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Collection and Use of Job Vacancy Data in Canada

W. THOMSON

NATIONAL EMPLOYMENT SERVICE OF CANADA

INTRODUCTION

The National Employment Service

The contents of this paper are based on the experience of the National Employment Service (NES), because it is the only organization in Canada which collects job vacancy data on a regular and national scale. It would be well, therefore, to give a brief outline of this organization and its background in order that the strength and weaknesses of the data derived from its operations may be more readily appreciated.

The National Employment Service came into being in 1941 as part of the Unemployment Insurance Commission, which had been organized to implement the Unemployment Insurance Act of the previous year. An embryo organization at the national level had existed for some twenty years prior to this, but only as a small division of the Federal Department of Labour, which served to coordinate the activities of the various provincial employment bureaus. Following a further twenty years of operation under the 1941 Act, a Royal Commission was established to inquire into the operations of the Unemployment Insurance Commission. In their report, the Commissioners recommended that the Employment Service should become a part of the Federal Department of Labour, and the present government has announced its intention of implementing this recommendation. The transfer of NES to the Depart-

ment of Labour will bring together the two major government organizations in the manpower field. It is confidently expected that the new arrangement will result in a more effective employment service, and it should also facilitate the collection and publication of labor market information, in line with ILO Convention No. 88 which the Canadian Parliament has ratified.

When the NES was established in 1941, Canada had already been at war for nearly two years, and the government had introduced the National Selective Service Regulations which, in effect, controlled the allocation of manpower. The exercise of this function was made the responsibility of the new Employment Service (which, for the rest of the war, was called the National Selective Service). For the duration of the war it was compulsory for employers to notify the Service of all positions which became vacant, but with the end of hostilities the National Employment Service, as it then became known, was established as a free public employment service and these regulations ceased to be enforced. Actually, regulations requiring such notification, except under certain conditions, are still in existence, but with a free and healthy economy it has been neither necessary nor desirable to enforce them, and they have been retained only that they may be available in the event of a national emergency. These regulations are referred to in greater detail a little later in this paper.

In the years since the war, the National Employment Service has developed into a complex and widespread organization. With almost 250 offices, grouped into five regions, and some 4,000 employees, it participates in almost one-third of the hirings in Canada each year. About two-thirds of the urban employers who employ ten or more workers, and about one-third of the similar group of nonurban employers, make use of its services at some time each year. In addition, about 50 per cent of the placements made by the NES are with employers who have fewer than ten workers, and such employers are in a very substantial majority in Canada. It will be seen, therefore, that the NES participates in a significant cross-section of the nation's total hirings and has access to considerable data on labor demand.

The vast territory and the comparatively sparse population of

Canada make it unlikely that the present employer coverage by the NES will increase dramatically in the near future. These factors also operate against many employers, particularly the smaller firms, notifying NES offices of job opportunities; and this was recognized in drafting the regulations referred to concerning notification of available employment. As a matter of interest, the wording of these regulations is as follows:

39. Every employer who requires to engage an employee in insurable employment shall, after twenty-four hours have elapsed since the employment became available, forthwith notify the local office of such requirement.

40. No such notification is required from an employer who (a) engages an employee pursuant to his seniority rights or (b) seeks the employee within the locality in which the employer's office is situated, where that office (i) is located more than twelve miles from the local office, and (ii) directly controls hirings at the establishment at which the employment is available.

41. Such notification shall include (a) the place where, and the occupation for which, the employee is required; (b) a description of the duties to be performed; (c) the rate of wages and frequency of payment; (d) the number of hours to be worked each day and each week; (e) the probable duration of the employment; (f) sufficient information to describe the working conditions of the employment; and (g) any incidental information which the Commission may from time to time require.

It must be emphasized again that in no respect are the foregoing regulations enforced at the present time.

Definition and Concepts

“‘The Question is,’ said Alice, ‘whether you can make words mean so many different things.’ ‘The Question is,’ said Humpty Dumpty, ‘which is to be master—that’s all.’” (Lewis Carroll, *Through The Looking Glass*.)

In the English language the same word often can mean many different things, and the word “vacancy” is no exception. Indeed, it is safe to say that most dictionaries will give about six meanings for this word. Perhaps it was because of this that the framer of the regulations referred to “employment becoming available” rather than the more ambiguous term “vacancy.” For this reason, it is

always well for one to define his terms and, as the NES is the source of most of the information in this paper, it would seem fitting to use the definition for "vacancy" which is found in the *Technical Handbook* of the National Employment Service and which reads as follows:

Vacancy: A job for one worker offered by an employer and recorded on an employer's order by the employment office is known as a vacancy. These may be current or deferred vacancies.

1. Current Vacancy: A vacancy on which the employer is prepared to accept and confirm referrals immediately or at any time within 31 days from the date on which the vacancy was registered.

