

Essays on the Repeat Use of Unemployment Insurance

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Preface

This is one of a series of reports produced in connection with the Earnings Supplement Project (ESP).

ESP was originally designed to test an innovative use of Employment Insurance (EI) funds — one that offered unemployed workers a temporary partial replacement of earnings losses if they went back to work quickly and experienced a reduction in earnings by doing so. The new program was tested with two groups of EI beneficiaries: displaced workers who, after a significant period of employment, were suffering a permanent job loss; and repeat EI users, who had established a pattern of receiving EI benefits for at least a part of each year.

Previous ESP publications reported the results of the experiments conducted to test the new program. ESP had a small and short-lived impact on the re-employment of displaced workers but resulted in increased costs to government. In the case of repeat EI users, however, there was little interest in the ESP offer and the program had no effect on their labour market behaviour.

To better understand the circumstances and possible program needs of those who made frequent use of EI benefits, a survey of EI beneficiaries was added to the ESP program of research. This survey, which became known as the Survey on Repeat Use of Employment Insurance (SRUEI), was a nationally representative survey of individuals who received regular EI benefits in 1996. In order to increase the usefulness of the data for the analysis of frequent use of EI benefits, those who were repeat EI users (defined as those who had received benefits in at least three of the five years between 1992 and 1996) were over-sampled in the survey.

This volume contains essays based on the survey data and written by Canadian academics. A companion volume, *The Frequent Use of Unemployment Insurance*, presents a descriptive analysis of the responses to the SRUEI. Together, these two volumes deepen our understanding of the phenomenon of frequent reliance on EI benefits, and provide us with a much more nuanced view of an important group of recipients of this form of benefit.

John Greenwood
Executive Director

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Introduction

How can all Canadians be assured of adequate income in a way that is consistent with the values of Canadian taxpayers and the requisites of a competitive industrial structure? This question lies at the heart of a century-long debate about government income security programs.

The debate is not about whether support should be provided, but about which Canadians should receive income support and how generous that support should be. For some groups — small children, the elderly, the severely disabled, workers displaced by unexpected economic events — there is little doubt that most Canadians support relatively generous income transfers. These “deserving” groups have long been supported by provincial social assistance programs, provisions in federal and provincial tax codes, federal pension schemes, and the federal unemployment insurance system.

Instead, the debate is about groups whose need has been questioned — lone mothers on social assistance, workers who repeatedly receive unemployment benefits, and Canadians whose disabilities are not easily demonstrable.

Anecdotal evidence abounds on both sides of this age-old argument. There is no shortage of social assistance recipients who rely on food banks to feed themselves and their children, no shortage of workers who would take any work at all and who use unemployment benefits only as a last resort, and no shortage of Canadians with crippling and yet hardly visible disabilities.

Those on the other side of the debate suspect that the existence and generosity of income transfers have led many to avoid work in order to receive those transfers. Even if overt fraud is rare — even if there are few social assistance recipients with large bank balances and few disability benefit recipients who are entirely healthy — it is argued that the income security system gives Canadians strong incentives not to work and gives firms an incentive to exploit the availability of transfers.

The essays in this volume grow out of a project focussed on an especially controversial aspect of this debate — the repeated use of the unemployment insurance system. This aspect of the income security debate is inextricably linked with the equally long-lived debate about the extent to which Canadians should be expected to leave their homes in order to find work.

A fundamental feature of the Canadian economy is that many industries have production processes with strong seasonal elements — construction, primary and secondary education, tourism, fishing, and forestry are examples. Many workers in such industries are employed for only part of the year. Each summer, school staff is laid off; every winter, the demand for outside construction work falters. Some have questioned whether the income of seasonal workers is really insecure and point to skilled construction workers who have relatively high earnings during the season — enough perhaps to give them an income close to or above the relevant median annual income —

and who then claim unemployment benefits in the off-season. Those on the other side of the debate, however, point to marginalized workers who, despite their willingness to take any available work, can find only short-term, low-wage jobs, and who could not easily survive without unemployment benefits.

Another feature of the Canadian economy is that the economies of some areas of the country — northern Ontario, rural Quebec, the Atlantic provinces — are dominated by seasonal industries so that few alternatives to seasonal employment are available. In the past, many workers living in these regions have left, moving to parts of Canada with lower unemployment rates and year-round work. Many have not left, however, and they would see any changes to the unemployment insurance program that limited benefits to seasonal workers as an attack on the economic viability of their home regions. Moreover, it is not at all clear that Canadians, as a whole, want to make it difficult for people to live and work in the places where they were born.

The resolution of these important issues is not in sight. The aim of the essays in this volume is far more modest. The essays examine empirical data in order to move the debate away from abstract political philosophy and carefully chosen anecdote, and toward a more nuanced view of a complex reality.

All of the essays are based on a special survey conducted in early 1998 by Statistics Canada and funded by Human Resources Development Canada. This survey — called the Survey on Repeat Use of Employment Insurance (SRUEI) — was commissioned in the wake of a randomized trial of a demonstration project that tried to encourage off-season employment among repeat users of the unemployment insurance system. The randomized trial, which was conducted by the Social Research and Demonstration Corporation (SRDC), showed that less than half of repeat users were interested in even considering the offer and, of those who participated, only five percent took advantage of the offer (Tattrie, 1996). These results re-emphasized analysts' limited understanding of the economic behaviour of repeat users and led to the implementation of SRUEI. This volume of essays, as well as the descriptive volume that accompanies it, attempt to shed more light on that behaviour.

David Gray and Arthur Sweetman, in the first essay in the volume, take a crucial step by exploring the complexity of EI¹ use. Combining the SRUEI data with administrative data from the period 1992–1997, they develop a simple, descriptive typology of EI users. In doing so, they break with the tradition of defining only two types of users — occasional and frequent. Instead, they define what they believe to be four distinct types of frequent users:

- “Seasonal” users;
- “Perpetual” users;
- “Frequent but non-seasonal” users; and
- “Other frequent” users.

¹On July 1, 1996, Unemployment Insurance was changed to Employment Insurance (EI). For simplicity, the term “EI” is used in this introductory chapter when referring to the program.

Most EI claimants fit into one of these categories. Using the Gray-Sweetman classification system, only 36.1 percent of male claimants and 44.0 percent of female claimants are *not* frequent users, defined as those who filed one or two claims in the 1992–1997 period or who were “new entrants.”

A surprisingly small proportion of EI users fit the stereotype of a seasonal worker who works during the same period each year, stops working at roughly the same time each year, and then applies for unemployment benefits.² Only 6.3 percent of male claimants and 4.1 percent of female claimants met the strict Gray-Sweetman criteria for this group — initiating a claim in every year from 1992 to 1997 in the same eight-week period.

When the definition is loosened to encompass “mostly seasonal” claimants, defined as those who initiated a claim during the same eight-week period in four or five of the six years in the 1992–1997 interval, another 10.8 percent of male claimants and 10.5 percent of female claimants become seasonal. Even when “strictly seasonal” and mostly seasonal workers are combined, however, only 17.1 percent of male claimants and 14.6 percent of female claimants seem to meet the stereotype of a seasonal worker. Combining these relatively small percentages with those for non-frequent users, we see that roughly 40 percent of female claimants and roughly 45 percent male claimants are frequent users but do not fit the seasonal stereotype.

With that starting point, Gray and Sweetman identify several other types of frequent users. *Perpetual users* are those who maintain what amounts to a perpetually active EI claim — they had an active claim in 280 or more of the 313 weeks that comprise the 1992–1997 period. Normally, a claim will be exhausted within 40 weeks of initiation, but perpetual users are able to maintain active claims because of the provision in the EI program that allows a claim to be suspended in weeks during which the claimant works.

The third type of frequent users are labelled “frequent but non-seasonal” users. These are claimants who initiated claims in four or more of the years in the 1992–1997 interval, but who did not initiate these claims in the same eight-week window. A relatively small percentage of EI claimants (3.4 percent of male claimants and 2.4 percent of female claimants) initiated claims in all six of the years in the 1992–1997 interval, but a much larger percentage (19.0 percent of male claimants and 12.8 percent of female claimants) initiated claims at various points in four or five of those years. Combining these two groups of frequent but non-seasonal users, we see that 22.4 percent of male claimants and 15.2 percent of female claimants fall into this category.

Even with their distinctions among the various types of frequent users, Gray and Sweetman are still left with a rather large category of “other frequent” users. These are claimants who initiated claims in exactly three of the six years between 1992 and 1997. About 20 percent of both male and female claimants are in this category.

The sizes of the frequent but non-seasonal and other frequent categories are evidence of the heterogeneity of the overall category “frequent users.” The great contribution of

²The administrative data used by Gray and Sweetman allow the analyst to identify periods of EI receipt, not all periods of employment or off-claim unemployment. Nonetheless, since workers can qualify for EI only by working, their work behaviour can sometimes be inferred from their claims history.

the Gray-Sweetman typology is that it forces all serious analysts of unemployment insurance to think twice before adopting the simplistic “occasional-frequent” dichotomy. It may also lead policy analysts to question the general application of any particular anecdote arising from either side of the income security debate.

The typology will hopefully mark the beginning of a long-overdue process of examining more closely the work experiences of these various types of frequent users. Further research will undoubtedly refine the various categories that Gray and Sweetman propose. For example, Gray and Sweetman note that the economic basis for the most novel of the new categories — the frequent but non-seasonal users — is unclear. Such claimants may “face extreme rationing in a depressed labour market, working intermittent, casual jobs with low pay and a low level of job security” (p. 47). Alternatively, they may simply face “frequent [employment] interruptions that are anticipated and recurring, albeit not on a seasonal basis” (pp. 47–48).

Some evidence on this point is provided by the SRUEI, which asked respondents who worked in 1997 (having received EI benefits in 1996) if they had worked for one or more of their 1997 employers in previous years. A very high proportion of both seasonal and frequent but non-seasonal claimants — more than 80 percent — had worked for their 1997 employers in previous years.

Beyond creating a valuable new typology of users, Gray and Sweetman also highlight the very different use of unemployment insurance by men and women. These gender differences, which are also highlighted in the accompanying descriptive volume, include

- a strikingly different timing of the seasonal use of the system, with women’s benefit receipt rates “spiking” in the summer, and men’s receipt rates spiking in the fall;
- different benefit amounts, with male claimants receiving far more benefits than female claimants, presumably reflecting gender differences in earnings; Gray and Sweetman document the extent to which these differences vary among the various types of frequent users; and
- the fact that male claimants seem to fit more readily into their predefined categories.

Gender differences in EI participation assumed greater prominence in the wake of the 1996 EI reforms, which some observers suspect resulted in lower numbers of female workers receiving EI. While the essays in this volume do not address this issue, a better understanding of gender differences is quite important.

This short overview cannot do justice to the breadth of the Gray-Sweetman essay. Given that breadth, it is not surprising that Gray and Sweetman could not fully address the many questions that their work raises. And if the analysis raises as many questions as it answers, this is because it is charting uncharted territory. Their work will hopefully set in motion a reconsideration of the stereotypes that underlie both sides of the debate about which unemployment insurance recipients are “deserving” and which are not.

Stephen Jones, in the second essay, addresses an issue that bears directly on the effectiveness of financial incentives as a means of inducing repeat EI users to seek off-

season or year-round work. To do so, he examines data from the SRUEI on *reservation wages*, a central concept in modern labour economics. Each worker, as he or she searches for a new job, is assumed to have in mind a wage that is the lowest that he or she would accept in a new job — a reservation wage.

Reservation wages are not directly observable. Nonetheless, survey respondents seem to have little trouble answering questions such as “What is the lowest wage that you would accept to take a job?” SRUEI respondents were asked precisely that question and this essay analyzes their responses. Jones analyzes reservation wages, for the most part, in the form of their ratio to the highest past wage reported on the survey. A reservation wage ratio (RWR) of 0.90, for example, indicates that the respondent is willing to take a new job that pays 90 percent of their highest pre-layoff wage.

It is useful to think of Jones’ essays as addressing several different hypotheses in relation to the ESP repeat user experiment. That experiment offered a financial work incentive to randomly chosen workers who were filing an EI claim, after having filed claims in each of the three previous years. The incentive, available to all who found a new job within 12 weeks of receiving the offer, was an earnings “top up” that made up 75 percent of the difference between the (lower) earnings on the new job and earnings on the pre-layoff job. Workers could receive the earnings top-up for up to two years, but the supplement itself would not count as insurable earnings if an EI claim based on the new job was ever filed. As noted above, less than half of those identified as eligible were interested in participating in the experiment and, of those who volunteered and were randomly assigned to the supplement group, only five percent ever received a supplement payment; the remainder either did not start a new job within the 12 week “window” or found jobs that paid the same or more than their pre-layoff jobs.

The expectation of the designers (and funders) of the repeat users component of ESP was that the financial incentive would lower the reservation wages of the supplement group, leading them to take new jobs that they otherwise would not have taken. As Jones notes, however, “the incentive structure in ESP . . . may have been insufficient to induce a large enough adjustment in reservation wages to generate any significant re-employment” (p. 64).

There is no direct evidence on the *change* in reservation wages induced by the ESP “treatment.” Still, the SRUEI data — based on the survey responses of a completely different set of EI claimants — allow Jones to examine several interesting hypotheses related to the repeat users component of ESP.

To begin, one hypothesis might be that the ESP incentive was “insufficient” because repeat users of EI had especially high reservation wages — that they were unwilling to take new jobs, even if those new jobs (with the ESP supplement) paid almost as much as their pre-layoff jobs.

With the SRUEI data, Jones addresses this hypothesis by calculating the reservation wage ratios of repeat and non-repeat users, defining the RWR for each respondent as the ratio of their reservation wage to their highest wage.³

³Jones also defines and analyzes an RWR that has the last pre-layoff wage in the denominator.

The mean RWR among all SRUEI respondents who looked for a job while unemployed in 1997 was 0.895, indicating that unemployed SRUEI respondents, on average, were willing to take new jobs that paid about 90 percent of their highest pre-layoff wage. When Jones compares the RWRs of repeat users with those of non-repeat users, however, an interesting empirical fact emerges. The average RWR of repeat EI users was *lower* than that of non-repeat users. Jones also shows that this difference is entirely the result of male repeat users having significantly lower RWRs than male non-repeat users; the RWRs of females were the same regardless of their repeat status.

In another component of the ESP experiment, a somewhat different financial incentive was offered to one kind of non-repeat users — workers who had been continuously employed for three years prior to filing an EI claim. The incentive was different in that such workers were given 26 weeks, instead of 12 weeks, to find a qualifying job. Unlike the repeat users sample, however, the vast majority of displaced workers volunteered for the experiment, and just over 20 percent qualified for and received an earnings top-up. If, as Jones' result suggests, these displaced workers had reservation wage ratios that were as high or higher than those of the repeat users, it would seem that the lack of response to the ESP repeat users incentive was not the result of RWRs that were “too high” among the repeat users.⁴

That repeat users may have had lower reservation wage *ratios* than the displaced workers does not imply that the *level* of their reservation wages was lower than those of displaced workers. A second empirical point highlighted by Jones' work is that repeat EI users in the SRUEI had both higher past wages and higher reservation wages than non-repeat claimants. Table 5 in Jones' essay shows that the average past wage of repeat users was about \$2.20 per hour greater than the average past wage of non-repeat users. The average reservation wage of the repeat users was \$1.62 higher than the average of non-repeat users. That is, even though the reservation wages of repeat users were higher than those of non-repeat users, their past wages were even higher still, so that RWRs were lower for repeat users.

Jones then includes a number of control variables in ordinary least squares regressions that have reservation wages or past wages as the dependent variable. In all of the specifications, “the repeater coefficient . . . is always a significant positive determinant of reservation and past wages, the former coefficients always being less than the latter” (p. 83).

This result suggests that even though repeat users were willing to accept roughly equal percentage pay cuts in a new job — they have roughly equal RWRs — “there is the issue of whether the repeat users' RWRs reported in these data were nonetheless unreasonably high, relative to a realistic assessment of the job prospects facing these particular individuals” (p. 85). Said differently, it may be that repeat users, on average, have high wages when they are working and, even though they are willing to take new jobs that pay 90 percent of their past wage, there are no such jobs on offer. If lower-

⁴It is possible that the key factor differentiating the responses of the repeat users and the displaced workers was the longer 26-week job search “window” available to the displaced workers. The longer time window does not, however, explain the difference in the volunteer rate of the two groups.

paying jobs are available, they might be acceptable to non-repeat users (with lower reservation wages) but not to the repeat users.

These two empirical findings — that repeat users have similar or lower RWRs but that they have higher reservation and past wages — suggests an interpretation of the ESP repeat user experiment. The idea was to induce repeat users to take off-season jobs or year-round jobs. But if repeat users had high wages in the jobs that they normally held during the season, and if the only other jobs available to them paid significantly lower wages, then they would not take these new jobs even with the temporary two-year ESP supplement. Perhaps the designers of the repeat user component of ESP thought that the past wages of repeat users were lower, and their prospects of recall less certain, than they actually were.

As with the Gray-Sweetman essay, this short summary does not capture all of the material in the Jones essay. In addition to the analysis of the reservation wages of the 70 percent of the SRUEI sample who were unemployed and looking for a job in 1997, Jones also analyzes the reservation wages of the 38 percent who looked for work in 1997 while they were employed. In addition, he goes beyond analyzing measures of central tendency (such as means or medians) to examine the distribution of the reservation wage measures.

Interestingly, Jones notes that his essentially descriptive analysis of reservation wages could be extended, following Holzer (1987), to see if the differing reservation wages of respondents had any behavioural consequences for future economic behaviour. While Jones does not attempt that extension, the third essay in this volume analyzes one such behavioural consequence — EI receipt in the years following 1996.

This third essay, by David Gray, looks ahead in time to correlate the characteristics of SRUEI sample of 1996 EI recipients to their receipt of EI in 1998. That is, rather than looking *back* in time to develop a typology of users or to study reservation wages, Gray looks *forward* to see how past activities and characteristics affect future EI receipt.

