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Collection and Use of Job Vacancy Data in the Netherlands

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I. INTRODUCTION

Job vacancy data have been collected in the Netherlands for several decades. In the beginning the use of these data was mainly restricted to the employment bureaus that collected them. Since then, however, the task of the government with regard to the national economy, in particular employment and unemployment, has become more elaborate. Quite some thinking has been done on such things as what data should be available and how they could be collected. It may be useful to present some results of this thinking as a general introduction to the description of the Dutch program.

When considering the collection of data on job vacancies, the first question to be answered is, for what purpose are these data to be used. After that come questions about definition, desirable degree of completeness and reliability, breakdown, and method of collection.

Regarding the first question, the following uses seem to be the most important: (1) for operational purposes; (2) for economic analysis; and (3) for training policy purposes.

Concerning the definition of job vacancy, a distinction should first be made between vacancies which already exist and those which will arise in the future. The first category can be defined as actual unfilled job openings. There are two causes for these vacancies, which lead us to two groups of existing vacancies:

1. Frictional vacancies, for which a suitable supply of labor is available, but some time is required before the workers get into the jobs. This definition implies that the vacancy is not considered as filled until the worker actually has started to work. (Appendix I provides additional information about this frictional demand and supply concept.)

2. Vacancies for which a suitable supply of labor is not available at the moment, and which, therefore, should be regarded as due to a shortage of labor.

In the second category the following groups can be distinguished:

1. Vacancies which may or may not already be known by number and job description, but which cannot yet be filled because some other provision(s) should be made beforehand; e.g., the purchase of certain machines, enlargement of the supervisory staff, reorganization of the layout of the factory, perhaps even the construction of a new building.

2. Vacancies which will arise if certain decisions (on enlarging the firm, extending production, starting a new product) are made by the managers.

3. Vacancies which will probably arise in the near future, due to expected industrial growth.

Demarcation of the different groups of vacancies is not very sharp. There will be many cases where it is hard to determine whether they belong to one group or another. It is clear that, of the vacancies arising in the future, the third group mentioned is not an essential part of the problem before us; such vacancies might be of interest, however, in long-term employment forecasting. The vacancies in the second group of this category are not immediately interesting either, as it is not certain that they will really exist one day. Whether the vacancies in the first group should be taken into account depends on what the vacancy data will be used for. Should the use be limited to employment bureaus only, they will probably not be of immediate interest, and should at least be regarded separately from the vacancies which already exist. For a wider use, however, it will be necessary to be informed about them.

The demarcation line between the two groups in the first category (i.e., vacancies in existence) depends again on the use of these data.

In the Netherlands two different definitions of frictional demand and supply are used (see Appendix I).

The Use of Vacancy Data

The use of vacancy data for operational purposes means that these data are used by employment bureaus for placement activities only. The bureaus do not actually use statistical data; they use a file of vacancy orders placed by the individual employers. In addition, they are expected to trace unreported vacancies for which a suitable supply of labor may be at hand. It goes without saying that placement agencies are only interested in existing vacancies, and that there will be a placement only when the vacancy belongs to the frictional group. This does not mean, however, that the agencies should not keep records of other existing vacancies, as a suitable supply of labor might be forthcoming.

For purposes of economic analysis different definitions of job vacancies may be used. If comparing vacancies with unemployment, the relevant definition includes the whole category of existing vacancies. For other analyses frictional vacancies may be left out, as the economic situation is only determined—as far as the labor market is concerned—by the amount of labor shortages. It might then even be useful to make a further distinction, if possible, between cyclical and structural shortages. On the other hand, the definition of vacancies might be widened to include the first group of future vacancies. If projections for the future are made, all types of vacancies must be included in the definition.

In order to establish and keep training policy up to date, we should actually know future manpower requirements. The length of the projection period depends on the complexity of skills required. To be able to forecast future demand for labor, we should at least have at our disposal time series of total demand for labor over a number of years in the past. Here, total demand should be defined as total employment plus total vacancies. Instead of vacancies, the definition could refer only to shortages, as frictional demand does not vary much in the long run. When projections on labor demand are lacking (as in the Netherlands), training policy can be based on actual shortages that are presumed to have a structural character.

