Relations industrielles
Industrial Relations

The Placement Activity on the Canadian Employment Agency
Le service de placement de l'Agence canadienne d'emploi

Sunder Magun

Volume 38, numéro 1, 1983

URI : https://id.erudit.org/iderudit/029328ar
DOI : https://doi.org/10.7202/029328ar

Aller au sommaire du numéro

Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)
1703-8138 (numérique)

Découvrir la revue

Citer cet article

Magun, S. (1983). The Placement Activity on the Canadian Employment Agency. *Relations industrielles / Industrial Relations*, *38*(1), 72–94. https://doi.org/10.7202/029328ar

Résumé de l'article

Cet article étudie différents aspects du service de placement de l'Agence canadienne d'emplois. On y observe que l'Agence fournit des services rapides de références et de placement. La valeur du service public de placement provient principalement du temps de recherche qu'il contribue à réduire. Le service améliore ainsi le fonctionnement du marché du travail en diminuant le chômage frictionnel. Pour les personnes qui sont placées par les centres d'emplois du Canada, le temps consacré à la recherche de travail est plus court. Le fait que le chercheur d'emplois placé par les efforts d'un centre d'emplois passe entre 13 et 14 semaines à la recherche de travail alors que la personne qui trouve un poste autrement doit y consacrer environ 18 semaines signifie une diminution de la durée de la recherche de 4 à 5 semaines qui peut être attribuée au programme de placement de l'Agence. En 1977 et en 1978, les centres d'emplois ont aidé à réduire de 4 à 5 semaines le temps de la recherche d'un poste pour chaque personne qui a été placée. En résumé, on peut en conclure que le recours au centre d'emplois accélère le processus de la recherche en le réduisant de façon significative.

Même si l'Agence canadienne de placement est au second rang parmi les méthodes de recherche d'emplois, grâce à son travail de références des candidats aux employeurs, celle-ci n'offre au marché du travail qu'un postulant sur trois et elle ne réussit à en placer qu'un sur cinq. Ce fait démontre que les centres d'emplois du Canada n'alimentent encore qu'une faible partie du marché du travail. Ils ne disposent pas d'un nombre suffisant d'emplois vacants pour placer tous les postulants. En outre, ils ne bénéficient pas d'un éventail assez vaste de postes vacants pour satisfaire un très grand nombre de chercheurs d'emplois. La plupart des ouvertures de postes proviennent de trois secteurs d'activité: les services publics et privés, le commerce de gros et de détail, l'industrie manufacturière. Presque la moitié des emplois comblés sont des postes d'employés de bureau, de commis-vendeurs et d'employés de services divers. Il ne se fait que peu de placement dans les occupations primaires, professionnelles et administratives. En conséquence, les centres d'emplois doivent déployer beaucoup d'efforts pour accroître le nombre de postes vacants à combler et obtenir ainsi une part plus considérable des emplois qui se présentent dans tous les types d'occupations et dans toutes les industries. C'est là la seule manière pour l'Agence canadienne d'emplois de jouer pleinement son rôle dans le processus de placement et d'améliorer ainsi la performance du marché du travail canadien.

The Placement Activity of the Canadian Employment Agency

Sunder Magun

This paper studies three aspects of the job matching process of the Canada Employment Centres.

Canada Employment and Immigration Commission operates a net work of 540[1], Canada Employment Centres (CECs) which are located in all the major and minor population centres of Canada. The functions of CECs are to deliver to Canadians federal labour market programs and services, such as job placement assistance, training, mobility and job creation programs. A key function is the labour exchange activity through CECs, which help employers to find suitable workers, and job seekers to find suitable jobs. In a free labour market, widely dispersed occupationally and geographically, there are serious information gaps on jobs and job seekers. Any public employment agency, that contributes, by providing labour market information, to the matching of job searchers and vacancies, has a potential useful role to play in the efficient allocation of labour to production activities. Curiously, although the Canadian placement service has existed for over 60 years[2], attempts to study, or to assess, this function of the national employment agency are relatively rare. Most efforts have been devoted to the study of federal training and job creation programs.

This paper, representing a modest attempt, studies three aspects of the job matching process of the national employment agency. Firstly, we

* MAGUN, Sunder, Employment and Immigration Canada.

** The views expressed are the personal views of the author, and should not be attributed to the Treasury Board or to Canada Employment and Immigration Commission. The research reported here in was completed in 1980 when the author was working on a special assignment with the Strategic Policy and Planning Division of the Commission. Thanks to Dr. Abrar Hasan of the Economic Council of Canada for his comments and advice.

1 This includes 242 main CECs, 209 branch offices and 99 Employment Centres on campus at universities and colleges. Source: Employment and Immigration Canada, *ANNUAL REPORT 78-79,* p. 2.

2 Under the authority of the *Employment Offices Coordination Act of 1918,* a federal-provincial employment service provided labour exchange facilities across Canada.

Relat. ind., vol. 38, no 1, 1983 © **PUL** ISSN 0034-379 X

describe the placement process of CECs and consider the important element of this process: the *speed* of service. Secondly, we examine the probabilities of job searchers being submitted to a vacancy (referral activity), and being placed in jobs, by CECs. Finally, we compare the durations of job search experienced by those searchers who find employment through CECs with the durations of those who find work through other channels. This comparison allows us to pass comment on the effectiveness of the public placement service.

The data used in our statistical analysis were collected from a sample of 18 small, medium and large Canada employment centres in five regions of Canada. These centres constitute a representative sample of the offices of the country. Relevant data, related to the profile of CEC clients and services provided to them by CECs, was gathered from a further sample of 26,000 job seeker service records 701s, which went to the dormant (inactive) file during the time period from April 1977 to March 1978. Information on duration of job search was also derived from the Commission's administrative records, especially from the Record of Employment file.

THE PLACEMENT PROCESS AND THE SPEED OF REFERRAL AND PLACEMENT SERVICE

The placement activity is directed to achieve the following two objectives of the Employment and Immigration Commission[3]:

Reducing Frictional Unemployment

— «To generally improve the functioning of the labour market and reduce --- frictional unemployment.»

Facilitating Man-Job Matching Objectives

— «To facilitate the process whereby employers secure suitably qualified labour and individuals obtain employment to which they can realistically aspire.»

These objectives arise from the CEC clearing house function in the short-run operation of the labour market.

The placement process can be viewed as a system consisting of three elements: input, intervening and output factors. The inputs are employers' job orders and job searchers. The CEC service delivery process is comprised

3 Sunger MAGUN, *The Impact of the Canadian Placement Service on the Labour market,* Canada Employment and Immigration Commission, Ottawa, 1980 (mimeo).

of intervening factors representing CEC efforts, such as taking employee applications and employer vacancies, coding and opening files and matching job openings with applications and arranging interviews between job seekers and employers. The key intervening factor of delivery process is a referral activity which involves searching and matching vacancies with job searchers.