Gray analyzes two dependent variables. The first is a 0-1 variable indicating whether or not the respondent received EI in 1998 — recall that all had filed an EI claim in 1996 — and the second is the number of weeks in which the person received EI benefits in 1998, including “none” if that was applicable. As explanatory variables, Gray includes the province of residence, the industry and occupation of the respondent’s primary 1997 job, and a large set of individual characteristics.

The major novelty of the essay is the inclusion of the attitudinal information asked of SRUEI respondents. These variables ask about attitudes toward the use of EI (now and in the future) and about the respondents’ willingness to accept different kinds of jobs. Gray also includes several standard measures of what he calls “regional ties”; these are measures of how long respondents’ have lived in their current residences and whether or not respondents own their own homes.

The bulk of the essay is taken up with applying the same model specifications to a number of subgroups of SRUEI respondents — including male and female claimants separately, and repeat and occasional claimants separately. Gray’s empirical results are easily summarized. Neither the attitudinal variables nor the variables measuring the

respondents' residential ties are strongly correlated with EI participation in 1998. The essay argues that these variables measure "social capital," access to information about the EI program, or the extent to which respondents are "discouraged" about their ability to find jobs that do not require repeated EI participation. Whether or not the variables are valid measures of those theoretical (and unobservable) ideas, the empirical results do not suggest that they are related to future EI participation. Most of their coefficients are not significantly different from zero, and the few that are statistically significant are small in size relative to the large impacts of province, the number of past EI claims, and the industry and occupational prestige of the respondent's 1997 job.⁵

Thus the importance of Gray's essay lies in the essentially negative finding that adding attitudinal variables to models of EI participation does not diminish the importance of the variables previously thought important, and attitudinal variables have no strong independent impacts of their own. Before concluding that such variables are unimportant, however, it should be acknowledged that social surveys are not particularly adept at measuring such complex and subjective constructs. Further research, perhaps using qualitative methods, would provide an additional perspective on the potential importance of these factors.

The final two essays in this volume address specific issues that relate to all EI recipients, and are less focussed on the economic behaviour of repeat users of the unemployment insurance system. Arthur Sweetman compares the use of the system by immigrants with the use by the Canadian-born. Raphael Gomez and Morley Gunderson analyze the volunteer activities of EI recipients.

Immigration policy has recently been a topic of interest both in the popular media and among academic researchers. Much of the work has focussed on the earnings assimilation of immigrants, building on the ideas of Chiswick (1978) who hypothesized that those who migrate to the U.S. would have lower earnings, shortly after arriving, than otherwise similar American-born workers. As years go by, however, immigrant earnings would catch up and perhaps surpass those of the American-born because immigrants may have been allowed to immigrate precisely because it was thought that they would do well in their new home.

Much less research has been undertaken on other aspects of immigrant assimilation. Sweetman's essay provides further evidence on this issue by comparing the use of the unemployment insurance system by immigrants and the Canadian-born. The findings are important in understanding whether immigrants are a "burden" to the economy because they make disproportionate use of the Canadian social safety net (which includes the EI program).

The essay uses the SRUEI, supplemented by EI administrative data, to analyze differences between immigrants and the Canadian-born in the intensity of UI/EI use not only in 1996, when all SRUEI respondents filed an EI claim, but also in 1997 and 1998.

⁵Gray points out, however, that "the effects of the social capital and the attitudinal indicators . . . could be partially captured in the [provincial] estimates" (p. 117). When he investigates this possibility (by rerunning the equations without the provincial variables, and observing the effect on the social capital and attitudinal variables) he concludes that, among repeat claimants at least, the effects of the social capital and attitudinal variables may be conflated with the effects of the provincial indicators.

Sweetman also examines re-employment outcomes, asking whether immigrants and the Canadian-born differ in their 1997 labour force participation. Finally, the essay compares the manner in which immigrants search for jobs while unemployed with the way the Canadian-born search for jobs while unemployed.

The SRUEI contains information on whether or not each claimant was an immigrant and, if so, on the number of years since the person arrived in Canada. Thus, Sweetman can estimate the proportion of those claiming EI benefits in 1996 who were immigrants. Roughly seven to eight percent of EI claimants were immigrants even though immigrants comprised roughly 10 percent of the Canadian labour force. Thus immigrants were under-represented among EI claimants (see Table 1 of Sweetman's essay).

Not only were immigrants less likely to receive EI benefits, but also they received benefits for fewer weeks and received fewer dollars. As "years in Canada" increased, the immigrants had usage characteristics that came to resemble those of the Canadian-born.⁶

However, immigrant claimants are quite different from Canadian-born claimants in their demographic and economic characteristics. Compared with Canadian-born claimants, immigrants, on average, are about four years older than Canadian-born claimants, are much more likely to live in urban areas, and are concentrated in Ontario and British Columbia. Moreover, an examination of their 1997 jobs suggests that they work in different industries and occupations than the Canadian-born.

When these characteristics are taken into account (see Table 16 of Sweetman's essay), the differences between immigrants and the Canadian-born in their number of weeks of EI receipt in 1996, and in their number of weeks (if any) of receipt in 1997 and 1998, vanish. That is, "once controls for age, education, and geography are introduced, the gap in EI use between immigrants and the Canadian-born is eliminated Plausibly, because immigrants were more urbanized, were concentrated in provinces with less EI use . . . they needed less EI" (p. 147).

This finding does not mean that the labour force experience of immigrants is the same as that of the Canadian-born. Sweetman shows that immigrants were about 50 percent more likely to remain unemployed throughout 1997 than Canadian-born EI claimants, even after differences in characteristics are taken into account (see Table 5 of Sweetman's essay). More recent immigrants are especially likely to remain unemployed, with immigrants who have been in Canada for a longer time "looking" more like the Canadian-born. Unemployed immigrants also put more effort into searching for a job than did the Canadian-born unemployed. Again controlling for observable differences between immigrants and the Canadian-born, "immigrants spent more hours searching for jobs than did the Canadian-born" (p. 142). Finally, the reservation wages of immigrants were quite a bit lower than those of the Canadian-born. Moreover, Sweetman writes that "more recent immigrants were, on average, willing to accept a much lower wage than

⁶As Sweetman notes in several places, the cross-sectional nature of the SRUEI data makes it impossible to know if the patterns observed for immigrants who arrived in Canada at different times are due to (a) the length of time they have been in Canada or (b) the group characteristics of the immigrants who arrived at that time. Any difference might be accounted for by the passage of time or by the particular characteristics — source country, educational qualifications, languages — of that year's cohort of immigrants.

observationally equivalent Canadian-born workers, and immigrants who arrived earlier” (p. 143).

The conclusions are clear. Immigrants use the unemployment insurance system less than Canadian-born workers, although most of the difference seems to be due to differences in age, area of residence, and the types of jobs that immigrants hold. An especially important difference is that immigrants are far less likely to be laid off with the expectation of being recalled; that is, immigrants tend to use EI after a permanent separation whereas the Canadian-born more often use the system after a temporary layoff.

When unemployed, immigrants searched harder than the Canadian-born for new jobs. The effect, according to Sweetman, is that “their extra job-search intensity appears to have closed much of the gap that might have arisen because of their more challenging situation” (p. 149). More recent immigrants use the unemployment insurance system more than immigrants who arrived earlier, but still less than the Canadian-born; “As with immigrants overall, they appear to have faced a more daunting re-employment challenge and to have worked harder to resolve it” (p. 149).

The final essay in the volume, by Raphael Gomez and Morley Gunderson, examines the volunteer activities of the SRUEI respondents. The purpose of the essay is “to analyze the determinants of formal volunteer activity amongst EI recipients” (p. 155) where “formal” volunteer activities are those performed for a recognized organization, group, or charity.⁷ They include, for example, “organizing and supervising events,” “canvassing, campaigning, or fundraising,” and “being a member of a board or committee.”

Appendix B of the descriptive volume accompanying this volume of essays also analyzes volunteer activities among SRUEI respondents, using simple cross-tabulations. The conclusion of that appendix was that:

The rate of participation in volunteer activities among those who were EI claimants in 1997 was only slightly higher than the national rate for Canadians in that year. Among EI claimants, both repeat and occasional users were roughly twice as likely to volunteer through informal than through formal avenues. There were no systematic differences in the volunteer behaviour of repeat versus occasional claimants, and all claimant groups were less likely to volunteer during times of unemployment. (See p. 119 of the companion volume.)

Gomez and Gunderson set their empirical analysis of volunteer activity in the context of a theoretical model that envisions families maximizing utility where utility is a function not only of goods and leisure but also of charitable activity. This model allows charitable activity to be valued for a long list of reasons, including “its own rewards, . . . social cohesion, . . . altruism, . . . [and] résumé and skill building” (p. 156). Over their lives, individuals are expected to volunteer more when wages are low, which is likely to be the case for younger individuals and older individuals (especially those who are retired or close to retirement). Within a family, the person who has lower opportunity cost of

⁷Informal volunteer activities are activities that can be thought of as simply “helping out” — visiting the elderly, shopping, yard work, and housework. Informal volunteering is more common than formal volunteering.

time is likely to volunteer more. Women, given their lower relative wages, are therefore expected to volunteer more.

On the empirical side, Gomez and Gunderson estimate a multivariate model in which the dependent variable takes the value “1” if respondent participated in any formal volunteer activities and “0” if they did not.⁸ As independent variables, they include the whole host of demographic and economic variables available in the survey. This model can perhaps be thought of as a reduced form of the theoretical model that is sketched in the essay. Given the range of possible effects in the theoretical model, however, it is a challenge to find refutable hypotheses that can be tested with the reduced form model.

After a presentation of the multivariate results (see Table 3 of Gunderson and Gomez’s essay), Gomez and Gunderson spend the bulk of their essay speculating about why each characteristic might be correlated with formal volunteer rate in the way indicated by their results. Like the descriptive appendix, albeit in a multivariate context, they find no relationship between the repeat use of EI and the probability of participating in a formal volunteer activity. Unlike the descriptive appendix, however, Gomez and Gunderson report that “there was no significant difference in the probability of volunteering amongst those who were unemployed all year, part of the year, or who were employed all year” (p. 174).⁹ Those who were self-employed were more likely to volunteer than other workers.

Some of their expectations from the theory are not supported by the empirical results. In particular, more educated EI recipients and those with higher status occupations are found to volunteer more, whereas EI recipients with low income in a given year are less likely to volunteer. In support of the theoretical predictions, females are found to volunteer more compared with males.

The results that challenge the theoretical predictions call for alternative explanations of volunteer activity. For example, the additional income generated by females within low-income and high-income households may be valued differently. As another example, volunteer activity may be a luxury good among low-income families and become a normal good (as assumed by the theory) only after family income rises above a certain level. Finally, as Gomez and Gunderson acknowledge, theirs is a supply-side analysis; important determinants of volunteer activity are likely to be found by analyzing the behaviour of organizations that demand volunteers.

IMPLICATIONS FOR FUTURE RESEARCH

Each of the essays in this volume contributes to the empirical analysis of those who use Canada’s unemployment insurance system. They do so, however, in different ways. In this section, we address the direction of future research created by each essay.

⁸Given participation in any of the formal volunteer activities, there was little variation in the number of such activities in which respondents participated. The amount of time spent in volunteer activities was not collected in the survey. Gomez and Gunderson therefore focus on the 0-1 participation variable.

⁹Gomez and Gunderson report that, in general, the multivariate analysis does not change the conclusions drawn from bivariate cross-tabulations. The bivariate cross-tabulation of formal volunteering and employment experience is not presented in the essay, so the reason for this particular difference in results is not known.

The study of volunteer activity among EI recipients was motivated, in part, by the possibility that EI recipients who are seasonal workers may be especially active contributors to the voluntary sector, since they have an off-season during which they may have time to devote to voluntary activities. Neither the Gomez and Gunderson essay nor Appendix B of the accompanying descriptive volume found any evidence in support of that idea. Measuring voluntary activity, however, is no easy task and, in the SRUEI, that measurement was only one of many goals. As a result, only rough indications of the nature and intensity of voluntary activity were available for analysis.

Given the evidence from the SRUEI, one might simply conclude that EI recipients are not more likely to volunteer than Canadians as a whole, and that repeat claimants are not more likely to volunteer than occasional claimants. Nonetheless, because the measurement of the dependent variable was so rudimentary, it is possible that important differences are being overlooked.

A careful time-use study, involving in-person, rather than telephone, interviews, and surveying not only EI claimants but also members of the general public, would provide a more nuanced and more reliable view of what EI claimants do while unemployed. Such a study would allow the analysis of time spent volunteering as well as time spent searching for new jobs.

The major goal of the Earnings Supplement Project (ESP) was to test a different way of providing income security to unemployed workers. Arthur Sweetman's essay on immigrants' use of the unemployment insurance system is related to that goal in that he addresses the question of whether immigrants are in special need, either because they are more likely to use EI or because they need greater incentives to look for new jobs. He finds that immigrants do not have any particular need for an ESP-like program — they already use the unemployment insurance system less than otherwise similar Canadian-born workers, they are already searching for new jobs more actively than the Canadian-born, and their reservation wages are already lower than those of the Canadian-born.

Sweetman's essay fits rather more neatly, however, into an entirely different policy area — that pertaining to the economic adjustment of immigrants to life in Canada. Others have studied the way in which immigrant earnings approach those of the Canadian-born, as a function of when and why the immigrants came to Canada. Sweetman extends the much smaller vein of research pertaining to dimensions of economic adjustment other than earnings. Future research in the area must deal with the question of the extent to which the speed of adjustment is a function only of time in Canada, or whether "cohort quality" is also relevant. This cannot be done with a single cross-sectional data set like the SRUEI, but Sweetman's essay sets an empirical foundation for the necessary time-series analyses.

By analyzing female claimants as well as male claimants, Sweetman highlights the importance of gender-specific differences in the economic behaviour of immigrants. He does not find dramatic differences between genders but does uncover some variation that bears further analysis. The often-observed pattern of immigrant wives working while their husbands acquire labour market skills that will be helpful in the Canadian labour market must have implications for immigrants' use of the unemployment insurance system.

The first three essays in the volume — by David Gray, by Stephen Jones, and by David Gray and Arthur Sweetman — are directly related to the income security issues at the heart of ESP. In particular, all three bear on the causes and correlates of EI use.

Because the SRUEI data contain a number of attitudinal questions not present in previously analyzed data sets (plus a richer-than-usual array of demographic characteristics), Gray is able to see if these new variables are correlated with post-1996 patterns of EI use. If they were so correlated, new areas of research would open up. Researchers could study the role of social capital, information exchange, or certain psychological attitudes in encouraging EI use — all of which are not traditionally seen as causes of EI participation.

The fact that, by and large, Gray found that the newly available variables were not highly correlated with post-1996 EI participation may discourage such investigations. As was the case with volunteer activity, however, telephone surveys may not be a very satisfactory way of measuring such vague and complex notions. This is especially true in this context since the SRUEI was not designed to measure social capital or access to information about EI; so Gray was forced to use whatever variables came to hand.

Stephen Jones actually sets out a direction for future research in his essay. His task was simply to describe the reservation wages of respondents and to examine their demographic and economic correlates. As he points out, the next question is whether these self-reported reservation wages are in any way related to future economic behaviour. That is, instead of being the dependent variable, the reservation wage could become an independent variable in models of future EI use and future labour force participation.

Another interesting question is whether it is the reservation wage *ratio* that best measures the willingness of the claimants to accept new jobs, or whether it is the *level* of reservation wages. ESP aimed to encourage repeat users of EI to take off-season or year-round jobs, but if the available jobs paid far less than the claimants' pre-layoff wages, even relatively low reservation wage ratios may not be low enough.

The essay which provides the greatest scope for future research is the one in which Gray and Sweetman propose a typology of frequent EI users. This typology could be further refined, with researchers experimenting with different algorithms for placing individual claimants into the categories. Researchers could explore the question of whether frequent but non-seasonal claimants are really distinct from seasonal claimants, and whether they are the “truly needy” users of EI.

Future projects could combine the implications of these last three essays. For example, one could divide a representative sample of EI claimants into a refined set of Gray-Sweetman categories, measure reservation wage ratios (or levels) as Jones does, and see if those reservation wages have any effect on future economic behaviour — future EI use, or post-EI re-employment — as analyzed by Gray and by Sweetman.

Finally, we should not lose sight of an important lesson from past studies of the repeat use of the unemployment insurance system. The use of EI is not only a supply-side issue, a question of how individual workers react to the incentives provided. The demand side of the labour market — the nature of jobs offered or not offered — is also extremely

important. Surveys of EI claimants, such as the SRUEI, can offer only limited information about demand-side influences. Surveys of employers or perhaps analyses of workers' Records of Employment (filed by employers for each job separation) can better address those issues.

Still, these essays provide a hitherto unavailable level of empirical detail on various aspects of the repeat use of EI. Without using overly complicated statistical methods, the authors have derived important insights, and their work will hopefully inspire future research that will draw out further lessons.

A Typology Analysis of the Users of Canada's Unemployment Insurance System: Incidence and Seasonality Measures

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INTRODUCTION

Although the current account balance for Canada's unemployment insurance system, called the Employment Insurance (EI) system, is in healthy surplus at the moment, the policy debate concerning patterns of program use continues. Research on Canada's EI regime has demonstrated that, regardless of the stage of the business cycle, much of the program activity is accounted for by "frequent" or "repeat" users, who are typically defined as those who make at least three claims over any five-year period. There has been fairly widespread agreement among policy analysts that recourse of the EI regime on a recurrent basis has distortionary allocative effects across labour markets in Canada. Several authors have analyzed the workings of Canada's EI regime from an insurance perspective, and argue that it tends to function as a long-term income maintenance program in regions characterized by weak labour markets.¹ These policy critiques have been supported by empirical research demonstrating that EI influences the demand side of the labour market by influencing firms' separation decisions (Green and Riddell, 1997; Green and Sargent, 1998), and by other empirical studies indicating that it influences the supply-side choices of certain individuals by raising their propensity to claim EI benefits subsequent to the first claim (Lemieux and Macleod, 2000).

