000 in the unemployment indicated by the two methods was explained by the fact that some organized and all non-organized workers were not covered by the trade union data. The most important discrepancy was for agricultural workers, of whom perhaps 20,000 were subject to seasonal unemployment.<sup>1</sup>

The general conclusion of this comparison appeared to be that the trade union unemployment percentage was valid for organized workers within the sectors of the economy covered by the reporting unions. However, the trade union percentage did not accurately portray the degree of unemployment prevailing in the country as a whole, which was estimated at 9.5 per cent compared with an end-February, 1936 trade union figure of 18.1 per cent. One of the obvious reasons for the discrepancy was the much lower degree of unemployment indicated by the census for white collar workers than for manual workers, 3.9 per cent against 10.3 per cent.

## 2. Employment Exchange Statistics

The only other unemployment series dating back as far as the trade

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<sup>1</sup>See Sociala Meddelanden, 1939, No. 5, p. 339.

union series is that compiled by the employment exchange system. About ten labor exchanges were established in the major cities between 1902 and 1906. The system grew thereafter into a network of offices covering the entire country. Until 1934, the local employment exchanges were autonomous, although they had to meet certain operating requirements in order to secure state aid. In 1934 the entire system was unified under the direct supervision of the Unemployment Commission (which became the Employment Commission in 1940 and the Employment Board in 1948). In 1952 there were 210 employment offices operating under 25 provincial employment boards.<sup>1</sup>

In 1913, the employment exchanges filled 118,000 vacancies, in 1951, 1,200,000. It is estimated that about one-third of all the vacancies in manufacturing and commerce are filled by the public employment exchanges.<sup>2</sup>

The data relating to the work of the labor exchanges take the form of a relative between the supply of and demand for labor. The number of job applications per month is expressed in relation to each 100 vacancies of which the exchanges are notified. Each job applicant is counted but once a year in the annual averages, regardless of the number of separate job applications made during the year. Similar practice is followed in averaging vacancies: whereas during each month the total number of unfilled vacancies is counted in, regardless of the fact that some vacancies carry over from month to month, the annual averages

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<sup>1</sup>Social Welfare Board, Social Sweden, Stockholm, 1952, p. 412, and Harrison Clark, op. cit., Chapter VII.

<sup>2</sup>Ibid.

count each carried over unfilled vacancy just once. The annual averages are shown in Table J-2.

These data, while useful for checking the trade union series, have certain deficiencies both with respect to the measurement of unemployment and for our specific purposes. Not all persons seeking jobs at the exchanges are unemployed: some want to change their jobs, others may be seeking seasonal work. Since persons seeking unemployment relief are generally required to register with the employment exchanges, changes in relief qualifications influence reporting. Strikers, and other persons not working for reasons other than unemployment, may also register at the exchanges. Nor do the published figures permit the computation of a percentage of unemployment, since the number of job seekers is related to vacancies reported by employers<sup>1</sup> rather than to the employed population catered to by the exchanges.

When the trend of unemployment indicated by the employment exchanges data is compared with the trade union series, it appears that except for the period 1920 to 1923, the two series have fluctuated in much the same manner, although the drop in unemployment from 1933 to 1937 was relatively greater according to the employment exchange data. From 1920 to 1921, however, the relative increase in unemployment as indicated by the trade union series was much greater than according to the employment exchange series, and similarly with the decline in unemployment from 1921 to 1923. The reasons for this divergence have not been established. A possible

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<sup>1</sup>It should be also noted that employer notification of vacancies may vary cyclically. In periods of manpower shortage there is apt to be more adequate notification than during periods of unemployment, when the employer can rehire old employees at the gate.

Table J-2

NUMBER OF JOB APPLICANTS PER 100 VACANCIES  
AT SWEDISH EMPLOYMENT EXCHANGES, 1910 - 1950

<u>Year</u>	<u>Applications per 100 Vacancies</u>	<u>Year</u>	<u>Applications per 100 Vacancies</u>
1910	138	1930	183
1911	132	1931	251
1912	125	1932	487
1913	116	1933	685
1914	131	1934	479
1915	137	1935	365
1916	98	1936 <sup>a</sup>	262 <sup>a</sup>
1917	102	1937	187
1918	139	1938	196
1919	116	1939	173
1920	107	1940	182
1921	282	1941	198
1922	296	1942	147
1923	186	1943	131
1924	171	1944	136
1925	198	1945	131
1926	201	1946	116
1927	210 <sup>a</sup>	1947	111
1928	201	1948	118
1929	174	1949	134
		1950	

SOURCES: 1910-1914, Sociala Meddelanden, 1915, No. 3, p. 267.  
1915-1920, Sociala Meddelanden, passim.  
1921-1926, Sociala Meddelanden, 1936, No. 2, p. 73.  
1927-1936, Sociala Meddelanden, 1937, No. 2, p. 82.  
1937-1950, Sociala Meddelanden, passim.

<sup>a</sup>Beginning with 1936, vacancies were redefined to exclude state unemployment reserve work, whereas prior to that year, such work was included among the vacancies. The effect of this change was to reduce the number of vacancies and thus increase the relative, particularly during the depression years. The relatives under the new concept were calculated back to 1927, and are shown in Table 2. The old series from 1927 to 1934 was as follows:

1927	198	1931	236
1928	192	1932	413
1929	169	1933	545
1930	178	1934	392

See: Sociala Meddelanden, 1936, No. 2., p. 73.

source of discrepancy is the fact that in 1920-1923, state relief work was included with vacancies (see note to Table J-2), so that while union members on relief work would normally have been reported unemployed, they would not have affected the supply-demand ratio at the labor exchanges. Nevertheless, the magnitude of the discrepancy does throw some doubt upon the validity of the very high unemployment percentages for 1921 and 1922 in the trade union series.

### 3. The Unemployment Insurance Data

The Swedish unemployment insurance system is organized along the lines of the Ghent System, the basic operating units being state-subsidized trade union unemployment funds. The present state system first came into effect in 1934, although many trade unions had previously operated funds without state assistance. In that year the funds were opened, on a voluntary basis, to all persons working in the particular trade. The usual waiting period is six days, and the maximum duration provided by any fund is 156 days in a 12-month period. Most funds, however, have a maximum duration between 120 and 138 days a year.<sup>1</sup>

In order to receive benefits, an unemployed person must register for work with a public employment exchange. There is a four-week disqualification for voluntary quits or for refusal to accept suitable employment. In 1950 some 1,100,000 persons were insured under the state scheme, providing excellent coverage, although as recently as 1938 only 181,000 workers were covered.

The unemployment fund percentages of unemployment represent the relationship between the total number of weeks of unemployment during

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<sup>1</sup> Social Sweden, p. 420.

a month and the total possible weeks of work during that month, i.e., the membership of the fund multiplied by elapsed weeks. An unemployed worker is exempted from the payment of his normal contribution to the unemployment fund, and it is **this** number of "free stamped" weeks which is reported as weeks of unemployment. In most cases, **the** fund secretary, who is usually also the local union secretary, makes the determination as to an individual's unemployment status. Registration at an employment exchange is not required for "free stamping," though it is required for the receipt of benefits.

Since these statistics are based upon "free stamping" of the unemployment books rather than upon weeks of benefit payment, they tend to be more comprehensive than the usual unemployment insurance statistics. While in general they are based upon the same principle as the trade union unemployment series, there are some differences:

- a. The coverage of the unemployment fund statistics is somewhat broader than that of the trade union series, including musicians, barbers, commercial white collar workers, hotel and restaurant personnel, foremen, and other groups not included in the trade union reports.
- b. There is an eight-week period of grace for the payment of the unemployment fund contribution, so that there is a lag in the reporting of unemployment, since the weeks of employment are reported in the accounting period when "free stamping" is granted. This lag is more significant for the monthly than for the annual averages.<sup>1</sup>

The unemployment insurance fund percentages are shown in

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<sup>1</sup> See: Sociala Meddelanden, 1942, No. 4., p. 322.

Table J-3 for the period 1936 to 1951. Comparison of these figures with the trade union data reveals that from 1936 to 1943 they were somewhat lower than the latter; the maximum divergence being 3.9 per cent in 1940, the average divergence for the period being 2.4 per cent of unemployment. From 1944 to 1951 the unemployment insurance fund percentage consistently exceeded the trade union unemployment percentages, the average excess for the period being 1.0 per cent of unemployment.

