Job Search and the Evaluation of Labour Market Information and Employment Services

Preliminary Draft

Prepared for the September 24-25 2000, CILN Conference
Burlington Ontario

Ging Wong
Harold Henson
Evaluation and Data Development
Human Resources Development Canada
14 September 2000

Executive Summary

Approximately 5 million job changes occur each year. Analysis of a large, random sample of job separations in 1995-1997 shows that roughly one-third were re-employed immediately and that the remaining job seekers experienced varying durations of unemployment before finding jobs. This paper examines, in a preliminary way, the nature and results of such individual job search. Particular attention is given to discovering the key techniques used in successful job search. This will include many of the standard techniques of job search as well as those services provided by the government to aid in the job search. In addition, this study evaluates the effectiveness of two of these services: employment counselling and job referrals.

For the purposes of this evaluation, the job search process is broken down into four stages. First, in many cases individuals will begin their job search before they have actually lost their current jobs. It thus becomes important to look at the individuals who experience a job loss without a period of unemployment. Next individuals are examined during the weeks 1 to 26 of unemployment. Then the next 26 weeks of unemployment are examined. Finally, the long-term unemployed, those with more than 52 weeks, are examined.

The preliminary data analysis revealed that many patterns of search behaviour are stable over the job search period. Data on the general techniques of job search employed do not appear to change over the length of the spell. Individuals, on average, use roughly four of the nine possible job search techniques, at all phases of the unemployment spell. Similarly, the number of hours of job search does not change, although it is somewhat lower for those who expect to be recalled to the job that they lost. However, some search behaviour change significantly as unemployment duration increases. Use of Public Employment Service interventions is noticeably more intensive later on in the job spell, rising from 1.8 per cent of job seekers to 34.9 per cent of the long-term unemployed.

Econometric analysis was undertaken to determine the impact of employment service interventions on the length of unemployment. The analysis showed some positive benefits of the two programs in some phases of the job search for some categories of people. The analysis also sheds light on other aspects of the job search process. It finds that the reasons for job loss are crucial at the beginning of the process but their importance fades as the unemployment spell increases. A similar decrease in importance was noted for the presence of a mortgage and a firm date of recall. Conversely, disability status does not play a role initially but it is key later on in the process.

Table of Contents

Introduction

Each year, roughly 5,000,000 job changes occur in Canada. About a third of these job changes do not involve an unemployment spell between the jobs; the remainder involves interruptions in earnings ranging from 1 week to more than a year. The causes of the variations in making these transitions are of policy interest.

Specifically, this study aims to do two things. The first is to examine the nature and results of individual job search undertaken between 1995 and 1997, by both UI/EI claimants and non-claimants. This includes those who found employment within 26 weeks of job separation, 27 to 52 weeks, and 53 or more weeks of unemployment.

Secondly, for job seekers who received public employment services, this study evaluates the effectiveness of such interventions on re-employment success. The federal government maintains many programs to help individuals in making these transitions. This paper will focus on two programs in particular, which are maintained by the National Employment Service -- employment counselling and job referrals. Both of these programs can be seen as improving the individual's capacity to conduct a job search when, or for some time after, the intervention is received.

To achieve these objectives, and following Crossley and Kuhn (2000), the analytical approach is to develop more realistic job search models, specifically to reflect different job search phases associated with EI benefit durations. The study is also informed by need to identify the key labour market information, LMI, that affects the probability of re-employment. As Osberg (1987) noted:

> Getting a job depends upon both the probability that an individual
> will get a job offer and a probability than an individual will accept
> that offer. Job search increases the probability that an individual
> will receive job offers, but the probability of acceptance is affected
> by the unemployment insurance system, family status and other
> personal characteristics.[1]

By focusing upon the determinants of re-employment success in job search, this paper aims to identify the labour market information necessary to facilitate transitions from unemployment to employment.

In order to analyse the impact of these programs, it is necessary to be able to link their participation in these programs with data on their job search. The COEP,

---

[1] Lars Osberg, *An Evaluation of the Efficiency and Equity Implications of CEC Use in Job Search Activity* (Ottawa: Employment and Immigration Canada, 1987): 3

(<u>C</u>anadian <u>O</u>ut of <u>E</u>mployment <u>P</u>anel) collects this information on various aspects of the job search process and is linked to the federal government administrative data sets on program participation.

The data produced will be primarily organised around a standard job search framework. However, it is envisioned that there will be substantial changes to the nature of this framework at different phases of the job search process. For example, it would be expected that individuals may be more likely to try government interventions later on in the job search than at the beginning, after the initial techniques have been tried.

The first section of the paper reviews the relevant literature. This will start with a simple introduction to the academic theory of job search. There will be a brief review of some literature providing the rationale for these forms of government intervention. The literature review will end with a discussion of the relevant program evaluation literature on these interventions.

The paper includes extensive descriptive statistics on the various phases of the job search process. This will first include the standard demographics. As well, the determinants of success are examined. Job search models can potentially involve the inclusion of many different explanatory variables. However, the focus here will be on the techniques used to find the job as well as the use of the two interventions.

As correlation does not imply causality, the next section includes multivariate analysis. The regression analysis is undertaken at each phase of the job search in a manner similar to the descriptive statistics. The paper ends with the drawing of some conclusions.

Issues in the Literature

The review of the literature focuses on two main themes to support the empirical work in this paper. First, there is a review of the job search literature so as to support the equations estimated. Then, follows a review of government involvement in the provision of programs to enhance job search. The review ends with a summary of the program evaluation literature, for which it is hoped that this paper will contribute.

At one time, analysts studying the labour market did not focus on the process of job search. In the basic micro-economic paradigm an individual had a labour supply function and if demand were sufficient to provide a job above the implied reservation wage, he would accept it. This implied that individuals would accept the first reasonable offer. The process of finding the jobs was completely ignored.

Job Search and the Evaluation of Labour Market Information and Employment Services

In 1962, George Stigler wrote a seminal article in which he began to connect his new theories on the economics of information to the labour market.[2] This article began with the observation that the job offers for the graduates of the Chicago Business School graduate program received job offers with a coefficient of variation of their wages of 7.9 per cent. The average graduate also received slightly more than two job offers. With these simple observations, the basic micro-economic view of the world, in which individuals accept any jobs that are above their reservation wage, was enhanced. At that point, it maybe that an individual will no longer accept the first offer even if it is above the reservation wage since a better offer may come along with more search. Stigler goes on to suggest a framework whereby an individual will specify at the onset how much job search they are willing to undertake.

Subsequent authors were able to improve on this framework. In the revised approach, best summarised by Mortensen (1986), job seekers will constantly reevaluate whether to continue the job search or accept the most recent offer. This framework is not only more realistic but provides the flexibility to allow for changes in conditions that will occur during the job search. For example, within this framework, it is relatively easy to allow for changes in behaviour before and after the insurance benefits for unemployment have run out.

This revised framework proved itself to be highly flexible, leading analysts to adapt it to the data and issues at hand. For example, Swaim and Podgursky(1990) find that framework can be adjusted to allow for individuals who received early notice and begin their job search before they are even unemployed. In the program evaluation literature, intensive efforts are put into determining whether the basic policy parameters of the employment insurance system have any effect on the search by the unemployed. This literature is vast and it will not be covered here, but Jones (1998) provides good examples of the basic framework being modified. This is done with dummy variables to capture the effects of the changes in the policy regime and eligibility to EI.

It should be pointed out that economists do not have a monopoly on truth as far the job search process goes. There is a substantial literature on the nature of unemployment within the psychological literature. One aspect of this literature which is useful in justifying the empirical approach utilised in this paper relates to the phases of the job search process. In this literature, it is argued an individual who loses a job will go through very well defined process, in which the nature of the search process will change. Borgen and Amudson (1985 p.7) have argued that an individual will initially start a job search full of optimism. This will be followed by a spell of pessimism as the initial rejections are received. Then the individual will regroup himself and make a final effort to find a job. If this is unsuccessful, they will generally burn out and conduct a lethargic job search.