2. Deferred Vacancy: A vacancy for which the employer, (a) is not prepared to accept referrals immediately or at any time within 31 days from the date on which the vacancy was registered, or (b) is prepared to accept referrals but is not prepared to confirm such referrals immediately or within 31 days from the date on which the vacancy was registered.

Although this definition may appear clear cut, it must be said that conceptual difficulties do arise in measuring labor demand in terms of employers' vacancies. A vacancy, in some respects, is a negative factor, and as it is frequently just a thought in the mind of an employer, it is a difficult thing to measure. For example, most employers of large numbers of workers will hire a new worker who is unusually well qualified, whether or not a vacancy exists before the hiring occurs. Moreover, an employer's statement of his requirements may sometimes be strongly conditioned by his idea of the labor supply. There are some employers who will not make their vacancies known, or even look for workers, if they believe that workers with the qualifications wanted are unavailable. On the other hand, there is the employer who will overstate his requirements for workers he knows to be in short supply in the hope that if part of his stated requirements are met this will, in fact, actually satisfy his needs. Again, there is the employer who makes unreasonable stipulations when looking for employees, such as young workers with extensive experience.

The number of workers required at a particular point in time by some employers, such as construction contractors, can also be difficult to measure accurately. While total requirements in man-hours may be known, the number of vacancies these will represent

frequently depends greatly on the time available for completion of the specific job; and this may, in turn, be influenced by the employer's estimate of such factors as weather conditions, the delivery of materials, etc. Thus, the number of vacancies estimated may fail to give an accurate portrayal of actual labor demand. Indeed, it has been the experience of NES that for major development projects, and other massive hiring operations, employers are seldom able to predict with any reasonable accuracy how many vacancies they will have. It is not unusual for NES to receive an order for 500 workers for a logging operation, for which anywhere from 300 to 600 workers may eventually be hired.

It will be appreciated that in many of the foregoing examples "vacancies" may be reported which do not come within the definition of the term for operational or labor market purposes, although in some of the extreme cases the NES has been able to maintain some control over the validity of its statistics by not counting certain vacancies until placements have actually been confirmed. Notwithstanding such precautions, approximately 10 per cent of all vacancies registered with the NES are canceled, and at least a part of these are canceled because they did not represent real vacancies in the first place. While local employment offices make every effort to prevent such occurrences, their success is always limited by the ability of employers to estimate total labor requirements.

PRINCIPAL SOURCES OF DATA

Employers' Orders

There are two main sources of vacancy information available to the NES. The first of these is from the vacancies registered by employers with the Service. These are, in effect, orders from employers for workers. Such orders may be received by telephone or mail, by employers making a personal call at an employment office, or given to an employment officer during his visit to the employer's establishment. Whatever the origin, the job requirements, specifications, and working conditions are recorded on what is referred

to as an "employer's order form." This form provides for the vacancy being classified by both industry and occupation. The industrial classification is the Canadian Standard Industrial Classification, and occupations are classified according to the USES *Dictionary of Occupational Titles*. A single order may be for more than one vacancy if the vacancies are all for the same occupation and for the same type of worker. Mention should be made of one internal practice of the NES which can have some effect, although a very minor one, on vacancy data. Orders are registered by sex, but where an employer does not specify a preference, or is willing to accept either a male or female employee, and it is not possible to fill the order immediately, separate orders are prepared for both male and female, with the result that the vacancy is double counted.

When a local office is unable to fill a vacancy on an employer's order, the vacancy, if the employer wishes, may be placed in "clearance." It is not necessary to explain the mechanics of this operation, but a clearance order describing the vacancy is circulated to those offices where it is considered suitable applicants may be located. Orders for executive and professional workers are also cleared, when necessary, to the representatives of the NES in London, England. From the number of orders placed in clearance in any given period, and from counts at specific points of time, information can be derived regarding specific occupational shortages by geographic areas.

It should be emphasized that data derived from this source has limited value as a reflection of demand. At best, it merely indicates that in a given locality a shortage exists in a particular occupation; and it does not necessarily indicate the extent of the demand. The reason for this, of course, is that only a relatively small proportion of unfilled vacancies will be placed in clearance. If a shortage of workers in a particular occupation is known to exist in all regions, or if other orders for the same type of worker are already in circulation, there would be little point in placing additional orders for the same type of worker into the clearance system. Furthermore, employers may sometimes be reluctant to seek workers from comparatively far afield because of the difficulties involved in interviewing applicants, the fear of having a moral obligation toward a

worker who may come from some distance away and prove unsuitable, and for various other reasons. In other words, the clearance system is an operating device to assist in overcoming local shortages by providing the widest possible circulation of information concerning specific job vacancies. Data derived from it regarding labor demand is a by-product that is useful as an operational tool rather than as a reliable statistical measure.

