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PART II

*Collection and Uses of Job Vacancy Data
in Countries Other than the
United States*

Foreign Job Vacancy Statistics Programs

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BUREAU OF LABOR STATISTICS

BACKGROUND

In its report to the President in September 1962,¹ the Gordon Committee stated that it had been impressed by the widespread interest in a statistical series on unfilled jobs, and that the lack of such data constituted one of the more conspicuous gaps in our labor force information. The Committee recommended that the Department of Labor initiate a research program to determine the possibility and usefulness of collecting national statistics on job vacancies. The Bureau of Employment Security already compiles data on unfilled job vacancies, but these figures represent only the vacancies notified to the U.S. Employment Service for placement. One of the projects recommended under this research program was a study of the use being made of job vacancy statistics collected in Canada, Great Britain, West Germany, and possibly other countries. A study of this nature has now been carried out by the Division of Foreign Labor Conditions of the Bureau of Labor Statistics.

In September 1963, the Division sent an airgram to U.S. Embassies in twenty-three foreign countries² requesting information on job vacancy statistical programs of these countries. The request consisted primarily of a three-page questionnaire on such subjects as

¹ *Measuring Employment and Unemployment*, President's Committee to Appraise Employment and Unemployment Statistics, Washington, D.C., 1962, pp. 25-26 and 199-202.

² Australia, Austria, Belgium, Canada, Denmark, Finland, France, West Germany, Great Britain, Greece, Ireland, Israel, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, and Turkey.

the general nature and purpose of the job vacancy statistical program, the method of obtaining vacancy data, the method of defining a job vacancy, the proportion of total job vacancies covered by the statistics, the uses made of the statistics and their adequacy for such uses.

The questionnaire was also sent to the U.S. Missions attached to the Organization for Economic Co-operation and Development (OECD), European Economic Community (EEC), and the International Labour Office (ILO), requesting information on the utilization of country job vacancy statistics by these organizations. Informative replies were received from all but one (New Zealand) of the twenty-six addressees; follow-up work to obtain replies or to clarify points contained in them was not major. In most instances, the replies were prepared by U.S. Labor Attachés, after conferring with foreign government officials in the appropriate agencies. In some instances, the replies were prepared by an official of the responsible foreign government agency (e.g., in Sweden, Canada, and Finland) and forwarded by the embassy.

On the basis of these replies, it was decided to study four countries more intensively; namely, Great Britain, the Netherlands, West Germany, and Sweden. The replies had indicated that each of these four countries had relatively good statistical coverage. In addition, each of these countries had indicated that they found job vacancy statistics to be useful measures for various economic purposes. Mr. Neef visited these four countries to obtain additional information on the reliability and usefulness of their job vacancy statistics.

Published reports and other materials were also examined, both those already in the U.S. Department of Labor Library and those forwarded in response to the airgram or brought back by Neef. Few of these sources deal extensively with job vacancy statistics, although one analytical report for Great Britain (referred to below) was of considerable help.

From these three sources, then—responses by mail, personal visit, and publications—we believe that we have a fairly accurate picture of the reliability and usefulness of job vacancy statistics in the other developed countries of the free world.

*JOB VACANCY STATISTICS COLLECTED
IN FOREIGN COUNTRIES*

In all of the countries investigated, the major, and in most instances the only, job vacancy statistics represent vacancies registered by employers with local employment offices. Ordinarily these vacancies are listed and described individually. Four countries—Sweden, Canada, Japan, and the Netherlands—also obtain some information on job vacancies through establishment surveys. Ordinarily, these vacancies are reported in writing without identification of individual jobs. The Netherlands is unique among the countries investigated in making annual estimates of total “shortage” vacancies, or what might be termed hard-to-fill vacancies.

Administrative Job Vacancy Statistics

The administrative employment office statistics of twenty of the twenty-two responding countries can be said to constitute national job vacancy statistical programs, since the data are tabulated and published monthly on a national basis. Two of the countries—Greece and Portugal—do not tabulate and publish such national statistics.

A number of countries—for example, Italy, Luxembourg, and Israel—have legislation requiring that employers, or certain groups of employers, register their job vacancies with the public employment offices. However, such laws generally do not cover all job vacancies and frequently are not enforced.³ Where the reporting of

³ In Italy, the law generally requires that nonexecutive workers be hired through the employment offices, but there are many exceptions that allow the direct hiring of individuals. In Israel, the Minister of Labor has made exceptions to the compulsory reporting requirement in the case of some highly skilled types of workers, and employment offices have not required employers to register vacancies they could not possibly fill. French law requires that employers register their job vacancies, but direct hiring without resort to the employment service is authorized, and the mandatory reporting requirements have not been enforced. Norway has not attempted to enforce the legal requirement that employers register vacancies that are not filled “forthwith.” Spanish employers have not been under serious pressure to comply with compulsory reporting requirements; Canada has compulsory reporting requirements that have not been enforced since wartime; and Belgium has a compulsory reporting law which could be implemented by executive decree. Government enterprises in Turkey must sub-

vacancies is on a voluntary basis, employers register their job vacancies only if they want employment office assistance in locating job applicants. The employment offices try to persuade employers to make use of their placement services, but attempts are seldom if ever made to get employers to register job vacancies if they do not want employment office assistance in filling them. In other words, vacancies are registered for placement purposes, not to measure statistically the total demand for labor.