Although the existence of the phenomenon of repeat use has been well known for many years, the extent was not measured and documented until Corak's studies appeared (Corak, 1993a, 1993b). Wesa (1995) provided some evidence with updated data on use patterns, and Lemieux and Macleod (2000) provided an econometric analysis.

¹For example, Green, 1994; May and Hollett, 1995; Nakamura, Cragg, and Sayers, 1994; Nakamura, 1995, 1996; and Nakamura and Diewert, 1997.

This paper is part of the Social Research and Demonstration Corporation's Earnings Supplement Project (ESP) and was designed to examine certain aspects of the repeat use and dependence on EI. Based on a new sample of EI claimants from 1996, this study exploits a special version of the longitudinal administrative file called the Status Vector (STVC) file of Human Resources Development Canada (HRDC). Very detailed information on the EI claims history of workers — some of which has not been used very much by researchers — is available. With the overall goal of providing new perspectives on use patterns of the EI regime, the analysis is divided into two primary thrusts.

1. **The incidence of use:** We commence with a comparative analysis of various measures of the incidence of use, or take-up, amongst various cross sections of EI claimants over the period 1992–1997, and discern very marked discrepancies. Whereas the existing studies tend to focus on one particular measure of frequent use, namely the number of claims filed over a certain interval (i.e., claim counts), this study contains quantitative analysis of other dimensions of EI use that have received less attention, such as the number of weeks of benefits (i.e., week counts), and the amount of payments received, over a certain interval. These latter measures are also calculated on a per-claim basis which, to our knowledge, has not been examined before.
2. **A typology of users:** In the existing literature on Canada's EI program, claimants are typically divided into two types, occasional versus frequent users, and most of the subsequent analysis is based on that dichotomous opposition. We extend this decomposition by dividing the population of EI users into nine different stylized types of EI users based on their observed claim histories between 1992 and 1997. Using statistics measuring the incidence and the seasonality of use, we develop a profile of each type.

The methodology employs descriptive statistics, cross-tabulations, and graphical analysis. As the objective is to distil, document, and present patterns in EI program incidence, an econometric analysis involving models of the determinants of these patterns is beyond the scope of this paper.

In general, the findings suggest that the conventional view of EI users, which opposes occasional users — those who are laid off during recessions or suffer an infrequent episode of structural unemployment — versus frequent users — those who cycle through the same seasonal job year after year and draw EI benefits during the off-season — is oversimplified. Frequent claimants comprise several distinct types of users, including a majority who do not exhibit stable, recurring, seasonal EI use patterns. In contrast to the stereotypical seasonal EI claimant whose employment pattern is stable over the years, there is a group of users that we label “frequent but non-seasonal” users, which we will henceforth abbreviate to “FNS” users. They exhibit unstable employment patterns with a tendency to combine a series of short-term, intermittent jobs in order to attain eligibility for EI benefits. To our knowledge, this group has never been identified and treated in the context of EI policy.

Our analysis dovetails with other studies suggesting the existence of a strong and prolonged dependency among a group of EI claimants. Two points regarding the interacting patterns of employment and EI use tend to be under-emphasized in the literature, however. First, they are extremely heterogeneous, which serves to complicate policy analysis and effective program design and reform. Second, the use patterns are characterized by an extremely unequal distribution of EI benefits among claimants. Our findings also support the claim that, on average, men draw greater benefits from the EI program than women, but this is primarily among frequent users. Finally, we find very strong seasonal patterns in EI program activity among all of the types of frequent users, despite the fact that, as individuals, a majority of them do not hold truly seasonal jobs.

DESCRIPTION OF THE DATA SET

The estimating sample is generated from the Status Vector (STVC) file of Human Resources Development Canada (HRDC), which is an administrative data set tracking EI program activity based on a 10 percent sample of the total population of all EI users. Our estimating sample is identical to the full sample collected for a special Statistics Canada survey created in 1998 called the Survey on Repeat Use of Employment Insurance (SRUEI). This particular sample was selected as a group of approximately 22,000 respondents who were observed to initiate an EI claim in 1996 and to subsequently collect at least \$1 in regular EI benefits. If an individual initiated a claim in 1996 but found work before the mandatory two-week waiting period was over, he or she was not sampled. Once this sample was identified, the individuals were matched to their history of EI program activity between 1992 and 1997 inclusive, which is contained in the STVC file.² The weighting scheme from the SRUEI is applied for all of the empirical analysis that is carried out in this paper in order to render the estimating sample representative of the population of EI claimants for the year 1996, so all findings should be interpreted within that confine. The labour market experienced growth in 1996, but one should not interpret 1996, or perhaps any other year, as a typical year for EI use. To note the distinction between the unweighted and the weighted estimating sample, the terminology that we adopt for the latter is “the population.”

Our empirical analysis is obtained from a derived version of the STVC file which is the product of compilations and aggregations allowing us to focus on certain aspects of use patterns. Its structure consists of a longitudinal array of 313 weeks spanning the period of January 1992 to December 1997. It is thus possible to observe all transitions — entries into and exits from — the EI program over this period. With the exception of a few minor administrative coding issues covering a very small portion of the sample, the data array is very complete and accurate. It contains the following variables:

- A binary variable indicating whether an EI claim was active during that week; benefits may or may not have been paid;
- A binary variable indicating whether any EI benefits were paid that week;
- A binary variable indicating whether the claimant reported any earnings from employment during that week;

²At the time that the empirical research was carried out, the data from the STVC file were not totally updated for the year of 1998. For that reason, our interval for empirical analysis of EI claim histories ends at 1997.

- The amount of regular EI benefits that were paid in nominal dollars;
- A two-digit code variable indicating the type of EI benefit that was paid (i.e., regular versus non-regular benefits); and
- The amount of non-regular EI benefits that were paid in nominal dollars.

The types of non-regular benefits that are reported are sickness, training, retirement, maternity, parental, job creation, and self-employment. In many cases, the payment of non-regular EI benefits follows the expiration of eligibility for the payment of regular EI benefits. The two provisions are often administratively reported on the same EI claim, and we label this a “compound” claim. Overall we find that, for each gender, over 50 percent of all claims have this characteristic, although the string of regular benefits is much longer than the string of non-regular benefits. There are also a number of other special provisions that are not fully reported in our data set, such as fishing and work-sharing benefits. As mentioned above, in order to be sampled, the worker must have collected at least \$1 in regular EI benefits following the initiation of an EI claim in 1996. Once the worker had been sampled, all of his or her EI activity between 1992 and 1997 (involving any type of claim) was observed. If a worker received non-regular (especially fishing and work-sharing) benefits in 1996 that are not compounded with a string of regular EI benefits, he or she was not sampled. It is in these instances that certain spells of receipt of non-regular benefits will be omitted from our estimating sample, which is therefore not representative of the population of *non*-regular EI benefit recipients.

The accounting periods for measuring the incidence of EI use are the calendar years 1992–1997. Annual measures of program activity, such as the number of weeks in a given year during which EI benefits were received, or the amount of benefits that were received during a given year, can be calculated by summing. It is also easy to derive a count variable for the number of calendar years during which the respondent registered EI program activity.

Despite the simple structure of the data array, our initial probing revealed that the longitudinal structure of the histories of EI claims for many individuals is very complex. For instance, many workers did not exhibit a clean, abrupt pattern of consecutive weeks of EI receipt followed by a lengthy, uninterrupted spell of non-receipt. A significant minority of workers had numerous separate spells of EI receipt alternating with brief spells without receiving benefits. We cannot identify from our data set what portions of these spells reflect employment, labour force inactivity, and/or un-indemnified unemployment. Given a repeat pattern of EI claims, however, one can infer that a portion of the time spent not collecting EI benefits was spent working, and thus regaining eligibility. Another complication is the fact that EI claims can remain in an active state in which payments are suspended. Given these numerous discontinuities and claim renewals of EI program status, it is extremely difficult to conduct an analysis based on the duration of EI spells, and it is not straightforward to obtain a precise count of the number of claims over a period. On the other hand, measures of benefit-weeks or amounts received over a given time period are quite accurate and have an unambiguous interpretation.

The weekly frequency of the derived STVC file is ideal for analyzing the seasonality of EI use patterns. A portion of this paper is devoted to discerning and comparing the seasonal use patterns (or lack thereof) of the different types of EI users over the six-year interval of 1992–1997. This data set is quite suitable for analyzing time series usage patterns *within* any

given year, but it is not appropriate to assess secular or cyclical trends in EI usage *between* years over the six-year interval. This problem is due to the nature of the sampling scheme, which was triggered as an individual filed an EI claim in 1996 that involved regular benefits. Because of the way the sample was constructed, the subset of EI claimants who experienced *exactly* one claim over this entire interval filed a claim in 1996. This implies that any worker who experienced exactly one claim between 1992 and 1997 during any year other than 1996 is not sampled. The presence of one-claim individuals in our population is not balanced by the presence of one-claim individuals in 1992, 1993, 1994, 1995, or 1997. The former group thus constitutes a specific cohort, and as they filed their claim in 1996, a sizeable jump in the incidence of EI use in 1996 (compared with previous years) is observed for the overall sample.³ What at first glance appears to be a rising secular trend of EI incidence, which reached a peak in 1996 and then declined in 1997, actually reflects a compositional effect stemming from the group of one-claim individuals, all of whom emerged in 1996. For this reason, almost all of the analysis that we present is either based on cross-sectional variation or seasonal variation within a given year.

As is well known, after over a decade of relative stability of program parameters and regulations, there were a series of substantial revisions to the Unemployment Insurance (UI) system over the 1990s, which coincides with the period covered by our data set. Most of them were motivated by the fiscal concern of reducing expenditures of the UI account. For instance, in 1993, individuals who quit their jobs voluntarily or were fired for cause, were completely dis-entitled from benefits except in exceptional circumstances. In 1994, further changes to the *Unemployment Insurance Act* raised entrance requirements and substantially reduced the duration of benefit eligibility.⁴ The reforms legislated in 1995, which were implemented in 1996, involved the renaming of the regime from UI to Employment Insurance (EI). In addition to a renaming of the system, it involved a dramatic change in the program's structure. One of the most important changes was that the basis for eligibility was switched from the number of prior *weeks* of work to the number of prior *hours* of work. Premiums were paid and eligibility for benefits was accumulated for all hours worked in a new provision called "first hour coverage." Previously, many part-time jobs were not covered by the UI regime, as premiums were not collected and benefits were not available. Another modification within the 1995 reforms was the so-called "intensity rule," which applies slight penalties for repeat use in an effort to reduce long-term dependence on the system. These penalties probably had little impact in the period under study because workers would have had to alter their behaviour in anticipation of the constraint. Finally, a clawback mechanism applying to UI payments collected after a certain threshold of income was reached was introduced; this modification might have affected the behaviour of high-income claimants. Many of these policy changes, however, took years to fully impact the functioning of the system, both because of gradual learning by workers and firms, and because some aspects were gradually phased in or had cumulative effects. Although it is unlikely that these

³In 1992, 43 percent of the men and 37 percent of the women in the population initiated a claim for EI benefits. In 1993, 45 percent of the men and 39 percent of the women initiated a claim for EI benefits. In 1994, 46 percent of the men and 41 percent of the women did so while, in 1995, the incidence rate rose to 52 percent for men and to 46 percent for women. In 1996, 100 percent of both the men and the women did so but, in 1997, the incidence rate fell to 49 percent for men and to 41 percent for women.

⁴See Kuhn and Sweetman, 1998a, for a description of the changes in the provisions regarding quitting and being fired for cause as well as an analysis of the impact on the behaviour of claimants. See Kuhn and Sweetman, 1998b, for an analysis of worker and firm responses to the more stringent requirements for eligibility.

legislative changes have a large impact on our principal findings, the findings are subject to the caveat that the program parameters were not constant throughout the period upon which the empirical analysis is based.

EMPIRICAL FINDINGS

The primary focus of this paper is the analysis of a typology of users of EI. Before we develop these types of users and decompose the population of EI claimants accordingly, we first provide a descriptive analysis of the overall population in order to present some stylized facts regarding EI program activity. We introduce and illustrate the various quantitative indicators that are used to measure use patterns, including a comparison between women and men.

Incidence or Propensity to Use Measures for the Entire Population of EI Users

The individual worker is the unit of observation for all of the analysis. There are three types of program incidence measures, each reflecting a different facet of repeat use, which are calculated in order to draw comparisons among the population:

1. The **frequency of use** is measured by counts of the number of claims (i.e., claim counts) as well as the number of calendar years during which EI benefits were claimed over the period from 1992 to 1997.
2. The **length of use** is measured by the number of weeks (i.e., week counts) during either the year of 1996 or the interval 1992–1997 during which EI benefits were collected. These numbers are interpreted in relation to the maximum number of weeks during 1996 (52) or during the interval 1992–1997 (313).
3. The **benefit amount** variable is reported as the nominal amount of benefits paid out during 1996 and between 1992 and 1997.

For some of the claimants in our sample, a spell of EI receipt can be identified and measured fairly easily by inspecting the longitudinal data array described above. For many of the frequent users and those who also claimed non-regular benefits, however, it is sometimes problematic to delineate their EI spells because they tended to have very complex and discontinuous EI program histories. In these cases, often there is not a consecutive sequence of benefit-weeks that delimits an EI spell with a well-defined beginning and end. Many spells of EI receipt were interrupted by brief spells of employment and then subsequently renewed.

Given the several different plausible ways of defining a “claim,” we typically define a regular EI claim as one starting after the two-week waiting period common for most regular benefit claims. There are a number of other detailed issues that stem from the administrative intricacies of the way in which claims are reported. Further discussion and illustration is contained in the appendix.

The relative frequencies for the count of EI claims variable defined in this fashion are reported in Table 1. Note that these frequencies incorporate the survey weights, so they are reflective of the population of EI users in 1996. Consistent with the prior studies cited above, as well as the work presented in the first volume of this project, they reveal that repeat use of EI is a pervasive phenomenon. Table 1 shows that 31.6 percent of the women (column 1) and 39 percent of the men (column 3) had more than four claims involving regular benefits from 1992 to 1997, while 42.4 percent of the women and 52 percent of the men made more than three claims. Repeat usage for non-regular benefits is much less widespread: only 14 percent of the women (column 2) and 11.1 percent of the men (column 4) claimed non-regular benefits more than once.⁵

Table 1: Frequency of Regular and Non-regular EI Benefit Claims Between 1992 and 1997

Number of EI Claims 1992–1997	Female		Male	
	(1) Regular EI	(2) Non-regular EI	(3) Regular EI	(4) Non-regular EI
0	—	56.6	—	64.2
1	18.1	29.4	14.1	24.7
2	22.6	10.5	17.9	7.9
3	16.9	2.8	16.0	2.4
4	10.8	0.6	13.0	0.6
5	10.0	0.1	12.2	0.2
6	10.8		14.3	
7	9.1		11.1	
8 or more	1.7		1.4	
Average value	3.5	0.6	3.9	0.5
Standard deviation	2.0	0.8	2.0	0.8
Share of population of claimants	40.9		59.1	
Sample size (unweighted)	9,031		13,293	
Sample size (weighted)	9,138		13,186	

Notes: Population frequencies are expressed in percentages, and sum to 100 for each column. The numbers for each of the four columns reflect marginal distributions across the entire population of EI users. For instance, in column 2, 57 percent of the population have no claims involving non-regular benefits, 29 percent have one such claim, 11 percent have two such claims, etc. The unweighted sample size refers to the raw number of observations of each type that appear in the estimating sample. The weighted sample size refers to the sample sizes of male and female observations after the survey's weights have been applied. The survey's weighting scheme is designed to render the sample representative of the population of EI users in the year 1996. Since this scheme has little impact on the proportions of the sample who are men and women, the estimating sample was already representative of this population as far as gender shares are concerned.

A different sort of count measure is reported in Table 2, namely the number of calendar years during the interval 1992–1997 (i.e., six years maximum) during which an EI claim was observed. The numbers appearing in the first (second) row indicate the average over the population of the number of years during which regular (any type of) EI benefits were *received*. The mean values for receipt of regular benefits are 3.6 years for women (column 1) and 3.9 years for men (column 3), with slightly less dispersion among men. The numbers appearing in the third (fourth) row indicate the average over the sample of the number of years during which regular (any type of) EI benefits were *initiated*. These numbers are somewhat lower because EI benefits initiated in one year often involved benefits spread over

⁵Part of the discrepancy between the recourse to non-regular EI benefits between male and female claimants is attributable to the inclusion of maternity benefits in this measure.

two years. The mean values are 3.0 years for women and 3.3 years for men with, again, slightly less dispersion among men.

Table 2: Summary of EI Incidence Measures by Gender

Incidence Measure	Female		Male	
	(1) Mean	(2) Standard Deviation	(3) Mean	(4) Standard Deviation
Year counts (max. 6)				
Receive regular	3.6	1.77	3.9	1.78
Receive any	3.7	2.02	4.0	2.01
Initiate regular	3.0	1.78	3.3	1.75
Initiate any	3.1	1.89	3.4	1.83
Week total for 1996 (max. 52)				
Regular	16.1	10.8	15.9	10.5
Non-regular	1.9	5.3	1.0	3.8
Week total for 1992–97 (max. 313)				
Regular	62.0	47.5	71.8	50.4
Non-regular	8.6	15.1	6.0	13.6
Active claim	113.0	76.6	130.0	83.4
Earnings reported	35.6	49.1	37.3	47.3
Amount totals (nominal \$)				
Regular, 1992–97	12,457	10,964	21,596	18,203
Non-regular, 1992–97	1,964	3,779	1,685	4,112
Regular, 1996	3,247	2,683	4,660	3,694
Non-regular, 1996	426	1,317	291	1,126

The count measures discussed above weight claims equally regardless of their length, but suggest the existence of frequent use. The next set of incidence measures, reported in rows 5 through 10 of Table 2, are the week count measures, which capture the length of EI claims in addition to the frequency of claims. Note that they do not reflect durations of uninterrupted claims, but they are very accurate measures of the cumulative number of weeks during which a certain EI program status was observed. In this paper, the term “week counts” is employed to denote the cumulative number of weeks reported during an interval of calendar time of having either an active claim, receiving payment of regular benefits, or receiving payment of non-regular benefits.