---

[2] See Stigler 1961 and 1962 for references to these classic articles.

Job Search and the Evaluation of Labour Market Information and Employment Services

In the above discussion, it was assumed that the only source of information on the wages of various jobs came from the search process. However, it is clear that if the job seeker had more information they would be able to locate better jobs faster. This begs the question as to whether adequate information will be available to all job seekers. In one sense, there is no reason to expect the labour market to be short of information, as it is composed of buyers and sellers who will seek each other out, just like any other market. In fact, the bulk of job matches occur without any aid from the government. Employers and employees are able to seek each other out through many channels such as ads in the newspapers and referrals from friends. However, there is still a role for government to play in the providing of information to a smaller portion of the labour market. It is well-known that the market will fail to provide the optimal amount of a public good such as information.[3] Also the benefits to reducing the costs, both social and governmental, of labour market transitions may justify the expense of providing the information.[4]

The last major attempt to view the information role of the National Employment Service in the context of government interventions in the labour market was made in 1981 in what is commonly referred to as the "Dodge Report".[5] In this report, the provision of labour market information is seen as an integral part of the government's role in the labour market. One of the most striking features of the report is the extent to which the nature of this role has evolved through time. In particular, the role of the government in providing referrals of potential vacancies to job seekers has diminished dramatically over the decades. During 1943-44, the service matched 1.8 million workers. This declined steadily to 8.0 per cent of the labour market at the time of publication of the report. This drop has continued as will be seen in next section presenting the data.

In the late 1980s, a series of evaluations comprehensively evaluated the National Employment Service. One of these studies[6] focussed on the job-matching role of the employment services. These studies confirmed that the NES played a more secondary role for most job seekers. However, it did find that those who did use the NES job referrals tended to find jobs faster.

Another study in this series focused on the role of employment counselling. However, the findings were less optimistic as it was found that the econometric evidence could not firmly support the assertion that counselling helped in the job search process.[7]

---

[3] See page 8 of Smith (1993) for a good non-technical explanation for why markets will tend not to provide sufficient information.
[4] See HRDC (1987, Section D) for a more detailed discussion.
[5] See HRDC (1981), in particular chapter 5.
[6] See HRDC (1987), in particular page 149 for a review of the impact of NES on reduced job search times.
[7] See Cahill (1990) and HRDC (1989) page 67.

Job Search and the Evaluation of Labour Market Information and Employment Services

After this series of evaluations, occasional evaluations were undertaken of the information functions of the department. Some of these information roles do not directly affect job search and will not be covered here.[8] Other evaluations dealt with delivery issues associated with LMI, rather than the economic impacts.[9] However, there have been virtually no attempts to look at impacts of government provided LMI on the job search process at the Canadian federal level since the late 1980's.

Sample Data

The econometric analysis is based on data collected by Human Resources Development Canada, the department primarily responsible for the delivery of labour market programs, at the federal level, in Canada. In this section, the data sources will be first reviewed. Then the sample statistics will be reviewed with some univariate results.

Data Sources

The ultimate data set for the econometric analysis contains an observation of the individual's labour market status for each week after job loss up until 78 weeks. For each week, information is available on employment status and the participation in programs related to labour market information. This data was obtained by merging data from various sources.

COEP

The primary source of information was the Canadian Out of Employment Panel, COEP. This data set is a survey, which is conducted on behalf of HRDC by Statistics Canada. The sampling frame of the survey is based on Human Resources Development Canada administrative data. This enables the responses to be linked to the administrative data housed within the department. The current survey is the third COEP to be conducted.

The purpose of this survey is to provide a complete picture of the job search process. The respondents are selected from a sample of the Records of Employment, ROEs. An employer must complete a ROE, each time a job is terminated, which is then submitted to HRDC. It contains a substantial amount of analytically useful information, including the reason for the job termination. Roughly 5 million ROEs are completed each year.

For the purposes of this survey, respondents whose jobs that ended for reasons that would not be expected to lead to a job search were excluded from the analysis. The omissions include those who:

---

[8] For example, the department prepares material for young people choosing careers. See HRDC (1993) for an evaluation of this program.
[9] See HRDC (1991) for a discussion of the role of computerization of the job matching function.

- Quit to start another job;
- Have experienced injury;
- Required maternity leave;
- Had other family responsibilities;
- Return to school;
- Retired; or
- Involved in labour dispute.

Still after these omissions, 27,000 respondents remained from eight quarters of data that were used in the survey.

This version of COEP was conducted quarterly from the third quarter of 1995, to the fourth quarter of 1997. Data is also being collected for the third quarter of 1998 and 1999. For the purposes of this study, data is only used from eight quarters, 1995 third quarter to second quarter 1996, and from first quarter 1997 to fourth quarter 1997. This gives two years of data. This selection also provides data before and after a major reform to Canada's employment insurance system, which was phased in during the second half of 1996 and the first half of 1997.

The respondents were interviewed twice. The first interview was conducted roughly 12 months after the termination of the ROE job and then the second was approximately 10 months after that. The questions asked of the respondents were highly detailed in nature. Information on as many as ten jobs was allowed for. This allows for the construction of week-by-week data on employment status, which is crucial to the econometrics. Also for each job, crucial information is collected such as rate of pay and hours of work.

In addition to information on each job, the respondents are also interviewed concerning their basic demographics. As well, they are asked detailed questions about the job search techniques employed, if they had a period of unemployment. As they are allowed to answer more than once, this provides a fairly comprehensive view of the job search process. Information is also available on which technique was successful. However, this will not be used at this point as the emphasis is on the role of detailed government interventions, which came from another source.

Administrative Data

As mentioned above, the sampling frame for the COEP survey data is based on HRDC administrative data. This is significant for this project because it allows the determination of the respondents usage of many of HRDC's services. However, it should be stressed at this time, that there are many services particularly related to job search that could not be covered, such as the HRDC INTERNET. However, it is still possible to determine the usage of some programs covered by the National Employment Service, NES. For the purposes

of this study, several NES interventions are aggregated in four general categories:[10]

- Employment Referrals - This refers to individuals who are matched to employers with vacancies by the employment service. In most cases, neither the employer nor the employee is required to accept the proposed match.
- Individual Counselling - An individual receives counselling on a one-on-one basis. During such a session the individual will receive many benefits, some of which would be information on the labour market situation most relevant to their particular needs.
- Group Counselling - In this case, an individual receives counselling on a basis that is not individual customised but in a group format. The subject matter of these sessions is often not directly related to job search per se.
- Service Needs Determination Interview - These interviews are more diagnostic in nature. In essence, they help determine if the individual requires and additional government services, such as training or counselling.

The week that each individual received any one of these interventions is recorded in a database for each of these four programs.

Basic Statistics

In this section, the data is displayed in a manner somewhat consistent with the way the econometrics are performed later on. In this paper, the job search process is broken into four phases. These phases are admittedly arbitrary, but prove their worth later on:

- Pre-job loss – Individuals may start the job search process before the termination of their current job. Ideally this will lead to the transition to the next job without a period of unemployment.
- Initial Job loss – In this paper, it is defined as the first 26 weeks of job search. Many job seekers will be trying various job search techniques for the first time. They may well be starting a claim to EI.
- Second phase of job loss – This is defined as weeks 27 to 52 after job loss. At this stage, many of the job search techniques will have been attempted and EI claims may be exhaused.
- Long-term unemployed – This includes those who have not been employed for 53 or more weeks after job loss.

In addition, the data will also be organised according to reasons for job loss. This is because it was expected that the circumstances surrounding the job loss will be key determinants in the nature of the job search. For example, if an individual receives a firm recall date when they loose the job, it would not be expected that they would conduct as rigorous a search.

---

[10] See Appendix I for the actual codes given in the NESS system.