STATISTICS PUBLISHED. Most of the countries publish statistics on the number of vacancies registered each month, the number filled through the employment offices (placements), and the number remaining unfilled as of a particular day. Vacancies registered and filled represent flow concepts, while the total of unfilled vacancies has the characteristics of a stock. Some countries, however, publish figures only on registered vacancies and placements, or only on unfilled vacancies and placements. A monthly check is usually made prior to tabulating the number of unfilled vacancies to ensure that registered vacancies not recorded as filled have not, in fact, been filled or cancelled. The published figures are frequently broken down by regional, occupational, and industrial classifications. These classifications generally correspond to those used for the employment office statistics on registered unemployed job applicants. The unfilled vacancy and unemployed job applicant figures are also usually tabulated as of the same day or within a few days of each other, and are frequently published in the same table. In most of the countries investigated, the unemployed job applicant figures constitute the only, or main, unemployment figures.

DEFINITIONS OF JOB VACANCY. In general, there is no strict definition of a job vacancy used in registering employer job orders. The employment offices will usually register almost any employer request for a worker. The only major exceptions to this seem to be job offers involving wages or working conditions below legal minimums and, in some countries (for example, Canada and Great Britain), job offers involving unreasonable discrimination by age, sex, race,

mit their job vacancies to the public employment service; in Sweden, the national authorities and certain other employers are generally required to recruit through the employment offices.

etc. Even job offers involving substandard conditions will usually be registered, but the employment offices will ask employers to raise their offers, and potential job applicants are, of course, notified of the job's wages and working conditions.

No standards are applied regarding how actively an employer must be seeking workers before registering a reported job offer as a job vacancy. However, since vacancies are registered for the sole purpose of obtaining job applicants, it is assumed that reported vacancies represent concrete job offers. In some instances, particularly under labor shortage conditions, it is recognized that some employers probably report more job vacancies than they have in the hope of obtaining at least some applicants.

Most of the countries tabulate not only current vacancies, but also registered vacancies which cannot be filled until some future date. Several countries, however, try to exclude future vacancies from their published figures. West Germany includes jobs for which workers will be needed within the next three months, but excludes vacancies beyond that period. The three-month leeway is intended to represent the normal notice period, and therefore these presumably are vacancies employers know they are going to have and for which they are actively recruiting applicants. In the Netherlands and Norway, the published unfilled vacancy figures are intended to represent only current vacancies, since vacancies known to be open only at a later date are not counted. Canada distinguishes between current and deferred vacancies. A current vacancy is defined as one on which the employer is prepared to accept and confirm referral immediately, or at any time within 31 days from the date on which the vacancy is registered. Both current and deferred vacancies are recorded, but only current vacancies are included in the published unfilled vacancy figures.

Job vacancies involving full-time work, part-time work, temporary, or even casual labor of as little as one day are usually included without distinction in the figures published on registered and unfilled vacancies, although separate totals could be prepared, since such information is recorded by the employment offices. A distinction is sometimes made in the published figures on *vacancies-filled* through the employment offices—for example, in Sweden, where

one-day jobs constitute about 25 per cent of all placements made. West Germany and Norway are major exceptions to the classification of job vacancies regardless of expected job duration. For statistical purposes, West Germany includes only job vacancies which are for "indefinite" employment, defined as full-time jobs which will last for more than a week and regular (continuous) part-time jobs regardless of the number of weekly hours. Thus, West Germany's statistics exclude many temporary job vacancies, some of which probably represent replacement needs for other workers temporarily absent from their jobs. Norway follows a somewhat similar practice by excluding from its statistics jobs paying less than 1,000 Kroner (about \$150) annually and jobs of less than six days duration.

Some countries exclude vacancies which cannot easily be quantified from their published statistics. In Great Britain, for example, some employers register job orders, termed "standing orders," in which they give only a general indication of the number of workers desired. Such vacancies, being unquantified, are not counted in the statistics until a placement has been effected. Reportedly, the use of standing orders is not very widespread. Similarly, in Canada, job vacancies for which there is a lack of precise information on the number of workers an employer will hire—for example, vacancies for certain types of commission salesmen—are not included in the count of registered vacancies until they have been filled, and are never counted as unfilled vacancies.

Registered job vacancies are considered filled when the employment office receives employer notification that an applicant has been accepted, regardless of when he starts work. This corresponds, therefore, to the usual practice, noted above, of counting a vacancy as unfilled when it is registered even though the job may not be immediately available.

In summary, it may be said that employment office counts of unfilled job vacancies represent vacancies for which they are seeking applicants, rather than a statistical measure of currently unfilled jobs which could be filled immediately if suitable applicants were available.

COVERAGE OF THE STATISTICS. By "coverage" of job vacancy statis-

tics we mean the percentage of all vacancies reported. From the statistical point of view, the term "completeness" would be more readily understood, but from an administrative point of view, the latter term could be misleading since, by definition, administrative statistics do not attempt to cover unreported vacancies. The percentage of coverage or completeness could be quite different for vacancies that are registered, filled (placements) and unfilled. For example, hard-to-fill vacancies may be reported more often or less often than other vacancies; and since, by definition, hard-to-fill vacancies remain unfilled longer than other vacancies, they bulk larger in the unfilled vacancies than in the registrations or placements.

With the exception of the few instances where legal requirements to register vacancies may be strictly enforced, employers register job vacancies only if they seek the assistance of the employment offices in locating workers. The vacancy statistics, therefore, represent an incomplete count of existing vacancies, the proportion of total vacancies covered by the statistics varying among countries and depending on the degree of employer utilization of the employment offices. Not only are the statistics incomplete, but none of the countries know accurately what proportion of all vacancies is covered by their statistics. Few countries are willing even to make estimates of completeness.