#### 4. Other Statistics

Beginning with 1922, data on the number of unemployment relief applicants were collected on a systematic basis. The difficulty with these data, however, is that the local administration of relief has varied considerably. ". . . the number of applications for relief at the local committees has always been strongly affected by the prospects of getting relief. If the committee has a reputation for generosity, many will come who are not really in need, and the reverse is also true."<sup>1</sup> Relief rolls were often padded by local communities in order to qualify for or increase the subsidy from the central government. The conclusion has been reached that the relief statistics do not represent "either the number of unemployed or the number needing relief."<sup>2</sup>

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<sup>1</sup> Harrison Clark, op. cit., p. 73.

<sup>2</sup> Ibid., p. 72.

Table J-3

PERCENTAGE OF MEMBER-WEEKS OF UNEMPLOYMENT AMONG MEMBERS  
OF THE SWEDISH UNEMPLOYMENT INSURANCE SYSTEM, 1936-1951

<u>Year</u>	<u>Percentage of Unemployment</u>
1936	11.4
1937	8.9
1938	7.2
1939	6.4
1940	7.9
1941	8.6
1942	5.2
1943	4.9
1944	5.1
1945	5.1
1946	4.0
1947	3.9
1948	4.4
1949	3.9
1950	3.5
1951	2.7

SOURCE: Sociala Meddelanden, passim.

There are several employment series published regularly. The Royal Social Board has published monthly since 1939 an index of employment in manufacturing, which continued an annual series beginning in 1911. There is also an older series, no longer published, representing evaluations of employment conditions by employers, ranked in five grades from poor to good. These employment series are not suitable for the measurement of unemployment.

#### 5. Summary

The trade union series constitutes the best long term index of Swedish unemployment. With respect to international comparison, it has the following characteristics:

- a. For recent years only, the coverage goes beyond manufacturing, mining and building. It includes in addition those unions covering commerce, municipal workers, and trucking. The weight of the latter groups, in terms of reported membership, was 20 per cent at the end of 1950.
- b. The returns have not been confined to unions which pay unemployment benefits, though since 1934 the process of reporting unemployed members and weeks of unemployment among insured members has been closely parallel.
- c. In general, unemployment due to labor disputes and illness is excluded.
- d. The trade union percentages are generally believed to constitute a good index of unemployment for the sector of the economy covered, and within the definition of unemployment used.

## APPENDIX K

### The United Kingdom

The three major continuous unemployment series available for the United Kingdom are the trade union series, the unemployment insurance series, and the series giving the number of unemployed persons on the registers of the employment exchanges.

#### 1. Trade Union Series

The trade union unemployment series was constructed from monthly reports, submitted to the Board of Trade in the early years and later to the Ministry of Labour, by trade unions paying out-of-work benefits. In these monthly returns, the trade unions reported (a) the total number of their members and (b) the number of members wholly unemployed at the end of the month whether in receipt of unemployment benefit or not. With this information at their disposal, the authorities were able to calculate monthly unemployment percentages by comparing the number of trade unionists reported unemployed with the membership of the reporting unions. Annual trade union percentages, 1881-1926, averages of the monthly percentages, are presented in Table K-1. The series, which extends back to 1851, was discontinued in 1926. Some further characteristics of the series are set forth below.

- a. The trade union unemployment reports excluded workers who were sick, superannuated, on strike, or locked out from the total number reported unemployed each month. In addition to being excluded from the numbers unemployed, persons on strike or locked out were also excluded from the membership figures used in calculating percentages.

Table K-1

UNEMPLOYMENT AMONG BRITISH TRADE UNION MEMBERS, 1881-1926<sup>a</sup>

<u>Year</u>	<u>Unemployment, percentage<sup>b</sup></u>	<u>Membership of reporting unions (thousands)</u>	<u>Year</u>	<u>Unemployment percentage</u>	<u>Membership of reporting unions (thousands)</u>
1881	3.5	140	1904	6.0	567
1882	2.3	151	1905	5.0	569
1883	2.6	160	1906	3.6	586
1884	8.1	167	1907	3.7	661
1885	9.3	169	1908	7.8	689
1886	10.2	168	1909	7.7	698
1887	7.6	164	1910	4.7	703
1888	4.9	168	1911	3.0	759
1889	2.1	188	1912	3.2	834
1890	2.1	213	1913	2.1	922
1891	3.5	229	1914	3.3	993
1892	6.3	234	1915	1.1	922
1893	7.5	329	1916	0.4	939
1894	6.9	368	1917	0.7	950
1895	5.8	391	1918	0.8	1,117
1896	3.3	423	1919	2.4	1,334
1897	3.3	458	1920	2.4 <sup>c,d</sup>	1,603
1898	2.8	458	1921	14.8 <sup>c,d</sup>	1,235
1899	2.0	494	1922	15.2	1,360
1900	2.5	525	1923	11.3 <sup>d</sup>	1,145
1901	3.3	531	1924	8.1	1,084
1902	4.0	538	1925	10.5 <sup>c</sup>	978
1903	4.7	550	1926	12.2 <sup>c</sup>	833

<sup>a</sup>Twenty-second Abstract of Labour Statistics, London, 1937, p. 48.

<sup>b</sup>Trade union percentages based on returns collected by the Board of Trade and the Ministry of Labour from various trade unions which paid unemployment benefit; persons on strike or locked out, sick or superannuated are excluded. Percentages for some of the earlier years are partly computed from the expenditure of the several unions on unemployment benefit.

<sup>c</sup>Affected by general coal mining stoppage.

<sup>d</sup>Figures from 1921 on exclude pottery trade operatives. From July, 1924, building trade operatives are also excluded from the general average.

- b. The accuracy of the union reports is generally held to be quite good. W. H. Beveridge described the caliber of the reporting as follows:<sup>1</sup>

"The unions making returns are asked to include all their unemployed members whether in receipt of benefit or not. The great bulk of them continue their payments for periods so considerable that those who at any time have run out of benefit are a very small fraction of all the unemployed. Even as to these the obligation to register generally remains; the rules almost invariably provide that all members out of work must sign the vacant book regularly whether in receipt of benefit or not. Nor is the obligation to register merely formal. In a good many unions, even after the actual allowance has come to an end, members continuing to sign the books are excused from payment of their contributions . . . . ."

"There is, therefore, no reason to doubt the substantial completeness of the returns made, at least as to the members who are wholly unemployed."

Further, since the labor unions served as something of labor exchanges in many instances, unemployed members who sought work at the labor union offices were brought to the attention of the union secretaries. Thus, unemployed members, to abide by union rules, to collect benefit, to be excused from payment of contributions, and to find work, were motivated to make their unemployment known to the union officials charged with submitting the monthly unemployment reports to the authorities.

- c. The membership of the reporting trade unions, shown in Table K-1, expanded from 140,000 in 1881 to 525,000 in 1900. By 1910, the number included in the returns had reached 703,000, followed by membership totals of well over a million in the

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<sup>1</sup>W. H. Beveridge, Unemployment, A Problem of Industry, London, 1909, p. 19.

years 1918-1924. After reaching a peak of 1,603,000 in 1920, numerical coverage contracted until in 1926, the last year of the series, membership in the reporting unions stood at 833,000. From 1900 to the outbreak of World War I, the membership of the reporting unions included about one-fourth of the total membership of trade unions and other employees' associations in Great Britain and Northern Ireland.<sup>1</sup> After the war, this fraction fluctuated from about one-sixth to about one-fifth.

The census of 1921 for Great Britain enumerated approximately 7.74 million employees with occupations in manufacturing, mining, quarrying and building. Also included in this figure are 555,660 general laborers or other unskilled workers. The union sample upon which unemployment percentages were based, therefore, represented from a high of approximately one-fifth to a low of a little over one-tenth of the total number of employees enumerated in the above named occupations in 1921. Unfortunately, the census figures do not show wage and salary earners separately; therefore it is not possible to compare the membership of the reporting trade unions with just the number of wage earners.