	Total entire sample	Total of those with no Job Search	Had Notice Of Job End	Had Firm Recall Date	Not Eligible for EI
Table 1A					
Sample Characteristics of Those with No Unemployment					
	Sample Share		Population Mean		
Total	100.0	100.0	34.3	18.6	17.7
Demographics					
Gender					
Male	56.0	56.8	33.6	16.7	15.6
Female	44.0	43.2	35.4	21.0	20.6
Age					
Youth	15.6	16.2	32.8	11.6	26.2
Prime	72.6	72.7	34.7	19.3	16.1
Older	11.7	11.2	34.6	24.3	16.6
Region					
Atlantic	11.2	11.2	36.5	21.3	12.1
Quebec	30.0	30.1	32.0	18.1	14.0
Ontario	31.0	30.2	38.1	21.0	21.1
Prairies	14.9	15.2	32.9	16.5	21.4
B.C.	12.9	13.4	31.0	14.5	18.5
Education					
Less than Secondary	25.0	24.5	31.5	20.3	13.6
Post Secondary	27.8	28.1	34.7	19.3	16.2
More than Secondary	47.1	47.3	35.6	17.4	20.8
Disabled	7.3	6.7	32.4	18.7	19.0
Source: COEP 96					

Table 1A provides a summary of the characteristics of those job seekers who are able to find a new job before their current job ends. The first column gives the whole sample for comparison purposes. Thus we see, that 56 per cent of all those who lose a job are males. However, of those who lose a job but find a job before their current job ends is 56.8 per cent male. In general, the shares of the various demographic types are almost exactly the same for those who found a job with no job search as for the sample as a whole.

The last three columns look at rate at which various conditions existed surrounding the job search. For example, the third column shows that 34.3 per cent of those who found a job with no period of unemployment had received notice that their job was about to end. This does not change substantially throughout the demographic categories. In the fourth column, it is shown that 18.6 per cent were given a firm recall date when they lost their jobs. Again, there was not much variation in this among demographic groups. One exception to this is by age, where youth is five percentage points less likely to have a firm

recall date, whereas older workers were four percentage points more. The last column considers those who were not eligible for EI.[11] In this column, there is a significant amount of variation. Males are less likely to be ineligible as they are less likely to have worked at a part-time job. Youth are less likely to be eligible as they have a greater tendency to work at jobs for short periods of time. It should be pointed out that these columns are not mutually exclusive, as it is possible for an individual to show up in all three columns simultaneously.

Table 1B					
Job Search Techniques of Those with No Unemployment					
(average per cent share)					
	Total entire sample	Total of those with no Job Search	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Number of Techniques From COEP	NA	NA	NA	NA	NA
Used NES	12.3	1.8	1.7	1.1	3.9
Individual Counselling	4.5	0.8	1.0	0.6	1.5
Group Counselling	4.6	0.3	0.2	0.0	1.0
Needs Counselling	8.0	0.8	0.8	0.6	1.5
Referred to Job	0.8	0.2	0.0	0.0	0.5
Source: COEP 96					

Table 1B looks at the techniques of job search used by those who find jobs with no periods of non-employment. Unfortunately, the structure of COEP is such that it is impossible to look at the variety of job search techniques used[12] for those who have no periods of unemployment. Still data has been collected on the usage of programs in the National Employment Service for the period 10 weeks before the job until the actual job loss. During this period of time, only 1.8 per cent of job seekers will go to a Canadian Human Resources Centre and use one of the four services described. If the entire sample period is used, then 12.3 per cent are seen to use NES. Among those who received notice and had a firm recall date, they were slightly less likely to use these NES services. However, for those who were ineligible, they were more likely.

---

[11] By not eligible, we mean those individual who did not have enough hours to meet the minimum requirement in the region at the time of job loss. There are many other possible reasons for ineligibility, such as disqualification due to fraud in previous claim.

[12] With COEP, it is possible to see which job search technique was most useful in obtaining the next job. However, this information is not useful when performing comparisons with those who never obtain another job since they will have no data.

	Total entire sample	Total of those Non-employed for 1 to 26 weeks	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Table 2A					
Sample Characteristics of Non-Employed for 1 to 26 Weeks					
	Sample Share		Population Mean		
Total	100.0	100.0	39.5	24.1	14.8
Demographics					
Gender					
Male	56.0	57.4	40.2	18.0	13.7
Female	44.0	42.6	38.7	32.2	16.2
Age					
Youth	15.6	15.6	36.3	11.6	23.3
Prime	72.6	74.1	40.6	25.7	13.3
Older	11.7	10.3	36.6	31.1	12.6
Region					
Atlantic	11.2	10.1	41.7	25.5	13.3
Quebec	30.0	29.2	39.6	21.0	13.1
Ontario	31.0	32.6	42.0	29.5	16.8
Prairies	14.9	15.4	37.3	22.3	16.1
B.C.	12.9	12.8	34.3	18.5	13.3
Education					
Less than Secondary	25.0	23.0	38.0	29.3	15.0
Post Secondary	27.8	27.6	38.8	24.0	14.4
More than Secondary	47.1	49.3	40.8	21.7	15.0
Disabled	7.3	6.5	31.7	26.5	20.2
Source: COEP 96					

Table 2A looks at those job seekers who had a non-employment spell that lasted between 1 and 26 weeks. The first column is the same as in Table 1A as it is just the average reported for the whole population. Here again, we see that the makeup of the population is not significantly different than that of the population in general. However, there is some noticeable variation for those that had a firm recall date. Men were far less likely to have firm recall dates than women. By age, a similar pattern as Table 1A emerged with youth being far less likely to receive a firm recall date.

Table 2B					
Job Search Techniques of Non-Employed for 1 to 26 Weeks					
(average per cent share)					
	Total entire sample	Total of those Non-employed for 1 to 26 weeks	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Number of Techniques From COEP[1]	3.9	3.8	3.9	3.6	4.0
Used Friends and Relations	83.4	82.9	83.0	79.5	87.9
Contacted Employers	85.7	85.5	86.6	83.6	83.2
Respond to Ads	75.6	74.6	75.4	70.0	78.4
Visit HRC	78.8	79.9	82.2	82.2	75.5
Visit Provincial Agency	11.4	9.4	10.4	9.6	10.0
Used Union	11.2	11.0	9.6	6.3	12.2
Employment Agency	20.4	18.5	19.0	11.1	25.5
Placed Ads	10.1	9.1	9.9	8.8	10.0
Other	14.9	13.4	11.8	12.5	16.3
Hours of Search[2]	13.8	13.9	13.5	10.2	14.7
Used NES	12.3	13.3	12.8	9.1	11.7
Individual Counselling	4.5	3.6	3.3	1.4	4.0
Group Counselling	4.6	5.3	5.2	4.9	3.0
Needs Counselling	8.0	8.1	7.5	4.9	6.4
Referred to Job	0.8	0.8	1.0	0.3	1.4
Source: COEP 96					
(1) Units are a level count					
(2) Units are hours per week					

Table 2B gives the sources of LMI used by those who had a period of non-employment between 1 and 26 weeks. COEP data is available for these respondents in which it is known whether any of nine possible sources of LMI are used during the period of non-employment. As is shown in the first row, many respondents use more than one source as the average is 3.9 for the sample. However, the bulk of this information comes from four of the nine sources. Direct contact with employers and friends and relations are the two most important sources. These are followed closely by the use of advertisements and visits to a Canadian Human Resources Centre. The average hours spent on job search are also given in COEP. Whether the average value of 13.8 hours should be considered high or low would be the subject of another paper.[13] However, it is interesting to note that those who had a firm recall date were confident enough to put less time into job search than average.

---

[13] Belzil(1999) attempts to get at this issue although using different data.