Although Canada does not estimate the proportion of unfilled vacancies covered by their statistics, it does estimate the proportion that employment office placements represent of total hirings. Total hirings are estimated from a semiannual survey of hirings and separations which covers approximately 60 per cent of all wage and salary workers in Canada. Currently it is estimated that 30 per cent of all hirings are effected through the employment offices. The proportion of all vacancies registered at the employment offices is presumably slightly higher, since some of these are filled directly by employers.

In Sweden, somewhat over one million jobs have been registered annually in recent years, and it has been estimated by the Director General of the National Labor Market Board, under which the employment offices operate, that this represents about one-third of all

job openings.⁴ Norway estimates that about 20 per cent of all job openings are registered with the employment offices. This estimate is based on the statistics of the health insurance administration. The total new hires are known quite accurately, since employers must immediately register all newly hired workers under Norway's compulsory health insurance program or be liable for all future employee claims. In Great Britain, employers were required to report most vacancies for a number of years in the postwar period (October 1947 to March 1950 and February 1952 to April 1956), but registration is now on a voluntary basis. Officials in the employment service believe that a smaller proportion of total outstanding vacancies have been registered under the voluntary reporting system. However, they have not been able to devise any satisfactory method of estimating the understatement.

These estimates of statistical coverage relate to placements or total registered vacancies, whereas the statistic of greatest interest within the United States is the number of vacancies remaining unfilled as of a specified date or during a specified length of time. In the Netherlands, one official estimated that the monthly statistics of unfilled vacancies represented about 80 per cent of such vacancies, but it was noted that this was only a guess since there is no way of accurately measuring the actual number of outstanding vacancies. Dutch employers apparently make great use of the placement services of the employment offices, however, and the percentage coverage could be quite high, particularly under current high employment conditions.

Nearly all countries indicated that they believed the proportion of total vacancies covered by their statistics varied by industry and occupation. As with the total figures, however, there is little information for measuring the extent of variation. In Canada, the ratio of employment office placements to total hires varies by industry, and it is assumed that the ratio of registered to total vacancies follows the same pattern. Canada indicated that vacancy coverage probably also varies by occupation but that no data are available for making occupational comparisons. In Great Britain, cautionary

⁴ See B. Olsson, "Employment Policy in Sweden," reprint from the *International Labour Review*, Geneva, International Labour Office, May 1963, p. 14.

notes are published with the vacancy statistics, stating that the extent to which vacancies are registered with employment offices varies for different occupations and industries. Officials in West Germany assume that coverage of vacancy statistics varies by occupation and industry, but state that this cannot be measured statistically. In the Netherlands, the reporting of vacancies is believed to be close to 100 per cent for some occupations, but for others, especially professional workers, possibly less than 10 per cent. Other countries also indicated that the proportion of vacancies registered with their employment exchanges varied inversely with the degree of skill required in the jobs.

Most countries also stated that they believe employer patronage of the employment offices increases and decreases to some extent with changes in the available labor supply relative to demand. In general, most countries feel that a relatively high proportion of vacancies are registered with their employment offices under labor shortage conditions. A number of countries, for example the Netherlands, West Germany, and Australia, noted that some employers probably even inflate their requests for workers under labor shortage conditions in the hope that at least some referrals will be made. On the other hand, the Netherlands and West Germany also indicated that some employers may stop registering their vacancies when there is a lack of applicants and rely on their own initiative to obtain workers. As unemployment increases, there is less need to inflate requests, and there is also less need to seek employment office assistance in locating available workers. With considerable unemployment, sufficient job applicants may apply at factory gates to make registering most vacancies seem unnecessary.

No attempts are made in any of the countries to supplement or blow up the statistics on reported vacancies in order to obtain estimates of total vacancies, with the partial exception of the annual estimates of "shortage" vacancies in the Netherlands (which are discussed later).

Establishment Job Vacancy Statistics

Four countries—Sweden, Canada, Japan, and the Netherlands—obtain job vacancy or labor shortage statistics from establishment

surveys in addition to their employment office administrative statistics. None of these surveys cover all establishments, nor are the statistics blown up to represent total vacancies.

Sweden obtains information on the existence, but not a statistical count, of labor shortages in various industries through quarterly business tendency surveys conducted by the Swedish National Institute of Economic Research, an independent government research institute. These surveys have been conducted since the fall of 1954 in order to obtain timely information about current economic trends in a number of mining and manufacturing industries. Information is obtained on the volume of production, orders received, stocks of raw materials and finished goods, employment, and labor shortages. With the exception of the labor shortage question, the survey questions are framed in such a way that the answers only indicate the direction of an actual or expected change—for example, has production increased or decreased (or will production increase or decrease) over some specified period of time?

The labor shortage question requires only a “yes” or “no” answer as of the survey date. The question is broken down according to skilled workers, other wage earners, technical employees, and other salaried workers. The survey results are published in the form of a percentage distribution of the “yes” and “no” answers, weighted by the number of workers employed. The results do not, of course, measure the total demand for labor, but do provide a broad indication of employers’ views as to whether there are labor shortages and, when compared to the results of prior surveys, whether they are increasing or decreasing. In addition, the data are available rapidly.

Sweden has also obtained a quantitative measure of total (expected) labor shortages in mining and manufacturing through annual establishment surveys conducted each fall since 1946. The major purpose of these surveys, conducted by the Board of Trade up to 1962 and by the Central Bureau of Statistics since that time, is to obtain information on the investment plans of firms. Various definitions were used in the early surveys to obtain labor shortage estimates, but beginning in 1949, and exclusively since 1952, the labor shortage estimates have been based on employer projections

of planned production in the following year. These are actually employment forecasts, or forecasts of changes in total labor demand, rather than estimates of job vacancies, since employers will probably be able to find workers to fill at least some of their planned job openings when, and if, they develop. The survey results on labor shortages are not considered very reliable and have not been published in recent years.