- d. The industrial coverage of the trade union sample depended upon the development of trade union schemes providing for the payment of unemployment benefits in the various trades. Since

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<sup>1</sup>Twenty-second Abstract of Labour Statistics of the United Kingdom, London, 1937, p. 137. The statistics relate to all organizations of employees, including those of salaried and professional workers, as well as those of manual wage earners, which are known to include among their functions that of negotiating with employers with the object of regulating the conditions of employment of their members.

out-of-work payments were first instituted among unions in the engineering, shipbuilding, and metal trades, unionists in these trades are more heavily represented in the union sample in the earlier years of the series. In the years 1881-1890, these groups accounted for nearly 60 per cent of the total membership represented in the returns. For later years, the composition of the trade union sample is indicated in the table below:

Proportion of Trade Union Sample Contributed by Each Trade<sup>\*</sup>

<u>Trade</u>	<u>1894</u>	<u>January, 1908</u>	<u>December, 1921</u>
Building Woodworking and furnishing	21	9.4 5.4 } 14.8	6.8 6.3 } 13.1
Coal mining	19	19.5	12.7
Engineering and shipbuilding Other metal trades	46	34.2 4.9 } 39.1	37.4 5.2 } 42.6
Printing, book- binding and paper	10	8.7	7.1
Textiles	3	14.5	11.3
Clothing	--	--	9.6
Pottery	--	--	2.4
Miscellaneous	1	3.4	1.1
	<u>100%</u>	<u>100%</u>	<u>100%</u>

\* Data for 1894 and 1908 from W. H. Beveridge, op. cit., p. 20. Data for 1921 from Ministry of Labour Gazette.

It is seen that the trade union sample is drawn mainly from manufacturing and building trades, with workers in agriculture, transportation, communications, domestic service, government,

and commerce excluded. With respect to the trades covered by the returns, the shipbuilding, engineering and metal trades, three highly fluctuating trades, were over-represented.

- e. Since the composition of the trade union sample changed over time, the Board of Trade, in an effort to put the percentages on a comparable basis, constructed "corrected" trade union unemployment percentages. This was done by averaging the unemployment percentage for the engineering, shipbuilding and metal groups, taken together, and the mean of the unemployment percentage for all other groups represented in the trade union sample.<sup>1</sup> In Table K-2, the corrected percentages for the years 1881-1911 are compared with the unadjusted percentages. In these 31 years, the maximum deviation between the corrected percentages and the unadjusted percentages was 1.0 percentage point. In 13 of these 31 years, the deviations were 0.1 percentage points or less. For 9 of the years, the unadjusted percentages exceeded the corrected, for two of the years there was no difference, while for the remaining years, the corrected percentages stood slightly above the unadjusted figures.

The conclusion indicated by this comparison is that the correction which the Board of Trade applied did not affect the trade union percentages to any significant degree in the years 1881-1911. Furthermore, the arbitrary system of averaging which the Board of Trade employed does not in the least insure that

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<sup>1</sup>For example in 1908, the unemployment percentage for the engineering, shipbuilding and metal trades was 12.5 while for all other unionists covered in the returns it was 4.8. Therefore for this year the "corrected" percentage was 8.65. The unadjusted trade union percentage for this year was 7.8, the highest annual percentage for the years between 1900 and 1914. See Fifteenth Abstract of Labour Statistics, London, 1912, p. 2.

Table K-2

COMPARISON OF BOARD OF TRADE "CORRECTED" TRADE UNION UNEMPLOYMENT PERCENTAGES WITH THE UNADJUSTED TRADE UNION UNEMPLOYMENT PERCENTAGES 1881-1911

Year	(1) "Corrected" percentage <sup>a</sup>	(2) Unadjusted <sup>b</sup> percentage	(1)-(2)
1881	3.55	3.5	.05
1882	2.35	2.3	.05
1883	2.6	2.6	.00
1884	7.15	8.1	-.95
1885	8.55	9.3	-.75
1886	9.55	10.2	-.65
1887	7.15	7.6	-.45
1888	4.15	4.9	-.75
1889	2.05	2.1	-.05
1890	2.1	2.1	.00
1891	3.4	3.5	-.10
1892	6.2	6.3	-.10
1893	7.7	7.5	.20
1894	7.2	6.9	.30
1895	6.0	5.8	.20
1896	3.35	3.3	.05
1897	3.45	3.3	.15
1898	2.95	2.8	.15
1899	2.05	2.0	.05
1900	2.45	2.5	-.05
1901	3.35	3.3	.05
1902	4.2	4.0	.2
1903	5.0	4.7	.3
1904	6.4	6.0	.4
1905	5.25	5.0	.25
1906	3.7	3.6	.1
1907	3.95	3.7	.25
1908	8.65	7.8	.85
1909	8.7	7.7	1.0
1910	5.1	4.7	.4
1911	3.05	3.0	.05

<sup>a</sup>Fourteenth Abstract of Labour Statistics, London, 1911, p. 2;  
Fifteenth Abstract of Labour Statistics, London, 1912, p. 2.

<sup>b</sup>Twenty-second Abstract of Labour Statistics, London, 1937, p. 48.

the "corrected" percentages represent a more correct estimate of unemployment than do the unadjusted figures.

- f. A memorandum of the Ministry of Labour in the Survey of Industrial Relations referred to one other property of the trade union sample as follows: "Moreover, unskilled and casual labour is insufficiently represented in the returns, which relate mainly to skilled workmen."<sup>1</sup> For example, in the tobacco trade, unionists represented in the returns were largely cigar makers, while in the building trade, unionists were mostly carpenters and joiners.
- g. The trade union percentages are considered a valid index of unemployment for the years covered by the series. The Committee on Industry and Trade stated in its report:

"The general acceptability of the trade union index number with respect to the great body of ordinary industrial workers (i.e. other than those in the occupations just mentioned [agriculture, domestic service, government, and railroads]) has been confirmed by comparisons which have since become possible: in the first place, by certain calculations of Professor Bowley in 1912; and, in the second place, by the figures produced by the introduction of unemployment insurance."<sup>2</sup>

- h. Several analyses indicate that, the trade union percentages of unemployment did not substantially falsify the level of unemployment of wholly unemployed persons in the trades covered in the union returns and also in the trades covered later by the unemployment insurance schemes before 1936.<sup>3</sup>

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<sup>1</sup>Survey of Industrial Relations, Committee on Industry and Trade, London, 1926, p. 218.

<sup>2</sup>Committee on Industry and Trade, op. cit., p. 245.

<sup>3</sup>In 1936, persons in agriculture became insurable against unemployment.

W. H. Beveridge has presented<sup>1</sup> a detailed analysis of the trade union series in an effort to determine "how far the unemployment rate derived from trade union returns before 1914 can be taken as a guide, not merely to the direction in which unemployment was moving at any moment, that is to say its rise or fall, but also to the general level of unemployment over a period of years."

His analysis takes account of the following factors:

- (1) Coverage of the trade union series was limited to trade unionists in the trades covered. He concluded that a reduction of one sixth, that is from 4.8, the average for the years 1883-1913, to 4.0 should correct for this point.
- (2) Unemployment insurance records after the first World War covered a greater variety of industries. No correction is needed here since in Beveridge's words: "It is safest to regard the occupations covered by the trade union returns, as having had on an average much the same general level of unemployment as all occupations taken together, though less in good times and more in bad times. That is to say, no correction either way should be made on account of the narrower occupational basis of the trade

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<sup>1</sup>W. H. Beveridge, Full Employment in a Free Society, London, 1945, pp. 328-335. Note also that on p. 72, Beveridge wrote: "The only direct comparison that can be made between trade union figures and unemployment insurance figures relates to the first six years of general unemployment insurance from 1921 to 1926, when both sets of statistics are available. In this six years' overlap, the unemployment insurance percentages ranged from 10.3 in 1924 to 17.0 in 1921 and averaged 12.8, while the corrected trade union percentages ranged from 9.1 in 1924 to 17.2 in 1922 and averaged 13.0. The agreement could hardly be closer. So far as direct comparison can be made, it suggests that the trade union returns are a fair indication of the average level of unemployment in the working population as a whole, and that unemployment between the wars was just about three times as severe as unemployment before the first World War."

union unemployment rate."

(3) The bases of the trade union and of the unemployment insurance schemes were not only different from one another but each of them changed from time to time. Beveridge suggested that an upward correction of 1 percentage point be applied to the trade union average, raising it to 5 per cent.

(4) To account for the more complete recording of unemployment by the insurance statistics, Beveridge raised the trade union average by another percentage point to 6 per cent. Here the major part of the correction was attributed to the fact that the trade union percentages, covering only total unemployment, did not include those working short time. Also included in this correction, was allowance for the fact that some unemployment of short duration and some of extremely long duration failed to be included in the union returns.