	Total entire sample	Total of those Non-Employed 27 to 52 weeks.	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
	Sample Share		Population Mean		
Total	100.0	100.0	36.9	14.1	16.8
Demographics					
Gender					
Male	56.0	57.8	38.8	12.4	14.8
Female	44.0	42.2	34.2	16.4	19.5
Age					
Youth	15.6	20.3	41.1	14.2	23.8
Prime	72.6	68.3	36.1	15.0	14.0
Older	11.7	11.4	34.2	8.7	20.5
Region					
Atlantic	11.2	15.7	40.8	19.5	13.1
Quebec	30.0	32.1	41.3	14.5	11.3
Ontario	31.0	26.2	32.5	12.7	24.1
Prairies	14.9	15.0	34.5	11.7	19.0
B.C.	12.9	10.9	32.0	11.9	17.5
Education					
Less than Secondary	25.0	28.8	37.7	15.8	15.5
Post Secondary	27.8	27.4	36.1	15.8	18.7
More than Secondary	47.1	43.7	36.9	12.0	16.4
Disabled	7.3	5.0	28.7	21.0	27.1

Table 3A

Sample Characteristics of Non-Employed for 27 to 52 Weeks

Source: COEP 96

In Table 3A, data for those who had a period of non-employment begins to show some variation among demographic groups as youth and the Atlantic region are more prominent in this sample. Older workers are far less likely to have firm recall dates, especially in comparison with Tables 1A and 2A.

In Table 3B, this variation becomes even more pronounced as far as NES use goes. Conversely, Table 3B shows less variation as far as non-NES related sources of LMI, as reported in COEP. Nevertheless, there is some interesting variation when examining data in the last three columns by reasons surrounding the separation from the job. Those who had a firm recall date were less likely to follow the average. However, they obviously did not have complete confidence

in the recall date, as they performed 12.1 hours per week of job search, which is only slightly less than average. As well, it should be pointed out that some of this search could be to find a better job than the one that they had expected to be recalled to.

Table 3B

Job Search Techniques of Non-Employed for 27 to 52 Weeks

(average per cent share)

	Total entire sample	Total of those Non-employed for 27 to 52 weeks	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Number of Techniques From COEP[1]	3.9	4.1	4.1	3.7	3.9
Used Friends and Relations	83.4	86.3	90.2	83.3	86.0
Contacted Employers	85.7	88.1	89.6	91.6	85.8
Respond to Ads	75.6	78.2	78.8	67.2	72.9
Visit HRC	78.8	82.4	85.9	83.8	75.1
Visit Provincial Agency	11.4	11.2	12.7	5.5	17.6
Used Union	11.2	10.5	8.3	8.3	12.0
Employment Agency	20.4	22.5	22.4	13.9	19.4
Placed Ads	10.1	11.9	9.9	6.0	8.8
Other	14.9	15.8	16.1	6.1	15.4
Hours of Search[2]	13.8	14.4	15.0	12.1	12.7
Used NES	12.3	24.6	25.6	16.7	10.0
Individual Counselling	4.5	11.3	11.9	7.7	5.4
Group Counselling	4.6	7.5	9.3	2.4	1.6
Needs Counselling	8.0	17.9	20.8	10.5	6.9
Referred to Job	0.8	1.3	1.0	1.1	0.7

Source: COEP 96
(1) Units are a level count
(2) Units are hours per week

In Table 4A, data is presented on those who were non-employed more than 52 weeks. The demographic distribution of the long-term unemployed varied from the population mean in a manner similar to that reported in a strategic evaluation on long-term unemployment.[14] Males and youth were less likely to be long-term unemployed. The less educated and disabled were more.

---

[14] See Wong, Henson and Roy (1999) for more details.

	Total entire sample	Total of those Non-Employed more than 52 weeks.	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Table 4A					
Sample Characteristics of Non-Employed for More Than 52 Weeks					
		Sample Share		Population Mean	
Total	100.0	100.0	38.9	5.7	18.4
Demographics					
Gender					
Male	56.0	47.7	38.9	5.3	15.4
Female	44.0	52.3	38.9	6.1	21.2
Age					
Youth	15.6	11.0	26.6	5.3	20.2
Prime	72.6	70.4	39.8	5.4	19.0
Older	11.7	18.5	42.5	7.3	15.1
Region					
Atlantic	11.2	11.8	42.3	11.1	14.8
Quebec	30.0	31.5	38.4	6.6	19.0
Ontario	31.0	31.7	41.2	4.1	19.1
Prairies	14.9	11.8	36.0	5.3	20.6
B.C.	12.9	13.2	33.8	3.4	16.8
Education					
Less than Secondary	25.0	28.7	33.8	3.4	16.8
Post Secondary	27.8	27.8	37.0	5.1	19.3
More than Secondary	47.1	43.4	40.4	5.0	17.2
Disabled	7.3	12.7	35.7	6.5	19.0
Source: COEP 96					

In Table 4B, again it is shown that there is surprisingly little variation in the search technique, even after 52 weeks. This is even true for those who had a firm recall date, as they still spend less than the average number of hours of job search, even after 52 weeks of non-employment. However, after 52 weeks of non-employment, 34.9 per cent overall have made some use of NES. For those who had what they thought was a firm recall date this number is still lower at 26.1 per cent. In particular, this group is extremely unlikely to be referred to a job.

	Table 4B				
	Job Search Techniques of Non-Employed with More Than 52 Weeks				
	(average per cent share)				
	Total entire sample	Total of those Non-employed with more than 52 weeks	Had Notice of Job End	Had Firm Recall Date	Not Eligible for EI
Number of Techniques From COEP[1]	3.9	4.1	4.1	3.7	3.9
Used Friends and Relations	83.4	85.3	84.0	81.5	84.2
Contacted Employers	85.7	86.4	86.7	84.7	84.1
Respond to Ads	75.6	78.6	76.1	66.6	79.1
Visit HRC	78.8	80.5	79.2	72.1	75.7
Visit Provincial Agency	11.4	13.8	12.7	23.4	14.8
Used Union	11.2	8.4	8.7	2.8	6.4
Employment Agency	20.4	23.1	23.1	12.0	18.2
Placed Ads	10.1	12.3	11.5	24.3	7.1
Other	14.9	17.6	16.7	7.1	19.7
Hours of Search[2]	13.8	13.5	13.5	10.2	14.7
Used NES	12.3	34.9	36.5	26.1	21.0
Individual Counselling	4.5	15.0	15.2	9.0	12.1
Group Counselling	4.6	14.5	17.2	8.3	6.8
Needs Counselling	8.0	24.3	25.2	21.1	11.6
Referred to Job	0.8	2.6	1.6	0.2	3.9
Source: COEP 96					
(1) Units are a level count					
(2) Units are hours per week					

Although Tables 1A through 4B are useful in themselves further insights can be obtained by comparing the main results. The highlights are summarised in Table 5. The relationship between weeks of unemployment and the receipt of a firm recall date appears to be non-linear to some extent with it rising then falling. However, the usage of NES services is consistently rising. This is in contrast to the stability in the number of job search techniques used, which varies between 3.8 and 4.1. As well, there is no substantial variation in the number of hours searched per week.

The stability in job search techniques used is even more remarkable when it is compared to results by community[15] where the stability is not as apparent. For example, the percentage of individuals who read newspaper ads while searching

---

[15] See Appendix III for the tabular data.

for a job ranges from 66.2 in PEI to 90.6 in Calgary. In addition, the number of hours of job search is positively correlated with the health of the local labour market, with Toronto and Calgary having the highest.

Table 5				
Highlights of Tables 1A through 4B				
Tables	1	2	3	4
Weeks of Job Search	0	1-26	27-52	53+
% share	36.2	41.5	10.8	12.5
Had Firm Recall Date	18.6	24.1	14.1	5.7
Used NES	1.8	13.3	24.6	34.9
Number of Other Search Techniques Used	NA	3.8	4.1	4.1
Hours of Search	NA	13.9	14.4	13.5
Source : COEP 96, NESS				

Impact Analysis

This section explores the above phases of the job search process econometrically. An attempt was made to make each set of regressions as comparable as possible. However, some modifications were made to suit the issues at hand with each phase.