The referral is successful if it results in a hire. This happens when the employer offers a job and the job seeker accepts the offer. Since the CEC is primarily an intermediary having a role of screening function, the final decision required to produce a hire is, of course, made by the employer and the job seeker, not by the CEC. Through a hiring process the output of the placement service is produced: job seekers are placed in jobs and employers' job openings are filled. With given CEC efforts, if the output is higher or if its "quality" is better, the extent to which the CEC objectives are achieved is also greater.

One of the key elements of the job matching process is the speed of referral and placement service to job searchers. The CEC can reduce the national unemployment rate by providing prompt service to job seekers, who are changing jobs in the labour market. Faster service would reduce the duration of job search and, thereby, the frictional unemployment. It is, therefore, essential to look at the speed of service to job seekers. The speed can by analysed by examining how long job searchers stay on the CEC active file before they are given a first referral or before they are placed or their applications are cancelled. Or, what factors determine the searcher's length of stay on the CEC file? It should be pointed out here that the service speed is considerably influenced by the status of the labour market, reflecting the availability of job orders[4], the degree of readiness on the part of job seekers, and organizational efficiency of CEC offices.

How many days does it take to get a first referral from the CEC office? The CEC generally reacts fast in granting a referral to a job seeker whose application can be matched with the attributes of the existing unfilled vacancies. Of the job searchers who get *at least* one referral, 45 per cent receive it on the same day when they register at the CEC, and an additional 20% within the following 3 weeks (see Table 1). One out of three clients has to wait 3 weeks and over before receiving a first referral.

4 For example, the national unemployment rate in 1977 and 1978 moved up sharply, making the labour market *less* tight. This change in labour market condition could have affected adversely the availability of job orders and the CEC speed of service during the reference year 1977-78.

TABLE 1

Speed of Service to Employee-Searchers — Canada Employment Centres 1977-78

Calendar days	*Days to first Referral *a (%)*	*Days to first Placements *b (%)*
Same day	45	26
1-6 days	13	12
7-13 days	3	9
14-20 days	5	7
21-27 days	4	6
28 days-over	30	40
	100	100

*a Derived from a sample of 4611 CEC Employee Records.

*b Derived from a sample of 4593 CEC Employee Records - Days to First Valid Referral with Placement.

Source: 1977-78 Client Survey. See MAGUN, 1980.

In parallel with the speed of referral, the placement process is also reasonably fast for those job searchers who are placed by the CEC. About 38% of the searchers are placed within a week and the balance of 40% have to wait 4 weeks or longer before they are placed in jobs.

Another indication of the speed of the CEC service can be derived by calculating a number of days job seekers stay on active CEC file (days on file) before they are placed or their applications are cancelled. CEC job searchers frequently use, on average, one more method of job finding[5]. When they find their employment through another method, their applications are cancelled at the CECs.

It is estimated that the average days on file for those searchers who are either placed or whose applications are cancelled are approximately 29 days[6]. Days on file measures the job searcher's length of stay with the CEC office, from the time they register to the time they make an exit from the CEC file. The exit could be due to many reasons, e.g. the job searchers do not want CEC service or they are placed or they have obtained their own

5 Statistics Canada, *Labour Force Survey.*

6 Derived from a sample of 22,475 Employee Records. The average days on the CEC file could be biased upward to the extent some job seekers delay in reporting to CECs that they have found jobs by other methods and they are no longer interested in CEC service.

employment. Almost half of the exits takes place during the first five days and the balance of 50 per cent departs very gradually over the period extending over 200 days from the day of CEC registration.

The length of stay is influenced considerably by general economic conditions, more particularly by the status of the labour market. For example, during the winter months, when the market conditions are relatively poor, a job seeker stays much longer on CEC books than during the spring-summer months. The average days on file are about 39 days[7] during the winter months, as compared to approximately 21 days[8] during the spring-summer months.

Days on file may vary significantly with job searcher characteristics. A linear regression model is set up to relate the duration of stay on file to characteristics such as sex, age, schooling, years of experience, work desired (temporary, permanent and "any work"), unemployed or employed or not in the labour force, before coming the CECs, occupation, whether a client is placed or his application is cancelled and days to first referral. We estimate the following linear function of the general form:

$$(1)\quad DF = f(Xi)$$

Where DF is days on active CEC file, the Xi's are a set of dummy variables representing different characteristics of the sampled job seekers. The estimated equation is displayed in Table 2. From the estimated relationship, we have derived the following noteworthy conclusions:

- The job seekers who are less than 20 years old experience the longest stay, whereas those who are between 55 and 65 experience the shortest duration on file.
- The job seekers with 9 to 13 years of schooling experience shorter duration than those with either less than 9 years, or with 14-20 years of schooling.
- As regards work desired, the employee who is searching for a permanent job has a shorter stay on the CEC file than the one who desires a temporary or casual job.
- By occupation, the shortest stay is marked by the searchers who are in the primary occupations, such as farming, fishing, mining and related, followed by those with clerical, sales and services; and with processing, machining, product fabricating, assembling and repair-

7 Derived from a sample of 12,233 Employee Records — Phase 11 — Pilot Integration Project.

8 Derived from a sample of 12,044 Employee Records — Phase 1 — Pilot Integration Project.

ing. The longest stay is observed for those in the, highly skilled, transportation occupational group.

- A job searcher whose labour force status prior to CEC registration is unemployed has a shorter stay on the CEC file than the one whose prior status is employed or not-in-the labour force.
- A searcher who exits the file through placement has a shorter stay on the file than the one who exits through cancellation.
- When days on file are related to days to first referral, it is observed that the searchers who get referrals between 1 to 20 days from the day of registration exit faster than those who obtain referrals after 34 days. The longest stay is noted for those who get referrals after thirteen weeks.

CHANGE OF RECEIVING SERVICES FROM CECs

In the previous section, we have focussed on the time dimension of the CEC service to the employee-client. Let us now look at another aspect of the CEC job-matching process: does the chance of receiving services vary across CEC registrants with different labour force and personal characteristics?

It is of course obvious that if a job searcher is not referred to a vacancy, he/she cannot be placed by the CEC. We first ask whether the probability of receiving referrals varies across the searchers with different characteristics. An extremely high proportion of the searcher does not get any referral. From the client survey, it was determined that 38 per cent of the job seekers, whose records went to the dormant file during the sample period, received at least one referral and the remaining 62 per cent were never referred to a vacancy.