Beveridge concluded his analysis with the suggestion that 6.0 per cent is the most probable rate of pre-war unemployment to use for comparison with the unemployment rate between the wars. However, he admitted that this figure could be anywhere from 4.8, the actual trade union average, to 7.0 per cent.

In the final report of the Royal Commission on Unemployment Insurance, there appeared the following evaluation of the average level of unemployment before World War I:

" . . . there is, however, little doubt that the post war average figure of 13 per cent is much higher than would have been shown by pre-war experience had corresponding statistics been available. The experience of the trade unions which gave unemployment benefit was examined when the 1911 and 1920 Acts

were prepared, and the estimate then reached of unemployment for the industries at present included in the insurance scheme in the twenty years before the war was an average of about 4 per cent."<sup>1</sup>

Actually the average of the trade union percentages for the twenty years before the war, 1894-1913, was 4.3.

Thus these two analyses appear to confirm the validity of the trade union percentages as a measure of the average level of unemployment over a period of years. The Royal Commission's estimate of about 4 per cent unemployment for the twenty years before World War I is only 0.3 percentage points below the trade union average for these years. Beveridge's estimate of 6 per cent as the most probable level of unemployment for the years 1883-1913 includes a correction for short time. If only total unemployment is considered, Beveridge's figure would be about 5.5 per cent. The average of the trade union percentages for these years was 4.8, just 0.7 percentage points below Beveridge's figures.

- j. The only statistical information available to gauge the value of the trade union series as an absolute measure of unemployment at particular times is the unemployment statistics of the unemployment insurance schemes from the last months of 1912 through 1926, the year in which the trade union series terminated. In Table K-3 the annual averages of the trade union percentages

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<sup>1</sup>Final Report of the Royal Commission on Unemployment Insurance, London, 1932, pp. 85-86.

Table K-3

COMPARISON OF THE BRITISH TRADE UNION AND UNEMPLOYMENT INSURANCE

PERCENTAGES OF UNEMPLOYMENT

Year	Trade union unemployment percentages		Unemployment insurance percentages <sup>c</sup>	
	Unadjusted <sup>a</sup>	Adjusted <sup>b</sup>	Wholly unemployed <sup>d</sup>	Wholly and temporarily unemployed <sup>e</sup>
1912	3.2	3.3	-	-
1913	2.1	2.1	3.6	-
1914	3.3	3.3	4.2	-
1915	1.1	1.1	1.2	-
1916	0.4	0.4	0.6	-
1917	0.7	0.6	0.7	-
1918	0.8	0.8	1.3	-
1919	2.4 <sup>j</sup>	2.1 <sup>j</sup>	5.2 <sup>j</sup>	-
1920	2.4	2.0	3.2 <sup>g,h</sup>	-
1921	14.8	13.5	13.8	17.0
1922	15.2	12.8	13.3	14.3
1923	11.3	-	11.4 <sup>f</sup>	11.7
1924	8.1	-	10.0 <sup>f</sup>	10.3
1925	10.5	-	11.0 <sup>f</sup>	11.3
1926	12.2 <sup>k</sup>	-	8.9 <sup>f,k</sup>	12.5 <sup>k</sup>

<sup>a</sup>Data from Table K-1.

<sup>b</sup>John Hilton, Statistics Derived from the Working of the Unemployment Insurance Acts, Royal Statistical Society Journal, Vol. 86, 1923, pp. 190-191. Hilton weighted the trade union percentages for various groups of unions by the estimated numbers of workers in those industrial groups instead of in the proportions in which the trade union membership is represented in the returns. The annual figures are averages of Hilton's monthly data.

<sup>c</sup>The coverage of the unemployment insurance statistics was expanded in 1916 and again in 1920. See below.

<sup>d</sup>1913-1922, averages of monthly data, John Hilton, op. cit., pp. 190-191; 1923-1926, Ministry of Labour Gazette. See footnote f.

<sup>e</sup>Data from Table K-5. The term "temporarily unemployed" is defined below.

<sup>f</sup>Figures not available in 1924 and 1925. The percentages presented above are calculated on the assumption that the relation between the percentages for wholly and temporarily unemployed and those for the wholly unemployed was the same as in 1923. Figures for 1923 (January-October) and 1926 from Table K-7.

<sup>g</sup>Prior to December, 1921, the figures relate to Great Britain and all of Ireland; after this date they relate to Great Britain and Northern Ireland.

<sup>h</sup>Average of 11 months.

<sup>j</sup>Trade union percentages did not adequately reflect the extent of unemployment among workers in general in this year. Out-of-work donation records rose from 356,000 at the beginning of January, 1919, to a maximum of 790,000 early in March. The non-contributory out-of-work donation scheme temporarily replaced unemployment insurance during 1919. Average of unemployment insurance percentages for January, February, November and December of 1919 is 8.2. On the assumption that the average for these months bore the same relation to the annual average as in 1920, the figure 5.2 for 1919 is obtained. For discussion of unemployment in 1919, see John Hilton, op. cit., pp. 183-184, and A. C. Pigou, Aspects of British Economic History, 1918-1925, London, 1947, pp. 9-21.

<sup>k</sup>Affected by coal mining strike.

and of the unemployment insurance unemployment percentages for these years are shown.

John Hilton, former Director of Statistics, Ministry of Labour, who compared the monthly trade union percentages with those of the unemployment insurance schemes for the months September, 1912, through December, 1922, concluded:

"The experience which has been gained since the records of the proportions unemployed among insured workpeople became available, suggests that in times of good employment the Trade Union percentage has approximated very closely to the general percentage unemployed, but that in times of serious depression the over representation of the engineering and shipbuilding trades in the figures has (as was believed to be the case) tended to raise the general percentage for all unions included to a level appreciably too high to represent accurately the average proportion of workpeople unemployed in the country as a whole."<sup>1</sup>

In this conclusion, Hilton refers to all workers, including those in agriculture, railroads, domestic service, and government.

Undoubtedly the overstatement in bad times, referred to above as appreciable, would be somewhat less pronounced if the comparison were limited to workers in manufacturing, building and mining.

The Committee on Industry and Trade in its report of 1926 commented as follows:<sup>2</sup>

"The other check upon the trade union index is that which has recently been made possible by the institution of Unemployment Insurance. It will be seen from reference to p. 33 that a comparison between the percentage of insured workpeople unemployed with the trade union figure indicates that the latter is not only a fairly reliable index but even a tolerable measure of unemployment."

The years after 1900 up to World War I, except for 1908 and 1909, were years of good employment. If Hilton's conclusion to the

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<sup>1</sup>John Hilton, op. cit., p. 182.

<sup>2</sup>Committee on Industry and Trade, op. cit., p. 245.

effect that the trade union percentages approximate very closely the level of unemployment in times of good employment can be carried back this far (he studied the period 1912-1922), the trade union percentages can be taken to approximate, perhaps rather roughly at times, the level of unemployment in these years. For the years 1908 and 1909, there may be some overstatement of the level of unemployment because of the overrepresentation of the engineering, shipbuilding and metal groups. Several considerations indicate that this overstatement could not have been very serious. Comparison with the unemployment insurance statistics revealed that in the depression of the early twenties, much more severe than that of 1908-1909, the maximum divergence between the trade union percentages and the unemployment insurance percentages was 1.9 percentage points (Table K-3). In 1921, the shipbuilding, engineering and metal groups constituted 42.6 per cent of the union sample whereas in 1908, it constituted 39.1 per cent. Further, as revealed in Table K-4, in the 1920's the unemployment percentages of this group stood higher relative to those of other groups than in 1908-1909 and therefore influenced the average for all groups more in the twenties than in 1908-1909. Therefore, there is reason to suppose that the overstatement in 1908-1909 was not as great as in 1921.

## 2. Unemployment Insurance Statistics<sup>1</sup>

Since the enactment of the first National Unemployment Insurance Act of 1911, unemployment percentages are available for persons compulsorily insured against unemployment. These statistics are described

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<sup>1</sup>Occasionally these statistics are called employment exchange statistics since the employment exchange authorities administered unemployment insurance.