The advantage is that the breakdown by occupation can be more accurate than a forecast can ever be. On the other hand, it embodies the danger that shortages today may disappear tomorrow through technological changes, while new shortages may come up. When nothing else is available, however, one should take the chance.

Job Vacancies and the Labor Market

Theoretically job vacancies are a supplement to employment. Together they give the total demand for labor. A time series of this total figure should give a better indication on business trends than do employment figures alone. Here one has to be careful, however. When industrial activity slackens off, for instance, vacancies tend to fall rather sharply, whereas decline in employment usually is more gradual. Especially after a period of labor shortages, employers will not fire personnel unless absolutely necessary. In practice, even when there is a surplus of labor, employers will not be able to avoid vacancies entirely. There will always be frictional vacancies, and, in some occupations and professions, structural shortages may also remain in spite of a general surplus.

It is sometimes believed that there is equilibrium in the labor market when the total number of vacancies equals total unemployment. This, however, would only be true if there were merely frictional vacancies and only frictional unemployment. For structural and cyclical vacancies, there is, by definition, no supply, and the same goes, *mutates mutandis,* for other than frictional unemployment. We may, however, widen the equilibrium concept. From a structural point of view, for instance, there is equilibrium in the labor market if there is no structural shortage of manpower and no structural unemployment. Still, there might be a cyclical (or a seasonal) disequilibrium. The opposite situation is also possible. The relation between vacancies and unemployment can be expressed by a simple diagram (see Figure 1). We therefore have to make the supposition of a homogeneous labor market with one kind of labor (occupation, sex, age group, degree of skill) which is mobile. Furthermore, we assume no seasonality, no structural disequilibrium, and no unemployment of disabled persons. This diagram shows that frictional

vacancies and frictional unemployment reach their maximum size at the point of equilibrium.

As job vacancies in a firm prevent the relation between labor and capital from reaching its optimum, they affect productivity unfavorably. Furthermore, a growth in the number of vacancies reflects the

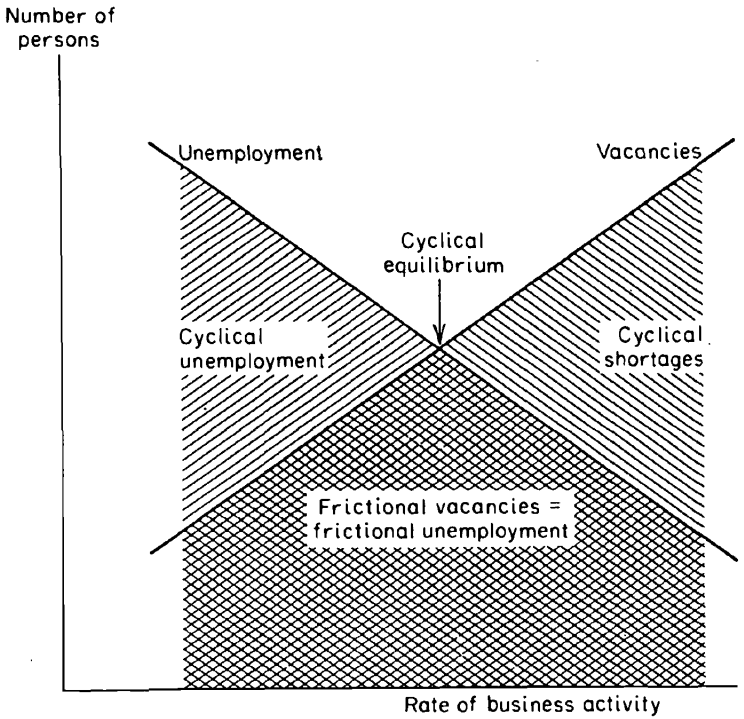

FIGURE 1

fact that the labor market has become tighter, which brings employers into an advantageous position; and this also creates a tendency toward decreasing productivity. On the other hand, labor shortages stimulate depth investment, which improves productivity. As this usually goes together with expanding production, vacancies might not actually decrease as a result of this development, even though theoretically they would be expected to do so.