Referrals, within the context of person-job matching process, are determined by variations in the volume of job orders relative to registered job searchers across different characteristics groups. Although job orders do not always specify the desired age or other personal characteristics of job applicants, it is well known that employers do set standards with regard to such characteristics. This is reflected in the longer spells of unemployment experienced by certain groups of job searchers. It is, therefore, important to determine the effect of employee characteristics on the chance of receiving referrals. The employee characteristics that have been considered are sex, age, schooling, type of work desired, work experience and occupation. We estimated a linear referral probability function of the following general form:

TABLE 2

Days on Active File, Canada Employment Centres, 1977-78

Dependent Variable: Days on Active CEC File

Independent Variables	*Estimated Coefficients*	*T-Test*
Intercept	25.0	16.4
Factor 1 — Age in Years		
Intercept — Less than 20	—	—
X1 = 20-24 = 1, otherwise 0	-2.4*	-2.3
X2 = 25-34 = 1, otherwise 0	-3.7*	-4.2
X3 = 35-54 = 1, otherwise 0	-4.5*	-4.6
X4 = 55-65 = 1, otherwise 0	-8.3*	-5.8
Factor 2 — Schooling		
Intercept — Less than 9 years of schooling	—	—
X5 = 9-13 years = 1, otherwise 0	-2.5*	-3.4
X6 = 14-20 years = 1, otherwise 0	-1.8	-1.5
Factor 3 — Years of Work Experience		
Intercept — Less than 1 year	—	—
X7 = 1-3 years = 1, otherwise 0	-2.8*	-4.1
X8 = 4-5 years = 1, otherwise 0	-4.1*	-3.3
X9 = 6-7 years = 1, otherwise 0	-1.2	-0.7
X10 = 8-9 years = 1, otherwise 0	2.3	1.9
Factor 4 — Work Desired		
Intercept — Temporary and Casual	—	—
X11 = Permanent = 1, otherwise 0	-2.7*	-4.0
X12 = Any = 1, otherwise 0	-3.3*	-3.1
Factor 5 — Occupation		
Intercept — Primary occupations-includes —Farming, Forestry, Fishing and Mining	—	
X14 = Managerial = 1, otherwise 0	4.3*	2.9
X15 = Clerical and sales = 1, otherwise 0	3.7*	2.9
X16 = Services = 1, otherwise 0	3.8*	2.8
X17 = Processing = 1, otherwise 0	4.2*	3.2
X18 = Construction = 1, otherwise 0	1.3	1.9
X19 = Transportation = 1, otherwise 0	5.0*	3.6
Factor 6 — Male vs. Female		
X13 = Male = 1, Female 0	0.4	0.5
Factor 7 — Labour Force Status Prior to CEC Service		
X20 = Unemployed = 1, otherwise 0	-1.7*	-2.5
Factor 8 — CEC Service vs. No Service		
X37 = Placed = 1, otherwise 0 (i.e. Cancelled 0)	2.0*	2.5
Speed of CEC Service — Days to First Valid Referrals		
—Intercept — same day	—	
X21 = 1-6 days = 1, otherwise 0	-9.2*	-6.4
X22 = 7-13 days = 1, otherwise 0	-8.6*	-5.3
X23 = 14-20 days = 1, otherwise 0	-6.8*	-3.7
X24 = 21-27 days = 1, otherwise 0	-1.0	-0.5
X25 = 28-34 days = 1, otherwise 0	4.1	1.9
X26 = 35-90 days = 1, otherwise 0	4.3*	5.3
X38 = 91-150 days = 1, otherwise 0	51.7*	27.3

$\bar{R}^2 = 0.08$

F = 37.0* (28; 10404)

Number of job searchers (N) = 12,044

*95% of significance level indicated by the T-Test.

NOTE: Although $\bar{R}^2$ is low, it should be noted that the equation contains a number of significant independent variables. Since the main objective of the equation is to determine the partial contribution of each independent variable to the dependent variable, the T-statistics, showing the significance of each explanatory variable, are more relevant.

TABLE 3

Referral Equation — The Change of Receiving Referrals by Job Searcher Characteristics Canada Employment Centres, 1977-78

Dependent Variable: Pr(R) = If a person gets at least one referral = 1, otherwise 0. Mean of R = 0.38

Independent Variables	*Estimated Coefficients*	*T-Test*
Intercept	0.22	9.1
Factor 1 — Age		
Intercept — Less than 20 years	—	—
X1 = 20-24 = 1, otherwise 0	-0.01	-0.7
X2 = 25-34 = 1, otherwise 0	-0.03**	-2.2
X3 = 35-54 = 1, otherwise 0	-0.05**	-3.7
X4 = 55-65 = 1, otherwise 0	-0.13**	-5.5
Factor 2 — Schooling		
Intercept — Less than 9 years of schooling	—	—
X5 = 9-13 years = 1, otherwise 0	0.02*	1.7
X6 = 14-20 years = 1, otherwise 0	0.04**	2.3
Factor 3 — Years of Work Experience		
Intercept — Less than 1 year	—	—
X7 = 1-3 years = 1, otherwise 0	0.03**	2.5
X8 = 4-5 years = 1, otherwise 0	0.08**	4.3
X9 = 6-7 years = 1, otherwise 0	0.07**	2.8
X10 = 8-9 years = 1, otherwise 0	0.05**	2.9
Factor 4 — Work Desired		
Intercept — Temporary and Casual	—	—
X11 = Permanent = 1, otherwise 0	0.07**	6.6
X12 = Any = 1, otherwise 0	0.07**	4.2
Factor 5 — Male versus Female		
X13 = Male = 1, otherwise 0	0.05**	4.8
Factor 6 — Occupation		
Intercept — Primary occupational group — includes farming, fishing, forestry and mining occupations	—	—
X14 = Managerial = 1, otherwise 0	0.02	1.0
X15 = Clerical and sales = 1, otherwise 0	0.12**	5.7
X16 = Services = 1, otherwise 0	0.06**	2.7
X17 = Processing = 1, otherwise 0	0.02	1.1
X18 = Construction = 1, otherwise 0	0.04**	2.0
X19 = Transportation = 1, otherwise 0	0.01	0.6

$\bar{R}^2 = 0.02$
F = 12.2** (19; 12213)
Number of job searchers (N) = 12,233

*95% significance level.
**90% significance level.

NOTE: Although $\bar{R}^2$ is low, T-Tests are more relevant because the objective is to determine the partial contribution of each independent variable to the dependent variable.