In this table, as well as elsewhere in this paper, the statistics for the year 1996 are reported since that is the year for which our estimating sample is most representative of the population of EI users. During 1996, men and women received approximately the same length of regular benefits, while women received almost twice as many weeks of non-regular benefits (which includes maternity benefits). Over the period 1992–1997 men, on average, received 72 weeks of regular benefits and six weeks of non-regular benefits out of a maximum possible number of 313 weeks (i.e., the men received benefits $((72+6)/313)*100\% = 25$ percent of the time), while women received 62 weeks of regular benefits and nine weeks of non-regular benefits, including maternity benefits (on average 23 percent of the time). Over the period 1992–1997 men, on average, had an active claim for 130 weeks out of a maximum possible number of 313 weeks, while women had an active claim for 113 weeks.

The high standard deviations, which are reported in columns 2 and 4, reflect a very high degree of dispersion of incidence for both genders, particularly for the non-regular benefits.

Before discussing the numbers for earnings reported in row 11 of Table 2, it is necessary to describe a particular provision of the EI regime that has a rather important impact on use patterns. Claimants receiving regular benefits may legitimately work part time while receiving EI benefits, provided that they report all earnings on their bi-weekly “report cards.” Under the so-called “EI disregard rule,” in any week they may earn up to either \$50 or up to 25 percent of their weekly benefit — whichever is higher — without any reduction in benefits. Any earnings above that maximum threshold, however, trigger a dollar for dollar reduction in the EI benefit paid. Furthermore, no benefits can be claimed if the person is working full time, regardless of the level of earnings. In that case, the EI claim is suspended. More importantly, a person who finds full-time work before a claim is exhausted may renew the original claim in the event that the new job is terminated, which turns out to be a frequent event.⁶ Furthermore, employment associated with earnings received during a suspended claim (as well as those situations when the “disregard rule” is applied) count as insurable hours towards obtaining eligibility for a subsequent claim. Unfortunately, claim renewals are difficult to identify in the STVC file because entries are frequently backdated, and no indicator for renewals is maintained on file. All that one can observe is the state of receiving earnings while on an active yet suspended claim.

The statistics reported in the third section of Table 2 illustrate that it is common for both men and women to earn wages instead of receiving benefits while an EI claim is still active yet suspended. We mentioned that men had an average of about 130 weeks of active EI claim status over this period, while women averaged a total of 113 weeks of active EI claim status (row 9). Over the same six-year period, on average, men (women) collected regular EI benefits (row 7) and non-regular benefits (row 8) for much shorter periods — approximately 78 (71) weeks. Another noteworthy point is that for a period of approximately 12 percent of the total interval of 313 weeks between 1992 and 1997, many of these workers were gainfully employed during the course of an active EI claim. Men (women) earned and reported wages for an average of 37.3 (35.6) weeks.

At the bottom of Table 2, the third measure of incidence is reported, namely benefit amounts. The average amount of regular benefits for men during the year 1996 was \$4,660 and \$291 in non-regular benefits, while women received an average of \$3,247 in regular benefits and \$426 in non-regular benefits. The average cumulative amount of benefits for men was \$21,596 in regular benefits and \$1,685 in non-regular benefits over the period 1992–1997, while women received an average of \$12,457 in regular benefits and \$1,964 in non-regular benefits. Over the period 1992–1997, men thus received 73 percent greater regular EI benefits than women, despite the fact that they collected benefits over periods that were only 16 percent longer. Much of this remarkable discrepancy reflects substantially higher earnings received by EI male claimants — a differential which greatly exceeds any

⁶For example, if a person has 10 weeks remaining on a claim when a job is found, the claim is suspended. If that job lasts only three weeks, then he or she can renew that original claim without a new waiting period and with an entitlement to 10 weeks of benefits remaining rather than having to initiate a new claim. However, a person has only one year to claim all benefits associated with any particular EI claim. Therefore, if the renewal displaces the 10 weeks such that some of those benefit-weeks extend beyond one year after the initiation of the original claim, then those weeks of benefits will not be paid.

estimate of the average gender earnings differential for the Canadian labour force.⁷ A likely explanation for this wide difference between genders lies in the occupational composition of the population of EI claimants. The tendency for male (female) EI claimants to work in high-wage (low-wage) occupations is stronger among the population of EI users than among the entire Canadian labour force.

In summary of the statistics presented in Table 2, with the exception of non-regular EI benefits, on average men draw more resources from the EI program — in terms of year counts, the week counts (except for the year 1996), and especially the value of benefits — than women. Another recurrent statistical pattern is that the distribution of these three variables has a very high degree of variation, suggesting the existence of heterogeneous employment and EI use patterns.

To supplement the summary statistics that are presented in Table 2, histograms of the entire distributions of the EI program activity variables across individuals over the 1992–1997 interval are presented in Figure 1 for men and Figure 2 for women. These diagrams furnish descriptions beyond the simple means and standard deviations appearing in Table 2. For each figure, the number of weeks of EI program activity reported between 1992 and 1997 is calculated as a percentage of the maximum total of 313 weeks, and this measure appears on the horizontal axis.⁸ The fraction of the population of EI users within each band along the horizontal axis is read from the vertical axis.

The first diagram in figures 1 and 2 shows the histogram for the number of weeks of active claim status as a proportion of the maximum number of elapsed weeks for men and women, respectively. The median value for men (the proportion of 313 calendar weeks during which the worker had an active claim) is 36 percent, while the histogram for women has a similar shape but lies somewhat to the left, with a median of 29 percent. Despite these relatively low values for the medians, note the existence of remarkable clusters of workers at very high values. For both genders, between one and two percent of individuals had an active claim during *every single* week of that six-year interval. Approximately 10 percent of the women and 15 percent of the men had an active claim for over 80 percent of the weeks during the interval 1992–1997.

The second diagram in figures 1 and 2 shows the histogram for the number of weeks of regular EI benefits received as a proportion of the maximum (divided by 313 and multiplied by 100) for men and women, respectively. For men, the maximum value is 74 percent, and the median is about 19 percent; for women, the maximum value is 77 percent, and the median is 16 percent. Again the medians do not reveal the right tail of the distribution: approximately 11 percent of the male claimants and nine percent of the female claimants collected benefits for over 50 percent of weeks of the six-year interval. The histogram for women has a similar shape to the one for men but lies to the left of it.

The third diagram in figures 1 and 2 shows the histogram for the number of weeks of non-regular benefits received (divided by 313 and then multiplied by 100) for men and

⁷Citing evidence in 1994, Benjamin, Gunderson, and Riddell, 1998, indicate that when only full-time workers are concerned, estimates of the raw hourly wage differential tend to be roughly in the range of 25 percent so that, on average, women earn approximately 75 percent of the level of earnings for men (p. 426). When adjustments are made for variables such as human capital, experience, and marital status, the estimates for the wage differential diminish.

⁸For instance, a value of 50 reflects 50 percent of the maximum total of 313 weeks, or 156.5 weeks. A value of 33.3 reflects 33.3 percent of the maximum total of 313 weeks, or 104 weeks.

women, respectively. For men, the maximum value is approximately 45 percent, but three quarters of the histogram is clustered at or below five percent. For women, the histogram lies to the right of the one for men, reflecting the greater use of these provisions by women.

Figure 1: Distributions for Male 1996 EI Claimants

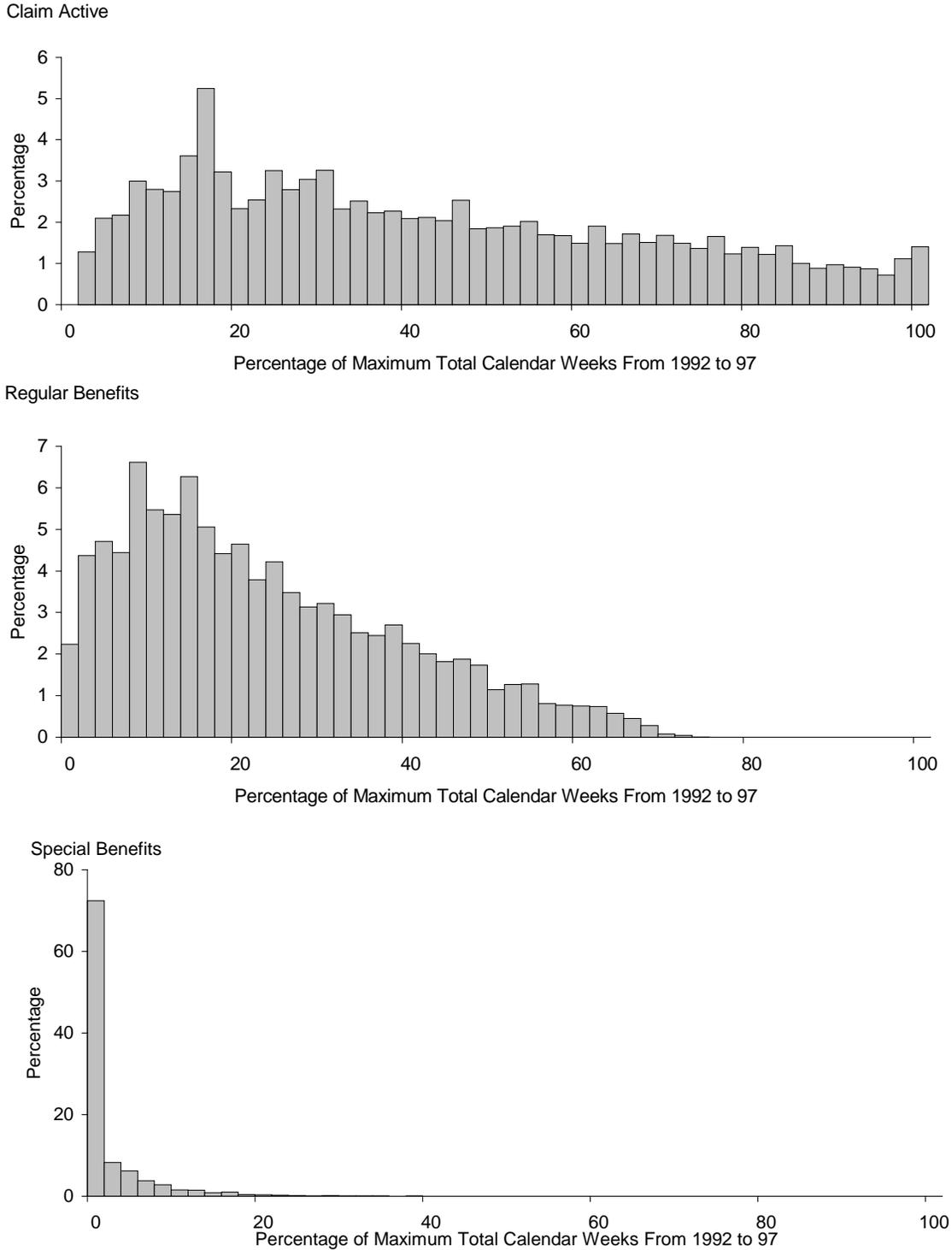
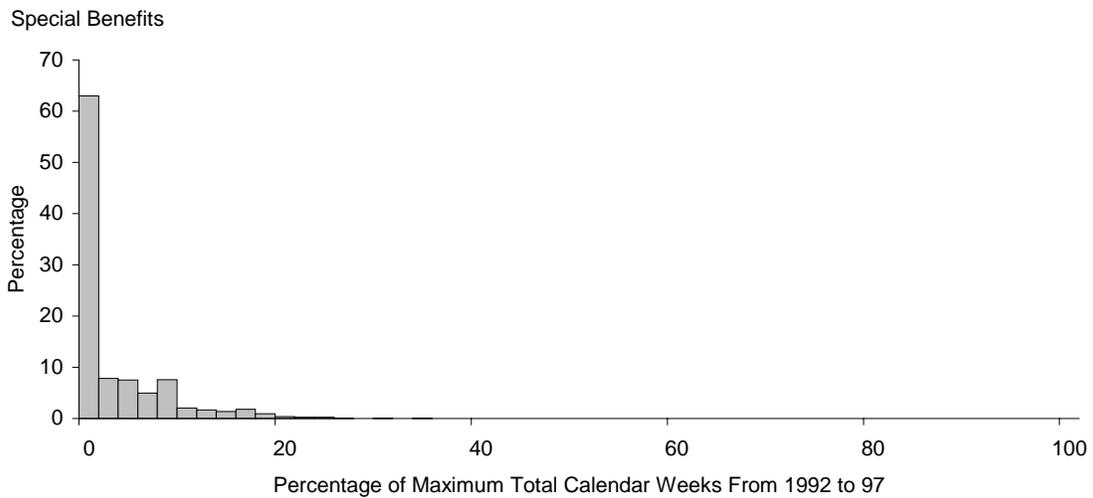
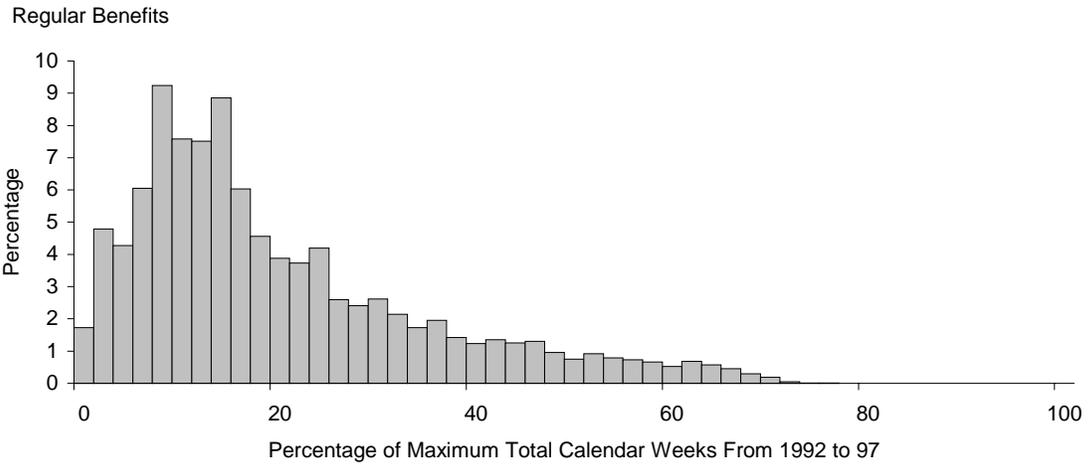
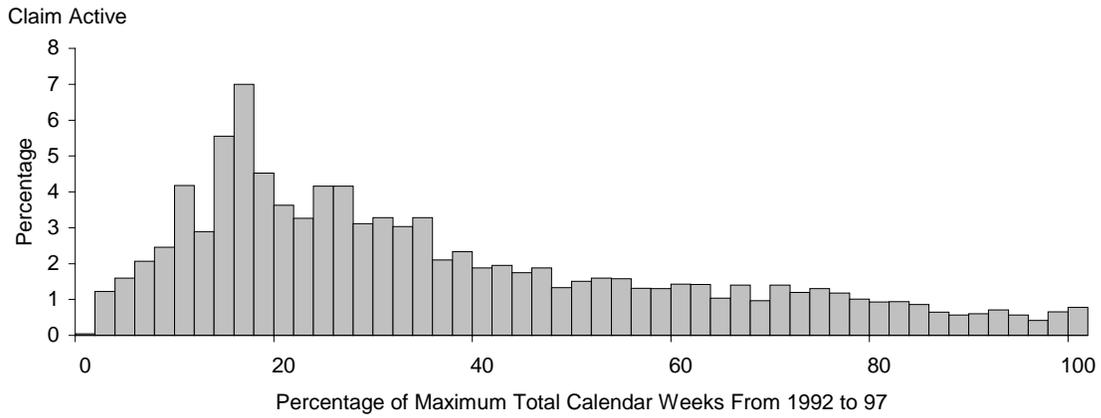
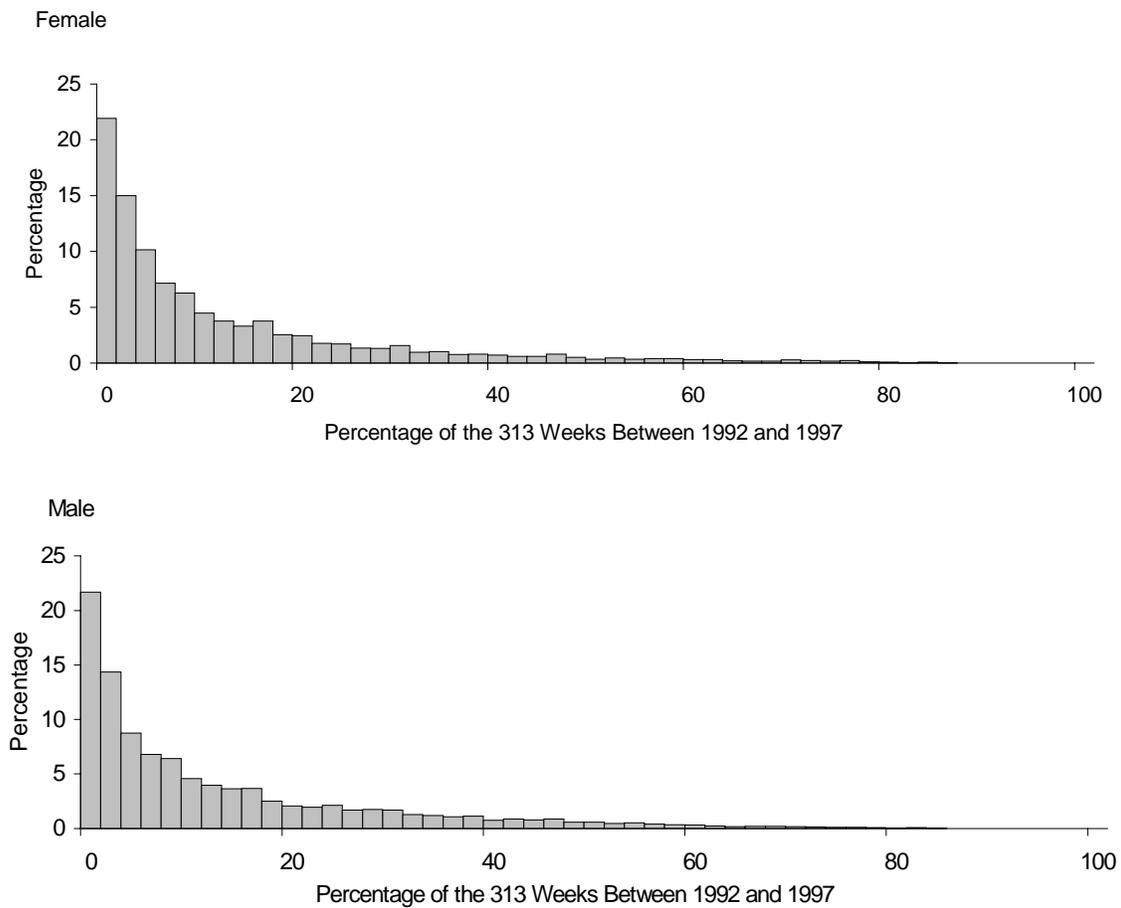