Canada collects information on job vacancies as part of a semi-annual survey of hirings and separations conducted by the National Employment Service. The survey covers approximately 60 per cent of all paid workers in Canada, and the questionnaire must be filled out by employers who operate more than one establishment or employ ten or more persons. The primary purpose of the survey is to obtain data on the number of persons employed at the beginning of every month, the number separated and hired each month, and month-end employment. As noted earlier, the survey results are also used to estimate ratios of employment office job placements to total hires.

The last question on the survey asks for the number of additional workers required, defined as the number of vacancies for which suitable applicants could not be obtained at the time the report was submitted. The inclusion of the job vacancy question on the survey form is intended primarily to assist the local employment offices rather than to obtain a count of existing vacancies. When a report indicates the existence of vacancies, the firm is contacted by the local employment office to see whether the office can be of assistance. Although replying to the questionnaire is mandatory, most employers leave blank the question on additional workers. Only about 2.5 per cent of reporting employers report vacancies (of course, many employers have no vacancies to report). There is no follow-up of employers who fail to answer this question, and the data are not published.

The Vocational Training Bureau of the Japanese Ministry of Labor conducts an annual survey of establishments to obtain information on the demand for skilled workers. This information is used as a guide to training needs. The surveys cover half of all establishments with 500 or more workers and smaller

proportions of establishments with 15 to 500 workers in the following industry groups: mining; construction; manufacturing; transportation and communication; electric, gas, and water utilities; and mechanical repair and maintenance services. The establishments to be covered are selected by the public employment service offices from the unemployment insurance records, and are visited personally by employment office officials. The survey obtains labor shortage figures for all skilled workers and specific data for forty skilled occupations. In 1964, 9,103 establishments were covered, and the estimated shortage was 1.6 million skilled workers, for a labor shortage rate of 22.4 per cent. The accuracy of the figures is doubted by specialists within the Ministry of Labor, however, because they believe employers have inflated their reports of shortages. In addition, a shortage is defined to include not only currently existing vacancies, but those expected to arise within the next six months. Therefore, like the quantitative estimates of labor shortages obtained in the Swedish surveys, the Japanese estimates are partially employment projections.

The Netherlands obtains statistics on unfilled vacancies as part of a quarterly establishment survey conducted by the Central Bureau of Statistics. Report forms must be filled out by all manufacturing establishments employing ten or more workers. The primary purpose of the survey is to obtain data on sales, and on total employment, hirings, and separations of wage earners and salaried employees. Starting in 1955, two questions were added to the survey under the heading of "labor shortages." The first asks how many unfilled jobs the employer has, an unfilled job being defined simply as a vacant job opening for which the employer would hire a qualified worker immediately. The second asks how many workers the employer would replace if he could find better ones. Both questions relate only to full-time jobs for wage earners. The time period specified is the last working day of the quarter. No occupational information is obtained, only a total figure.

Reportedly no employer difficulties have been encountered in reporting the number of job vacancies. Employers are required by law to complete the survey, and no attempt is made to check the accuracy of replies to the job vacancy question. The figures ob-

tained are not inflated to represent a universe of total manufacturing vacancies. However, only a relatively small proportion of workers are in manufacturing establishments with less than ten employees.

These questions were reportedly added to the survey because the Central Planning Bureau wanted estimates of labor shortages in addition to the employment office figures on registered unfilled vacancies. However, while the data are still collected and published, and there is considerable interest in the employment figures obtained from the survey, little use appears to be made of the labor shortage figures.

The Netherlands Annual Shortage Estimates

The Netherlands appears to be the only country which attempts to estimate total vacancies. The Netherlands' estimates are made annually, and actually relate to "shortage" vacancies rather than to total vacancies.

The Netherlands classifies vacancies as either "frictional" or "shortage." Frictional vacancies are defined as those for which a suitable local supply of labor exists but where it takes a little time to bring the job and the qualified worker together. They are quantitatively equal to frictional unemployment. Shortage vacancies, which might be termed hard-to-fill vacancies, correspond conceptually to structural and cyclical unemployment.

The annual estimates of shortage vacancies are made by occupation and refer only to full-time permanent jobs (there is little part-time work in the Netherlands). They are intended to represent average annual figures. Estimates of total shortage vacancies are prepared by each local employment service office, the national totals being a summation of these individual estimates. The local employment office estimates are based to a large extent on knowledge gained through frequent contacts with many employers throughout the year. In addition, all large employers are contacted at least once during the year to obtain an estimate of their shortage vacancies. The employment offices, of course, also have statistics on job vacancies which employers have registered with them. Knowledge of registered unemployed job applicants in the area, including in-

formation on their occupational qualifications, assists the employment offices to determine which vacancies are shortage, rather than frictional. In effect, the local employment office estimates are apparently a combination of registered vacancies classified as shortage plus employer and employment office estimates of unregistered shortage vacancies.

The annual estimates of shortage vacancies are only knowledgeable guesses, but they may be fairly reliable. Under current labor shortage conditions, probably the bulk of the shortage vacancies are registered, since these are the vacancies employers cannot easily fill through their own efforts. The estimates are not, however, a total count of existing vacancies as of a particular time, nor are they blown-up estimates from a scientifically selected representative sample. They have the advantage of occupational detail; and the classification by occupation is made by specialists following standard definitions and terminology.