0 Weeks of Unemployment

The first set of regression will examine those individuals who are able to find a job immediately without any period of unemployment. It should be remembered that this extract of the COEP that is used only includes those individuals who are forced to start a job search.[16] The descriptions of many of the variables are clear but some of them required more detailed descriptions than what is possible in the table:

- Current Week - refers to the week that the job was lost.
- Weeks t-1->t-5 - refers to the weeks 1 to 5 before the week that the job was lost.
- Weeks t-5+ - refers to weeks greater than 5 before the week of the job loss.
- Employment Referral - is a matching of an unemployed person with a vacancy. Neither the person nor the employer is obligated to accept the match under all conditions. [17]

---

[16] See page 6 for the detailed explanation.
[17] For the sake of HRDC readers who have access to the NESS database, details are provided the compilation of this data in Appendix I.

Job Search and the Evaluation of Labour Market Information and Employment Services

- Firm Recall Date - refers to those individuals who expected to return to the employer after the job loss and who were given return dates that they subjectively described as "firm".
- First Job Loss in One Year - equalled one if the individual had been employed continuously with one employer for the last 52 weeks. It was hoped that this variable would differentiate between those individuals who are experienced in making transitions with those who are not.
- Quit Working Conditions - is a short form for those who quit because of the working conditions.

Table 6 presents the results of three probit regressions, all of which have a dependent variable that equals one if the person succeeded in making the labour market transition without any unemployment. This is the ideal outcome. Unfortunately theory provides little guidance as to which variables should be included. Three specifications were provided primarily as a way of testing the sensitivity of the results to construction of the sample. The three specifications were constructed:

- In the first column, results for a full specification are provided of involuntary job losers.
- The second column narrows the sample to exclude those who have been unemployed for more than five weeks. This was motivated by the suspicion that those who are unemployed for more than five weeks may not be comparable to those who have no weeks of unemployment in the same way that those who are unemployed less than five[18] weeks may be. As well, interventions in the current week are omitted because of the possibility that intervention may not be able to have any effect that quickly.
- The last column further narrows the sample to those individuals who are full-time workers who were laid-off.

To start with the variables measuring program effectiveness, it was found the dummy variables representing the use of the programs were either statistically insignificant or had the wrong sign. These are given in the first four rows in Table 6. From this, it can be surmised that the two interventions do not do much to increase the likelihood of avoiding unemployment during the initial stage of job transition. From this it is not surprising that Table 1B showed only 1.8 per cent usage by those in the period before job loss.

The remaining variables yield insights into the job transition process. In the first column, the most significant variables were those indicating the reason for job loss. Those who lost their jobs through dismissal were estimated to be 24.7 percentage points less likely to avoid unemployment during job transition. All of the reasons had coefficients whose absolute value was larger than virtually all

---

[18] The choice of five as the cut-off was purely arbitrary.

the other coefficients. The large size of the coefficients led to the suspicion that perhaps the laid-off workers had a substantially different experience than others. This was part of the justification for the lone focus on laid-off workers in the third column. When this was done many coefficients changed values and some even changed signs.

Some of the variables have obvious interpretations. Those with greater than high-school education were less likely avoid unemployment during transition. This is likely due to the relative thinness of their labour market that prevents the finding of alternate employment instantly. However, it should be noted that at the later stages of the job search process, the educated are seen to do better. As well, individuals who have not had a labour market transition in the last year were less able to find their next job without an intervening spell of unemployment. This could be seen as the effect of the lack of experience in job search.

Further sensitivity analysis was attempted, but not reported, with the use of different econometric techniques. Instrumental variables were used but with results that were basically the same were obtained.

Table 6					
Determinants of Labour Market Transition with 0 Weeks of Unemployment					
	Full sample, all variables		Partially restricted sample, restricted variables		Restricted sample, restricted variables	
	% imp	|P>0|	% imp	|P>0|	% imp	|P>0|
Intervention Received						
Employment Referal						
Current Week	4.3	0.79	NA	NA	NA	NA
Weeks t-1->t-5	16.1	0.48	2.9	0.90	2.9	0.91
Employment Counselling						
Current Week	-12.2	0.00	NA	NA	NA	NA
Weeks t-1->t-5	-2.2	0.45	-1.9	0.66	4.0	0.55
Demographics						
Male	1.8	0.15	-0.7	0.67	1.7	0.45
Youth	4.5	0.06	-3.5	0.27	-3.8	0.38
Prime Age	1.5	0.40	-6.2	0.01	-7.4	0.02
Older	Cntrl	cntrl	cntrl	Cntrl	cntrl	cntrl
Disabled	-2.8	0.19	0.0	0.99	-0.7	0.85
Atlantic Canada	1.3	0.49	3.6	0.13	3.7	0.25
Quebec	-0.3	0.89	2.0	0.40	1.9	0.54
Ontario	Cntrl	cntrl	cntrl	Cntrl	cntrl	cntrl
Prairies	1.3	0.43	4.8	0.01	4.1	0.11
British Columbia	0.9	0.59	6.0	0.01	5.6	0.05
less than high-school	-0.1	0.94	-1.2	0.57	-1.3	0.62
High-school	Cntrl	cntrl	cntrl	Cntrl	cntrl	cntrl
More than high-school	-2.2	0.12	-5.6	0.00	-7.7	0.00
Mortgage	4.6	0.00	2.4	0.13	2.1	0.31
Labour Market Situation						
seasonal worker	-6.0	0.00	4.2	0.03	6.6	0.00
unemployment rate	0.2	0.33	0.4	0.10	0.7	0.02
qualified for EI	-2.3	0.18	-2.0	0.02	3.3	0.32
Nature of Job Loss						
Received Notice						
Weeks t-1->t-5	-5.1	0.00	-1.3	0.54	-4.1	0.13
Weeks t-5+	-3.1	0.12	3.6	0.17	5.9	0.16
Had Firm Recall Date	10.3	0.00	1.5	0.42	2.0	0.41
First Job Loss in One Year	-2.5	0.10	-2.2	0.28	-7.1	0.01
Reasons for Job Loss						
layoff	-12.9	0.00	-13.0	0.00	NA	NA
end of contract	-13.4	0.00	-9.6	0.01	NA	NA
Dismissal	-24.7	0.00	-30.7	0.00	NA	NA
Quit Working conditions	-15.1	0.00	-27.6	0.00	NA	NA
Quit for other	-5.5	0.12	-9.4	0.08	NA	NA
Ended for Other Reasons	Cntrl	cntrl	cntrl	Cntrl	cntrl	cntrl
Sample Size	24491		12050		6753	

Notes: Based on COEP 96, partially restricted sample refers to only those who were not unemployed for more than 5 weeks. The third column further restricts the sample to those who lost the job through layoff, and worked full-time. A value of less than .1 for the P value would normally considered significant for the one-tailed test.

***Job Search and the Evaluation of Labour Market Information and
Employment Services***

Weeks 1 to 26 of Unemployment

In the next set of regression results, the impact of the program in weeks 1
through 26 are examined. This sample is composed of just those who have
received an intervention during that time.[19] The regression approach used is that
of duration analysis,[20] where the exogenous variables are allowed to change
through time. In this case, the variable of interest is participation in the program.
The test of program effectiveness is whether the probability of leaving
unemployment goes up in the weeks after receiving the intervention as compared
to before.

The use of this econometric strategy for the most part avoids what is known as
self-selection bias.[21] This bias frequently causes a problem in program
evaluation, as it is generally the case that when comparing participants in a
program with those who were not, there may well be differences between the two
groups that are unobservable. If these unobservable differences have any
impact on program outcomes, then the results will be biased. However, in this
case by using only program participants and comparing their behaviour before
and after program intervention, the problem of unobservable differences is to
some extent avoided.