Figure 2: Distributions for Female 1996 EI Claimants



These diagrams reveal the important discrepancy between the indicators of weeks of active claim status and weeks of benefit receipt status. Histograms for the latter (the second diagram in figures 1 and 2) lie far to the left of the histograms for the former (the first diagram in figures 1 and 2). The difference is due largely to weeks during which EI claims were active and earnings were reported, thereby negating the entitlement to receiving benefits that week. Figure 3 shows the histograms for the variable of total weeks during which earnings were reported during the 313 weeks of the interval 1992–1997. Like figures 1 and 2, it is expressed as a percentage. The histograms for women (top panel) and men (bottom panel) are both heavily skewed to the left. The median (mean) value for men is 18 weeks (37 weeks), but 10 percent of the men have more than 100 weeks (corresponding to about 33 percent on the graph), and the corresponding values for women are only slightly lower. Although the values are not shown in a graph, for approximately one half of the population, 25 percent or more of the total weeks spent on an active EI claim are accounted for by employment activity.⁹ It is argued below that this phenomenon plays an important role in shaping the EI usage patterns of some of the repeat users.

Figure 3: Incidence of Weeks With Earnings While on an Active EI Claim



⁹In contrast to the diagrams shown in Figure 3, which indicate the proportion of total number of calendar weeks (i.e., the 313 weeks between 1992 and 1997 inclusive) during which an EI claim was active and earnings were reported, this ratio is expressed as the cumulative number of weeks between 1992 and 1997 during which earnings were reported, divided by the cumulative number of weeks of active benefit status.

Table 3 contains the results of a cross-tabulation between the number of claims filed between 1992 and 1997 and EI benefit amounts. Columns 1 and 2 (for women), and 5 and 6 (for men) show the relationship between the number of EI claims filed and the total amount of regular and non-regular benefits received between 1992 and 1997. The generally increasing relationship discerned between frequency of EI claims and the total amount of regular benefits received is to be expected as, by definition, each distinct claim involves a separate entitlement and an independent set of weeks of regular benefits. Those with a high number of claims for *regular* benefits, however, tended to have lower total levels of *non-regular* benefits than infrequent claimants, which indicates that the most frequent users of EI tended to rely less heavily on non-regular EI benefits than did occasional users.

The numbers presented in columns 3, 4, 7, and 8 refer only to benefits received in 1996, during which, because of the way the sample was constructed, each individual initiated an EI claim. The amount of regular EI benefits received in 1996 — when all individuals had roughly the same time frame in order to attain entitlements — tended to rise with the number of claims filed from 1992 to 1997. This indicates that frequent users had substantially higher regular benefits during that particular year, but this pattern is much more marked for men than for women.

Table 3: Average EI Benefit Amounts Cross-Tabulated With the Number of Claims Made From 1992 to 1997

Number of Claims, 1992–97	Female				Male			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Regular, 1992–97	Non-regular, 1992–97	Regular, 1996	Non-regular, 1996	Regular, 1992–97	Non-regular, 1992–97	Regular, 1996	Non-regular, 1996
1	4,665	1,919	3,043	691	4,847	1,250	3,026	371
2	7,486	2,051	2,976	504	9,010	1,401	3,393	299
3	10,092	2,429	3,193	467	13,705	2,159	3,983	379
4	13,440	2,274	3,179	309	19,649	2,176	4,314	314
5	16,986	2,276	3,256	321	27,817	2,125	5,030	255
6	20,390	1,357	3,363	189	37,115	1,630	6,140	202
7	27,525	1,178	4,343	203	47,438	1,088	7,605	196
8	23,144	1,105	3,588	274	42,931	1,063	6,791	136
9	14,220	407	2,398	24	31,585	1,840	5,050	181
	Costs per Claim		Not Applicable		Costs per Claim		Not Applicable	
	(9)	(10)			(11)	(12)		
1	4,665	1,919			4,847	1,250		
2	3,743	1,026			4,505	700		
3	3,364	810			4,568	720		
4	3,360	568			4,912	544		
5	3,397	455			5,563	425		
6	3,398	226			6,186	272		
7	3,932	168			6,777	155		
8	2,893	138			5,366	133		
9	1,580	45			3,509	204		

Notes: All dollar values are in nominal terms.

The bottom panel of Table 3 shows the benefit amounts *per claim* filed. For men, from the second claim until the seventh claim, total regular benefits *per claim* rose with the number of claims filed over the period 1992–1997, while total regular benefits per claim remained fairly stable for women after the first claim was filed. For both genders, total non-regular benefits per claim fell monotonically with the number of claims filed, indicating again that frequent users do not receive non-regular benefits recurrently. The main result for Table 3 is that among men, the amount of regular EI benefits *per claim filed* is much greater among frequent users than is the case for non-frequent users.

Typology Analysis of EI Users

Although the existing literature treating the repeat use of EI employs several definitions of what constitutes frequent use, most of the studies are oriented around a dichotomy between occasional users (typically defined as those having one or two claims within a five-year period) and frequent users (typically defined as those having three or more claims in a five-year period). Our definition of repeat use, which we use only at a later stage of this paper, is slightly less restrictive: three or more claims in six years.¹⁰ It is likely that whatever criterion is employed, both of these groups are composed of several different types of users, each with distinct employment and EI use patterns that are masked when incidence statistics are estimated for the aggregated groups of frequent and occasional users. In order to examine this heterogeneity more closely, we decompose the occasional users into two types — “classic-displaced” and “twice-unlucky” users. Frequent users are divided into five finer categories according to their history of EI claims — the “strictly seasonal” user, the “mostly seasonal” user, the “frequent but non-seasonal” user (abbreviated “FNS”), the “mostly frequent but non-seasonal” user (abbreviated “mostly FNS”) and the “perpetual” user. In addition to these seven types, which are described below, we also identify two types for which the frequent versus occasional user classification is ambiguous — the new entrants into the labour force and the miscellaneous users. The entire population of EI users is partitioned into these nine exhaustive and mutually exclusive categories.

Our strategy in developing the categorization scheme is first to appeal to theoretical prototypes of EI users. Having described the prototype’s labour market pattern, including employment, unemployment (i.e., cyclical, structural, or seasonal), and EI outcomes, we then search the database for the observed statistical patterns that most closely correspond to the theoretical scenario. From the STVC file, we have extensive information from the history of EI claims indicating program activity and, by implication, some information pertaining to pre-claim employment activity. From the SRUEI, there is information on the employment and unemployment outcomes, but it is limited to the year 1997. For the other years of our interval — 1992 through 1996 — we observe only the claims history. The taxonomy of user types is therefore based mostly on EI claims history.

The primary drawback of this procedure of sorting the types of users into categories lies in the fact that the EI claims history is missing important information. Specifically, in the case of

¹⁰We decided to make use of as many years of data as were available. Had we not included the year 1997 in our analysis, our definition of repeat use would have been three claims in the five-year period of 1992 to 1996. Since we base our analysis on less aggregated categories than occasional versus frequent users, however, the precise definition of repeat use is immaterial to our study. At the time that this work was carried out, the data for 1998 had not been fully revised, so we elected not to incorporate it into our work.

occasional users in particular, one cannot account for much of the time spent off-claim. If an occasional user is displaced and finds work quickly, no EI claim is observed, but from a policy perspective this lacuna is not important. If an occasional user is displaced, but is unable to amass the number of weeks of employment required to qualify for benefits, the episode of unemployment is not indemnified and is not observed. There is thus a strong risk of underestimating the unemployment experience of occasional users. Among frequent users, however, it is less likely that a significant spell of non-indemnified unemployment will occur. This is particularly true for EI users with high year counts because, for this group, much of the sampling window between 1992 and 1997 can be accounted for by either an active (and observed) EI claim or employment activity required to obtain eligibility for a claim.

We make conjectures regarding the predominant employment/unemployment pattern that each group of users is likely to display. We are forced to make assumptions regarding the behavioural factors that would serve to distinguish between the groups of users. This shortcoming is inherent to any typology analysis that, by definition, sorts subjects primarily according to observed behaviour. The propositions that follow are subject to the caveat that, due to data constraints, we are probably understating the amount of unemployment that occasional users of EI experience. On the other hand, the implications concerning the frequent users are more reliable.

Descriptions and Definitions of User Types

1. The **classic-displaced user** is defined as one who claimed once between 1992 and 1997, and is thus an occasional user of EI. By the design of the SRUEI, this claim was initiated in 1996. This group is chosen to reflect the proto-typical displaced worker around which much of the existing research on displaced workers is oriented (i.e., someone who was displaced from a job at which he or she had some tenure, and who has a fairly high degree of labour force attachment). The nature of the layoff that incited this claim is unknown; it could be due to demand-deficient or structural reasons, and it could be permanent or temporary. It is possible that this group includes some workers who were laid off a number of times, but who were successful in claiming benefits only in 1996.¹¹ Classic-displaced users constitute 14.1 percent of the population of EI users for women, and 9.8 percent for men.
2. The **perpetual user** is defined as one who had an active claim for over 90 percent of the period 1992–1997: 280 or more weeks out of a maximum total of 313. During many of these weeks, however, it is demonstrated below that he or she was not receiving benefits. They constitute 3.5 percent of the population for women and 5.5 percent for men. It is possible that the main distinction between a perpetual user and the other types of frequent users is of an administrative rather than an economic nature. However, as will be seen, they do have a very high level of earnings while they are on active claim status relative to the other groups, suggesting that there is some difference in labour market behaviour.
3. The **twice-unlucky user** had two claims over this period, and is thus considered to be an occasional user of EI. By survey design, one of the claims must have occurred in 1996. This group is chosen to reflect the profile of an occasional user

¹¹By a similar token, a worker could have been laid off but found work so quickly that he or she never received EI benefits.

of EI who likely has a high degree of labour force attachment and a fairly stable employment pattern, but who happened to be displaced at least twice during the interval 1992–1997. For example, such a worker might have been employed at a firm that went bankrupt in one instance, and might have been structurally unemployed for the other occasion. It is possible that some workers within this group were laid off more than twice, but failed to attain eligibility for benefits more than twice. They constitute 19 percent of the population for women and 13.7 percent for men.

4. The **strictly seasonal worker** is a frequent user who is identified as follows. We first take the point of initiation of the EI claim in 1996, around which we construct an eight-week window whose endpoints are four weeks before that point of time and four weeks after it. This was chosen as the reference year because all workers report an EI claim in 1996. This window serves as the benchmark for determining the precise timing of the seasonal pattern, provided that a recurring seasonal pattern exists. If the individual initiated an EI claim in every other year (1992, 1993, 1994, 1995, and 1997) within that particular eight-week window, he or she is classified as a strictly seasonal worker.¹² Note that we allow the workers within this category to have different seasonal patterns, although many of them work in the spring and summer months and collect EI benefits during the fall and winter months. They constitute 6.3 percent of the population for women and 4.1 percent for men. This number is remarkably low and suggests that seasonal patterns tend not to be very stable for a given individual over time. In the aggregate, employment in certain segments of the labour market is characterized by very marked patterns of seasonality, but at the level of individual workers, patterns are much more erratic. It could be argued that 1996 may be an extreme year, so that comparisons with it result in fewer such workers than if the same exercise were conducted using a different base year. While this is possible, it seems somewhat unlikely, and there is no evidence to support it in the time series graphs, which are presented below.
5. The **mostly seasonal worker** is a frequent user who is identified in a similar but less restrictive fashion than the strictly seasonal worker. We employ the same frame of reference for establishing the timing of the seasonal pattern: an eight-week window centred at the initiation point of their 1996 claim. If the individual initiated an EI claim in any three or four of the other five years during this period (1992, 1993, 1994, 1995, and 1997) within that eight-week window, he or she is classified as a mostly seasonal worker. They constitute 10.5 percent of the population for women and 10.8 percent for men.

¹²For workers who filed multiple claims in 1996, we use a very generous definition to determine seasonality. If either claim filed in the benchmark year of 1996 matches with any claim filed in another given search-year, say 1993, then 1993 is marked as one of the years during which the claimant was potentially seasonally employed. In other words, 1993 will count as a seasonal year if a claim filed in that year occurred during either window that was selected from 1996. If every non-benchmark year in the EI claims history (1992, 1993, 1994, 1995, 1997) is marked by this algorithm, then the worker is classified as a strictly seasonal user of EI. For example, an individual may have held a particular seasonal job in the summer of 1992, 1993, and 1996, held another particular seasonal job in the winter of 1994, 1995, 1996, and 1997, and filed an EI claim each time. For this individual, two windows of seasonality would be created. There would be three matches for the claim filed in the winter of 1996, and two matches for the claim filed in the summer of 1996. In each of the five years other than 1996, at least one match was made, so he or she would be classified as a strictly seasonal worker.

6. The **relatively new entrant** to the labour market is defined as one who had fewer than five years of labour market experience in 1996. Experience is calculated (conservatively, given the nature of the education categories) as age - education - 7. Since many of them were only in the sample for two or three years, compared with six years for the other categories of users, they constitute a special cohort that is selected for a separate analysis. They constitute 10.9 percent of the population for women and 13.2 percent for men.
7. The **frequent but non-seasonal (FNS) user** is a type of repeat claimant who does not meet the description of the seasonal, nor of the mostly seasonal, nor of the perpetual user. The FNS *initiated* an EI claim in each of the six years; this is a much stronger condition than simply obtaining benefits in each calendar year. Despite the existence of many claims, no pattern of seasonality over the six-year period was discerned for any of these users. They constitute 2.4 percent of the population for women and 3.4 percent for men.
8. The **mostly frequent but non-seasonal (mostly FNS) user** is identified in a fashion similar to the frequent but non-seasonal users, but with less restrictive criteria. This type of individual is a repeat user who had a claim in four or five of the six years between 1992 and 1997, but for whom no pattern of seasonality was discerned. Since every worker in the sample filed an EI claim in 1996, this implies that he or she filed a claim in three of four of the following five years: 1992, 1993, 1994, 1995, and 1997. They constitute 12.8 percent of the population for women and 19 percent for men.
9. The **“other frequent” user** category, or miscellaneous user category, is a residual category of any user who does not meet the criteria for any of the eight other groups. Note that this implies that users in this group must have made EI claims in exactly three of the six years in the 1992–97 interval. (But more than one claim in a year is possible.) If a person filed claims in less than three years, he or she would be classified as either a classic-displaced user or a twice-unlucky user. If a user filed claims in more than three years, he or she would be classified in one of the previously defined frequent user categories. They thus constitute a group of frequent users that are heterogeneous and lack common, salient features. Given the rather fine, detailed breakdown of user types that we carry out, this group is surprisingly large, comprising 20 percent of the population for both genders.¹³

¹³See Appendix B for a description of the sorting algorithm that was executed to create the groups and to ensure that they are both exhaustive and mutually exclusive.

Statistical Results by User Type

The statistical profile for each type of user has a cross-sectional aspect and a chronological one. First, for each of the nine types, we calculate the values for the three types of incidence statistics: (1) the frequency of recourse to the EI regime (i.e., claim counts), (2) the length of claim (i.e., week counts), and (3) the amount of the claim. This comparative analysis employs the same indicators that were used in the previous section, and is strictly cross-sectional. The estimates that are discussed below (tables 4a, 4b, and 4c) represent averages across the individuals within each type of user. When discussing the numbers presented in tables, we typically refer to average values without explicitly indicating so in order to avoid redundancy.

Second, for each of the nine groups, we present time series analyses with the aid of graphs ranging between 1992 and 1997. These series appear in figures 4 through 12. The primary objectives of the time series exercise are to examine seasonal patterns of usage as well as gender-based differences. As noted above, because of the way the sample was constructed, one cannot infer much in regards to year-over-year trends in overall EI use over the period 1992–1997. This is particularly true in the case of occasional users, who are clustered in the years 1996 and 1997.