TABLE 4

Placement Equation — Probabilities of Placement by Job Searcher Characteristics Canada Employment Centres, 1977-78

Dependent Variable: Pr(P) = If a job seeker is placed = 1, otherwise 0.
Mean of VARY P = 0.18

	Estimated Coefficients	*T-Test*
Intercept	0.64**	33.7
Factor 1 — Age		
Intercept — Less than 20 years	—	—
X1 = 20-24 = 1, otherwise 0	-0.007	-0.931
X2 = 25-34 = 1, otherwise 0	-0.02**	-2.63
X3 = 35-54 = 1, otherwise 0	-0.25**	-2.93
X4 = 55-65 = 1, otherwise 0	-0.42**	3.28
Factor 2 — Schooling		
Intercept — Less than 9 years of schooling	—	—
X5 = 9-13 years = 1, otherwise 0	-0.001	0.103
X6 = 14-20 years = 1, otherwise 0	-0.008	-0.738
Factor 3 — Years of Work Experience		
Intercept — Less than 1 year	—	—
X7 = 1-3 years = 1, otherwise 0	0.005	0.791
X8 = 4-5 years = 1, otherwise 0	0.008	0.737
X9 = 6-7 years = 1, otherwise 0	0.009	0.552
X10 = 8-9 years = 1, otherwise 0	0.02*	1.895
Factor 4 — Work Desired		
Intercept — Temporary and Casual	—	—
X11 = Permanent = 1, otherwise 0	0.029**	4.77
X12 = Any = 1, otherwise 0	0.020**	2.07
Factor 5 — Occupation		
Intercept — Primary Occupations — includes Farming, Fishing, Forestry and Mining	—	—
X14 = Managerial = 1, otherwise 0	0.017	1.27
X15 = Clerical and sales = 1, otherwise 0	0.042**	3.57
X16 = Services = 1, otherwise 0	0.05**	4.06
X17 = Processing = 1, otherwise 0	0.048**	4.07
X18 = Construction = 1, otherwise 0	0.042**	3.73
X19 = Transportation = 1, otherwise 0	0.011	0.902
Factor 6 — Male vs. Female		
X13 = Male = 1, Female 0	0.025**	4.18
Factor 7 — Labour Force Prior to CEC Service		
X20 = Unemployed = 1, otherwise 0	0.018**	3.06
Factor 8 — Length of Time on CEC Active File		
Intercept — same day	—	—
X29 = 1-6 days = 1, otherwise 0	0.254**	12.6
X30 = 7-13 days = 1, otherwise 0	0.113**	5.4
X31 = 14-20 days = 1, otherwise 0	-0.038*	—1.6
X32 = 21-27 days = 1, otherwise 0	-0.06**	-2.5
X33 = 28-34 days = 1, otherwise 0	0.001	0.03
X34 = 35-90 days = 1, otherwise 0	-0.482**	-32.1
X35 = 91-150 days = 1, otherwise 0	0.69**	-49.7
X36 = 180 days + = 1, otherwise 0	-0.462**	-30.4

$\bar{R}^2$ = 0.44
Number of job searchers (N) = 13,446

*95% significance level
**90% significance level

TABLE 6

Job Search Duration Equation
By Employee Characteristics
Canada Employment Centres, 1977-78

Dependent Variable: Duration of Job Search (SD)

Independent Variables	*Estimated Coefficients*	*T-Test*
Intercept	22.7	17.77
Sex		
Male = 1, other wise 0	2.2**	-3.72
Method of Job Search		
Intercept — Control group	—	—
P_i = a dichotomy variable, taking 1 if a person is placed by the CEC and otherwise 0	-5.35**	-6.26
S_i = a dichotomy variable, taking 1 if a person is served but not placed and 0 otherwise	-2.4**	-2.41
C_i = a dichotomy variable, taking 1 if a person is not served and 0 otherwise	0.14	0.22
Occupation		
OCC-I-Professional and Managerial-Intercept	—	—
OCC-II-Clerical and Sales = 1, otherwise 0	0.76*	0.75
OCC-III-Services = 1, otherwise 0	2.04	1.66
OCC-IV-Farming, Fishing, Forestry and Mining = 1, otherwise 0	3.80**	3.49
OCC-V-Machining, Product Fabricating and Processing Occupations = 1, otherwise 0	0.53	0.53
OCC-VI-Construction Trade = 1, otherwise 0	1.73*	1.56
OCC-VII&VIII-Transport Equipment, Material-Handling and others = 1, otherwise 0	-0.71	-0.68
Age in Years	*-0.01*	*-0.68*
Region		
Atlantic Region — Intercept	—	—
Quebec = 1, otherwise 0	0.01**	0.02
Ontario = 1, otherwise 0	-4.16**	-5.73
Prairies = 1, otherwise 0	-2.90**	-3.62
Pacific = 1, otherwise 0	-2.75	-3.43
Number of Unemployment Spells Prior (ROEs Prior)	-0.41**	-4.85

Mean of Job Search Durations = 17.5 weeks
$\bar{R}^2$ = 0.04
F = 11.31 (16; 4419)**
Number of job searchers (N) = 4436 job searchers
**95% of significance level
*90% of significance level

$$(2)\ Pr\ (R) = f\ (Yi)$$

where Pr (R) = 1 if a job searcher is given a referral by CECs, O otherwise. The Yi's are set of dummy variables representing different characteristics of job searchers. The fitted equation, estimated by the ordinary least squares method, is shown in Table 3[9].

In general, given the overall constraint of the volume of unfilled vacancies in CECs, it is noted that the younger the job seeker, the higher the chance of receiving a referral. The probability of being referred to a vacancy declines with increasing age. A male job searcher has a slightly higher chance of referrals. The higher the level of schooling, the higher the probability of being given a referral. Three out of four CEC searchers have 9-13 years of schooling, and they have higher chances of being referred to employers than those with less than 9 years of schooling. As regards the type of work desired, it is observed that the job seekers who desire permanent jobs — consisting of almost 80 per cent of CEC job search population — have higher chances of referral than those who are looking for temporary, casual work. By occupation, it is noted that the searchers in three occupations — clerical, sales and services — have higher likelihood of being submitted to employers. In combination, these occupations make up approximately 42 per cent of the CEC search population. In contrast, the job searchers in the primary, transportation and managerial occupations have lower chances of obtaining a referral activity. The searchers with less than 1 year of experience, who make up almost 60 per cent of the CEC search population, have the lowest likelihood of being given referrals, as compared to those with experience ranging from four to seven years. The CEC seems to consider the length of experience as an important factor in granting a referral.

While the CEC has control over the referral activity, the placement function is largely influenced by the labour market conditions, in particular by the decision of employers. It is, therefore, useful to analyse the placement probability — the chance of being placed by the CEC — which also varies according to the personal and labour force characteristics of the search population. It must be noted first that 18 per cent of the employees,

9 In using the ordinary least-squares method (OLS) two econometric estimation problems arise when an equation has a binary dependent variable in a regression model. The disturbances are heteroscedastic and the OLS method does not constrain estimated probabilities to the unit interval. Although a number of alternative estimation procedures with considerable computational complexity are available, the results from OLS method give a *reasonable approximation* to those obtained from more complex estimation procedures. See M. GUNDERSON, "Retention of Trainees. A Study with Dichotomous Dependent Variables", *Journal of Econometrics,* Volume 2, April 1974, pp. 79-93 and A.S. GOLDBERGER, *Econometric Theory,* Wiley, 1964, pp. 248-51.

whose records went to the dormant file during the sample period, were placed in employment by the CEC. It was expected that those groups with a higher likelihood of being given referrals would be most likely to be placed by the CEC. Ideally, the referral probabilities should be closely related to the placement probabilities.