Table K-4

UNEMPLOYMENT PERCENTAGES FOR VARIOUS INDUSTRIAL GROUPS, 1907-1926

<u>Year</u>	<u>All unions</u>	<u>Engineering shipbuilding and metal</u>	<u>Carpenters and joiners</u>	<u>Other wood-working and finishing</u>	<u>Printing and book-binding</u>
1907	3.7	4.9	7.3	4.6	4.3
1908	7.8	12.5	11.6	8.3	5.5
1909	7.7	13.0	11.7	7.6	5.6
1921 <sup>a</sup>	14.8 <sup>b</sup>	22.1	3.9	9.4	7.3
1922	15.2	27.0	7.5 <sup>c</sup>	7.6	6.6
1923	11.3	20.6	5.0 <sup>c</sup>	5.8	4.7
1924	8.1	13.8	1.9 <sup>c</sup>	4.5	3.3
1925	10.5	13.5	2.2 <sup>c</sup>	4.4	2.8
1926 <sup>a</sup>	12.2	18.2	5.2 <sup>c</sup>	8.2	4.3

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<sup>a</sup>Affected by general Coal Mining Stoppage.

<sup>b</sup>Figures from 1921 onwards exclude pottery trade operatives. From July, 1924, onwards building trade operatives are also excluded from general average.

<sup>c</sup>Average of quarters.

SOURCE: Twentieth Abstract of Labour Statistics, London, 1931, p. 72.

below.

- a. The coverage of the unemployment insurance statistics, shown in Table K-5, has expanded with the broadening of the unemployment insurance schemes. At the time when the first Act came into operation in 1912, the statistics included about 2.1 million workers, 16 years of age or older, engaged in the following lines of activity: building, construction of works, shipbuilding, engineering, construction of vehicles, and sawmilling.<sup>1</sup>

The scope of the statistics was extended by the Acts of 1916 and of 1920. The former Act, which brought approximately 1½ million additional persons under unemployment insurance, covered workers occupied in machine woodwork, the repair of metal goods, the manufacture of munitions, chemicals, meats, rubber and rubber products, leather and leather products, bricks, cement, wooden cases, artificial stone, and other artificial building materials. The Act of 1920 was responsible for a large expansion of coverage. It increased the number of persons insured to well over 11 million by applying unemployment insurance to all persons, 16 years

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<sup>1</sup>Industrial representation in the insurance year 1913-1914 was as follows:

<u>Trade</u>	<u>Number Insured</u>	<u>Proportion</u>
Building	812,659	35.0
Construction of works	144,231	6.2
Shipbuilding	264,217	11.3
Engineering	817,931	35.2
Construction of vehicles	209,985	9.0
Sawmilling	12,029	0.5
Others	64,546	2.8
Total	<u>2,325,598</u>	<u>100.0</u>

Source: Nineteenth Abstract of Labour Statistics, London, 1928, p. 33.

Table K-5

NUMBERS OF PERSONS INSURED UNDER THE  
BRITISH UNEMPLOYMENT INSURANCE SCHEMES

<u>Year</u>	<u>Numbers insured<sup>1</sup></u> <u>(thousands)</u>	<u>Year</u>	<u>Numbers insured</u> <u>(thousands)</u>
1913	2,070	1935 <sup>3</sup>	(a 13,058
1914	2,326		(b 14,003
1915	2,078	1936 <sup>4</sup>	(c 14,285
1916	2,029		(d 14,909
1917	3,632	1937	15,334
1918	3,922	1938 <sup>5</sup>	(e 15,501
1919	3,721		(f 15,743
1920	4,197	1939	15,898
1921	11,338	1940 <sup>6</sup>	(g 15,194
1922	11,432		(h 15,154
1923	11,486	1941 <sup>7</sup>	(i 14,918
1924	11,664		(j 15,282
1925	11,892	1942	15,438
1926	12,041	1943	15,003
1927 <sup>2</sup>	12,131	1944	14,514
1928	11,882	1945	14,000
1929	12,094	1946	15,572
1930	12,406	1947	15,930
1931	12,772	1948 <sup>8,9</sup>	(k 16,147
1932	12,810		(l 20,820
1933	12,885	1949	20,870
1934	12,960	1950	21,120
		1951	21,216
		1952	21,266

<sup>1</sup>July of each year. The figures for 1913-1921 include all of

Ireland while later figures relate to only Northern Ireland.

<sup>2</sup>Ages 16 and over through 1927 and 16-64 from 1928.

<sup>3</sup>Persons 14 to 16 became insurable. Line a includes those 16-64 years of age while line b relates to ages 14-64.

<sup>4</sup>In line c persons in agriculture who first became insurable in 1936 are excluded while in line d they are included.

<sup>5</sup>The figures in line e exclude while those in line b include certain classes of domestic workers who became insurable in 1938.

<sup>6</sup>Women, aged 60-64, who ceased to be insurable in 1940 are included in line g but are excluded in line h.

<sup>7</sup>The figures in line i exclude non-manual workers earning £250 and not more than £420 per year who became insurable in September, 1940, while line j includes them.

<sup>8</sup>The school-leaving age was raised from 14 to 15 in 1947. Therefore the figures for 1948 relate to those 15 and over.

<sup>9</sup>Change wrought by institution of National Insurance. See text.

SOURCES: Report on National Unemployment Insurance to July 1923, Ministry of Labour, p. 23; Nineteenth Abstract of Labour Statistics, London, 1928, p. 78; Twenty-second Abstract of Labour Statistics, London, 1937, p. 14; Statistical Abstracts for the United Kingdom, passim.

of age or over, who were employed under a contract of service or apprenticeship (except apprentices without money payments) and, if non-manual workers, received remuneration not exceeding £ 250 a year. The principal persons excluded from the scheme were those occupied in agriculture, forestry, horticulture, and private domestic service.<sup>1</sup> Thus the total number insured under the Act of 1920 included non-manual workers earning less than £ 250 a year and engaged in an insurable trade, workers in manufacturing, mining, transportation, fishing gas, water, electricity, the distributive trades, commerce, banking, insurance and finance.<sup>2</sup> Table K-6 shows the industrial distribution of the insured population together with the census count of the number of insurable persons<sup>3</sup> engaged in these industries on April 27, 1931. The industrial classification employed in the insurance

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<sup>1</sup>Also excluded were: (1) persons in military service, (2) permanent members of any police force, (3) teachers, (4) agents paid by commission or fees, or a share in the profits who are mainly dependent on earnings from some other occupation or who are ordinarily employed as agents for more than one employer and are not mainly dependent for a livelihood on any one agency, (5) non-manual workers earning over £250 a year (note that for manual laborers, coverage is independent of the rate of remuneration), (6) casual workers occupied other than for the purposes of the employer's trade or business, (7) workers coming under special orders who are engaged in certain subsidiary employments which are not their principal means of livelihood, (8) crews of fishing vessels wholly remunerated by shares of profits or gross earnings, and (9) female nurses.

<sup>2</sup>These last three groups were included under Special Schemes.

<sup>3</sup>The term insurable person refers to those persons meeting the necessary requirements to be covered by unemployment insurance. The census data is adjusted to this concept by excluding those under 16 years of age, those 65 years of age and over, and those listed as managers, all of whom did not qualify for unemployment insurance coverage in 1931.

Table K-6

UNITED KINGDOM, CENSUS OF POPULATION 1931,  
AND UNEMPLOYMENT INSURANCE STATISTICS  
(thousands of persons)

	Numbers of persons of insurable age				Unemployed					
	Males		Females		Males			Females		
	A	B	A	B	D	E	F	D	E	F
Coal	1,084	1,046	6	6	216	181	97	1	1	0
Other mining	109	105	3	2	20	18	5	0	0	0
Mining products	56	46	3	3	11	9	2	0	0	0
Bricks, glass										
earthenware	152	153	56	59	24	21	11	9	10	9
Chemicals	164	156	52	58	25	23	3	4	5	1
Engineering	629	687	104	113	485	405	166	37	47	15
Vehicles	316	291	39	30						
Ships	276	249	5	4						
Metals and metal trades	721	620	137	160						
Cotton	196	192	354	361	50	42	28	100	96	49
Wool	94	96	132	144	13	12	11	16	21	18
Other textiles	221	210	313	320	35	35	30	41	56	34
Leather	49	42	26	24	8	6	2	4	4	1
Clothing	228	194	437	408	31	21	10	29	27	12
Food	265	201	176	173	35	25	2	23	25	2
Drink	95	86	23	26	11	9	1	2	4	0
Tobacco	19	16	32	32	1	1	0	1	3	1
Wood	224	191	31	34	42	32	4	3	4	1
Paper	71	69	64	62	6	5	3	5	6	2
Printing	203	180	90	97	19	15	1	8	10	1
Miscellaneous	129	99	72	59	22	15	4	8	8	2
Building	963	1,096	13	11	196	212	8	1	1	0
Gas, etc.	229	165	7	7	20	14	1	0	0	0
Sub-total	6,493	6,190	2,175	2,193	1,270	1,101	390	292	330	151