Semi-Annual Report of Hirings and Separations

The second major source of job vacancy data in Canada is, possibly, unique. This is the Semi-Annual Report of Hirings and Separations (see form 847).

The National Employment Service is fortunate in having a statutory authority which requires employers to submit a report of their hirings and separations for each of the six-month periods ending on the last day of February and the last day of August each year. These regulations require the report to be submitted by most employers in the country having ten or more employees, plus all the branches of chain organizations regardless of the number of workers in any branch. (Excerpts of the actual wording of the regulations appear at the end of this paper.) In brief, they require the employer to report, separately for each of his establishments, and by sex, the number of people in his employ at the beginning of the report period, the number of hirings and separations each month, and the number remaining on the payroll at the end of each month.

The information received through this report is of great value, particularly in the operations of the employment service. However, there are a number of factors which limit the usefulness of these data for some forms of economic planning.

The most important of these is that although the hirings reported reflect vacancies that have occurred, the time lapse between their occurrence and the receipt of the reports precludes their use in any "warning system." The value of the information must necessarily lie in its use as an historic indicator and in the construction of trends. To use the reports in this way, however, still requires a considerable degree of care, for they exclude firms operating only one

place of business and having less than ten employees, departments of government, and a few other groups such as agriculture, hunting and trapping, nonprofit hospitals and other charitable institutions, and the armed forces. Notwithstanding these exclusions, the reports still cover approximately 70 per cent of all the employed paid workers in the country and about 85 per cent of the employed paid workers in the nonagricultural and nonservice sectors. Naturally, such coverage varies somewhat by industry.

In addition, in order to simplify the work of the employers in completing the form, two other practices have been adopted, the effect of which also varies by industry. The first of these is the exclusion from the report of casuals, that is to say, persons hired for periods of six working days or less. The second is that persons who are laid off with definite instructions to return to work within thirty days are regarded as remaining on the payroll. Such persons are not, therefore, reported as separations at the time of layoff and as hirings at the time of return to work. The purpose of this, of course, is to make it possible for the figures on the reports to be a more meaningful reflection of actual new hirings but it will be appreciated that the cut-off period of thirty days still makes it possible for a firm, which is closed down for, say, six weeks for retooling, to report the entire staff as new hirings when they return to work.

On line 22 of the Semi-Annual Report (form 847 appended), the employer shows the number of additional workers, male and female, required at the date of preparing the report. This might appear to be an excellent source of vacancy data, but its value in this regard is limited because occupational classifications are not shown, and the employers prepare the reports on different dates. While the regulations require the reports to be submitted on or before the fifteenth day of the month following the close of the reporting period, like all surveys of this kind some months elapse before all forms are received. Actually, the only purpose of this item is to provide the local offices of NES with information regarding immediate job openings. Forms bearing an entry on this line are immediately dispatched to the local office serving the area in which the employer is located and he is then contacted to see whether the NES can assist him. Thus, it will be seen that this item simply serves an opera-

tional purpose, but its value in this regard should not be minimized, for although only some 2.5 per cent of the total of seventy thousand odd forms returned in each reporting period have an entry on this line, some 7,300 job vacancies are reported in this way during each six-month period. Employers not reporting in this space are not followed-up, as this would not be consistent with the present policy of nonobligatory reporting of vacancies.

COLLECTION AND USES OF JOB DATA

As will be seen from examination of form 847, the employers submit their returns in duplicate, directly to headquarters. Here a central group of statistical clerks audit the reports and classify them industrially. After this, one copy is sent to the local office concerned and the remaining copy is sent to the Dominion Bureau of Statistics, where a great deal of the Employment Services' tabulating work is carried out on a service basis. As Canada's central statistical unit, the Bureau possesses E.D.P. equipment, which permits it to process the data far more quickly than the NES could with its own facilities.

The principal use of data derived from the Semi-Annual Report is as a management tool in the operation of the NES. However, it should be mentioned that a by-product of the survey is the production of hiring and separation rates in the various industrial classifications, and also in different geographical areas. These are compiled from the returns by the Dominion Bureau of Statistics, and published in various forms.

The operational use of the data within the NES is not without interest. It was stated earlier that one copy of the form 847 is sent to the local office serving the area in which the establishment covered by the report is located. On receipt of this copy, the local office prepares two forms for internal use. One of these—the "Semi-Annual Summary of Employment Activity"—consists of tables of operating statistics, showing such information as the total number of employers served by the office, the numbers required to submit forms 847, and data regarding vacancies available, referrals made, placements made, applicants available, etc., both for the over-all operation and for the group of reporting employers. From this, various

ratios are calculated, such as placements to total vacancies available, vacancies to total hirings, and so forth.