To examine the probability of a placement we estimate a linear regression probability function of the following general form:

$$(3)\quad \Pr(P) = f(Zi)$$

Pr(P) takes the value 1 if a person is placed by the CEC, and 0 if he/she finds work by some other method. The Zi's represent a set of labour force characteristics corresponding closely to the Yi's of equation (2). The estimated equation, using the ordinary least-squares method, is described in Table 4.

The results from our experiment suggest that the likelihood of being placed by the CEC is *systematically* related to particular job searcher characteristics. It is noted that the younger the job seeker, the higher the probability of placement, and that the male job searcher has a higher chance of being placed. As expected, the longer a job searcher stays on the CEC active list, the lower is his/her chance of being placed. As regards occupations, consistent with the referral probabilities, the clients in the clerical, sales and services occupations have higher chances of placement than those in the primary, transportation, and managerial occupational groups. There is a significant relationship between the likelihood of obtaining a job through a CEC and the prior labour force status of unemployed. A searcher whose labour force status is unemployed, or not in the labour force, prior to CEC service, has a higher chance of being placed than the one whose status is employed.

Placements are classified into two categories: regular and casual. Regular placements include those employees who are placed in permanent or temporary jobs. "A permanent job is one for which the termination date is unknown" while "a temporary job is one which is for more than one work week and for which the termination date is known[10]. Casual placements[11] include those employees who are placed in jobs which are for one work week or less.

The level of regular placement[12] has been largely due to the growth of employment in the Canadian economy. The level of placements is sensitive

10 CEIC, *Departmental Manual,* Vol. ii, Section 8, pp. 18-19.

11 *Ibid.*

12 Includes transfers out.

to cyclical changes in the economy: large year-to-year fluctuations in placement are observed (see Chart 1). The placement level ranged from 649 thousand in 1970-71 to over a million workers in 1973-74. The three best years in the past decade, in terms of volume of regular placements, were 1972-73, 1973-74 and 1974-75, when CECs recorded over a million placements per annum. These years were also the boom years in the Canadian economy. The countercyclical feature of the placement level is evident from the chart, which shows that as the number of unemployed persons increases, the level of placement declines, and vice versa. Each through of the placement cycle corresponds to a peak in the unemployment cycle. The relationship between unemployment and placement is negative and nearly proportional. As the level of unemployment increases by 10 per cent, the placement level declines by almost the same percentage points[13].

The operational fact, which the Commission watches with interest, is the ratio of placements to referrals. This ratio indicates a relationship between the CEC service effort — service input — and the output. Under given labour market conditions, the CEC would aim at achieving a greater number of placements from a given number of referrals, provided the quality standard of person-job matching process is maintained. The ratio of placement to referral has been declining over the past decade: it was 26 per cent in 1978-79, down from 48% in 1968-69. Conversely, this trend is reflected in an increasing number of referrals per placement. The CEC refers four workers per placement, compared to two a decade ago.

In addition to regular placement, the CEC places a large number of clients in casual jobs — which last one work week or less. For every five regular placements, the CEC, on average, makes one casual placement. The important feature of volume of casual placements is that they are subject to wide fluctuations within a given year due to seasonal changes in the labour market. Chart 2 displays the volume of casual placement from January,

---

13 Relationship between the number of unemployment in a log-linear form:

$$\text{Log}^{e}(\text{REGULPL}) = 23.3 - 0.96^{*}\,(\text{Log}^{e}(\text{NUNEMPL})) \quad (-2.2)$$

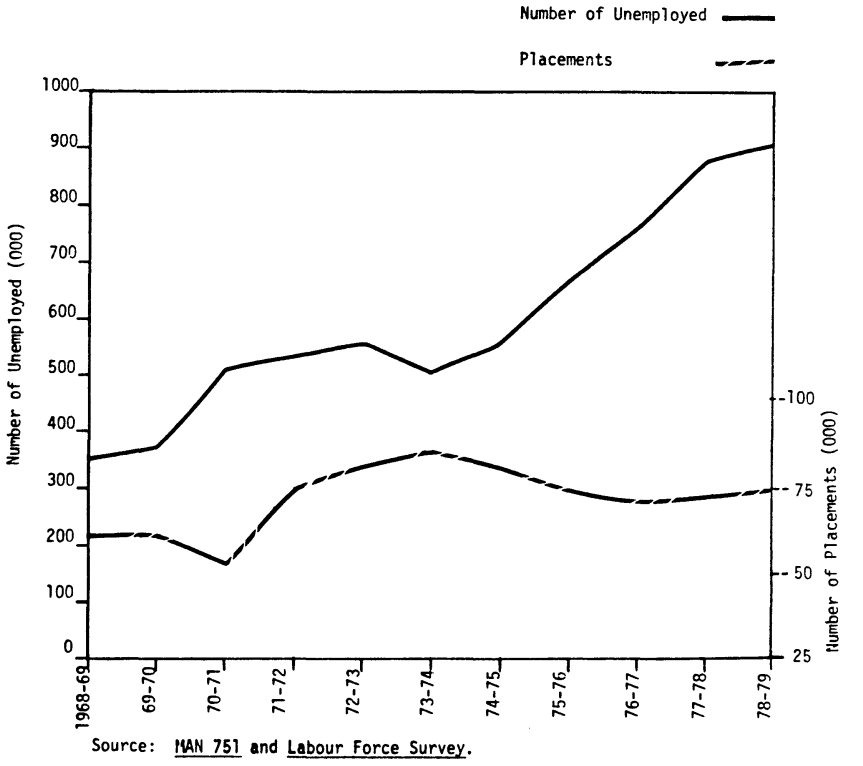
$$+ 0.10^{*}\,(\text{Time Trend}) \quad (2.5)$$

where

REGULPL = Number of regular placements;
NUNEMPL = Number of unemployed;
Time Period = 11 years, from fiscal year 1968/69 to 1978/79
$R^{3} = 0.45$
$R^{3} = 0.32$
* = 95% significance level, indicated by the T-Test.
D.W. = 1.6

CHART 1

Average Number of CEC Placements and Number of Persons Unemployed, Canada, 1968/69 — 1978/79 (Thousands of Persons)



Source: MAN 751 and Labour Force Survey.

1975, to December, 1978[14]. The seasonal fluctuations in casual placement are striking, creating difficulties in resource allocation for meeting the peak demand for CEC services. When the seasonal effects are removed, the amplitudes of variation in casual placement are considerably dampened down[15]. It is apparent from the chart that the seasonally adjusted casual placement series does not have any trend and, moreover, it is subject to small cyclical fluctuations in the labour market.

IMPACT OF THE PLACEMENT ACTIVITY OF THE EMPLOYMENT SERVICE

Since the placement service assists in job search, it contributes to the reduction of frictional unemployment when the *times* taken by the CEC job seeker in finding a job are less than alternative means. The effectiveness of assistance should be reflected in a reduced period of job search of those who are served by the public placement service. The first performance measure is, thus, the extent of reduction in the duration of job search, derived by comparing the period of job search of the CEC-placed employees with that of the other job seekers.