(continued from previous page)

	Numbers of persons of insurable age				Unemployed					
	Males		Females		Males			Females		
	A	B	A	B	D	E	F	D	E	F
Transport	1,304	827	48	35	154	176	5	3	3	0
Commerce	1,580	1,282	809	806	173	144	6	62	69	4
Fishing	44	29	2	1	10	5	0	0	0	0
Government	1,188	403	402	43	103	51	3	8	2	0
Professions	227	75	266	56	11	5	0	13	2	0
Entertainments	112	59	54	31	24	12	0	10	6	0
Other	136	105	43	37	96	42	1	28	4	1
Sub-total	4,591	2,780	1,624	1,009	571	435	15	124	86	5
Agriculture	635	-	58	-	62	-	-	3	-	-
Personal service	524	165	1,649	360	64	26	0	137	50	3
Grand total	12,243	9,135	5,506	3,562	1,967	1,562	406	557	466	159

A. Enumerated in Census, including those out of work, less managers, etc., and persons under 16 or over 65 years. An estimate for Northern Ireland is included.

B. Numbers insured.

D. Numbers recorded in the Census as out of work, including managers, etc.

E. Insured persons wholly unemployed.

F. Insured persons temporarily unemployed.

SOURCE: A. L. Bowley, Studies in the National Income, Cambridge, 1942, pp. 104-105.

statistics was the same as that employed in the census.

As from May 4, 1936, persons in agricultural occupations, except private gardeners who were not included until February, 1937, were included in the statistics. In April, 1938, certain classes of domestic employments were brought under the insurance schemes, while in September, 1940, non-manual workers with a rate of remuneration exceeding £250 but not exceeding £420 were also included.

The base of the statistics was further enlarged with the enactment of the National Insurance Scheme of 1948. Under this scheme, the total number of persons, aged 15 or over, who work for pay or gain or who register themselves available for such work became insurable. The statistics came to include private indoor domestic servants and non-manual workers with a rate of remuneration exceeding £420, two groups which were formerly uninsurable.

- b. The age groups included in the statistics have shown some variation. Until 1928, the persons included were of age 16 and over. In 1928, persons 65 and over were excluded. In 1934, the minimum age of persons covered by the statistics was lowered from 16 years to the age, not being less than 14 years, at which juveniles were no longer required by law to attend school. Women aged 60 and under 65 were excluded in 1940. In 1947, when the school leaving age was raised from 14 to 15, the age groups included were 15 through 64 for males and 15 through 59 for females. After mid-1948, all persons over 15 came to be included in the statistics.
- c. The count of the total number of insured persons is effected in conjunction with the renewal of the unemployment insurance

books which are issued to all insured persons. Formerly, such a count was made once a year in July. In 1948, insurance books of different colors, marked A, B, C, and D, were issued at random and all cards of the same color are now exchanged at quarterly dates. Thus the count of the insured is now based on random 25 per cent samples at the end of each quarter.

d. Upon becoming unemployed, insured persons are required to lodge their books at an employment exchange in order to claim benefit and to seek new employment. Upon resumption of employment, the insurance book is removed and deposited with the new employer. The determination of the number of insured persons unemployed, which was the figure used in computing percentages before mid-1948, was accomplished by counting the number of books lodged at the employment exchanges on the Monday nearest the middle of the month. Persons sick, incapacitated, disqualified from benefit under the trade dispute regulation, or who refused a suitable offer of employment were excluded. Before September, 1937, the following groups constituted the number of insured unemployed:

- (a) persons whose claims had been admitted for insurance benefit,
- (b) persons whose applications had been authorized for unemployment allowances,
- (c) persons whose claims were under consideration,
- (d) other insured persons, not in receipt of allowances, but who maintained registration at an employment exchange,
- (e) persons under the Special Schemes for banking, insurance, and after 1936, agriculture, with claims to benefit, and

(f) persons whose books were in the "two months file."<sup>1</sup>

Usually, the persons in categories (a) and (e) constituted the major part of the total number of insured unemployed. The numbers in category (f) were generally not large.

The system of counting the insured unemployed was altered on several occasions. The effects and nature of these changes are shown below:<sup>2</sup>

<u>Date</u>	<u>Nature of the change in counting the number of insured unemployed</u>	<u>Number of insured unemployed in Great Britain (thousands)</u>	
		<u>Old count</u>	<u>New count</u>
September, 1937	Before this date, all persons with books lodged on the Monday of the count were included; after this date, all persons who, during the week subsequent to the count, were found to have actually been in employment on the Monday of the count even though their books remained lodged at an exchange were excluded.	1,420	1,373
January, 1939	Before this date, the figures related to persons who were maintaining registration at the exchanges and to persons whose books were in the "two months file"; after this date, the latter group was excluded.	2,125	2,035

<sup>1</sup>This file contained the books of persons for whom no information was available as to whether they were sick, deceased, had emigrated, or had obtained employment in an uninsured trade. Such books were included in the count of the insured unemployed for a period of up to two months from the date the person had last been in contact with the employment exchange. Regular form letters were sent to persons losing contact with the exchange in an effort to ascertain their employment status.

<sup>2</sup>R. B. Ainsworth, Labour Statistics, in Sources and Nature of the Statistics of the United Kingdom, edited by M. G. Kendall, London, 1952, Vol. 1, p. 80. The data for June, 1948 was obtained from the Ministry of Labour Gazette, January, 1949, p. 2.

(continued from previous page)

<u>Date</u>	<u>Nature of the change in counting the number of insured unemployed</u>	<u>Number of insured unemployed in Great Britain (thousands)</u>	
		<u>Old count</u>	<u>New count</u>
January, 1941	From this date, the figures excluded persons who had been classified as unsuitable for ordinary employment.	681	653
June, 1948	A new procedure for counting the unemployed, described below, was instituted in July. The <u>Labour Gazette</u> gave the results of counting by the old and new methods for June.	274	286

The effects of each of these changes<sup>1</sup> on the unemployment percentages, based on some 12 to 15 million insured persons in the thirties and about 15 to 16 million in the forties until 1948, is seen to be small. However, it must be recognized that in making comparisons of the percentages for the post-war period, up to 1948, with those before 1937, changes in the methods of counting have tended to reduce the former relative to the latter.

The change which occurred in mid-1948 is described as follows in the Labour Gazette:<sup>2</sup>

"Hitherto the published figures of unemployment have represented the numbers of persons insured under the Unemployment Insurance

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<sup>1</sup>One further change which took place in July, 1940 was the exclusion of men in attendance at government training centers, who were unemployed when they entered the centers.

<sup>2</sup>Ministry of Labour Gazette, August, 1948, p. 260.

Acts who were registered at the Employment Exchanges as unemployed, i. e., who had fallen out of insurable employment. The number of persons insured under the new scheme who register for employment at Employment Exchanges may include in addition to those who have fallen out of work, some non-employed insured persons registered for their first job . . . It has therefore been decided to include in the statistics of unemployment all persons registered at Employment Exchanges with the exception of (a) persons in employment who are registering for a change of job and (b) registered disabled persons who require employment under sheltered conditions."

As shown above, this change added 12,000 persons to the number unemployed in June, 1948.

- e. For most years of the unemployment insurance series, which is shown in Table K-7, separate figures are given for the numbers wholly unemployed and temporarily unemployed. The Labour Gazette defined temporary unemployment as follows:

"The figures under the heading 'temporary stoppages' include those persons recorded as unemployed on the date of the return who were either on short time or were otherwise stood off or suspended on the definite understanding that they were to return to their former employment within a period of six weeks from the date of suspension. In cases where there was no definite prospect of return within six weeks, the individuals have been included in the statistics as 'wholly unemployed'.<sup>1</sup>

Thus, the classification "temporarily stopped" or "temporarily unemployed" embraces certain types of partial unemployment, partial both in the sense that the work week is shortened considerably, and in the sense that the employment contract is not definitely broken.

- f. At mid-1948, there was the following change in the method of calculating the unemployment percentages:

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<sup>1</sup>Ministry of Labour Gazette, February, 1926, p. 54.