Table 4a: Share of EI Benefit-Weeks and EI Benefits Paid by Type of EI User

Type of EI User	(1) Population Frequencies	(2) Share of Weeks, Regular 1992–97	(3) Share of Weeks, Non- regular 1992–97	(4) Share of Amount, Regular, 1992–97	(5) Share of Amount, Non- regular, 1992–97	(6) Share of Amount, Regular, 1996	(7) Share of Amount, Non- regular, 1996
Female							
Classic	14.1	5.5	14.0	5.8	15.5	14.8	26.3
Perpetual	3.5	7.4	2.0	7.2	2.0	4.5	1.5
Twice-unlucky	19.0	11.5	20.4	11.8	21.2	17.5	23.3
Seasonal	6.3	8.6	2.4	9.4	2.7	5.9	1.8
Mostly seasonal	10.5	15.4	8.1	15.6	8.1	11.2	5.4
New entry	10.9	6.1	10.7	5.2	8.6	8.2	10.4
FNS	2.4	6.1	1.4	6.4	1.5	3.5	1.3
Mostly FNS	12.8	21.0	15.1	20.1	14.7	13.6	9.4
Other frequent	20.3	18.6	25.8	18.3	25.7	20.7	20.6
Male							
Classic	9.8	2.9	7.5	2.5	7.3	7.5	11.5
Perpetual	5.5	11.0	3.7	12.7	4.5	9.8	2.8
Twice-unlucky	13.7	7.0	11.4	6.3	11.1	10.8	12.6
Seasonal	4.1	6.8	1.5	7.5	1.7	5.7	1.9
Mostly seasonal	10.8	16.6	7.9	17.3	8.9	14.0	7.4
New entry	13.2	6.8	16.3	4.9	12.9	7.8	19.7
FNS	3.4	6.7	2.2	7.2	2.3	5.0	2.0
Mostly FNS	19.0	26.0	21.9	26.6	24.0	21.5	18.0
Other frequent	20.4	16.2	27.6	16.0	27.2	17.9	24.0

Notes: All dollar values are in nominal terms.

Table 4b: Number of Claims and Benefit-Weeks by Type of EI User, 1992–1997

Type of EI User	(1) Number of Claims, 1992–97, Regular	(2) Number of Claims, 1992–97, Non-regular	(3) Total Weeks, Active Claim (Max. 313)	(4) Total Weeks, Regular (Max. 313)	(5) Total Weeks, Non-regular (Max. 313)	(6) Total Weeks, Earnings Reported (Max. 313)
Female						
Classic	1.0	0.5	40	24	8	7
Perpetual	6.9	0.7	299	133	5	168
Twice-unlucky	2.0	0.6	66	38	9	15
Seasonal	6.6	0.4	157	84	3	37
Mostly seasonal	5.6	0.6	165	91	7	51
New entry	2.2	0.6	64	34	9	21
FNS	6.8	0.6	233	153	5	71
Mostly FNS	5.1	0.8	180	101	10	63
Other frequent	3.3	0.7	104	57	11	30
Male						
Classic	1.0	0.3	33	21	5	6
Perpetual	6.7	0.5	300	143	4	135
Twice-unlucky	2.0	0.4	61	37	5	11
Seasonal	6.7	0.3	193	119	2	43
Mostly seasonal	5.9	0.5	191	110	4	53
New entry	2.3	0.6	71	37	7	17
FNS	6.7	0.5	229	142	4	64
Mostly FNS	5.1	0.6	182	98	7	56
Other frequent	3.4	0.6	104	57	8	26

1. **The classic-displaced users** account for a much lower than proportionate share of the regular EI benefits received by this sample. Table 4a shows each user type’s share of benefit-weeks and benefit amounts relative to the levels for the entire population. These shares thus sum to 100 across user types, and can be readily compared with the population frequencies in order to determine the degree of proportionality of use. For women, this group’s share is under six percent either by value or by benefit-weeks, compared with a 14 percent share of the population. For men, it is around three percent either by value or by benefit-weeks compared with 10 percent of the population (columns 2 and 4). Table 4b displays the numbers for the claim counts and the week counts for each user type. By definition of the classic-displaced user, the number of claims for regular benefits for both genders is 1.0, which is the lowest among all types of EI users (Table 4b, column 1). Their total time of exposure to the EI program, as measured by the number weeks of active EI claim (Table 4b, column 3), is briefer than for any other type, and they received the lowest amounts of regular EI benefits among all user types (Table 4c, column 1). Table 4c has the same form as Table 4b, and lists the levels of benefits

received for the user types. For the entire period of 1992–1997 as well as for the year 1996, women received almost as much in terms of regular benefits as did men, and women received substantially higher amounts of non-regular EI benefits. Note that for every other type of user, men receive higher levels of regular EI benefits than women. Given its importance in discussions surrounding EI policy, the relatively small size of this group is remarkable.

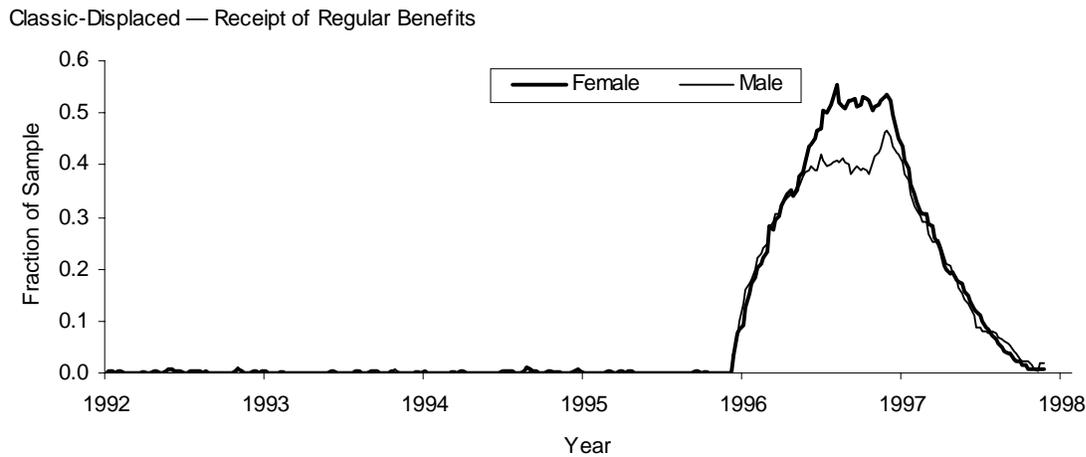
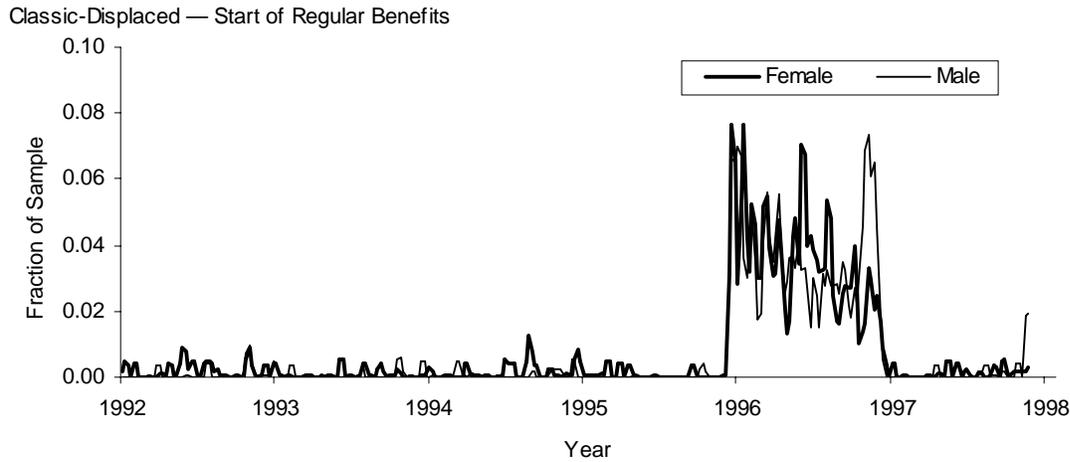
Table 4c: Amounts of EI Benefits Paid by Type of EI User (\$)

Type of EI User	(1)	(2)	(3)	(4)
	Total Amount, Regular, 1992–97	Total Amount, Non-regular, 1992–97	Total Amount, Regular, 1996	Total Amount, Non-regular, 1996
Female				
Classic	5,151	2,157	3,408	792
Perpetual	26,091	1,145	4,264	190
Twice-unlucky	7,756	2,187	2,990	521
Seasonal	18,508	843	3,032	122
Mostly seasonal	18,519	1,512	3,458	218
New entry	5,950	1,535	2,430	405
FNS	32,542	1,226	4,669	229
Mostly FNS	19,523	2,253	3,453	311
Other frequent	11,229	2,481	3,297	431
Male				
Classic	5,510	1,257	3,550	343
Perpetual	49,513	1,356	8,204	147
Twice-unlucky	9,912	1,370	3,664	267
Seasonal	39,264	709	6,422	137
Mostly seasonal	34,496	1,383	6,000	198
New entry	8,033	1,643	2,763	436
FNS	45,756	1,167	6,941	174
Mostly FNS	30,221	2,130	5,279	275
Other frequent	15,870	2,249	4,100	343

Notes: All dollar values are in nominal terms.

The time series patterns for the classic-displaced user are presented in Figure 4. There is a set of two graphs for each type of user, and the one entitled “Start of Regular Benefits” gives the clearest perspective of the seasonality of the EI usage patterns. The abscissa on the horizontal axis corresponds to the week during which the EI benefits were *initiated*, and the ordinate on the vertical axis corresponds to the proportion of the type of user that initiated a claim during that particular week. In the first graph, one can obtain a sense of the timing of the start of benefits in the aggregate, which usually corresponds to a point of time two weeks after the separation. The second graph indicates the proportion of each group of users that received EI benefits during that particular week. One can obtain a sense of the duration of benefits from these graphs; an abrupt drop-off point in the graph corresponds, in many instances, with the beginning of new jobs for many of the users.

Figure 4: Classic-Displaced Users



Because of the way the category of classic-displaced users was constructed, all of them initiated EI claims for regular benefits in 1996, so the first panel of Figure 4 shows that all observations occur in that year. Notice that there is no substantial and clear pattern of seasonality within the year 1996, whereas (as indicated below) there are strong seasonal patterns for many of the other types.

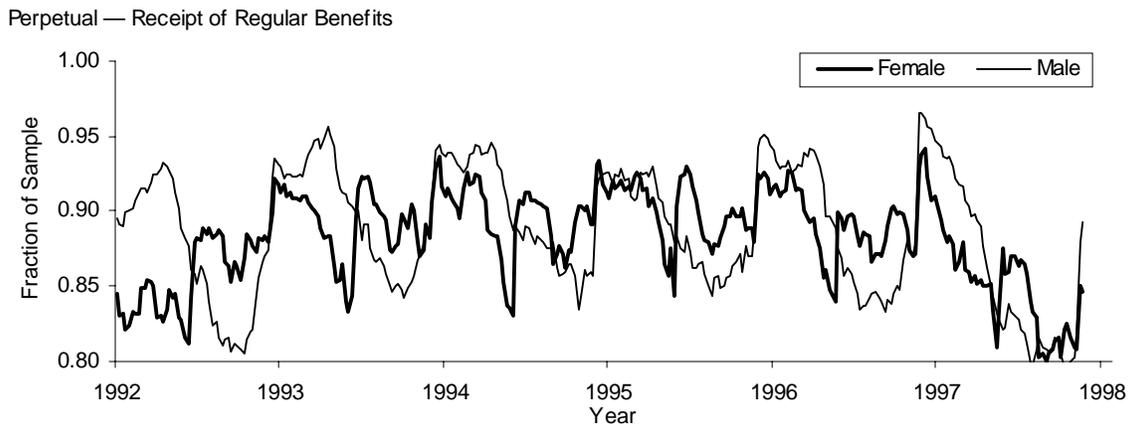
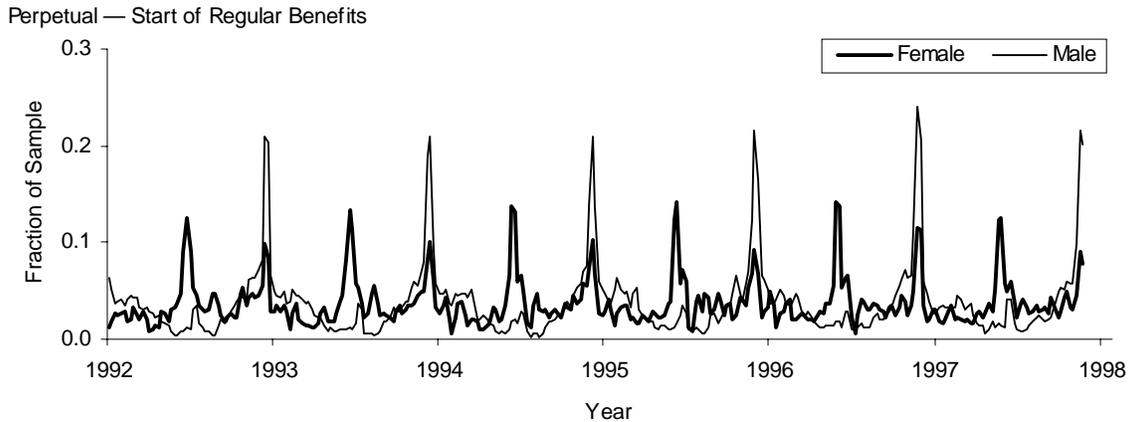
2. The **“perpetual” users** spent almost the entire six-year period on an active EI claim, as the total weeks spent in that status for both men and women is approximately 300 weeks out of a maximum of 313 weeks (column 3, Table 4b). Unsurprisingly, this group accounts for a very disproportionate level of EI usage. They account for about 3.5 percent of the female population but approximately seven percent of the regular EI benefits by value and by benefit-weeks; they account for approximately 5.5 percent of the male population, and 13 percent and 11 percent of the regular EI benefits by value and by benefit-weeks, respectively (Table 4a, columns 2 and 4). On the other hand, their shares for drawing on non-regular benefits tend to be disproportionately low. In 1996, the year during which all respondents filed an EI claim and faced the same time frame to amass benefits,

male perpetual users received higher benefit levels than any other group (Table 4c, column 3), receiving nine times as much in EI benefits as the male classic-displaced users from 1992 to 1997 (Table 4c, column 1).

In comparison with the FNS user type, who were also very heavy users of the EI regime, women (men) among the perpetual users collected benefits for shorter (equally long) periods (Table 4b, column 4). The perpetual users appear to have had more fragmented employment patterns than the FNS users, as the former made heavy use of the regulation permitting claimants to be employed during the course of an active EI claim. For instance, male (female) perpetual users had an average of 135 (168) weeks of earnings reported during 300 (299) weeks of active claim status, while the male (female) FNS users had only 64 (71) weeks of earnings reported during 229 (233) weeks of active claim status (Table 4b, column 6).

In Figure 5, remarkable seasonal patterns are displayed for perpetual users, with a significant spike for men at the end of each calendar year. Women also displayed a marked pattern of seasonality, but their spike indicates that the point of initiation of benefits occurred in the middle of the year. As discussed below, these seasonal patterns, along with the discrepancy between men and women, resemble those exhibited by the other types of frequent users.

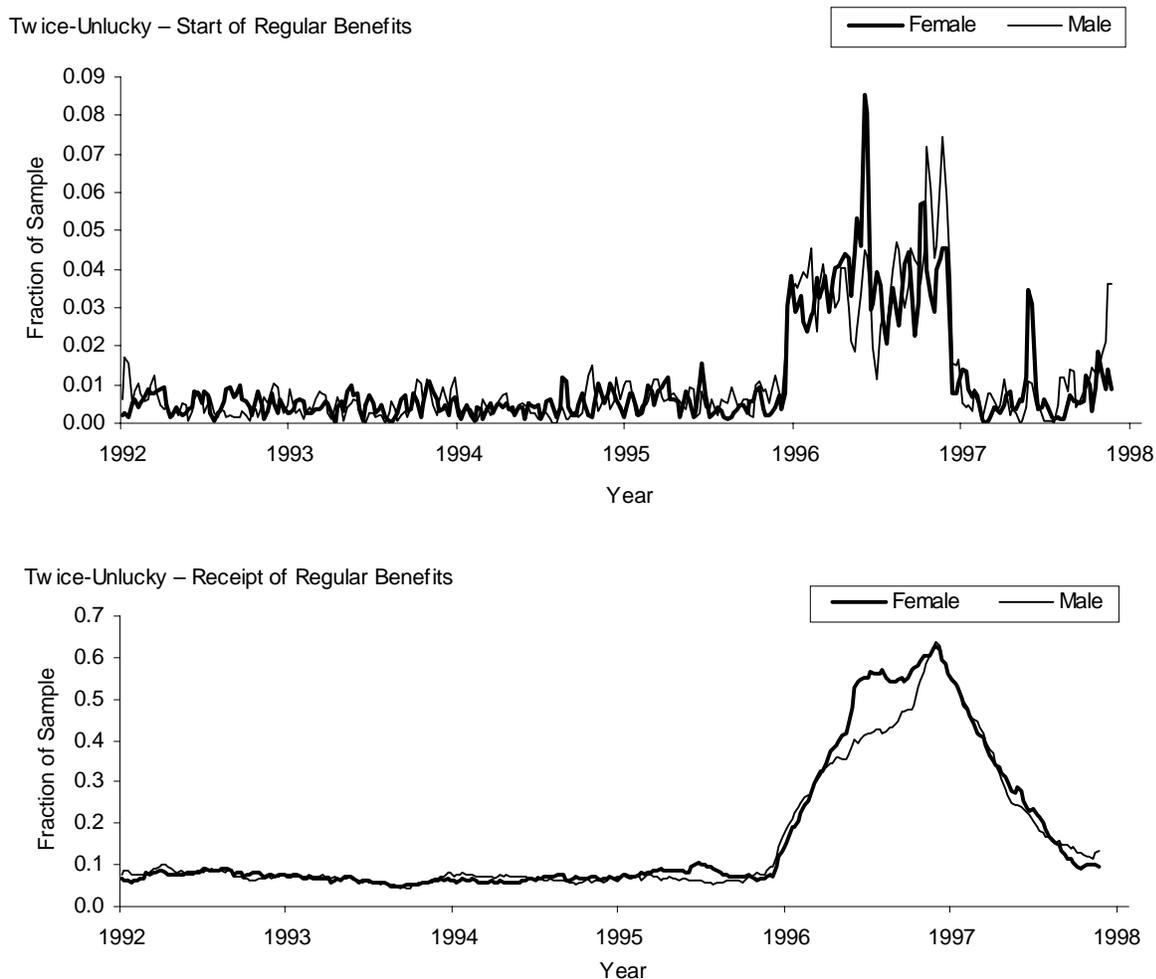
Figure 5: Perpetual Users



- The profiles for the **twice-unlucky** users resemble that of the other group of occasional users, the classic-displaced users. By definition, the number of claims for regular benefits for both genders was 2.0, which was the second lowest among all types of EI users (column 1, Table 4b). This category accounted for a less than proportionate share of regular EI benefits (around 12 percent either by value or by benefit-weeks compared with 19 percent of the population for women; 6–7 percent either by value or by benefit-weeks compared with 14 percent of the population for men; columns 1, 2 and 4, Table 4a). Their total time of exposure to the EI program, as measured by the number of weeks of active claim, was briefer than for any other group with the exception of the classic-displaced users (column 3, Table 4b). For the entire period of 1992 to 1997 as well as for the year 1996, men received somewhat higher amounts of regular benefits than women (Table 4c, columns 1 and 3), despite the fact that men and women have similar values for the length of regular EI benefits (Table 4b, column 3).