The reduction in the duration and frequency of unemployment spells has an impact on the labour market. The frictional unemployment is produced by the combined effects of frequency and duration of unemployment spells. The CECs, by reducing unemployment duration, can reduce the frictional unemployment and, thereby, the overall level of unemployment in the Canadian economy.

Statistical estimates on duration of job search are developed, by using data derived from CEC and unemployment insurance records for those job seekers who are placed in jobs by CECs. Comparable estimates are made for each job searcher in a comparison group. A group comparison is carried out by comparing the job search experience of searchers who are placed by CECs (Group A) with those who are *not* placed by CECs — in order to determine the *net effect* of the placement service on those who are successfully served by CECs. The following three variants of the comparison group are used:

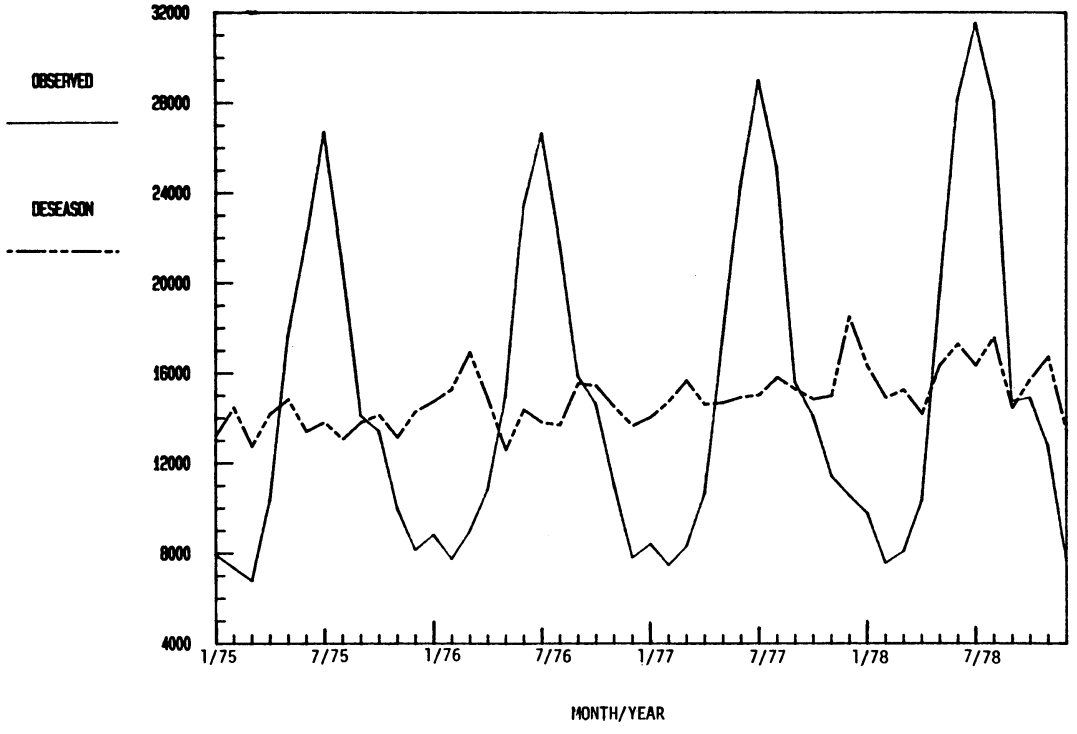
Comparison Group B includes those CEC registrants who are not placed by the CEC, but who find jobs by using other (non-CEC)

14 The data for the earlier years is available only in man-days.

15 Method X-11 is used to adjust seasonally casual placement data. The same method is used by Statistics Canada to seasonally adjust Labour Force Survey data.

CHART 2

Number of Casual Placements, Canada Employment Centres
January 1975 to December 1978



methods after receiving referral, counselling, testing or other services from the CEC public placement agency.

Comparison Group C includes those CEC searchers who register with CECs but who are *not* given any services, and who find their jobs by using other methods.

Comparison Group D includes those unemployed job seekers who do not use CECs, but who find jobs by using other methods. These people are drawn from a list of UI claim applications which were received by the Commission at about the same time when the placed employees were searching for jobs through the CEC[16].

Table 5 presents estimates on average duration of job search classified by type of job searchers. In can be seen from the table that the CEC-placed searchers, on average, experienced the shortest period of job search. The fact that the job-searcher who was placed in a job by CEC efforts, spent about 13 weeks in job search, and that the job-seeker who found a job through his/her own efforts, without any CEC service, searched for around 17 to 18 weeks, implies a saving of 5 weeks in job search duration, which could be attributed to the Commission's placement program. For every client placed, the CEC helped reduce his/her period of job search by 5 weeks in 1977-78.

TABLE 5

Duration of Job Search

NUMBER OF WEEKS

		Comparison Groups		
	CEC Placed Group A	*Non-Placed Group B*	*Non-Served Group C*	*Group D-UI Applicants*
Duration of Job Search	13	17	18	18

During the fiscal year 1978-79, three out of twenty jobs in which the CEC searchers were placed were "program" jobs. They were created under the Commission's manpower programs such as Employment Tax Credit Program, Young Canada Works, Canada Works, and Job Experience

16 It would have been useful to construct another comparison group including those unemployed job seekers who find jobs through private placement offices. A comparison of placement activities of the private placement group with those of the CEC placed group A would have shown the relative efficiency of CECs. However, separate data on placements by private placement offices, on the national level, is not available.

Training. Since these jobs are created by CEC's, the speed of filling them is expected to be quite fast. Excluding the program placed-searchers from Group A would increase the duration of job search for other searchers who are placed in the non-program jobs, and consequently, would decrease the saving in search time attributable to the Commission's placement program. If it is assumed that the people who get program jobs are placed *immediately* after registration, and that their search behaviour prior to registration is similar to those who are placed in the non-program jobs, the average duration of job search for placed Group A would increase from 13 weeks to 14 weeks, reducing the saving in search time from 5 weeks to 4 weeks. Had there been no job creation programs, for every client placed, the CEC would have helped reduce his/her period of job search by 4 weeks.

The benefits, arising from the CEC intervention, comes out clearly when we plot, for each group, a cumulative distribution of job searchers by duration of job search (see Chart 3). It is obvious from the positions of the curves that the CEC placed-searchers benefit most, followed by those who are served, but not placed. About 76 per cent of the placed job seekers had less than 18 weeks of duration of job search, compared to 70 per cent for the not-placed Group B, 66 per cent for the non-served Control Group C, and 66 per cent for the comparison Group D containing UI applicants. These facts support the earlier inference that the CEC contributes, by providing fast job search assistance, to the speed with which job seekers are placed through the employment service relative to that achieved through other job finding channels.

It is essential to point out here an important caveat in relation to the findings of relative search durations. If there are some prior group differences, and if, as a result, duration of job search is systematically related to occupation, age, number of separations, etc., the foregoing estimates on savings in job search duration would be biased and, consequently, less reliable. It is therefore important that the results should be subjected to a multivariate analysis, with the objective of adjusting them for differences between the CEC-placed and comparison groups.