Table K-7

UNEMPLOYMENT INSURANCE STATISTICS<sup>a</sup>, 1921-1952,  
FOR THE UNITED KINGDOM<sup>b</sup>

A. Percentages of Insured Persons Wholly and Temporarily Unemployed

<u>Year</u>	<u>Unemployment percentages</u>	
	(1)	
1921	17.0	
1922	14.3	(1) 1921-1927: 16 years of age and over. 1928-1939: 16 to 65 years of age. Agriculture is excluded. Source: <u>Ministry of Labour Gazette</u> , January, 1940, p. 2.
1923	11.7	
1924	10.3	
1925	11.3	
1926	12.5	
1927	9.7	(2) 1937-1940: 16 to 65 years of age. Source: <u>I.L.O. Yearbooks of Labour Statistics</u> .
1928	10.8	
1929	10.4	
1930	16.1	
1931	21.3	(3) 1937-1939: 14 to 65 years of age. 1940-1947: males aged 14 to 65; females aged 14 to 60. Source: <u>I.L.O. Yearbooks of Labour Statistics</u> .
1932	22.1	
1933	19.9	
1934	16.7	
1935	15.5	
	<u>Including agriculture</u>	
	(2)	(3)
1936	13.1	
1937	10.8	10.5
1938	12.9	12.6
1939	10.5	10.3
1940		7.0
1941		2.0
1942		1.0
1943		0.5
1944		0.5
1945		1.0
1946		2.5
1947		3.0
1948		1.6 (July-December)
1949		1.6
1950		1.6
1951		1.3
1952		2.1

(continued on next page)

Table K-7 (continued)

B. Percentages of Insured Persons Wholly Unemployed

<u>Year</u>	<u>Unemployment percentages</u>		
	(1)		
1921	13.8		
1922	13.3		
1923	11.4 (Jan.-Oct.)		
1924	n.a.		
1925	n.a.		
1926	8.9		
1927	7.4		
1928	8.2		
1929	8.2		
1930	11.8		
1931	16.7		
1932	17.6		
1933	16.4		
1934	13.9		
1935	13.1		
	<u>Including agriculture</u>		
1936	11.2	(2)	(3)
1937	9.3		8.5
1938		10.0	9.5
1939		8.8	8.0
1940		5.9	5.0
1941			1.5
1942			1.0
1943			0.5
1944			0.5
1945			1.0
			(4)
1946			2.5
1947			2.0
1948			1.6 (July-December)
1949			1.6
1950			1.6
1951			1.2
1952			1.7

(1) Before 1928, 16 years of age and over; after 1927, 16 to 65 years of age. Agriculture is excluded. Sources:

1921-1922 and 1924-1925: data from Table K-3.

1923 and 1926: calculated from monthly data in Ministry of Labour Gazette.

1927-1937: I.L.O. Yearbooks of Labour Statistics.

(2) 16 to 65 years of age.

Source: Yearbooks of Labour Statistics.

(3) 1937-1939: 14 to 65 years of age. 1940-1947: males aged 14 to 65; females aged 14 to 60.

Source: I.L.O. Yearbooks of Labour Statistics.

(4) See (4) of Part A of this table.

<sup>a</sup>For less important changes in coverage and changes in the method of counting the insured unemployed, see text.

<sup>b</sup>Figures for 1921 relate to Great Britain and all of Ireland until December of that year; afterward they relate to Great Britain and Northern Ireland.

"Hitherto the percentage rate of unemployment has been obtained by expressing the insured registered unemployed as a percentage of the estimated total insured under the Unemployment Insurance Acts. Because the unemployment statistics now cover a wider field, the percentage rate of unemployment will in the future be obtained by expressing the total number of unemployed persons on the registers as a percentage of the estimated total industrial population (i.e., the estimated total in civil employment together with the registered unemployed)."<sup>1</sup>

The effects of this change on the unemployment percentages can be appreciated by noting that in July, 1948, there were 15.76 million persons insurable under the old Unemployment Insurance Acts in Great Britain,<sup>2</sup> whereas the number in civil employment and the registered unemployed amounted to 19.4 million.<sup>3</sup>

- g. Since unemployed insured persons have been included in the count of the insured unemployed, whether receiving unemployment benefit or not, as long as they maintained registration at an employment exchange, the effects of exhaustion of the right to unemployment benefit do not influence the percentages to any great extent. In the depression years of the thirties, the Labour Gazette pointed out that there were the following reasons for the unemployed to maintain registration at an employment exchange:<sup>4</sup>
- (a) to receive unemployment benefit,
  - (b) to obtain assistance in obtaining employment,
  - (c) to have their health insurance cards franked during unemployment so as to avoid payment of health insurance, and

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<sup>1</sup>Ministry of Labour Gazette, August, 1948, p. 260.

<sup>2</sup>Ministry of Labour Gazette, February, 1949, p. 41. Of the total, 183,000 males and 173,000 females were under 16 years of age.

<sup>3</sup>Ministry of Labour Gazette, October, 1948, p. 329.

<sup>4</sup>Ministry of Labour Gazette, April, 1932, p. 129.

(d) to meet the condition for receipt of public assistance, imposed in the cases of all able bodied applicants by the Public Assistance Authorities.

Thus for one reason or another, most unemployed insured persons come to register at an employment exchange and are therefore included in the count of the unemployed.

This assertion is confirmed by the results of the Census of April 27, 1931, in so far as it relates to the industries wholly covered by unemployment insurance. The data in Table K-6 show that for April 27, 1931, the number of insured males wholly and temporarily unemployed was 1,491,000 (1,101,000 wholly unemployed and 390,000 temporarily unemployed) for the industries shown in the upper part of the table. For the same group of industries on the same date, the census count showed 1,270,000<sup>1</sup> males out of work. The two figures diverge somewhat because some persons temporarily stopped, that is who were working short time or had promise of employment within six weeks, did not report themselves out of work to the census, but were counted among the insured unemployed. The figures for females are at variance, the insurance total being larger than the census total, for reasons discussed below. For the purposes of the present discussion, the close agreement of the results for males indicates that the number of insured unemployed at this date included the total number of unemployed persons in the industries covered and did

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<sup>1</sup>A. L. Bowley, Studies in the National Income, Cambridge, 1942, p. 104. Bowley has included estimates for Northern Ireland in the census out-of-work figures. He also excluded persons under 16 and those 65 and over.

not understate unemployment because of non-registration of those who may have exhausted their right to benefit. For other dates, there is no way of determining explicitly the extent to which non-registration affected the statistics; however, in view of the various provisions for extended benefit during the twenties and thirties<sup>1</sup> and of the other reasons for registering at an employment exchange, alluded to above, it does not appear likely that much long term unemployment went unrecorded.

- h. Estimates are available which furnish some information on the quantitative effects which certain legislative and administrative changes have had on the numbers of unemployed recorded by the series. These are given below:<sup>2</sup>

<u>Date</u>	<u>Nature of change</u>	<u>Estimated increase (+) or decrease (-) caused in the Live Register<sup>3</sup></u>
February, 1924	Removal of certain special restrictions on the grant of extended benefit	+13,500
August, 1924	Relaxation of certain conditions for the receipt of both standard and extended benefit.	+70,000
August, 1925	Restoration of the special conditions for extended benefit which were removed in February, 1924	-10,000

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<sup>1</sup>See Nineteenth Abstract of Labour Statistics, London, 1928, pp. 70-73 and Twenty-second Abstract of Labour Statistics, London, 1937, pp. 68-71.

<sup>2</sup>Ministry of Labour Gazette, February, 1930, p. 50, and March, 1935, p. 85.

<sup>3</sup>The "Live Register," a term referring to the numbers registered at the employment exchanges, is more inclusive than the number of insured persons registered at the exchanges in that it includes uninsured persons as well as insured; however, it does not include those in the "two months file." See p. K-37.