The other form is a worksheet on which much of the basic data for the "Semi-Annual Summary" is accumulated. On it are listed, alphabetically within industrial groups, all of the employers submitting forms 847. It also shows the largest number of employees which each firm had on payroll during the period, the number of hirings the firm made, the number of vacancies reported by it to the NES, and the number of referrals and placements made on those vacancies by the NES. This last information, of course, is entered from the records of the local office. This form also has a number of operational uses, as it provides local officials with valuable information concerning the operations of all the major employers of labor in the local office area, including the proportion of their hirings which were made through the local office and the extent to which the local office has been successful in filling vacancies reported by the employers.

By perusing this form, local officers can quickly identify those establishments which have a high hiring potential and, by referring to the individual forms 847, much valuable information can be obtained on the seasonality of the respective employers' hirings: by showing the hirings made each month in the past, these forms are a reliable indicator of the probable future hiring pattern of the firm.

Officers of the NES make over 300,000 visits to employers in the course of the average year. With a program of this extent, it is absolutely essential that the most efficient allocation of available staff resources be made. In this connection the information made available by the combined use of form 847 and the worksheet described above is of very great value in the effective planning of the visiting program.

Obviously, another use for the data derived from the Semi-Annual Report is in assisting local employment offices to make fairly accurate forecasts of the potential number of vacancies which will occur within various industries in their areas in future months. In this respect, of course, the effect of large numbers is important, for where there is only a small number of employers in a particular industrial

group, the experience of the one reporting period will not necessarily be reflected in the next similar period. However, as the number of establishments in a given industrial classification increases, so does the possibility of making accurate forecasts for the group as a whole.

Before leaving the subject of the Semi-Annual Report of Hirings and Separations, there are certain uses of the data which should be given additional emphasis.

As stated earlier, every hire represents a vacancy which has been filled. With the data provided in the Semi-Annual Report, it is possible to extend the reported hirings statistically to obtain an estimate of the nation's total hirings (i.e., total vacancies filled). This estimated figure is used to calculate the percentage of total hirings conducted through the NES and, it will also be noted from what was said about the "Summary of Employment Activity" that local offices use the data to assess their operational efficiency and their penetration of the hirings of the major employers whom they serve.

The data is also used externally to the NES. For example, it is used in connection with the government's program of aid to geographic areas where economic growth has not achieved a satisfactory level. Average employment figures developed from form 847 reports have been used as one of the criteria of economic growth, and it will be appreciated that changes in the average numbers employed must reflect the existence or absence of job vacancies over time.

Employers' Orders

Notwithstanding the value of the information derived from the Semi-Annual Reports, the principal source of vacancy data in Canada is still the employer's order. The collection of these data is carried out at the local office level, with certain phases of the tabulation done at headquarters with the participation of the Dominion Bureau of Statistics.

In the local office, information pertaining to vacancies is transcribed from the employer's order to a worksheet (form 753). This form is simply a device for collecting a variety of statistical data, and is not intended for circulation or analysis.

From the data collected, two important series on vacancies are tabulated. One of these, and perhaps the most important, is that for vacancies "notified" (reported); the other is for unfilled vacancies.

Vacancies "Notified"

Each month the local office prepares a "Statistical Report on Employment Operations by Industry." This report is made on a four-part form (form 751), and contains, among other information, the following vacancy data: vacancies unfilled at beginning of month; vacancies "notified" during month; vacancies canceled during month, current vacancies unfilled at end of month, and deferred vacancies unfilled at end of month.

The data are reported for a total of thirty-nine broad industrial groups. In an operational form such as this, it is obviously impossible to present the information by every industrial classification, and the groupings which have been selected for this form are those which experience has shown to be most useful in reporting the operations of the NES. This point is important, for if the report had an economic rather than an operational basis, it is quite possible that a somewhat different breakdown of industrial classifications would be found necessary.

Each month, one form is prepared for male data and one for female, and one copy of each is sent to headquarters, the regional office and the Dominion Bureau of Statistics.

The vacancies "notified" series, in conjunction with other statistical data on action taken on the vacancies, enables management to determine the volume of labor demand reported to each local office on a relatively current basis, and the degree to which the local offices are successful in filling that demand. Consolidations of the data also make it possible to carry out this analysis by industry and sex, and seasonally on the regional and national levels. To assist in this, certain tabulations prepared by the Bureau of Statistics and NES are circulated internally within the NES. The vacancies "notified" series is, of course, of particular value to local office managers, who can study local trends in job vacancies on an industrial basis in the light of their intimate knowledge of their own local areas. It also provides them with data required for internal administrative

control, as it indicates industrial groups to which additional staff resources may need to be applied.