II. JOB VACANCY REPORTING

The reporting of job vacancies in the Netherlands began with the establishment of employment bureaus. Its purpose was to provide the bureaus with vacancy orders for their placement activity. The first employment bureaus, established in the middle of the last century, were private agencies where unemployed persons could apply for work and employers could bring in their vacancy orders, both voluntarily. At the same time, much placement work was done in beer halls and similar places. To improve this situation, local public authorities set up municipal employment offices, the first of which was established in 1902. In 1941 the municipal employment bureaus were reorganized into a State Employment Service, covering the whole country. At the present time (November 1964), there are 151 local employment bureaus (in January 1965, this number will be reduced to 125).

The Employment Service, which is part of the Ministry of Social Affairs, has sections for controlling the local employment bureaus, for placement problems of certain categories—such as women, young persons, and handicapped persons, for vocational training of adults, for international cooperation, and for research and statistics. The reporting of unemployment and of vacancies to the employment bureaus is still on a voluntary basis, and mainly for the same purpose.

When an employer has a vacancy he wants to report to the employment office, he usually does so by telephone. At the bureau an order form is filled out with the following data: name, address, and telephone number of employer; place of work; job description; branch of industry; duration of the job; wage, board and lodging, allowance for travel expenses; tools to bring; where, when, and to whom to apply; date of taking the order.

When a person is sent to the employer to apply for the job, the back of the form is filled out with date of application; name, age, and residence of the applicant; and result of the application.

Each month the vacancy orders are worked up into statistical data. The newly registered vacancies are, for each region and for men and women separately, broken down by occupational group

(twenty groups), by branch of industry, and by both combined (nine occupational groups). The vacancy orders that have been filled are, for each region and for men and women separately, broken down by occupational group (twenty groups) and by region of residence of the applicants. The unfilled registered vacancies left at the end of the month are (again for each region and for men and women separately) broken down by occupation (192 for men and 56 for women) and by age (under and over nineteen years).

The figures on registered vacancies do not exactly represent actual vacancies for the following reasons. (1) Many employers do not report their vacancies to the employment bureau, but try to fill them in other ways, mostly by advertising. (2) The vacancy orders booked by the employment bureaus refer only to vacancies in existence at that time. The bureaus may take note of vacancies expected in the future, but these are not registered and therefore not included in the statistical data. (3) When the labor market is tight, some employers are inclined to exaggerate the number of vacancies, while others do not report them at all, knowing that there is no supply registered with the employment bureau. When there is a surplus on the labor market, and it is easier to get personnel without the aid of the employment bureau, the reporting of vacancies declines. (4) There is a general disposition amongst employers to overrate the skills needed for their job vacancies. Therefore, the percentage of job openings for skilled labor tends to be too high. (5) Employers sometimes fail to report that a registered vacancy is filled or withdrawn, so that some vacancies on file may no longer be real.

As all these deficiencies might be rather serious, it is desirable to have an idea of their influence on the representativity of the vacancy data. Therefore, some information is needed about the total number of vacancies over time in order to determine how the coverage of total vacancies by the job vacancy data varies over time. The research section of the Employment Service in the Netherlands has estimated total vacancies with the help of estimated labor shortages (see next section). Because total vacancies equal labor shortages plus frictional vacancies, and frictional vacancies equal frictional unemployment (see Appendix I), total vacancies could be estimated. In Figure 2, total vacancies are related to the rate of coverage by va-

cancy orders. The relation is obvious: the rate of coverage goes up with the total number of vacancies, owing to the fact that employers seek the help of the employment bureaus as the labor market becomes tight; the increasing rate may be partly due also to the exaggeration of orders by employers. Before reaching saturation point