Problems may occur as a result of more subtle forms of self-selection. For
example, the participation in a program at a given point of the job search may
mark an increase in intensity of the search process. In this case, the benefits of
the increase intensity would be falsely attributed to the program. It is likely, that
there is no possible econometric strategy that could control for this, except that of
an experiment with placebos.

Another potential problem could occur if the probability to leave unemployment
went up as duration increased. However, in spite of the wide range of estimates
of duration dependence, in Canada, there is a generally consistent view that the
probability of leaving unemployment does not increase as unemployment
increases. [22]

In the first column, the variables used to explain leaving unemployment are
roughly the same as that used in Table 6 to explain unemployment spells of zero
weeks. One addition is the collection of EI, as that would have been nonsensical
for those with no unemployment. It is possible to allow for the variation of EI
benefits during the unemployment spell, however sufficient time was not
available. In all three regressions, this variable was negative indicating that

---

[19] It should be pointed out that their unemployment spell may not end in this sample period. If this
is the case it is possible that they be included in subsequent regressions if they received more
interventions at a later date.
[20] The Cox proportional hazards model was used.
[21] See Greene(1993) Section 22.4.2 for a good introduction to this.
[22] See Jones (1998 pp. 27-29) for equations with a decreasing hazard.

claimants are less likely to leave unemployment, so as to conduct more thorough job searches. In Table 7, as well as 8 and 9, the coefficients are expressed in such a format so as to be interpreted as the percent change in the probability of leaving unemployment. Thus the coefficient of –28.1 on the full sample would indicate that this probability has gone down by that amount.

During this time, the two interventions are shown to have some positive benefits. For each of the interventions, the impact is broken up into the current week and the weeks one to five weeks after the intervention occurred. This approach was motivated by Crossley and Kuhn (1999) who noted that workers, in general, did not leave unemployment as soon as the job match with an employer had occurred. In particular, they find that there is typically a 1.3 week delay between contacting an employer and agreeing to a job and a 1.0 week delay between agreeing to start a job and actually beginning work. From this it would be concluded that it is not reasonably to expect a substantial impact in the current week that that the counselling session occurs. This is fact occurs, as the current week of intervention is either insignificant or has the wrong sign. However, in the weeks 1 to 5 after the intervention some positive benefits are experienced, particularly for the employment referrals.

Table 7					
Determinants of Obtaining Employment in Weeks 1 through 26 of Unemployment					
	Full Sample, all variables		Restricted non-layoff Sample, restricted variables		Restricted layoff sample, restricted variables	
	% imp	|P>0|	% imp	|P>0|	% imp	|P>0|
Intervention Received						
Employment Referral						
Current Week	1.5	0.99	NA	NA	NA	NA
Weeks t-1->t-5	92.0	0.03	99.7	0.06	102.4	0.04
Employment Counselling						
Current Week	-35.4	0.06	NA	NA	NA	NA
Weeks t-1->t-5	15.8	0.18	34.5	0.05	6.8	0.62
Demographics						
Male	-4.9	0.69	-8.7	0.66	4.0	0.77
Youth	30.5	0.18	98.1	0.01	-28.7	0.26
Prime Age	15.7	0.36	36.5	0.26	-24.4	0.19
Older	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Disabled	-5.2	0.81	26.7	0.43	8.2	0.70
Atlantic Canada	-54.4	0.01	-53.9	0.09	-56.6	0.01
Quebec	-40.7	0.02	-41.1	0.14	-12.2	0.53
Ontario	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Prairies	-16.1	0.26	-45.5	0.09	1.8	0.89
British Columbia	4.8	0.74	-11.9	0.66	10.4	0.51
less than high-school	-14.9	0.39	-15.6	0.62	-22.5	0.18
High-school	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
More than high-school	21.3	0.10	7.4	0.73	6.7	0.63
Mortgage	28.1	0.02	18.7	0.37	25.4	0.05
continued on next page						

	Full Sample, all variables		Restricted non-layoff Sample, restricted variables		Restricted layoff sample, restricted variables	
Table 7 cont.						
	%imp	|P>0|	%imp	|P>0|	%imp	|P>0|
Labour Market Situation						
seasonal worker	0.3	0.99	-41.5	0.25	4.4	0.77
unemployment rate	0.4	0.83	1.2	0.73	1.2	0.62
received EI	-28.1	0.03	-37.1	0.07	-23.6	0.10
qualified for EI	17.0	0.50	NA	NA	NA	NA
Nature of Job Loss						
Received Notice						
Weeks t-1->t-5	-1.5	0.91	-4.7	0.82	0.6	0.97
Weeks t-5+	-45.2	0.02	-30.0	0.33	-29.3	0.16
Had Firm Recall Date	67.6	0.00	102.8	0.00	34.2	0.06
First Job Loss in One Year	-23.7	0.06	-26.4	0.26	-9.6	0.53
Reasons for Job Loss						
layoff	-21.5	0.23	31.3	0.28	NA	NA
end of contract	-14.2	0.50	-19.2	0.43	NA	NA
Dismissal	-9.3	0.81	1.5	0.97	NA	NA
QuitWorking conditions	46.1	0.20	57.3	0.13	NA	NA
Quit for other	28.6	0.55	53.4	0.24	NA	NA
Ended for Other Reasons	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Nature of Job Search						
Technique Used						
Used Friends and Relatives	-4.7	0.77	NA	NA	NA	NA
Approached Employers	-24.9	0.12	NA	NA	NA	NA
Answered Ads	-17.6	0.24	NA	NA	NA	NA
Used Provincial Agency	-50.4	0.00	NA	NA	NA	NA
Used Union	-29.5	0.09	NA	NA	NA	NA
Used employment agency	-50.3	0.00	NA	NA	NA	NA
Placed Ads	-8.2	0.66	NA	NA	NA	NA
Other	19.9	0.32	NA	NA	NA	NA
Composite of Techniques						
1st Principal Component	NA	NA	-25.8	0.00	-22.1	0.00
2nd Principal Component	NA	NA	9.2	0.31	-6.5	0.35
Hours of Job Search	0.3	0.44	2.2	0.02	-0.2	0.74
Subjects	1790		631		1159	
Sample Size	33425		12094		23121	

Notes: In the second column the data is restricted to those that were not laid off and fulltime. For the third column, only those who had been laid off and were fulltime were included.

Another set of exogenous variables was introduced into this set that were not available for those with zero weeks of unemployment, which was the data on the job search techniques used included in COEP. The performance of these variables was disappointing, as they showed negative signs. Initially it was thought that this may have been due to multicollinearity, as these variables may well be correlated. To test this, the first two principal components were

Job Search and the Evaluation of Labour Market Information and Employment Services

calculated and included in the second and third regressions.[23] These two components comprised only 30 per cent of the variation of eight variables thus indicating not a high degree of multicollinearity. The first principal component resulted in a highly significant variable with the wrong sign. This is likely due to a kind of reverse causation as those who are able to find jobs quickly in the first 26 weeks of job search do not need or have sufficient time to try all the possible job search techniques. It is not surprising that positive benefits were not found as Jones (1995, p. 30) found the same thing.

It is interesting to note that the reasons for job loss, which were so important in explaining those who found a job without any unemployment, was not statistically significant for those who had some weeks of unemployment. It seems that these conditions surrounding the initial job loss have faded in importance. Still, whether the individual had any job losses in the previous 52 weeks before the job loss maintains statistical significance in one of the three previous regressions. The existence of a mortgage was of if even greater significance in this set of regressions. Finally, one of the most significant variables was the existence of a firm recall date.

27 Plus Weeks of Unemployment

A similar regression was run for weeks 27 to 52. In this time period less of the variables were statistically significant. However, some did enter into significance, such as the dummy for disabled. This concurs with the findings of Wong, Henson and Roy (1999), in which the presence of disability was found to be a significant determinant of long-term unemployment. As far as program impacts are concerned, a positive result was found for employment counselling.[24]

---

[23] See Hamilton (1992) Chapter 8 for a good introduction.