USES MADE OF JOB VACANCY STATISTICS IN FOREIGN COUNTRIES

The main purpose of investigating foreign job vacancy statistical programs was to determine the uses made of the statistics and the adequacies and inadequacies of the statistics for such uses. The airgram questionnaire that was sent to U.S. Embassies listed six potential uses of vacancy statistics. If the statistics were used for any of these purposes, or for any other purpose, it was requested that the manner of their use be briefly described. The following are the six uses and the number of countries, among the twenty⁵ with national job vacancy statistical programs, that indicated they made such use of the statistics:

1. For employee recruitment and placement—20 countries.
2. As an index of the demand for labor (total, by local area, regionally, by industry, and by occupation)—14 countries.
3. To provide perspective in analyzing unemployment trends. (For example, to indicate whether the level of unemployment stems pri-

⁵ These twenty countries are those listed in footnote 2 above, other than New Zealand, Portugal, and Greece.

- marily from a lack of over-all demand or from geographical or occupational maladjustments in the labor market.)—11 countries.
4. As a lead indicator in business cycle analysis—7 countries.
 5. As an aid in vocational guidance—10 countries.
 6. As a guide in establishing worker training programs—12 countries.

This listing is based largely on the replies to the questionnaire, which referred almost entirely to the employment office administrative statistics. The establishment statistics in four countries appear to be collected and used for only limited purposes, as mentioned earlier.

The classification of uses is to some extent arbitrary. The second use, "as an index of the demand for labor," could be taken in a broad sense as overlapping all of the other uses. It was intended in a narrower sense to exclude such overlapping, and seems to have been interpreted in this way by most of the respondents. On this basis, the six uses, while somewhat interrelated, can be considered mutually exclusive.

The only other significant use for job vacancy statistics listed by a respondent or turned up by other means is one by Australia—to indicate what occupational groups should be given preference in immigration.

The simple listing of the number of countries making each use of job vacancy statistics is a useful summary, but does not tell a great deal; it may even be misleading. The airgram replies contained little more than a "yes" or "no" answer in regard to many of the listed uses. Fairly detailed information was provided in a number of cases, however, and fuller information was obtained from the four countries visited.

The following sections summarize the significant country comments for each use of job vacancy statistics other than for job placement purposes.

Demand for Labor

Many countries stated that they found their monthly employment office job vacancy statistics to be useful indicators of trends in the demand for labor, both total, and by area, industry, and occupation—particularly when used in conjunction with employment office

statistics on unemployed job applicants. This is apparently the major use of the statistics other than for placement purposes. Countries with voluntary reporting systems generally noted the need to use the data cautiously for this purpose, because the degree of completeness of the vacancy figures varies by occupation, industry, and under different economic conditions. For this reason, the figures are used to indicate *trends* only and not as a measure of *absolute* demand. The following summarizes the comments of selected countries.

GREAT BRITAIN. The Ministry of Labour believes that, even though its statistics on unfilled job vacancies do not measure the absolute demand for labor, movements in the statistics are valuable as indicators of changes in the level of demand—in total, and by area, industry, and occupation. The Ministry also believes the statistics are useful for making broad comparisons between the level of demand in different industries and occupations, particularly when the figures are studied in conjunction with unemployment and other manpower statistics. By using the job vacancy and unemployment series together, the officials believe they obtain a more balanced picture of labor demand and supply conditions. In fact, on an industrial basis, the vacancy figures are said to offset one of the limitations of the unemployment figures. The unemployed can only be classified according to the industry in which they were last employed, whereas the vacancy figures reflect not only the decline in labor demand by industry but the extent of alternative employment opportunities in other industries. Therefore, the unfilled vacancy figures may more reliably indicate the level and trend of activity by industry. The Labour Ministry notes, however, that comparisons among industries must be made only with knowledge of how fully employers report vacancies in each industry. For this reason, industry comparisons can be made more dependably at the local level, since the local employment offices have considerably greater knowledge of local employment conditions and of which employers make use of their placement services.

An academic study published in 1958 by J. C. R. Dow and L. A. Dicks-Mireaux also concluded that the statistics of unfilled job vacancies, when used in conjunction with the unemployment figures,

are relatively good indicators of labor demand and supply trends.⁶ The purpose of their study was to examine the reliability of Great Britain's unemployment and unfilled job vacancy statistics to indicate trends in the demand for labor. They constructed indexes of the pressure of labor demand for Great Britain as a whole, and separately for seven broad industry groups, based on the statistics of unfilled vacancies and unemployment. The indexes consisted primarily of the difference between unfilled vacancies and unemployment, expressed as percentages of the total number of employees, but with estimated corrections in some cases for the probable understatement of total vacancies in the statistics.

The authors concluded that their indexes were fairly reliable as ordinal indicators—that is, in giving an account of the successive phases of high and low demand in different industries—but not highly reliable when used as cardinal measures of the extent of excess demand (although, even as cardinal measures their evidence could not be dismissed entirely). They noted also, that if there was no uncertainty regarding the understatement of total vacancies in the statistics, there would be no uncertainty regarding the value of the indexes as cardinal measures. As a result of this study, the National Institute of Economic and Social Research publishes a monthly index for Great Britain as a whole, called the "Excess Demand for Labour."