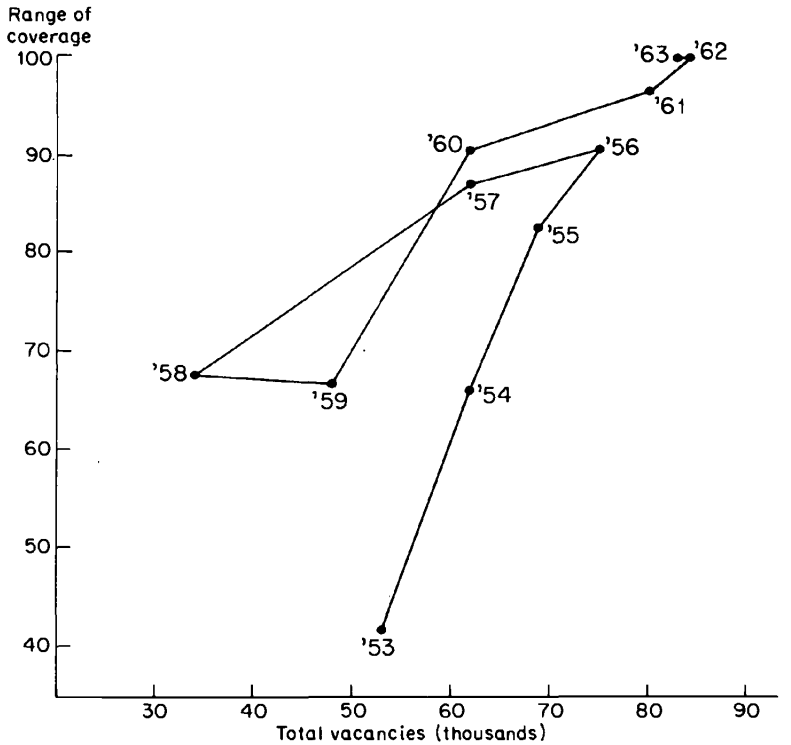

FIGURE 2

the rate of coverage bends in a horizontal direction, and might even decline again, because employers know that there is no supply of labor registered with the employment bureaus when the labor market is very tight.

The scatter diagram shows also that, since 1953, the rate of coverage has been improved (dots shift upward), due to the improved contacts between employment bureaus and employers. Furthermore, in 1957 and 1958, when economic activity was declining, the cover-

age was too high because employers had a tendency to neglect notifying the bureau when previously reported vacancies no longer existed. Finally, the conclusion must be drawn that the number of shortages probably is underestimated by the employment bureaus. This underestimation may grow worse when shortages increase. This might explain the 100 per cent coverage in 1962 and 1963. The real coverage is believed not to be higher than 80 per cent.

The Role of Employment Bureaus in Collection and Use of Vacancy Data

Employment bureaus are aware of the deficiencies of their vacancy figures. They make continuing efforts to improve the reporting by regular contact with a great number of firms in their locality, and by contact with employers' organizations. Attached to each of the 85 District Employment Bureaus (the other 66 bureaus are suboffices) there is a bipartite advisory committee of employers and unions. Furthermore, there are smaller subordinate committees dealing particularly with dismissals (in the Netherlands both employers and employees have to have a permit from the employment bureau to terminate the employment relationship, when they cannot reach mutual agreement on it). Contacts are also furthered through job analyses for making job descriptions; establishment of new firms, or important expansions of existing firms; and social intercourse. The employment bureaus also check advertisements for personnel with orders on file. If there is no order, the bureau may contact the employer, especially when there is a suitable labor supply registered with the bureau. They are sometimes able to trace exaggeration of job vacancies, in number as well as skill, when the firm is well known to them. In that case, the employer is asked to modify his requests. Employment bureaus maintain a regular check of orders on file to see if they are still unfilled (monthly, bimonthly or at least twice a year).

The use of the vacancy data collected by the employment bureaus is rather limited. The number of vacancies at any one time, in relation to the size of unemployment, gives an idea of the general situation on the labor market. The picture, however, is not very clear because of the deficiencies of the vacancy data, and because there

usually are structural vacancies and structural unemployment at the same time.

Changes in the number of vacancies provide information on activity in the different branches of industry. The rate of coverage of actual job vacancies by vacancy data, however, is different in the various branches of industry, and is also liable to variation over the course of time. Further study is being made to determine how vacancy information can be better utilized by more detailed judgment of the deficiencies of the data, and by comparing them with dismissals and placements per branch of industry.