(continued from previous page)

<u>Date</u>	<u>Nature of change</u>	<u>Estimated increase (+) or decrease (-) caused in the Live Register</u>
January, 1928	Persons aged 65 and over ceased to be insured under the Unemployment Insurance Acts	-25,000
April, 1928	Relaxation of conditions for the receipt of benefit	+40,000
July, 1928	Institution of the system of franking the Health Insurance Cards of persons registered at employment exchanges	+25,000
March, 1935	Introduction of the Unemployment Assistance Scheme	+10-20,000

Two quantitatively more important changes, not appearing above, occurred in 1930 and in 1931. The Unemployment Insurance Act of 1930, which came into operation on March 13 of that year, repealed the condition for receipt of benefit "under which a claimant was required to prove that he was genuinely seeking work but unable to obtain suitable employment, and the Transitional condition (c) under which a claimant who had not paid 30 contributions in the previous two years had to prove that during that period he had been employed in an insurable employment to such an extent as was reasonable."<sup>1</sup> This relaxation of the "genuinely seeking work" condition caused a number of persons, mostly married women, to register as unemployed to receive benefit when they were not really seeking employment.

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<sup>1</sup>Ministry of Labour Gazette, June, 1930, p. 221.

The effects of this change on the unemployment insurance percentages can be roughly estimated from a comparison of the unemployment rates for males with that of females. Assuming that the female rate was normally 54 per cent<sup>1</sup> of the male rate in these years and that the male rate was not much affected (see results of the census of 1931 in Table K-6), a simple calculation shows that, on these assumptions, the rates for males and females, taken together, were 14.4 in 1930 and 19.6 in 1931. These rates are slightly low in view of the fact that the new regulations were not operative over the whole of 1930 and 1931. Taking this into account, it is probable that the recorded rates for 1930 and 1931, 16.1 and 21.3 respectively, overstated the amount of unemployment by about a maximum of 1.5 percentage points.

The above estimate of the overstatement in 1930 and 1931 is reasonable in the light of the estimate, made by the Ministry of Labour,<sup>2</sup> of the decrease in the unemployment insurance percentages brought about by the tightening of the conditions for receipt of benefit which occurred in late 1931 and which

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<sup>1</sup>In An Analysis of Unemployment III by W. Beveridge, Economica, May, 1937, this figure is suggested since, "In five years 1932-1936 during which there have been no major changes of the insurance scheme affecting the relation of male and female unemployment the general rate for females has averaged 54% of the rate for males. This perhaps may be taken as the normal relation on the present basis of insurance.", p. 168. In an earlier article, An Analysis of Unemployment I, Economica, November, 1936, p. 358, Beveridge presented the data upon which he based this statement.

<sup>2</sup>Ministry of Labour Gazette, April, 1932, p. 129.

reversed the policy of the 1930 Act:

" . . . the reduction in the number of insured persons recorded as unemployed due to all the recent changes was about 65,000 at 25th January, 100,000 at 22nd February, and 129,000 at 21st March, 1932. If these persons had been included in the figures of insured persons recorded as unemployed at 21st March, the percentage rate of unemployment among insured persons would have been increased by about 1.0."

Thus, at a time when unemployed insured persons and other insured persons were probably most respondent to changes in the conditions governing the payment of benefit, the unemployment percentages were influenced to the extent of only 1.0 to 1.5 percentage points. It does not seem unwarranted to conclude that these 1.0 to 1.5 percentage points represent the maximum effect which changes in the regulations governing conditions of the right to benefit and duration of benefit have had on the unemployment percentages.

- j. The unemployment percentages, shown in Table K-8, which include only the wholly unemployed, apply to insured persons engaged in manufacturing and mining. Insured persons in the following groups have been excluded in the calculation of these percentages:<sup>1</sup> (1) agriculture, (2) fishing, (3) gas, water and electricity supply industries, (4) distributive trades, (5) commerce, banking, insurance, and finance, (6) transport, and (7) miscellaneous trades and services. Because of deficiencies in the data and changes in industrial classification, these percentages have been calculated only for the years 1927-1939.

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<sup>1</sup>Averages of quarterly data.

Table K-8

PERCENTAGES OF INSURED PERSONS IN MANUFACTURING AND  
MINING WHOLLY UNEMPLOYED

<u>Year</u>	<u>Number of insured persons included<sup>a</sup> (thousands)</u>	<u>Percentage wholly unemployed</u>
1927	7,937 <sup>b</sup>	8.3 <sup>b</sup>
1928	7,935	8.8
1929	8,007	8.7
1930	8,143	12.1
1931	8,227	18.6
1932	8,157	19.8
1933	8,046	18.7
1934	8,146	15.0
1935	8,168	13.9
1936	8,332	11.6
1937	8,596	9.2
1938	8,724	10.1
1939	8,864	9.0

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<sup>a</sup> Excluded from the total number of insured persons are those in (1) agriculture, (2) fishing, (3) gas, water, and electricity supply industries, (4) distributive trades, (5) commerce, banking insurance and finance, (6) transport, and (7) miscellaneous trades and services. Unemployed insured persons in these groups have been excluded from the total number of insured unemployed for January, April, July, and October of each year; the quarterly figures were then averaged, and this average was divided by the number of insured persons in groups excluding the above to obtain the percentages given above.

<sup>b</sup> Ages 16 and over for 1927; for remaining years, 16 to 65. The numbers insured are for July of each year.

SOURCES: Twentieth Abstract of Labour Statistics, pp. 34-41;  
Twenty-first Abstract of Labour Statistics, pp. 28-35;  
Twenty-second Abstract of Labour Statistics, pp. 18-27;  
Ministry of Labour Gazette.

Comparison with the percentages shown in Table K-7 reveal that the percentages for manufacturing and mining, relating to the wholly unemployed, move in close agreement with the percentages based on the total insurance sample. The percentages of unemployment for mining and manufacturing are slightly above the percentages for the wholly unemployed, based on the entire sample, and somewhat below those for the wholly and temporarily unemployed shown in Table K-7.

3. Statistics of the Numbers Seeking Employment at Employment Exchanges

These statistics are available from 1910 when the national system of employment exchanges, created by the Labour Exchanges Act of 1909, came into operation. Sometimes referred to as the "live register" figures of unemployment, these statistics have borne a close relation to those of the numbers of unemployed insured persons. As pointed out above, after mid-1948 the count of the number of persons registered as unemployed at employment exchanges, subject to certain exclusions, form the basis for calculation of unemployment percentages. Before 1948, the relationship between the number of persons on the live register and the number of unemployed insured persons is brought out by the following table:<sup>1</sup>

Numbers Registered at Employment Exchanges

1. Unemployment Insurance claims admitted	2,244,477
2. Unemployment Insurance claims under consideration	79,337
3. Insured persons not entitled to benefit	274,167
4. Uninsured persons on register	130,430
5. "Two months" file	181,001
6. Insured unemployed under Special Schemes	5,290
Persons on "live register", lines 1-4:	2,728,411
Unemployed insured persons, lines 1-3, 5 and 6:	2,784,272

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<sup>1</sup>Ministry of Labour Gazette, February, 1932, p. 64. The "Special Schemes" referred to in the table are the unemployment insurance schemes for the banking and insurance industries.

It is seen that the number on the "live register" included some un-insured persons and excluded two categories of insured persons. Also included in the figures before mid-1948 are persons who registered to change employment but who were not unemployed. In contrast to the insurance statistics which are formed on a known base, the total number of insured persons, there is no suitable base which can be used to calculate unemployment percentages from the statistics of the numbers on the live register. For this reason, the insurance statistics, covering a known population, are much more useful than are the weekly live register statistics.<sup>1</sup>

#### 4. Summary

- a. From 1900 to World War I, the trade union unemployment percentages constitute the only continuous measure of unemployment. Comparison with later unemployment insurance statistics indicate that in times of good employment they were a fairly reliable measure of the level of unemployment among industrial wage earners in manufacturing and mining. In times of poor employment, they tended to overstate unemployment somewhat because of over-representation of certain groups of workers. Further, it must be recognized that for particular dates, the trade union percentages may not at all times have been a completely reliable measure of unemployment.

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<sup>1</sup>The statistics also list the number of replacements and vacancies and for most dates separate the wholly unemployed from the temporarily unemployed.

- b. The unemployment insurance percentages of unemployment represent a good measure of unemployment for the groups covered. While these statistics have been subject to certain changes, the effects of these changes have not been drastic.
- c. Comparison of the pre-World War II insurance percentages with those for the post-war period is subject to the following qualifications:
  - (1). Changes in the method of counting the unemployed has tended to reduce the latter percentages relative to the former.
  - (2). Changes in the age coverage, particularly inclusion of 14 and 15 year olds, has tended to lower the percentages.
  - (3). Inclusion of persons in agriculture has tended to lower the percentages slightly.
  - (4). After 1948, expansion of the base upon which the percentages are calculated has tended to lower the percentages.