Unfilled Vacancies

The unfilled vacancies series is compiled from a count of unfilled employers' vacancies at the close of business on the last working day of each month. These data are reported by both industrial and occupational groups.

Because NES endeavors to fill all vacancies as soon as possible after they are reported to a local office, unfilled vacancy data at any given time represent only a portion of total vacancies reported. Unfilled vacancies usually consist of three main groups: (1) Vacancies to which workers have been referred but confirmation of placement has not yet been received from the employers. (2) Vacancies reported to the local offices within a day or so of the count being taken. (3) Vacancies for which there is a local (or wider) shortage of applicants, including those which are hard to fill because of low wages or other unfavorable working conditions.

A distinction is made on form 751 between current and deferred vacancies. When the term "unfilled vacancies" is used in this paper, it refers only to current vacancies, i.e., those for which employers are willing to accept and confirm referrals within thirty-one days of reporting the vacancy to the local office.

Unfilled vacancies are also compiled in the local office, by occupational groups and by sex, and reported on the "Inventory of Registrations and Vacancies by Occupation" (form 757). In addition to unfilled vacancies, this form also shows "unplaced applicants." This is not a complete count of all applicants registered for employment, but is an inventory of applicants, by sex and occupation, who are actually unemployed and seeking work. Thus, the unplaced applicant figure on this form will differ from that on form 751, as the totals shown on the latter include a number of applicants excluded from the total on form 757 such as workers with jobs who are seeking other employment.

Officers of the NES find this series on unfilled vacancies by occupation useful in connection with studies of labor shortages, particularly when used in conjunction with vacancies placed in clearance.

which, of course, represent local labor shortages. Both sets of data (unfilled vacancies and unplaced applicants) are also used in determining where to clear employers' orders and, in some cases, workers' applications. Data on unfilled vacancies by industrial groupings are, naturally, useful to local offices in the operational and administrative application mentioned in connection with the vacancies "notified" series. Indeed, an intelligent use of the latter would be difficult to achieve without the added information made available through data on both current and deferred unfilled vacancies, for these provide an indication of the size of the "stock" of vacancies relative to their flow over a period of time.

However, it is probably safe to say that it is the occupational breakdown of unfilled vacancies that is most frequently used by the NES. At the local level in the NES, of course, the relationship of occupations to specific industries (which will be well-known to local officers) makes it easier to provide the occupational breakdown of industrial requirements. To assist in using the occupational data, the back of the form provides space for a detailed breakdown of any occupational group in which there are numerous vacancies or unplaced applicants reported. Data on unfilled vacancies are published monthly in the *Labour Gazette*.

It will be seen that both vacancy series have been primarily designed to meet operational requirements; vacancies "notified" are a part of the statistical report of local work loads, and unfilled vacancies are part of an inventory report as well. In addition, however, the data have proven valuable to government personnel when used for other than operational purposes. Sometimes a combined use of both series is helpful to officers in the NES, and other government agencies, in special studies of economic and labor market problems, and in assessing vocational training requirements. Included among the other such agencies are the Departments of Labour, Trade and Commerce, Citizenship and Immigration, and Industry as well as provincial government agencies. The data contain many pitfalls, however, for nongovernment users, principally because the latter do not have the same detailed knowledge of the limitations of the data. This has resulted in their misuse, and in false (and sometimes dangerous) conclusions being drawn.

A common misuse has been the attempt of some economists (including, it must be said, some government economists external to the NES) to use the unfilled vacancy series as an indicator of *total* labor demand or labor shortages. The NES has discouraged this use of the data because even the total vacancies "notified" series is not necessarily an indicator of total labor demand, particularly in specific industries and occupations, and unfilled vacancies are only a small sample of total vacancies "notified." Nevertheless, the lack of any other available information on current vacancies by occupation has resulted in the series continuing to be used and misinterpreted in this fashion.

Another way in which vacancy data are misused is in relating them to the unplaced applicant series to attempt to establish total supply and demand and occupational surpluses or shortages. NES statistics published by outside agencies frequently show the two series side by side, which encourages people to look at totals of applicants and vacancies by occupational groups and draw conclusions concerning their supply and demand. To discourage this practice, the NES has discontinued publication of its unfilled vacancies by occupational groups, although data relating to unplaced applicants are still published by occupations. There are a number of reasons why the two sets of figures should not be compared.

1. The unplaced applicant series provides a much wider coverage of the unemployed than the unfilled vacancies series does of available work. This is because a large portion of the labor force is eligible for unemployment insurance benefits, and practically all must register with the local employment office before being permitted to draw such benefits. There is not, on the other hand, any similar necessity for employers to inform NES of the availability of work. While it is not known definitely what proportion of all vacancies are reported to local employment offices, it is reliably estimated that 30 per cent of all hirings are effected through NES, and it may be assumed that vacancy coverage is slightly higher—the difference being due to canceled vacancies.