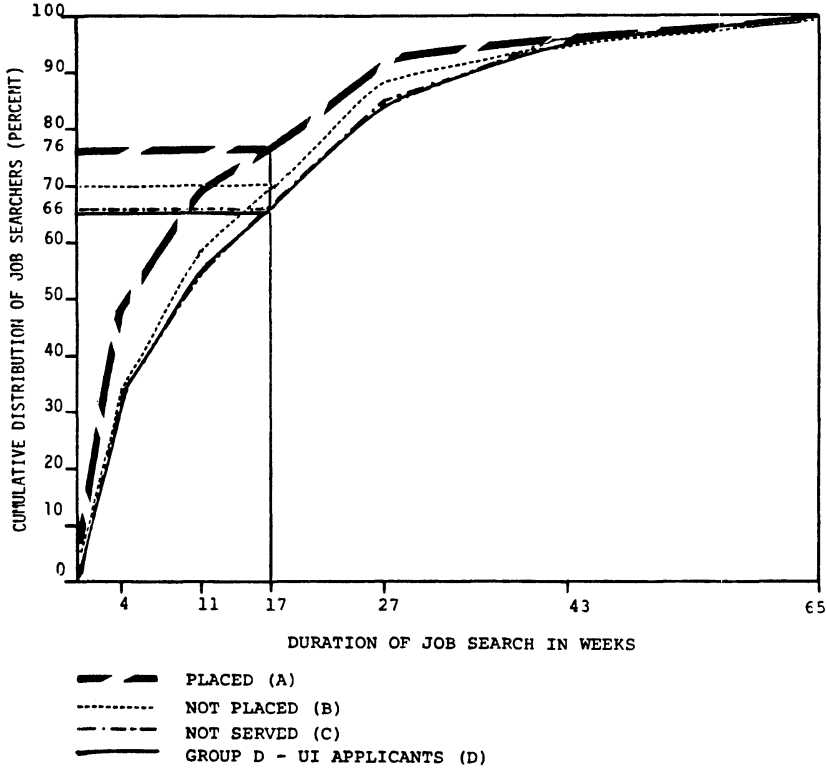
The adjustment can be made by relating duration of job search with a set of explanatory factors, which tend to influence search duration, such as sex, age, occupation, location, number of unemployment spells prior to job search and method of job search. We have, therefore, estimated the following regression equation:

$$(SD)_i = f(Z_i, P_i, S_i, C_i)$$

where SD = duration of job search for an individual searcher;

CHART 3

Cumulative Distribution of Job Searchers by Duration of Job Search, Canada Employment Centres, 1977-78



Z_i = a set of explanatory variables, including sex, age, region of residence, number of unemployment spells prior to job search, and occupation;

P_i = a dichotomy variable, taking 1 if a person is placed by the CEC (Group A) and 0 if otherwise;

S_i = a dichotomy variable, taking 1 if a person is served, but not placed (Group B) and 0 otherwise;

C_i = a dichotomy variable, taking 1 if a person is not served (Group C) and 0 otherwise.

The comparison group D is in the intercept, making it a reference group. The estimated function, fitted to a random sample of 4,436 job searchers, is set out in Table 6.

It can be inferred from the estimated relationship that the factors which significantly influence the duration of job search are sex, some occupations, previous history of job separations, methods of search and region. A male searcher has shorter period of job search. As expected, the job seekers who reside in Ontario, British Columbia and the Prairies have shorter search duration relative to those residing in the Atlantic and Quebec regions.

It is also observed that a method of job search has an important influence on search duration. The multivariate analysis confirms the earlier conclusion that the CEC-placed job searchers experience the shortest search duration. In sum, it can be concluded that the CEC does speed up the process of job search by reducing the search durations of those who are placed.

SUMMARY OF FINDINGS AND CONCLUSIONS

In this paper we have examined various aspects of the placement service of the public employment agency. We have noted that the agency provides fast referral and placement service. However, an extremely high proportion of job-searchers does not get any referral. From the client survey, it is determined that 38 per cent of the job searchers, whose records went to the dormant file during the sample period, received at least one referral, and 62 per cent were never referred to a vacancy.

On the basis of a multivariate analysis it emerges that the likelihood of a searcher being given a referral depends upon age, schooling, type of work wanted — permanent and temporary — and occupations. The probability of being referred to vacancy declines with increasing age, and the higher the level of schooling, the higher the likelihood of being given a referral. It is

observed that the searchers in three occupations, such as clerical, sales and services, have higher likelihood of being submitted to employers.

It is observed that 18 per cent of the job seekers whose records went to the dormant (inactive) file during the sample period were placed in employment by CECs. The job seeker whose labour force status was unemployed, or not in the labour force, prior to CEC service, had a greater chance of being placed than the one whose status was employed. The searchers in clerical, sales, and service occupations have higher chances of placement than those in primary, transportation, and managerial occupations.

The value of the public placement service is mainly in the contribution to search time: it reduces the time spent in looking for jobs, and, thus, improves the functioning of the labour market by reducing frictional unemployment. The CEC-placed searchers, on average, experienced the shortest duration of job search. The fact that the job searcher who was placed in a job by CEC efforts spent about 13 to 14 weeks in job search and that the job seeker who found a job through other methods, without any CEC assistance, searched for around 18 weeks, implies a saving of 4 to 5 weeks in job search duration, which could be attributed to the Commission's placement program. For every searcher placed, the CEC helped reduce the period of job search by 4 to 5 weeks in 1977-78. It can be concluded, in short, that the CEC does speed up the process of job search by reducing the search durations of those who are placed.

Although the public placement agency is the second most important method of job search, the agency, through its referral activities, exposes to the labour market one in three job seekers, and places only one in five job searchers. These ratios indicate that CECs now provide service to a relatively small part of the labour market. They do not have sufficient vacancies to place all their applicants. Furthermore, they do not receive a wide range of job openings to meet the needs of a large number of their job seekers. Most openings to CECs come from three industries: Community, business and personal; trade — wholesale and retail; and manufacturing. Almost half of the vacancies filled are in clerical, sales and services occupations and very few placements are made in primary, managerial and professional occupations. The CEC, therefore, must make a greater effort to increase the inflow of vacancies and to gain a representative share of job openings in *all* occupations and industries. This is the only way that the public employment agency can effectively achieve a central role in the job filling process and, thus, can improve the performance of the Canadian labour market.

SELECTED BIBLIOGRAPHY

HASAN, Abrar, and Surendra GERA, *Aspects of Job Search in Canada,* Ottawa, Economic Council of Canada, Discussion Paper No. 156, March 1980.

ADAMS, Leonard P., *The Public Employment Service in Transition, 1933-1968,* Ithaca, N.Y., New York State School of Industrial and Labour Relations, Cornell University, 1969.