[24] It should be noted that the employment referrals were seen to be largely negative for the full-time workers who were laid off in column three. However, this is largely a statistical anomaly as only 16 individuals in the sample were in this category.

	Table 8					
	Determinants of Obtaining Employment in Weeks 27 through 52 of the Unemployment					
	Full Sample, all variables		Restricted non-layoff Sample, restricted variables		Restricted layoff sample, restricted variables	
	%imp	|P>0|	%imp	|P>0|	%imp	|P>0|
Intervention Received						
Employment Referral						
Current Week	-4104.6	0.00	NA	NA	NA	NA
Weeks t-1->t-5	-44.5	0.72	81.3	0.31	-4310.3	0.00
Employment Counselling						
Current Week	-42.2	0.15	NA	NA	NA	NA
Weeks t-1->t-5	43.8	0.11	142.0	0.00	-10.5	0.74
Demographics						
Male	-62.4	0.01	-71.6	0.09	-56.6	0.05
Youth	55.2	0.29	-156.0	0.06	114.9	0.07
Prime Age	-20.1	0.63	-180.2	0.01	-1.8	0.97
Older	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Disabled	-170.3	0.00	-338.7	0.01	-113.1	0.02
Atlantic Canada	-93.9	0.05	42.1	0.63	-175.0	0.01
Quebec	-0.9	0.98	133.9	0.12	-27.5	0.57
Ontario	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Prairies	22.7	0.53	55.3	0.44	48.5	0.32
British Columbia	-11.8	0.80	147.8	0.32	-34.8	0.45
less than high-school	26.8	0.35	-128.5	0.06	71.3	0.05
High-school	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
More than high-school	-45.8	0.12	-143.5	0.00	-5.9	0.88
Mortgage	-29.6	0.28	54.0	0.20	-36.7	0.27
Continued on next page						

Table 8 cont.						
	Full Sample, all variables		Restricted non-layoff Sample, restricted variables		Restricted layoff sample, restricted variables	
	%imp	|P>0|	%imp	|P>0|	%imp	|P>0|
Labour Market Situation						
seasonal worker	120.6	0.00	205.6	0.00	129.6	0.00
Unemployment rate	8.9	0.01	7.0	0.32	15.5	0.00
received EI	32.1	0.31	-99.4	0.06	61.9	0.07
qualified for EI	8.7	0.85	NA	NA	NA	NA
Nature of Job Loss						
Received Notice						
Weeks t-1->t-5	-13.8	0.62	-61.3	0.24	9.2	0.75
Weeks t-5+	-8.8	0.81	-36.6	0.59	-6.0	0.88
Had Firm Recall Date	11.6	0.82	88.2	0.25	-23.7	0.69
First Job Loss in One Year	-60.9	0.05	-127.3	0.03	-61.7	0.12
Reasons for Job Loss						
Layoff	12.9	0.82	-69.9	0.28	NA	NA
end of contract	102.2	0.10	52.1	0.42	NA	NA
Dismissal	86.5	0.25	128.7	0.07	NA	NA
QuitWorking conditions	90.3	0.22	114.3	0.13	NA	NA
Quit for other	88.7	0.36	200.9	0.04	NA	NA
Ended for Other Reasons	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Nature of Job Search						
Technique Used						
Used Friends and Relatives	6.4	0.85	NA	NA	NA	NA
Approached Employers	97.3	0.04	NA	NA	NA	NA
Answered Ads	-54.6	0.03	NA	NA	NA	NA
Used Provincial Agency	31.2	0.17	NA	NA	NA	NA
Used Union	1.6	0.97	NA	NA	NA	NA
Used employment agency	37.2	0.15	NA	NA	NA	NA
Placed Ads	0.1	1.00	NA	NA	NA	NA
Other	-0.1	1.00	NA	NA	NA	NA
Composite of Techniques						
1st Principal Component	NA	NA	20.5	0.32	6.9	0.53
2nd Principal Component	NA	NA	11.5	0.58	-0.9	0.95
Hours of Job Search	4.7	0.00	2.7	0.04	5.0	0.00
Subjects	410		138		272	
Sample Size	8146		2711		5435	
Notes : In the second column the data is restricted to those that were not laid off and fulltime. For the third column, only those who had been laid off and were fulltime were included.						

A set of regressions was run for those in the 53 to 78 week portion. These regressions are left to Appendix II as they are similar to the above.

Conclusions

The above regression analysis provides a demonstration of the positive benefits of the employment referrals and counselling at some phases of the job search process. In particular the benefits are most noticeable in the first 26 weeks of job search. The two interventions appear to not be effective in helping individuals in making a labour market transition without any unemployment. However, although it is clear that these benefits would not be characterised as strong, it is still significant that some benefits to employment counselling are detected in light of the earlier evaluation results.

This study also sheds light on other aspects of the job search process. The overwhelming importance of the reasons for job loss in the early stages of job search and its diminishing later on makes intuitive sense and would form the basis for further research. As well, the diminishing role of the firm recall date would be of interest as well. Conversely, the increasing importance of disability status would be of key policy interest.

References

BORGEN W. and N. Amundson (1984), "The Experience of Unemployment: Implications for Counselling the Unemployed", Nelson Canada.

CAHILL, Ian G. (1990),"Evaluation of National Employment Services: Longitudinal Tracking of CEC Clientele: Phase II Employment Counselling", Human Resources Development Canada.

CORAK, Miles (1995),"Unemployment Insurance, Temporary Layoffs and Recall Expectations", Evaluation and Data Development, Human Resources Development Canada.

CROSSLEY, Thomas and Peter Kuhn (2000). "Job Starts and Job Finds: Employment Insurance and the Microdynamics of Unemployment Spells", Evaluation and Data Development, Human Resources Development Canada.

DREWES, Torben (1994), "Labour Market Impact of Occupational Standards and Certification: An Economic Perspective and Literature Review", Evaluation and Data Development, Human Resources Development Canada.

GREENE, William H. (1993), "Econometric Analysis", Second Edition, Macmillan.

HAMILTON, Lawrence G. (1992), "Regression with Graphics: A Second Course in Applied Statistics", Brooks/Cole.

HRDC (1981), "Labour Market Development in the 1980s", Human Resources Development Canada.

HRDC (1987), "National Employment Services Evaluation: Cross-Sectional Survey of Employers and New-Hires", Human Resources Development Canada.

HRDC (1989), "Evaluation of the National Employment Service: An Overview Report", Human Resources Development Canada.

HRDC (1991), "Evaluation of Automated Job Information Centres", Human Resources Development Canada.

HRDC (1993), "Evaluation of Sector Studies and the Canadian Occupational Projection System (COPS): Final Technical Report", Human Resources Development Canada.

JONES, Stephen (1995) , "Effects of Benefit Rate Reduction and Changes in Entitlement (Bill C-113) on Unemployment, Job Search Behaviour and New Job Quality", Human Resources Development Canada.

JONES, Stephen (1998), "Unemployment and Benefit Durations", Evaluation and Data Development, Human Resources Development Canada.

KUHN, Peter (2000), Internet and Traditional Job Search Methods, 1994-1999, Paper presented to the IRPP and CERF Conference on Creating Canada's Advantage in an Information Age, Ottawa, Ontario

MORTENSEN, Dale (1986), "Job Search and Labor Market Analysis", Handbook of Labor Economics, Volume 2, 849-919.

OSBERG, Lars (1987), The Efficiency and Equity Implications of CEC Use in Job Search, Program Evaluation Branch, Employment and Immigration Canada.

SMITH, Doug (1993), "COPS/Sector Studies Literature Review", Evaluation and Data Development, Human Resources Development Canada.

STIGLER, George J. (1961), "The Economics of Information", Journal of Political Economy, June, 213-225.

STIGLER, George J. (1962), "Information in the Labor Market", Journal of Political Economy, Oct Supplement, 94-105.

SWAIM, Paul and Michael Podgursky (1990), "Advance Notice and Job Search: The Value of an Early Start", The Journal of Human Resources, April 1990,147-178.