2. As stated earlier, it is the policy of NES to give immediate attention to vacancies, and to have a minimum remaining unfilled for any length of time. On the other hand, applications for employ-

ment for persons entitled to unemployment insurance benefits are retained in the live file for as long as the benefit status continues; and nonbenefit applicants are retained in the live file (unless the applicant is placed) for a period of fourteen to thirty days, depending on the occupation. This means that reported totals of applicants will always include a number of workers who have found employment through some other source, or who have been recalled by their former employers. Of course, this is offset to some extent by the fact that there also are some workers who have recently become unemployed but who have not yet registered. Unplaced applicants, however, provide a much more reliable indication of total labor supply at the time of the file count than unfilled vacancies do for labor demand.

3. Although 103 separate occupational groups are shown in the statistical report, because of the very large number of specific occupations, the groups used are still very broad. Consequently, unplaced applicants in any of the reported occupational groups can be, and generally are, in completely different specific occupations than the unfilled vacancies. For example, a vacancy for "auto mechanics and repairmen" might be for a body worker, while an unplaced applicant under the same heading might be an ignition specialist. A surprising number of people seem unable to understand this, however, and insist on taking the difference between unfilled vacancies and unplaced applicants in the general occupational groups as a true measure of labor surplus or shortage.

4. Unfilled vacancies are not only a very small proportion of total vacancies reported, but they frequently follow a different pattern. For example, unfilled vacancy totals may rise due to requests for workers with comparatively rare skills, while total demand, as reflected in part in vacancies reported, may fall. As the vacancies "notified" series must surely be more accurate, the fact that there is frequently a variance between its trends and those of unfilled vacancies means that we cannot assume that the latter relate significantly to labor demand.

5. Where there is a lack of precise information on the number of workers an employer will hire (workers for which there is an unlimited demand, e.g., certain types of commission salesmen), such

vacancies are not considered reported until transactions occur. They are never included in the unfilled vacancy series.

6. The business cycle is assumed to affect vacancy coverage, since there is good reason to believe that employer patronage of the Employment Service increases and decreases to some extent with changes in labor supply. However, this cannot be precisely determined from the volume of vacancies reported, because these data are also affected by expansion and increased effectiveness of the NES operations.

In short, therefore, the principal existing source of vacancy information, the employer's order, has two vacancy series derived from it: "vacancies notified," which are classified industrially, and "unfilled vacancies," which are classified both industrially and occupationally. The first is a total of vacancies received *during* a given period; the second is an inventory of vacancies unfilled at the *end* of a given period. Both are designed for operational purposes, and neither are suited to the needs of the economic analyst who does not possess a special and detailed knowledge of NES operations and policies.

STRENGTHS AND WEAKNESSES OF PRESENT VACANCY DATA

Statistics on vacancies presently collected in Canada are, as stated earlier, obtained from the reporting system of the National Employment Service, and are used chiefly in the operations of that organization. They are considered adequate for this purpose and for some general economic analysis by members of the Service. The use of the data in the latter role is only possible, however, because the members of the NES are knowledgeable about the methods of calculation and data collection, and they make their analysis on the whole reporting system of the NES and not merely on the vacancy series. With their knowledge of the data's limitations, and because the NES is an active participant in the labor market itself, they can obtain much useful information on labor market conditions in Canada. Furthermore, their knowledge of NES operations enables them to develop additional information about vacancies. For example, it would not be possible for the ordinary analyst to estimate

the proportion of job vacancies in any given period which were for "casual" employment (work with an expected duration of six working days or less) as vacancies reported to NES are not recorded by expected duration. Placement data, on the other hand, are recorded in this fashion, and the Employment Service officer, knowing the relationship between NES placements and vacancies reported to the Service, is in a position to make a very reliable estimate of the number of vacancies by specific periods of employment duration.

The vacancy data available must be regarded as a sample because of the incomplete coverage the NES has of the employment market. It is, however, a fairly large sample of total industrial hirings, although not necessarily of specific occupational or industrial groups. This conclusion is drawn from a study of the Semi-Annual Report of Hirings and Separations referred to earlier. From the hirings reported in this very large sample, it is possible to relate the hiring rate developed therein to the total number of paid workers in Canada, and to make estimates of the total hirings in the country. When these estimates are compared with total placements made by the NES, it is then possible to arrive at the proportion of total hirings which have been effected through the NES and, as indicated earlier, this is about 30 per cent. Vacancy coverage, of course, is somewhat higher than the hiring-placement ratio because of the number of vacancies filled by employers after they have reported them to a local office. The vacancy cancellation rate is approximately 10 per cent. Therefore vacancies reported to the NES represent more than 30 per cent of the actual job vacancies in the country, although this percentage would vary widely by industry and occupation.