WEST GERMANY. Here also, the unfilled job vacancy figures are considered very valuable indicators which, used with the unemployment figures, add considerably to the over-all analysis of labor demand and supply conditions. Whereas the unemployment statistics show only the occupation and region of an unemployed person and the industry in which he last worked, if any, the vacancy statistics indicate the demand for workers by industry as well as by occupation and region. West Germany is currently considering the possibility of separating statistics on "new vacancies," that is, new jobs, from those on replacement vacancies, in the belief that this would provide them with even better data for indicating trends in labor demand.

⁶ "The Excess Demand for Labour: A Study of Conditions in Great Britain, 1946-56," *Oxford Economic Papers*, February 1958, pp. 1-33.

Under current economic conditions, with an unemployment rate of less than 1 per cent of the labor force, the unemployment figures are said to be too low to be significant indicators of trends in the demand for labor. Indeed, there is little room for the unemployment rate to decline in response to an increasing demand, and the job vacancy statistics, being the only valid indicator, are considered all the more valuable. With the great demand for labor, the vacancy figures are reportedly followed carefully as an important indicator of whether and how fully the government needs to introduce anti-inflationary measures.

SWEDEN. The National Labor Market Board makes monthly and annual analyses of the demand for and supply of workers in total and by area, occupation, and industry. For this purpose, the numbers of registered vacancies, unfilled vacancies, vacancies filled per 100 registered, and the number of registered unemployed job applicants are compared from month to month and from year to year.

The Labor Market Board also makes quarterly short-term (twelve-month) forecasts of the expected supply of and demand for labor. These forecasts are based to a large extent on information received quarterly from the local labor market boards, but various statistical series are also relied on. For example, monthly time series are prepared in which current data on unfilled vacancies and unemployed job applicants are compared to past average monthly figures and past maximum and minimum month-to-month changes. While the job vacancy and unemployment figures generally move in opposite directions, the changes are often of unequal magnitude. Therefore, the Board believes it has a better indication of trends with both series. The short-term forecasts that are developed are considered very useful for indicating whether to adopt employment generating or anti-inflationary policies. In early 1964, for example, the Labor Market Board's prognosis indicated a continuation of a labor shortage through the end of the year, and the government adopted anti-inflationary fiscal measures.

THE NETHERLANDS. The Ministry of Social Affairs, under which the employment offices operate, considers its monthly unfilled vacancy statistics useful for broadly indicating trends in the demand for labor by occupation and area. In analyzing labor demand by

occupation, however, the monthly figures are considered of primary value within local areas where, although not published, the data are of course available to local office personnel. On a national basis, the Ministry believes its annual estimates of shortage vacancies should be used, since they are intended to represent total shortages. In addition, these figures are not influenced by frictional vacancies, which do not represent true shortages.

The monthly statistics on unfilled job vacancies are sometimes used in combination with the unemployment figures to indicate the balance between labor supply and demand, with equality between the two being used as an estimated indication of equilibrium. Officials within the Ministry of Social Affairs do not like this use of the figures, however, because they believe the unemployment figures are highly accurate whereas the accuracy of unfilled vacancy figures fluctuates with shifts in the level of demand for labor. In addition, they do not believe that total unemployment should be compared with total unfilled job vacancies, since they believe unemployment should exceed vacancies by the amount of seasonal unemployment and the number of handicapped unemployed.

CANADA. The National Employment Service (NES) considers that job vacancy statistics, although incomplete measures of total demand, are useful for general economic analyses of labor demand trends by occupation and industry when interpreted by NES analysts. According to the NES, it is much more difficult for other persons to make analyses based on the vacancy statistics, since they must be carried out with a full knowledge of the effects of operational influences on the statistics.

NES used to publish statistics, by occupational group, on unfilled vacancies and unplaced job applicants side by side, and this encouraged users to compare the total figures, and also the figures by occupational group, and from these draw conclusions about labor supply and demand. They note that the data were frequently misinterpreted. For example, persons external to the NES sometimes used the unfilled vacancy series as a direct measure of labor demand and occupational shortage. NES discourages such use of the data because the unfilled vacancy series is a small sample of total labor demand or even of total vacancies registered. Since Canada

has many more job applicants than vacancies registered with her employment offices, the unfilled vacancy series is mainly composed of those received within a few days of the count day and for which applicants have not yet been referred. Users were also tempted to subtract the number of unfilled vacancies from that of unplaced applicants to arrive at an absolute measure of labor surplus; this should not be done since the statistics on job applicants are much more complete than the vacancy statistics. Furthermore, users often do not realize that the job applicants in an occupational group may be in different specific occupations than are the unfilled vacancies.

Because the data were so misinterpreted, NES ceased publishing figures on unfilled vacancies by occupation, although total figures on unfilled vacancies and registered job applicants are still published side by side. In the experience of NES, the usefulness of the unfilled vacancy series as a labor demand indicator occurs only in periods of extreme and general labor shortage.

Analysis of Unemployment

A number of countries stated that their employment office job vacancy statistics are used to some extent in analyzing the causes of unemployment. Thus, if there are many job vacancies in some areas or occupations and large unemployment in other areas or other occupations, this points to structural problems which should be attacked. So used, unfilled job vacancies are considered a useful indicator of needed corrective measures, but only as one indicator. Again, it is usually noted that the vacancy data, being incomplete, should be used only to indicate trends and imbalances, not absolutes. Several countries, notably West Germany, France, and Switzerland, stated that they do not use vacancy statistics to analyze unemployment at present because they have no unemployment problem.