WONG, Ging and Harold Henson (1999), "Volunteer Work as a Vehicle for Labour Market Adjustment", Evaluation and Data Development, HRDC.

WONG, Ging, Harold Henson and Arun Roy (1999), "Evaluation of Long-term Unemployment in Canada: Outlook and Policy Implications", Evaluation and Data Development, HRDC.

Appendix I: Details of Derivation of the Intervention Data

The administrative data used to measure program participation comes from databases maintained by HRDC. These files are not available to the general public. This section documents how the data is developed. The section is more likely to be of interest to individuals within HRDC with access to documentation explaining the various codes.

To define those individuals who had an employment referral data was used from the NESS transactions file and intervention file. All individuals who had a code 570 or 571 on either of these two files were considered to have received an employment referral in the relevant week.

Quite a broad definition was used for counselling. Data was used from anyone of four NESS files. The rule for measuring the intervention was simple. If there was at least one valid code session indicating a valid counselling session, then the dummy variable was set to one for that week. It should be mentioned that no distinction is made between those that have one session and more than one in that week, the impact is presumed to be the same. The validity of the session was assessed by looking at the completion codes, where possible. The following codes were used from the four files:

The Transaction File - 573, 574, 806, 5668 and 5670;

The Intervention File – 573, 574, 806, 5668 and 5670;

The Contact File – The result of contact had to be "COM" and the session type had to be individual.

The Counselling File – The existence of a valid record.

Appendix II: Further Econometric Results

This appendix contains the regression results for the final phase of the job search process. They were not included in the main body of the text, as the sample size appeared too small. It should be pointed out that the stated sample size of 3,471 could be considered to overstate the case as each observation represents one week of an individual's job search. Given the way the sample is constructed, each person could appear up to 26 times on the sample.

	Table II.1					
Determinants of Gaining Employment in Weeks 53 to 78 of Unemployment						
	Full Sample, all variables		Restricted non-layoff Sample, restricted variables		Restricted layoff sample, restricted variables	
	%imp	|P>0|	%imp	|P>0|	%imp	|P>0|
Intervention Received						
Employment Referral						
Current Week	384.5	0.00	NA	NA	451.4	0.00
Weeks t-1->t-5	206.2	0.04	270.6	0.00	247.8	0.00
Employment Counselling						
Current Week	-51.4	0.57	NA	NA	NA	NA
Weeks t-1->t-5	-79.8	0.17	-38.9	0.49	-46.6	0.45
Demographics						
Male	22.3	0.82	230.1	0.07	90.4	0.20
Youth	-121.4	0.44	-169.6	0.02	-244.1	0.01
Prime Age	-101.7	0.20	97.0	0.23	-157.6	0.01
Older	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Disabled	-4862.2	0.00	-205.8	0.04	-3924.3	0.00
Atlantic Canada	-153.1	0.42	408.4	0.00	-219.4	0.21
Quebec	193.1	0.12	-255.0	0.11	70.2	0.18
Ontario	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Prairies	36.0	0.77	62.2	0.23	-43.5	0.60
British Columbia	233.0	0.29	-77.3	0.38	117.6	0.26
less than highschool	-237.3	0.08	-4287.2	0.00	-215.9	0.01
Highschool	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
More than highschool	194.5	0.09	-245.0	0.00	162.0	0.02
Mortgage	-134.2	0.38	77.2	0.10	-71.1	0.24
continued on next page						

Table II.1 cont.						
	Full Sample, all variables		Full Sample, restricted variables		Full Sample, restricted variables	
	%imp	|P>0|	%imp	|P>0|	%imp	|P>0|
Labour Market Situation						
seasonal worker	-51.8	0.76	146.5	0.02	-208.4	0.02
unemployment rate	28.0	0.04	274.5	0.17	24.4	0.08
received EI	183.2	0.09	-127.2	0.09	73.4	0.16
qualified for EI	-241.2	0.07	NA	NA	NA	NA
Nature of Job Loss						
Received Notice						
Weeks t-1->t-5	-232.3	0.18	-78.5	0.16	NA	NA
Weeks t-5+	23.5	0.83	-123.6	0.12	NA	NA
Had Firm Recall Date	-243.4	0.04	-2.1	0.98	NA	NA
First Job Loss in One Year	-117.0	0.32	30.2	0.02	-118.5	0.11
Reasons for Job Loss						
layoff	12.1	0.95	64.9	0.63	NA	NA
end of contract	5.6	0.97	-135.6	0.12	NA	NA
Dismissal	181.6	0.66	85.4	0.49	NA	NA
QuitWorking conditions	-44.0	0.89	40.3	0.74	NA	NA
Quit for other	302.9	0.35	12.3	0.95	NA	NA
Ended for Other Reasons	cntrl	cntrl	cntrl	cntrl	cntrl	cntrl
Nature of Job Search						
Technique Used						
Used Friends and Relatives	407.2	0.05	NA	NA	NA	NA
Approached Employers	-102.0	0.49	NA	NA	NA	NA
Answered Ads	143.3	0.41	NA	NA	NA	NA
Used Provincial Agency	-84.6	0.41	NA	NA	NA	NA
Used Union	125.6	0.51	NA	NA	NA	NA
Used employment agency	123.7	0.41	NA	NA	NA	NA
Placed Ads	-4637.0	.	NA	NA	NA	NA
Other	108.6	0.25	NA	NA	NA	NA
Composite of Techniques						
1st Principal Component	NA	NA	-254.2	0.02	-13.5	0.55
2nd Principal Component	NA	NA	-11.0	0.58	-55.3	0.04
Hours of Job Search	-4.7	0.40	-45.9	0.08	-4.4	0.18
Subjects	150		150		150	
Sample Size	3471		3471		3471	

Notes: Estimated with COEP 96. The regressions in column 2 and 3 were not done for subsets due to small sample sizes.

Appendix III: Job Search by Community

Job Search Techniques of Individuals with an ROE Job Separation

	Friends	Direct Contact with Employers	Read Newspaper Ads	Canada Employment Centre	Prov. Employment Agency	Union Hiring Hall	Private Employment Agency	Placed Newspaper Ad	Other Search Methods	Average Hours in Search Per Week	Average Number of Methods of Search	Sample Size
Clarenville	86.4	84.5	68.1	74.5	9.3	26.5	16.2	26.7	12.8	10.9	4.0	504
PEI	86.5	80.7	66.4	85.2	16.9	8.2	14.6	11.1	14.4	10.3	3.8	1,174
Truro	84.6	86.9	68.1	85.1	10.5	7.5	12.0	12.2	11.0	11.9	3.8	497
Miramichi	85.1	81.6	66.7	76.6	13.0	10.6	18.8	12.4	11.3	9.9	3.8	490
Repentigny	78.6	82.6	67.1	80.9	11.1	10.8	11.3	5.7	10.9	12.6	3.6	518
Montreal	78.9	85.3	72.0	78.4	10.2	11.3	18.1	3.4	17.1	15.3	3.7	540
Toronto	72.0	86.5	67.6	69.2	7.7	4.5	35.4	6.6	20.9	18.0	3.7	497
Hamilton	79.1	78.5	74.6	76.9	10.6	14.2	19.9	9.0	18.9	13.2	3.8	531
St.Boniface	78.5	81.3	80.3	80.3	13.3	6.3	13.9	7.4	12.5	14.2	3.7	540
Pr. Albert	83.7	87.6	73.3	77.8	10.0	10.1	10.6	9.6	9.6	11.0	3.7	523
Calgary	84.0	89.4	90.8	72.6	12.8	7.4	31.7	11.2	16.8	17.9	4.2	537
Kelowna	81.6	93.1	77.7	79.0	12.0	5.5	15.1	8.6	13.2	14.1	3.9	597
Surrey	84.8	87.1	81.9	74.2	11.6	18.1	18.7	11.4	14.6	14.7	4.0	492

Source: COEP