BAKKE, E.W., "The Role of the Employment Service", *Employment Service Review,* January-February, 1964, pp. 2-8.

BEAUMONT, P.B., "The British Employment Service and Submission to Registered Vacancies, *International Journal of Social Economics,* Volume 6, Number 7, 1977, pp. 63-70.

BEAUMONT, P.B., "The Duration of Registered Vacancies: An Exploratory Exercise, *Scottish Journal of Social Economy,* Volume 25, No. 1, 1978, pp. 75-85.

BEAUMONT, P.B., "The Public Employment Service and Employers", *Industrial Relations Journal* (U.K.), Volume 9, No. 1, Spring 1978, pp. 4-11.

CAMIL ASSOCIATES, Inc., *Review of Literature Relevant to the Study of Job Search Behaviour and Employment Service Operations.* Appendix A to Design Report on Survey of the Attitudes, Perceptions and Expectations of Users and Non-Users of the Employment Service. Report to USDOL, ORD, December 15, 1974.

CAMIL ASSOCIATES, INC., *Executive Summary: Recruitment, Job Search and the United States Employment Service,* (Draft October 1975).

COMPTROLLER GENERAL OF THE UNITED STATES, *The Employment Service — Problems and Opportunities for Improvement,* Report to the Congress, 1977.

FREY, Donald E., *A Methodology for Measuring the Impact of the United States Employment Service,* Final Report under USDOL Contract No. J-9-M-6-0008, Wake Forest University, February, 1976.

HOLT, C.C., *The Potential Impact of the Employment Service on the Economy,* Working Paper 350-59 under OMR, MA, DOL Contract 92-11-72-36, Washington, D.C. Urban Institute, October 3, 1973.

KATZ, A., *Measures of ES Influences on the Length of Unemployment: Conceptual Issues and Preliminary Findings,* Working Paper draft under Grant 21-42-75-13 (DOL, MA, USES), September, 1975.

KATZ, A., *Contribution of the Employment Service to Search Times: A Search-Theoretic Study of Censoring Bias,* University of Pittsburgh, Department of Economics, Jan. 1979.

KATZ, A., "Evaluation Contributions of the Employment Service to Applicant Earnings", *Industrial Relations Research Association,* Proceedings of 1977, Annual Spring Meeting March 17-19, 1977, pp. 472-478.

KATZ, Arnold, *"Exploratory Measures of Labour Market Influences of the Employment Service",* Department of Economic, University of Pittsburgh, August 1978.

MCGREGOR, A., "The Placement Activity of the Employment Service Agency", *British Journal of Industrial Relations,* London, Volume XVI, Number 3, Novembre 1978, pp. 309-318.

MAGUN, Sunder, *The Impact of the Canadian Placement Service on the Labour Market,* Canada Employment and Immigration Commission, Ottawa, 1980 (mimeo).

MAGUN, Sunder, "The Rise of Service Employment in the Canadian Economy", *Relations Industrielles,* Vol. 37, Number 3, 1982, pp. 528-556.

MAGUN, Sunder, *Unemployment Experience in Canada: A Five-Year Longitudinal Analysis,* Paper presented to the Canadian Economics Association Meetings, Ottawa, University of Ottawa, June 4-6, 1982.

MELTZ, Noah M., "The Role of Canada Manpower Centres in Matching Job Seekers and Job Vacancies", testimony prepared for The Standing Senate Committee on National Finance, Ottawa, April 17, 1975.

MELTZ, Noah M., *The Economic Role of Canada's Public Employment,* prepared for the Department of Manpower and Immigration, April 1970.
ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, *The Public Employment Service in Social and Economic Policy,* prepared by Louis LEVINE, Paris, 1969.
REID, Graham L., "The Role of the Employment Service in Redeployment", *British Journal of Industrial Relations,* Volume IX, Number 2, July 1971, pp. 160-181.
SIEBERT, Glenn A., *Effectiveness Indicators for Employment Offices, A System Approach,* September, 1973, Working Paper No. 221.
U.K. DEPT. OF EMPLOYMENT, "Job Seekers and the Employment Service", *Employment Gazette,* Vol. 88, February 1980, p. 124.
U.K. MANPOWER SERVICE COMMISSION, *The Employment Service in the 1980's,* 1979.
U.S. DEPARTMENT OF COMMERCE, *The Role of Public Employment Service 1975-85,* Prepared for Manpower Administration, (NTIS-PB-248-530) 30 November 1975.

Le service de placement de l'Agence canadienne d'emplois

Cet article étudie différents aspects du service de placement de l'Agence canadienne d'emplois. On y observe que l'Agence fournit des services rapides de références et de placement. La valeur du service public de placement provient principalement du temps de recherche qu'il contribue à réduire. Le service améliore ainsi le fonctionnement du marché du travail en diminuant le chômage frictionnel. Pour les personnes qui sont placées par les centres d'emplois du Canada, le temps consacré à la recherche de travail est plus court. Le fait que le chercheur d'emplois placé par les efforts d'un centre d'emplois passe entre 13 et 14 semaines à la recherche de travail alors que la personne qui trouve un poste autrement doit y consacrer environ 18 semaines signifie une diminution de la durée de la recherche de 4 à 5 semaines qui peut être attribuée au programme de placement de l'Agence. En 1977 et en 1978, les centres d'emplois ont aidé à réduire de 4 à 5 semaines le temps de la recherche d'un poste pour chaque personne qui a été placée. En résumé, on peut en conclure que le recours au centre d'emplois accélère le processus de la recherche en le réduisant de façon significative.

Même si l'Agence canadienne de placement est au second rang parmi les méthodes de recherche d'emplois, grâce à son travail de références des candidats aux employeurs, celle-ci n'offre au marché du travail qu'un postulant sur trois et elle ne réussit à en placer qu'un sur cinq. Ce fait démontre que les centres d'emplois du Canada n'alimentent encore qu'une faible partie du marché du travail. Ils ne disposent pas d'un nombre suffisant d'emplois vacants pour placer tous les postulants. En outre, ils ne bénéficient pas d'un éventail assez vaste de postes vacants pour satisfaire un très grand nombre de chercheurs d'emplois. La plupart des ouvertures de postes proviennent de trois secteurs d'activité: les services publics et privés, le commerce de gros et de détail, l'industrie manufacturière. Presque la moitié des emplois comblés sont des postes d'employés de bureau, de commis-vendeurs et d'employés de services divers. Il ne se fait que peu de placement dans les occupations primaires, professionnelles et administratives. En conséquence, les centres d'emplois doivent déployer beaucoup d'efforts pour accroître le nombre de postes vacants à combler et obtenir ainsi une part plus considérable des emplois qui se présentent dans tous les types d'occupations et dans toutes les industries. C'est là la seule manière pour l'Agence canadienne d'emplois de jouer pleinement son rôle dans le processus de placement et d'améliorer ainsi la performance du marché du travail canadien.