In Great Britain, job vacancy figures by area and occupation are considered useful in conjunction with unemployment figures for analyzing the causes of unemployment and for indicating needed corrective measures. Within the Ministry of Labour, ratios of the unemployed to unfilled vacancies are computed by region for selected occupations. Officials believe that these ratios understate

real labor shortages but that they provide a broad indication of demand-supply conditions by occupation and a relatively accurate indication of comparative trends, as well as indicating changes in the pressure of demand for a particular occupation. These ratios are not published, apparently in an attempt to avoid giving a false impression of accuracy, but it is believed that many persons make similar calculations from the published data.

Examination of the two sets of data is said to provide a useful indication of labor shortages and surpluses in particular occupations, nationally, regionally, and locally. Such comparisons may indicate structural unemployment, by showing that certain skills are in surplus in certain areas and in short supply elsewhere, or they may show that there is a general shortage of workers with particular skills. Although these statistics are not the only basis for policy and operating decisions, they are considered necessary in the formulation of policies on labor mobility and on the location of industry.

Norway's Labor Directorate uses job vacancy statistics, together with unemployment and employment statistics, to analyze unemployment trends. As a result, contingency public works programs of counties and municipalities may be put into effect when there is declining over-all demand, or vocational training, worker relocation, and district development plans may be inaugurated when there are geographical or occupational maladjustments.

Belgium makes little systematic use of vacancy statistics because they represent only a small proportion of total vacancies. The government notes, however, that the figures are helpful, to the extent that they provide an accurate picture of geographical maladjustments.

Australia notes that job vacancy figures must be used cautiously because of incompleteness, but that they are used to analyze unemployment trends. In this regard, the vacancy figures are considered most useful in showing the emergence of structural unemployment.

The Netherlands indicates that job vacancy figures are used very little at the national level in analyzing unemployment. Although the Netherlands breaks down their unemployment figures by cause

—seasonal, frictional, structural, handicapped, and cyclical—this determination is made at each local employment office by analyzing the unemployment figures by occupation. The national figures on unemployment by cause are a summation of these local employment office estimates. It seems likely, however, that knowledge of local job vacancy trends is used by employment office officials to assist in their analyses.

Lead Indicator in Business Cycle Analysis

A number of countries stated that their job vacancy statistics are a good lead indicator, or at least a good indicator, of changing economic conditions. Several countries noted that the statistics are a good indicator of an approaching downturn in the economy but a less reliable indicator of an economic upturn.

In Great Britain, the seasonally adjusted series on unfilled vacancies is said to be one of the best, and possibly the best indicator of an approaching economic decline in the economy, but not a particularly good indicator of an upturn. One reason that the vacancy figures are an early indicator is their currency; they are available within forty-eight hours of the count day, as compared with a lag of weeks or months for most economic indicators. When the level of unfilled vacancies is high and that of unemployment low, a leveling off of the vacancy series is reportedly a sure sign that a period of economic expansion is reaching a turning point. A significant increase in unemployment will follow behind the change in the vacancy series. On the other hand, when the level of unemployment is high and that of vacancies is low, there will be little change in the vacancy figures during the first quarter of an upturn because employers will cope with the change by working their employees overtime. The fact that employers can easily hire workers when the unemployment level is high without going to the employment offices also contributes to the insensitivity of the unfilled vacancy series to the early stages of an economic upturn.

In West Germany, according to the Federal Institute of Labor Placement and Unemployment Insurance, the unfilled job vacancy figures appear to be a good lead indicator of a downturn in the economy. When West Germany's economic boom flattened out

temporarily in 1963, the job vacancy statistics are said to have been the first statistical indicator of this. This is explained by the fact that the statistics reflect employer attitudes toward economic conditions and trends.

Both the unfilled job vacancy figures and the unemployment figures are looked at to some extent in the Netherlands as indicators of turning points in the economy. In contrast to Great Britain, Dutch officials believe the two sets of figures rise and fall together. During an economic upturn in the economy, unemployment declines slowly and vacancies increase slowly. During a downturn, vacancies decline rapidly but unemployment increases just as rapidly since, even before dismissals are reflected in the unemployment figures, it takes longer for the unemployed to find jobs. While the vacancy and unemployment figures are considered relatively good indicators, reportedly there are better, if not earlier, indications that economic conditions are changing; these are reports of local employment offices based on their daily contacts with employers.

In Sweden, the job vacancy statistics, although an incomplete measure of total demand, are reportedly a particularly good indicator that labor shortages are becoming pronounced. This is because, as vacancies become harder to fill, employers report not only newly developing vacancies, but also existing vacancies they had not previously reported, thereby giving a sharp upswing to the figures. For this reason, the job vacancy statistics are considered a very good indicator of growing inflationary pressures resulting from labor shortages, although not necessarily a lead indicator.

Guide to Training Needs

Many countries indicated that job vacancy statistics are a useful guide to training needs, but it appears they are generally used only as a broad indicator for this purpose. Although the statistics may indicate the usefulness of short-term worker training programs to assist unemployed persons to find jobs, most of the countries investigated have not had serious unemployment problems in recent years. The Australian Commonwealth Employment Service, for example, stated that they had felt little use for special worker training programs because of very low levels of unemployment, although

occasionally vacancy statistics have been used to indicate area needs for such programs.

Current vacancy statistics are not necessarily an indication of future trends. They are therefore less useful for indicating needed training programs in job areas which require long periods of training. In addition, most training programs in the developed countries are not the prerogative of national governments, although governments may offer guidance to those responsible for conducting training programs.