In Figure 6 it appears that, for the twice-unlucky users, the EI claim other than the one initiated in 1996 tends to occur in fairly uniform fashion in the remaining years 1992 to 1995, and 1997, and casual inspection does not suggest the existence of a strong seasonal pattern.

Figure 6: Twice-Unlucky

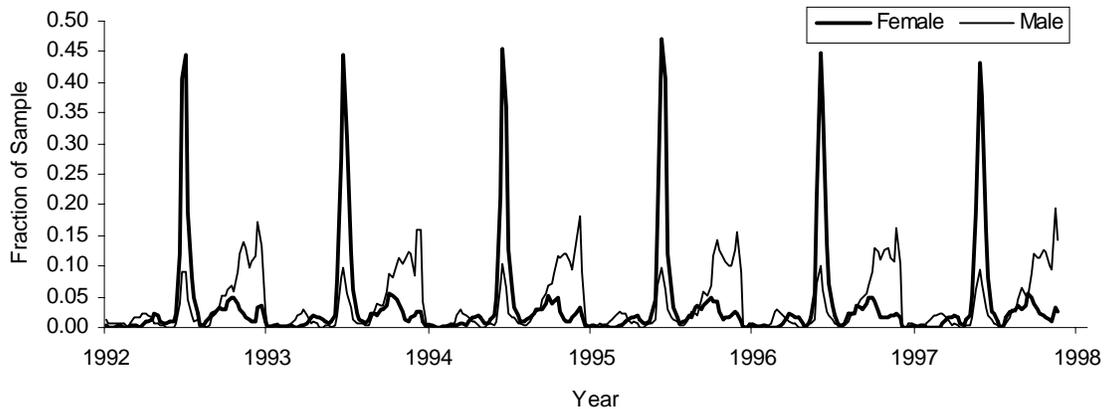


4. The **strictly seasonal** type did not, perhaps unexpectedly, constitute a large share of the population of EI users: 6.3 percent for women and 4.1 percent for men. Unsurprisingly, they did account for a disproportionate share of the regular EI benefits: approximately nine percent of the total number of benefit-weeks and total amount of benefits paid for women, and 6.8–7.5 percent of each incidence measure for men (Table 4a, columns 2 and 4). Note that this degree of disproportion is not as high as is the case for the perpetual users. Strictly seasonal users also tended to receive benefits for relatively long periods of time: 84 weeks for women and 119 weeks for men (Table 4b, column 4). Despite the fact that the number of claims of the strictly seasonal users was almost equal to the claim count of the FNS users, the strictly seasonal workers had active claims and collected regular EI benefits for much shorter periods of time (Table 4b, columns 3 and 4), and collected substantially lower amounts in benefits, than did the FNS users (Table 4c, columns 1 and 3). Among the strictly seasonal users, men drew over twice as much in EI benefits than did women (Table 4c, column 1). This type of user draws relatively infrequently on non-regular benefits.

While one might expect a strong seasonal pattern for this group due to its definition, there is no mathematical reason why one must be generated. The timing of the seasonal job does not have to be aligned over the period for each worker, as explained in Footnote 13. Nevertheless, the graph shown in Figure 7 indicates very sharp seasonal patterns that vary little from year to year; clearly the industries and occupations associated with seasonal patterns exhibit similar seasonal hiring and layoff patterns with in each sex. It should be noted that, across the genders, the seasonal pattern is quite different. In the figure, the line for women displays a very sharp spike in the middle of the year, while the line for men displays a smaller and wider spike at the end of the year. This is clear evidence of gender segregation across industries and/or occupations. If similar graphs were drawn from a pooled male/female population, the seasonal pattern would be significantly blunted.

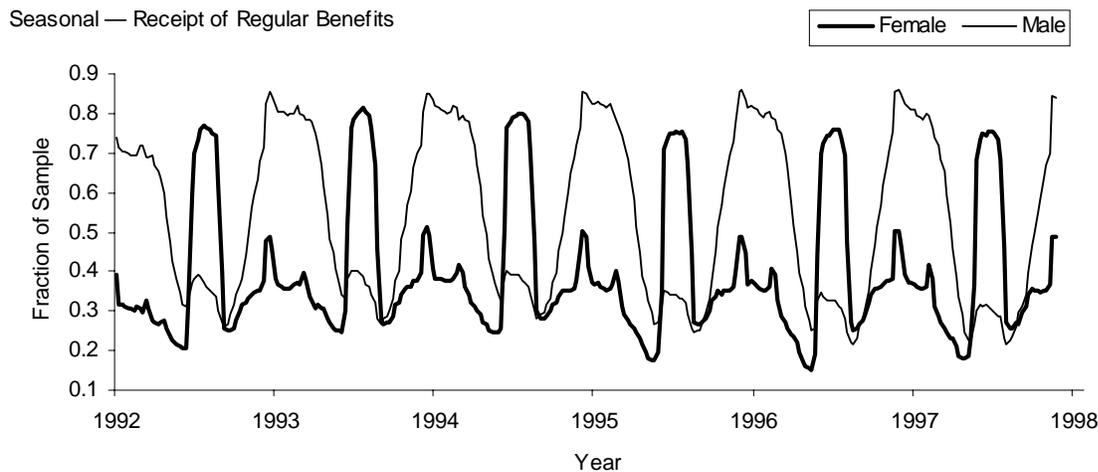
Figure 7: Seasonal Users

Seasonal — Start of Regular Benefits



(continued)

Figure 7: Seasonal Users (Cont'd)



5. The **mostly seasonal** user type constitutes approximately 11 percent of the population for both men and women. By construction, they had approximately one or two fewer claims than the strictly seasonal group (column 1, Table 4b). Like the strictly seasonal users, they account for a disproportionate share of the total benefit-weeks of EI and the total amount of EI benefits paid over the period 1992–1997 (Table 4a, columns 2,4). Despite having fewer claims than the strictly seasonal users, the female mostly seasonal users had slightly longer periods of active claims and benefit-weeks (Table 4b, columns 3 and 4), and almost equal payments of regular EI benefits (Table 4c, column 1) than their counterparts among the strictly seasonal users. On the other hand, the male mostly seasonal users had slightly lower week counts (Table 4b, columns 3,4), and somewhat lower payments of regular EI benefits (Table 4c, column 1), than did their counterparts among the strictly seasonal users. One feature that differentiates the strictly seasonal from and the mostly seasonal users is that the latter exhibit a greater recourse to non-regular benefits (Table 4c, column 2; Table 4b, column 5).

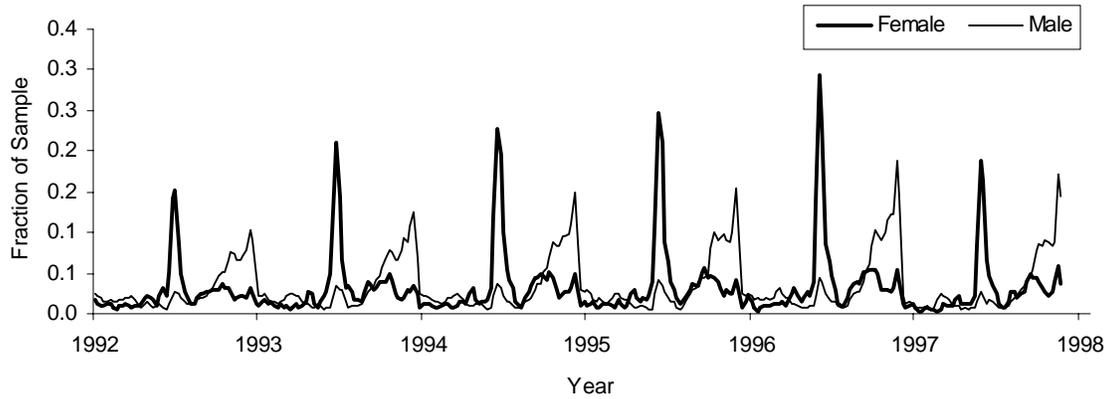
The graph shown in Figure 8 indicates very sharp seasonal patterns that have very similar forms to those of the strictly seasonal users. Women’s claims were very densely concentrated in June, while men’s claims, although clustered in the late fall, tended to be less concentrated. The second graph indicates that there was a difference between the genders in the benefit-week counts.

6. The cohort of **new entrants** into the labour market is a significant group, comprising 11 percent of the women and 13 percent of the men in the population of EI users. Some of their incidence statistics point to frequent use, while others are more associated with occasional use. The claim counts of 2.2 for women and 2.3 for men might be interpreted as high, since many workers within the recent-entry cohort had fewer than the full six years of the period 1992–1997 to amass these numbers. There are many users within this group who were repeaters — 35.8 percent of the men and 31.3 percent of the women had three or more

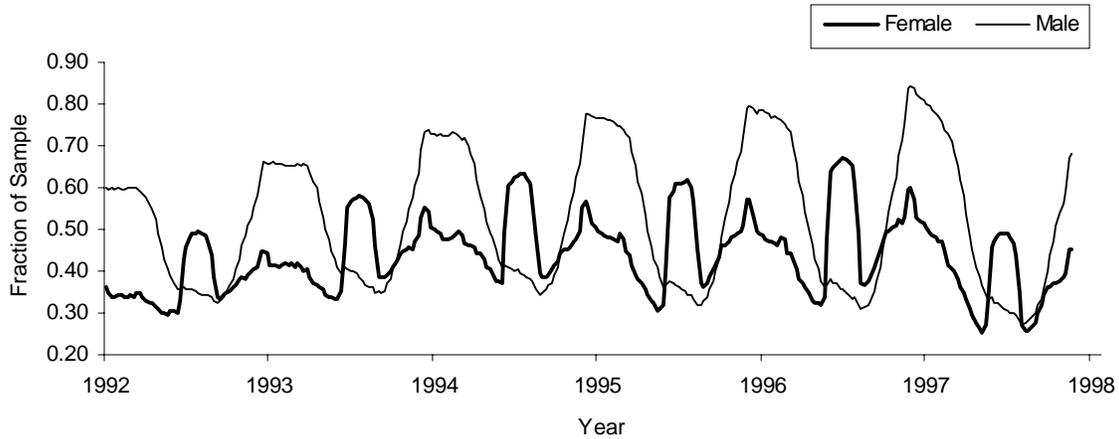
claims — and others who probably became repeaters in the years immediately following the interval of 1992 to 1997.

Figure 8: Mostly Seasonal Users

Mostly Seasonal — Start of Regular Benefits



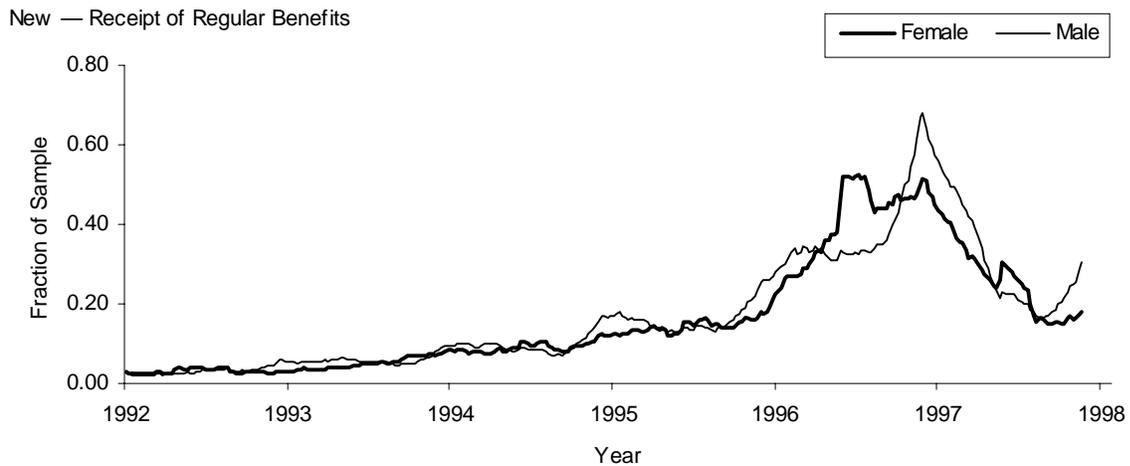
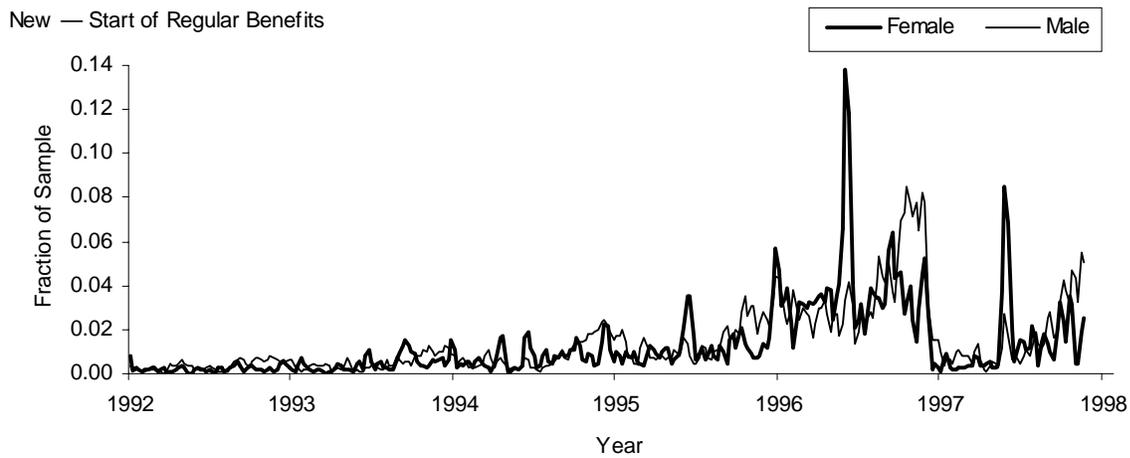
Mostly Seasonal — Receipt of Regular Benefits



Other indicators of EI usage for the group of new entrants, however, are associated with occasional use. The new entrants accounted for a disproportionately low share of benefit-weeks and amounts claimed over the period 1992–1997 and for the year 1996 (Table 4a). With the exception of the classic-displaced users, they received lower amounts of regular EI benefits between 1992 and 1997 than any other category of user (Table 4c, column 1). During the year 1996, this category of users received lower amounts than any other group (Table 4c, column 3). Their shares of the non-regular benefits are approximately in proportion with their population frequency. The group of new entrants had approximately the same week counts for regular EI benefits as the twice-unlucky type of users (Table 4b, column 4), and have slightly higher claim counts (Table 4b, column 1), but they collected lower benefit amounts, which is probably due to lower wages earned by this group of less experienced workers.

The graphs showing the time series patterns of EI activity for the new entry type are displayed in Figure 9. No seasonal pattern is apparent. As mentioned above, many workers in this sample were not in the labour force during the early years of the period 1992–1997. The slightly upward trend visible before 1996 probably reflects entry of a cohort into the labour market (spread over several years) rather than a trend of increased propensity to claim EI benefits. The huge hump in 1996 stems from the sampling criterion, and this is followed by much lower incidence of use in 1997. All of this group were present in the sample during the year 1997, but may not have had an opportunity to re-establish eligibility to file an EI claim in 1997. It would be interesting to observe the claims history of this cohort for 1998 and 1999 in order to assess their propensity to make frequent use of the EI program. A relevant question for future research is the degree to which this group of EI users eventually become seasonal, FNS, or perpetual users of the EI regime.