III. ESTIMATE OF LABOR SHORTAGES

To estimate labor shortages, job vacancy data derived from the vacancy orders filed with employment bureaus are unsatisfactory. For this purpose, the so-called frictional vacancies must be excluded, as they are likely to be filled very soon, and therefore are not of interest. In addition, jobs which will soon be available (see first section) should be included. Finally, the uncovered area (employers who do not report their vacancies) must be covered. With these corrections the new figures should represent the real shortages of labor, structural as well as cyclical. Shortages can be defined as total vacancies (both actual unfilled job openings and vacancies that cannot be filled immediately because of special circumstances) excluding those vacancies which are likely to be filled soon because there is a suitable supply of labor at hand.

Since 1950 the employment bureaus have made yearly estimates of labor shortages. The employers that they are able to contact are asked to give all their vacancies, including those that are likely to be in existence in the near future. For the other employers, most of whom have small firms, estimates are made. After that, the frictional vacancies are subtracted. The estimates are made somewhere in the middle of the year and are supposed to represent yearly averages.

Data on shortages give a clear view of the labor supply situation, totally and in the different branches of industry. Together with unemployment figures, broken down by cause, they can tell us how far the labor market is from equilibrium. Information on shortages,

broken down by occupation, is useful for training authorities on a national level as well as regionally. Most employment bureaus have contact with local and regional training school authorities, so that information can be given on desirable extension or contraction of training. The vocational training of adults is specifically based on information about shortages. Every year an estimate is made of the training capacity for various occupations for the next two years. Total capacity is fixed according to the expected size of unemployment, as mostly persons trained in the government training centers are from the ranks of the unemployed. Distribution of total training capacity over the various occupations and over the twenty-two training centers is based on shortages and expected shortages broken down by occupation and by region.

APPENDIX I

In the Netherlands, two definitions of frictional unemployment and frictional demand are used, depending on the purpose. The Employment Service defines frictional unemployment as unemployment of workers for whom suitable vacancies are available, but for whom some time is required before they can start working. The Central Planning Bureau, which deals with general economic policy, uses a wider definition. It includes unemployed workers for whom suitable vacancies are not yet available but which will arise within a reasonable time period, or those who could get into other vacancies after some kind of adaptation, such as training or retraining, or moving from one area to another. The thought behind this wider definition is that these adaptations actually do take place, so for general economic policy such unemployment may be regarded as frictional. The Employment Service, however, has to promote or stimulate these adaptations, so for employment policy the unadapted unemployed should be regarded as nonfrictional.

Using the narrow definition, frictional unemployment equals frictional demand. Figure 1 shows that the size of frictional unemployment and frictional demand depends on either total unemployment or total vacancies, whichever is smaller. At first sight it seems strange that, as economic activity increases, frictional unemploy-

ment increases as well, till after a certain point it drops off again. In other words, frictional unemployment reaches a maximum size at the point of balance. The explanation for this behavior lies in the fact that frictional unemployment can be regarded as the outcome of a multiplication of two factors moving in opposite directions: average length of frictional period times number of frictional cases. When economic activity, and therefore demand for labor, increases, the number of frictional cases increases as well, while the frictional period becomes shorter and may, in a tight labor market, fall to zero (workers change jobs without becoming unemployed).

The size of frictional unemployment is estimated by the employment bureaus. The definition given above is hard to use in practice as an instrument for quantifying frictional unemployment. Therefore, the bureaus use the length of the frictional period instead; this is known to be very short (a few days to a few weeks). Looking at the number of unemployed persons in a certain occupation, and knowing the situation on the labor market at the moment, the employment bureaus are able to estimate how many people will enter a job within a short period. The length of this period depends on the occupation and on the labor market situation. Whether the vacancies exist for a short enough period to be considered frictional is judged by the employment bureaus themselves. They also estimate seasonal, structural, and cyclical unemployment, which summed up with the known number of unemployed handicapped must equal total unemployment. To assist in this analysis, the following data may also be used: (1) unemployment in previous months, broken down by cause; (2) seasonal adjustment coefficients; (3) newly reported cases of unemployment during the past month, by occupation and industry; and (4) placements during the past month, by occupation and industry. When, for instance, placements in a certain occupation have been made during the past month, no newly unemployed persons have been registered, and no vacancies have been reported, frictional unemployment has gone down by the number of placements, if the frictional period equals one month. As unemployment is handled by local employment bureaus, the numbers involved are not unmanageable. Total unemployment in

this country amounts to about 30,000 persons, which means that the average unemployment per bureau is only about 240.