On the other hand, the imperfections that exist in present Canadian job vacancy statistics should not be glossed over. One has already been indicated, i.e., the difficulty experienced by anyone unfamiliar with the effect of operational practices on the data now produced, in using such statistics for analytical purposes.

Another important weakness is the absence of any satisfactory method, at the present time, of assessing the causal factors in shifts in volume of vacancies reported. Increases in volume, for example, may not be the result of greater demand but of increased patronage

of the Employment Service by employers, or the result of shifts in labor supply. Furthermore, while the number of vacancies reported will generally rise during periods of relatively full employment, there is a strong possibility that vacancies recorded in such circumstances will include many that would not have been reported were labor more plentiful. In addition, without a more current source of information on voluntary separations than now exists, it is difficult to assess the relationship between increases in vacancies reported and increased demand. For instance, when the labor market is buoyant, or there are occupational shortages, workers will change jobs much more frequently than during periods of job shortage or recession. In such cases, an increase in the number of vacancies reported for an industrial or occupational group can be indicative of increased turnover, rather than a change in demand generated within the industrial or occupational groups concerned. If the use of this vacancy data is to achieve its highest degree of efficiency, it seems necessary that methods must be developed whereby vacancies which are the result of a growth in the economy, or a sector of it, can be properly identified. Fortunately, with the developments which are taking place today in data processing technology, such a prospect is not as visionary as it might have been a few years ago.

The limitations in existing vacancy coverage must also be regarded as a weakness in present vacancy data. This is not to suggest that 100 per cent coverage is essential, but the fact that present data relate only to vacancies reported to the NES does suggest that they are subject to bias, e.g., the different rate of patronage by urban and nonurban employers. However, except for the statistical estimates developed from the Semi-Annual Report of Hirings and Separations, no measures are taken to obtain data on the admittedly large number of vacancies not reported to NES.

In addition, there is no distinction in either of the present series between part-time and full-time openings, nor are data collected on such items essential to labor market analysis as the length of time jobs have remained vacant, the number of vacancies on which referrals have been made, or on vacancies which are difficult to fill.

Because of the incomplete coverage mentioned, precise data are

also unavailable on vacancy coverage by industry, although the placement and hiring ratios referred to earlier vary by industry, and it may be assumed that vacancy coverage follows the same pattern.

Finally, but by no means of least importance, is the fact that while the most useful of the present vacancy data, for purposes of labor market analysis, is the vacancies "notified" series, that series is presently compiled only on an industrial basis. The full development of vacancy data utilization really requires that vacancies "notified" be compiled by occupation. It might be mentioned that placements are, in fact, recorded by occupational groups, and placements are a reflection of vacancies "notified." Nevertheless, as in the case of the unfilled vacancy series, the groups by which they are tabulated must, of necessity, be very broad ones. For either vacancy series to be a really effective tool of labor market analysis, it is essential that the data be broken down into specific occupations.

CONCLUSION

Notwithstanding the limitations on both the collection and use of job vacancy data in Canada, methods available today, for both their collection and use, are incomparably better than ten or twenty years ago. Furthermore, a strong basis has been established for future development by virtue of delineating present limitations (and, of course, through organizational changes, some of which are still in progress). Consequently, while problems which this paper has not attempted to minimize do exist, there is no doubt that many of them will eventually be overcome.

EXCERPT FROM REGULATIONS MADE UNDER THE UNEMPLOYMENT INSURANCE ACT

Reports of Hirings and Separations

42. A report period for the purposes of sections 43, 44, 46, 47, and 48 shall be the six-month period ending on the last day of February and the six-month period ending on the last day of August, in each year.

43. Every employer who has employed at least one person in insurable employment at any time during a report period shall furnish to the Head Office of the Commission at the time specified in section 47, a report of

hirings and separations and other information as required by sections 46 and 48. (Amended by P.C. 1958-1567, effective Jan. 4, 1959.)

44. No report is required from an employer for any report period
- (a) during which he had
 - (i) one establishment only, and
 - (ii) not more than nine persons employed therein at any one time; or
 - (b) in respect of which he was excepted from such requirements by an officer of the Commission, either as a member of a class or group, or individually. (Amended by P.C. 1958-1567, effective Jan. 4, 1959.)

45. (1) For the purposes of sections 43, 44, 46 and 48, casual employees shall not be considered. (2) "Casual employee" means a person who is employed for a particular job or jobs of a casual nature for a period of six working days or less.

46. The report required from the employer by section 43 shall be furnished on such form as the Commission may from time to time determine and shall give the following information for both male and female employees:

- (a) the number of employees actually in his employ at the beginning of the report period;
- (b) the number of whom he has engaged during each month;
- (c) the number who have separated from his employ during each month;
- (d) the number in his employ at the end of each month, and
- (e) any incidental information which the Commission may from time to time require.