The Netherlands uses estimates of shortage vacancies, but not the monthly vacancy figures, in conjunction with estimates of structural unemployment to indicate training needs. This is one of the main purposes for making the shortage estimates. They were first made at a time when agricultural employment was declining and the government wanted to know what type of training should be given to the displaced workers. The shortage estimates are now used to make annual forecasts of training needs, and with this information the government attempts to influence the vocational and technical schools to initiate new courses. The figures are also said to be useful for indicating the types of training to be given in the government's adult vocational training centers.

The Japanese Government (as indicated earlier) uses its establishment survey estimates of job vacancies in the skilled trades to indicate training needs.

Vocational Guidance

Many countries indicated that job vacancy statistics are used in vocational guidance work, but again only as very broad indicators of trends. Since the vacancy data are current, usually other types of information are considered more useful for indicating future job prospects. Occupational forecasts are based on the age structure of persons in the occupation (to estimate the number who will be retiring), the number of persons currently being trained for the occupation, productivity trends, and estimates of future output; thus, present vacancies usually figure in only a minor way.

Guidance counselors under the Swedish Labor Market Board are told not to base guidance on current occupational demand-supply

conditions but on the child's interests and future occupational prospects. Current job vacancies and future occupational prospects can differ widely. For example, a study of the Swedish forestry industry predicted a loss of some 60,000 jobs in the next ten to fifteen years, at a time when there were vacancies in forestry work. Vocational guidance in the Netherlands is not based on current occupational labor shortages and, in fact, the vocational guidance officers within the Ministry of Social Affairs believe that vocational guidance should be based primarily on the individual's abilities and interests.

In West Germany, vocational guidance is the prerogative of the local employment offices, but job vacancy statistics as such do not seem to be used. Job vacancies for apprentices and trainees are registered at these offices, but are not included in the monthly job vacancy statistics. Special statistics are prepared annually, however, on registered apprenticeship and on-the-job training opportunities.

On the other hand, Youth Employment Officers in Great Britain reportedly make use of the vacancy statistics to further their general knowledge of labor demand trends by industry and occupation. The statistical data, however, are not used directly in determining the nature of vocational guidance at a particular time.

Vocational guidance officers of the Australian Commonwealth Employment Service consider the occupational trends shown by the vacancy statistics an essential part of the basic information they require, but information is not available on how the data are used.

USES OF NATIONAL JOB VACANCY STATISTICS BY INTERNATIONAL ORGANIZATIONS

In addition to investigating the use made of job vacancy statistics by various foreign countries, we asked the OECD, EEC, and ILO whether they found national job vacancy statistics useful for analytical or other purposes. These organizations indicated that they find the data of some interest in showing trends, but that its use is sharply limited by its incompleteness.

The OECD regularly publishes country job vacancy statistics (unfilled, registered, or a combination) in its statistical bulletins, including graphs showing seasonally adjusted data compared with

unemployment. These graphs might appear to indicate that the OECD considers country job vacancy statistics reliable indicators of the demand for labor, or at least as reliable as the unemployment figures. Its oral and written comments, on the other hand, indicate that it finds the vacancy figures of rather limited usefulness for analytical purposes, because of incompleteness, although probably of some value in indicating short-term trends.

Job vacancy reports have been submitted to the EEC Commission by the six member states since the fall of 1961, and the Commission acts as a clearing agency for both job offers and job applicants among the member countries. Officials at the Commission believe that the proportion of total vacancies covered by the statistics is probably quite low, although unknown. For this reason, the EEC makes very limited analytical use of the statistics.

The ILO does not collect or publish country job vacancy statistics on a systematic basis. Occasionally, however, a country's job vacancy statistics are used in connection with specific research projects. For example, a recent technical project in Ghana utilized job vacancy data in conjunction with establishment reports to determine in which skilled occupations shortages existed. Another project in Ceylon used job vacancy data to aid in the investigation of requirements for specialized personnel. Because of the known limitations of the data, job vacancy statistics are used only to supplement other information on employment rather than as absolute indicators of labor demand.

CONCLUSION

Let us now consider what is to be learned from the experience in other countries which is applicable to the improvement in and use of job vacancy statistics in the United States. We think there are three main points:

First, no country uses a method which provides job vacancy statistics that are substantially complete and fully comparable with a similar complete estimate of unemployment. Of course, it does not follow from this that no method can be developed. Indeed, the United States has been the leader in developing many types of

labor statistics. We should realize, however, that if we develop substantially complete job vacancy statistics, we will be breaking new ground.

Second, most industrially developed countries publish administrative statistics of job vacancies, representing a count of the jobs listed with the employment offices, but these statistics are seriously incomplete as an estimate of total job vacancies. The U.S. Employment Service statistics on job vacancies are probably as complete or more complete than those of many of the foreign countries investigated. A number of countries, however, apparently make greater use of these statistics for economic analysis than is done in the United States. Important uses include the general one of measuring the demand for labor and the more specific ones of analysis of unemployment, as a business cycle indicator, and to some extent as a guide to training needs and for vocational guidance. Some uses are most important when unemployment is high; others when unemployment is low. Misuse of data has been significant in Canada because statistically unsophisticated people sometimes compare directly unfilled job vacancies with unemployed job applicants. In other countries, however, this type of misuse is not known to have had serious consequences.

Third, four countries have developed on a limited scale establishment statistics of job vacancies, representing number of jobs without individual identification; and one country, the Netherlands, makes nationwide annual "shortage" estimates for occupations where workers are in short supply. The experience of these countries tells us little about the degree of precision that can be developed in such estimates, but the experience of Japan at least suggests that an establishment reporting system is feasible. The work has not been carried out with the care in definition necessary to provide comparability with unemployment statistics, nor with the painstaking follow-through which would be necessary to assure accurate reporting.