There are several periods during the year that show a temporary rise in frictional unemployment. In spring the demand for labor will go up and, owing to a short frictional period for satisfying this demand, frictional unemployment goes up as well (which usually means that seasonal unemployment has to go down). In the middle of the year several thousand young people leaving school are entering the labor market. Here again, a certain period is needed before they have found a job and have started to work, assuming there are vacancies for them to be filled (which is the existing situation in the Netherlands). A third rise of frictional unemployment usually occurs at the end of the year because employers tend to wait in hiring new personnel until after New Year. This general pattern was found through study of the labor market by the research section of the Employment Service, and this knowledge was passed on to the employment bureaus. By this system, the bureaus are able to perform their task by combining theory with their practical experience.

APPENDIX II

TABLE 1

Registration of Vacancy Orders During May 1964, by Occupation and Sex

Occupational Group	New Vacancies		Filled Vacancies[a]		Vacancies Left Open at the End of the Month	
	Men	Women	Men	Women	Men	Women
Brick, ceramic, glass	270	12	56	3	1,915	125
Diamonds	--	--	--	--	36	6
Printing	128	24	29	6	1,042	236
Construction	3,929	17	1,904	1	13,781	67
Chemical	86	59	38	13	1,229	369
Wood	495	3	61	--	4,146	97
Tailors, hairdressers, laundry workers	185	1,252	42	152	752	12,028
Leather, rubber, plastics	131	85	57	5	1,526	1,058
Mine personnel, peat diggers	7	--	31	--	1,588	--
Metal workers	5,377	167	1,121	28	36,526	1,481
Paper	48	24	18	8	501	471
Textiles	271	75	82	16	3,269	2,091
Foods and luxuries	598	191	225	82	3,316	1,742
Agriculture	1,243	68	789	81	1,255	70
Fishermen	31	--	33	--	84	--
Commercial	273	1,206	137	267	860	4,473
Workers in hotel industry, shipping, and other transp.	5,804	935	4,855	463	4,563	2,243
Clerical, officials, teachers, social and medical workers, artists	3,863	2,481	3,556	1,243	4,343	7,471
Domestic personnel	2	1,784	2	388	5	7,798
Auxiliary personnel	2,216	461	1,199	114	8,487	3,144
Total	24,957	8,844	14,235	2,870	89,224	44,970

[a] By employment bureaus only.

TABLE 2

Newly Registered Vacancy Orders During May 1964, by Industry and Sex

Branch of Industry	Men	Women
Earthenware, glass, bricks	372	42
Diamonds	--	--
Printing, photography	166	105
Construction	3,884	95
Chemical	294	146
Wood, cork, horn, straw	544	50
Clothing and cleaning	282	1,228
Arts and crafts	2	1
Leather, rubber, plastics	176	121
Mining, peateries	13	15
Metals	5,271	421
Paper	98	55
Textiles	362	214
Public utilities	115	8
Foods and luxuries	1,030	399
Agriculture	1,231	65
Fisheries	30	1
Commerce	1,710	2,106
Hotel industry, shipping, and other transport	5,772	1,005
Banking	119	97
Insurance	54	81
Other industries, public services, professions	3,402	1,393
Education	27	42
Public worship	--	2
Domestic services	3	1,152
Total	24,957	8,844

TABLE 3

Unfilled Vacancy Orders and Estimated Shortages of Manpower

(yearly averages)

	Unfilled Orders		Shortages	
Year	Men	Women	Men	Women
1953	22,332	19,356	28,000	20,000
1954	41,314	29,038	43,000	25,000
1955	56,772	32,826	56,000	28,000
1956	68,160	37,651	67,000	30,000
1957	53,919	33,766	49,000	28,000
1958	21,569	22,494	15,000	19,000
1959	32,348	28,837	28,000	25,000
1960	56,216	36,089	52,000	35,000
1961	77,400	41,137	72,000	40,000
1962	83,817	38,314	77,000	37,000
1963	82,618	38,960	75,000	38,000