47. (1) The employer shall furnish the report semi-annually not later than the fifteenth day of the month that follows immediately after the end of the report period. (2) An officer of the Commission may, upon application, grant an extension of time for furnishing a report.

48. The report shall be furnished separately in respect of each establishment in which the employer had one or more insurable employees at any one time during the report period, but the employer may furnish one consolidated report in respect of more than one establishment for any report period during which he had more than one establishment,

- (a) where such establishments
 - (i) are situated in the same city or town, and
 - (ii) relate to the same kind of business, or
- (b) where, upon application, authorization to do so is given by an officer of the Commission.

FORM 847

THIS REPORT TO BE SUBMITTED ON OR BEFORE MARCH 15, 1965.
 CE RAPPORT DOIT ÊTRE SOUMIS LE OU AVANT LE 15 MARS 1965.

SEE REVERSE SIDE FOR INSTRUCTIONS—VOIR LE VERSO POUR INSTRUCTIONS.

NAME OF FIRM COVERED BY THIS REPORT
 NOM DE LA FIRME VISÉE PAR CE RAPPORT

NAME OF OWNER OF BUSINESS, IF DIFFERENT
 NOM DU PROPRIÉTAIRE, SI DIFFÉRENT

ADDRESS OF ESTABLISHMENT COVERED BY THIS REPORT
 ADRESSE DE L'ÉTABLISSEMENT VISÉ PAR CE RAPPORT

ADDRESS OF OFFICE FURNISHING THIS REPORT, IF DIFFERENT
 ADRESSE DU BUREAU FOURNISSANT CE RAPPORT, SI DIFFÉRENT

NATURE OF BUSINESS (SEE INSTRUCTIONS)
 GENRE D'AFFAIRES (VOIR INSTRUCTIONS)

DOES YOUR FIRM OPERATE MORE THAN ONE ESTABLISHMENT? VOTRE FIRME EXPLOITE-T-ELLE UN AUTRE ÉTABLISSEMENT?	YES OUI	NO NON	MALE HOMMES	FEMALE FEMMES
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NATIONAL EMPLOYMENT SERVICE

SEMI-ANNUAL REPORT OF HIRINGS AND SEPARATIONS
 REQUIRÉ PAR LES RÉGLEMENTS EN VERTU
 DE LA LOI SUR L'ASSURANCE-CHÔMAGE

SEPT. 1964—FEB. 1965

1	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	SEPTEMBER 1 1ER SEPTEMBRE			
2	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	SEPTEMBER SEPTEMBRE			
3	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	SEPTEMBER SEPTEMBRE			
4	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	SEPTEMBER 30 30 SEPTEMBRE			
5	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	OCTOBER OCTOBRE			
6	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	OCTOBER OCTOBRE			
7	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	OCTOBER 31 31 OCTOBRE			
8	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	NOVEMBER NOVEMBRE			
9	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	NOVEMBER NOVEMBRE			
10	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	NOVEMBER 30 30 NOVEMBRE			
11	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	DECEMBER DÉCEMBRE			
12	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	DECEMBER DÉCEMBRE			
13	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	DECEMBER 31 31 DÉCEMBRE			
14	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	JANUARY JANVIER			
15	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	JANUARY JANVIER			
16	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	JANUARY 31 31 JANVIER			
17	NUMBER OF HIRINGS DURING NOMBRE D'EMBAUCHAGES EN	FEBRUARY FÉVRIER			
18	NUMBER OF SEPARATIONS DURING NOMBRE DES CESSATIONS EN	FEBRUARY FÉVRIER			
19	NUMBER IN YOUR EMPLOY NOMBRE À VOTRE SERVICE	FEBRUARY 28 28 FÉVRIER			
20	TOTAL HIRINGS TOTAL DES EMBAUCHAGES	SEPT. 1 TO FEB. 28 1ER SEPT. AU 28 FÉV.			
21	TOTAL SEPARATIONS TOTAL DES CESSATIONS	SEPT. 1 TO FEB. 28 1ER SEPT. AU 28 FÉV.			
22	NUMBER OF ADDITIONAL WORKERS REQUIRED AT THIS DATE NOMBRE DE TRAVAILLEURS ADDITIONNELS REQUIS À LA DATE DU PRÉSENT RAPPORT				

SERVICE NATIONAL DE PLACEMENT

RAPPORT SEMI-ANNUEL DES EMBAUCHAGES ET CESSATIONS D'EMPLOI
 EXIGÉ PAR LES RÉGLEMENTS EN VERTU
 DE LA LOI SUR L'ASSURANCE-CHÔMAGE

SEPT. 1964—FÉV. 1965

SIGNATURE _____ DATE _____