Figure 9: New Users

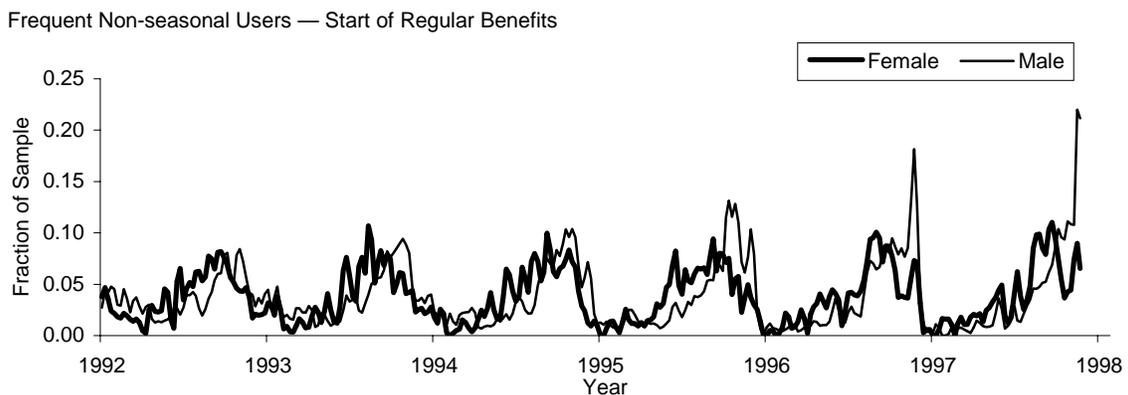


7. The **frequent but non-seasonal users (FNS)** are the counterpart to the group of the strictly seasonal users. Both groups have nearly identical average claim counts (Table 4b, column 1) and broadly similar distributions of claim counts (not shown), but the FNS users are all of the very frequent users (except for the perpetual users) who did not exhibit recurring seasonal claim patterns. Like the strictly seasonal users, they did not draw very heavily on the special benefit provisions. Using the restrictive criterion for defining this group, they comprise only 2.4 percent of the female population and 3.4 percent of the male population. They had distinctive usage patterns, which include a very disproportionate share of regular EI benefits (Table 4a, columns 2 and 4). The FNS users had much longer periods of active claims (the highest values among all groups with the exception of the perpetual users), much higher counts for benefit-weeks (Table 4b, column 4), and much higher benefit amounts (Table 4c, column 1) than the strictly seasonal users. The women in this FNS category claimed more benefit-weeks and higher amounts of benefits than even the perpetual users. In 1996, when respondents of all types filed an EI claim, female strictly FNS users received a higher amount of regular EI benefits than any other type of user (Table 4c, column 3).

The distinction between the strictly seasonal users and the FNS users is particularly sharp in the case of women, and it consists primarily of the higher frequency of interruptions over the course of the EI claim history of the FNS type. This is reflected, in part, by the fact that FNS users experience many more weeks of declaring employment earnings while maintaining an active EI claim. For instance, over the period 1992–1997, male (female) FNS users declared 64 (71) such weeks, compared with 43 (37) weeks for the category of strictly seasonal users.

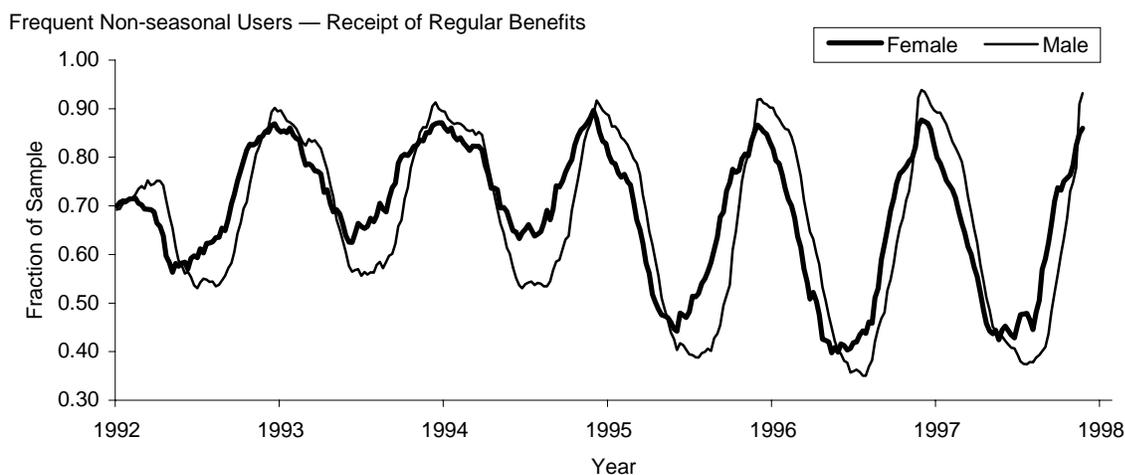
Although the FNS users are identified on an individual basis by the absence of seasonality of their EI claims over the period 1992–1997, the graphs in Figure 10 reveal that, in the aggregate, the usage patterns are highly seasonal. Although the curves are smoother, they have the same general form as those for the strictly seasonal users; a cluster for women in the summer and one for men in the late fall. This result emerging through the aggregation process suggests that the group of FNS users is composed of individuals with quite heterogeneous user profiles.

Figure 10: Frequent Non-seasonal Users



(continued)

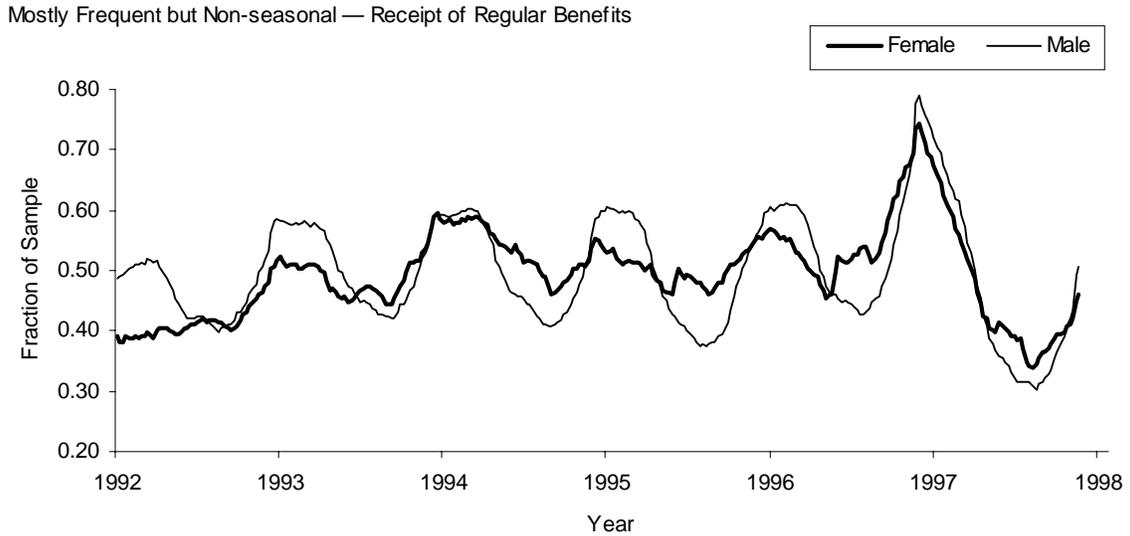
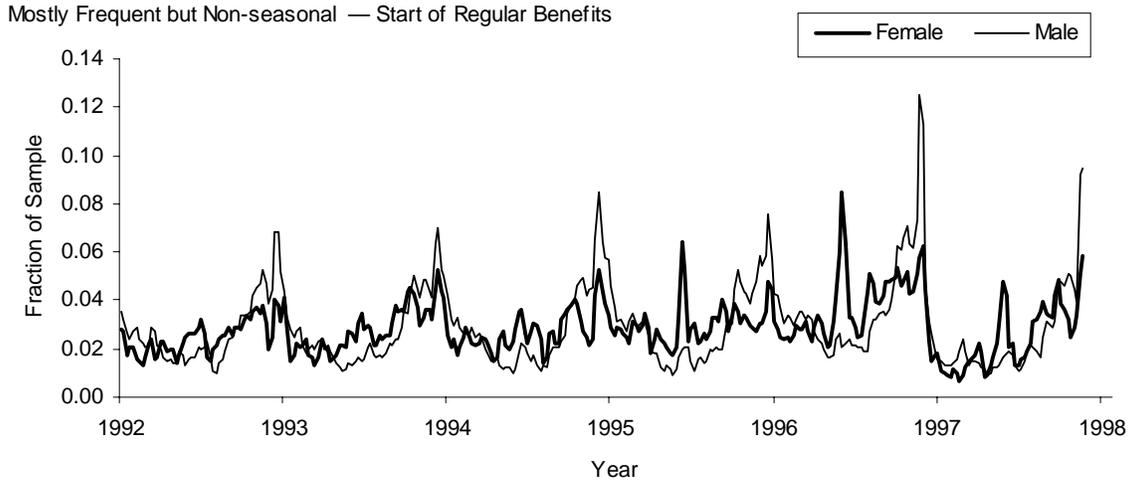
Figure 10: Frequent Non-seasonal Users (Cont'd)



8. The **mostly frequent but non-seasonal (FNS) users** comprise a sizeable group; among males they account for 19 percent of the total population, while the share for females is 13 percent. When the criteria of the claim count that defines the group of frequent but non-seasonal users (six claims in six years) is loosened to four or five claims in six years, the number of selected workers increases greatly. This type of claimant exhibited the same usage characteristics as the FNS type, albeit with lower magnitudes. They tended to rely heavily on the renewal provision allowing them to declare earnings while on an active claim, and they accounted for a very disproportionate number of the benefit-weeks and the total amount of benefits paid (Table 4a, columns 2 and 4). The mostly FNS users did tend to make greater use of the non-regular EI benefits than the FNS users. Comparing the mostly-FNS users with the mostly seasonal workers, the former have lower claim counts (Table 4b, column 1). The week counts (Table 4b, column 4) and the cumulative amount of regular EI benefits (Table 4c, column 1) are fairly similar: among women, they are slightly higher for the mostly-FNS users, while the reverse applies for men.

Although the mostly-FNS users are identified on an individual basis by the absence of seasonality of their EI claims over the period 1992–1997, the graphs in Figure 11 reveal the same phenomenon that was discerned for the strictly FNS users. In the aggregate, the usage patterns are seasonal, although compared with the mostly seasonal users, the peaks and the valleys of seasonality are attenuated.

Figure 11: Mostly Frequent but Non-seasonal Users

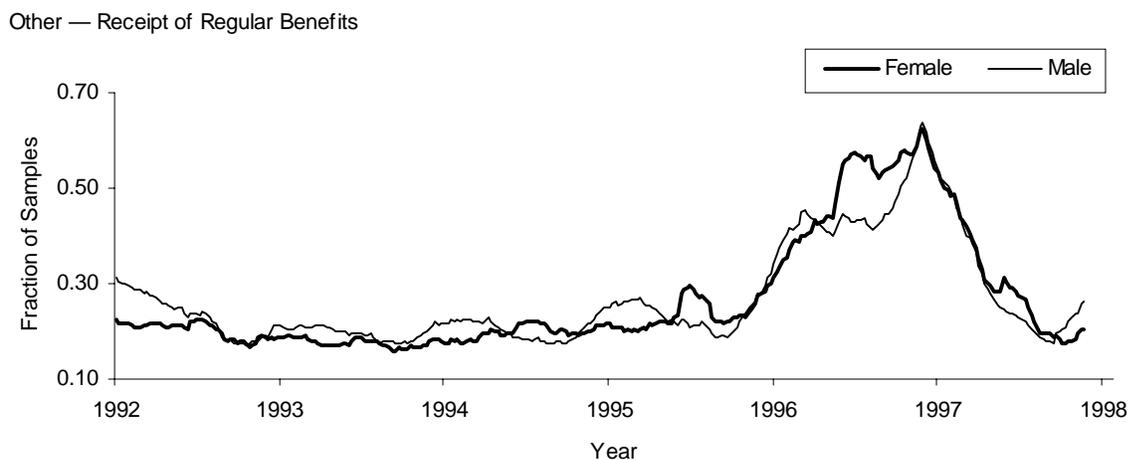
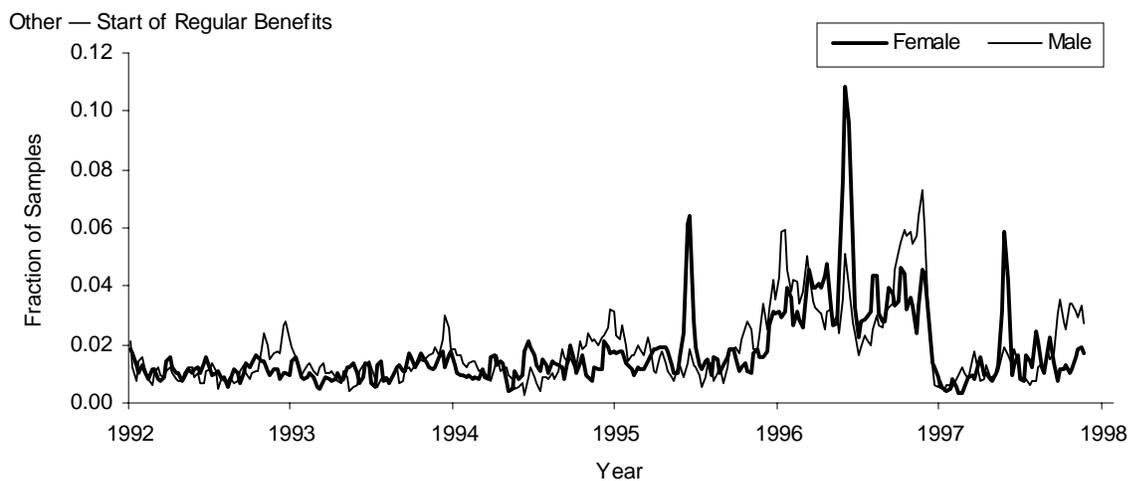


9. The group labelled **other frequent users** is constructed as the residual category. This miscellaneous category of EI users is numerically important, as it represents over 20 percent of both the male and the female populations. Unlike some of the categories that we construct, there does not appear to be a corresponding theoretical employment/unemployment pattern. This group is likely composed of individuals with very heterogeneous labour market outcomes. On one hand, they might be considered as frequent users based on our definition of three or more claims within six years, as the women (men) had 3.3 (3.4) claims within a six-year period (Table 4b, column 1). Thirty-seven percent of the men and 28 percent of the women had more than three claims between 1992 and 1997. On the other hand, according to all of the other incidence statistics, they make less use of the EI program than any of the five groups of frequent users: perpetual, strictly seasonal, mostly seasonal, FNS, and mostly FNS. Their shares of total benefits weeks and

total benefits paid are disproportionately low; 19 percent and 18 percent, respectively, for the women, and 16 percent for both measures among men (Table 4a, columns 2 and 4). The values of the incidence statistics are similar for men and women. The other frequent users type drew relatively heavily on non-regular EI benefits, receiving more benefit-weeks and higher amounts than any other type.

The time series graphs appear in Figure 12. There appears to have been a pattern of low amplitude seasonality for final three years of the interval. There also was little EI program activity before 1995.

Figure 12: Other Users



Economic Interpretation of EI Use Patterns

The purpose of this section of the typology analysis is to suggest economic interpretations of the more distinctive EI use patterns that were discerned for certain categories of users. For the cases of occasional users (i.e., the classic-displaced and the twice-unlucky user), the layoffs are often expected to be permanent. A social insurance model stipulating indemnification, particularly in instances that involve structural adjustment stemming from changes in technology or international trade patterns, is typically applied. In the cases of the strictly seasonal and the mostly seasonal EI users, the layoffs are expected to be temporary, as the bonds between the employer and the employee tend to be long-term. As Green and Riddell (1997) and Baker and Rae (1997) have suggested, the implicit contract framework associated with Baily (1974) and Azariadis (1975) is typically applied. By the definition of these two user types, the workers have attained eligibility to EI benefits (through employment prior to the claim) in almost every year that we have observed them. These workers have a very high degree of attachment to the labour force and appear to have a fairly high degree of job security on a seasonally recurring basis. According to Green and Sargent (1998), seasonal jobs tend to be “tailored” to the parameters of the EI system to maximize entitlement for benefits. In effect, the EI system works in order to subsidize a labour-hoarding equilibrium involving a higher rate of temporary layoffs (and subsequent recalls) than what would be the case in the absence of the EI regime.¹⁴ Nevertheless, because researchers can observe only the equilibrium employment patterns, which are generated jointly by the choices of firms and workers, one cannot isolate demand-side effects from supply-side effects.

In the case of perpetual, FNS, and mostly FNS users, we appeal to pre-conceptions in the absence of an established paradigm for interpreting these highly unstable employment relationships and concomitant EI receipt patterns. In the analysis above, it was determined that the perpetual users have incidence rates that are fairly similar to those of the FNS users; they both exhibit a high degree of dependence on the EI regime. Both of these categories of users are identified by the absence of seasonality in their EI claims histories. From the EI claims histories, we inferred a high instability of employment patterns, and we uncover direct evidence of that from the other data file, namely the SRUEI (see below).

There are at least two conceptual approaches to modelling the labour market that might apply for these types of users. According to one perspective, the workers may face extreme rationing in a depressed labour market, working intermittent, casual jobs with low pay and a low level of job security. In this case, labour supply considerations would play a minor role, and one would be more concerned about the safety net aspects of the EI regime than about distortionary effects of the EI program parameters on employment patterns. Drawing from data on employment spells found in the Labour Market Activity Survey, Green and Sargent (1998) provide some support for this view, claiming that the effects of the EI program parameters on the duration of *non*-seasonal jobs are economically unimportant. According to an alternative perspective, many of these EI claimants are facing frequent interruptions that

¹⁴Labour hoarding refers to the practice of employers retaining workers over periods of time in which they are either inactive or under-utilized by the firm. Normally, this occurs during periods of slack demand. Employers might have an incentive not to permanently lay off workers if they expect a recovery in demand and if hiring/training costs are high. Labour hoarding becomes a policy issue only to the extent that some of the remuneration that the worker receives during these low-activity periods comes from the EI regime.

are anticipated and recurring, albeit not on a seasonal basis. Under this scenario, labour supply as well as labour demand choices are affected by the eligibility conditions for EI benefits. There is strong evidence to suggest that frequent layoffs from one employer and subsequent engagements with another are the norm in certain sectors, such as construction, and the inherent job insecurity is often associated with compensating wage differentials. In this case, the policy implications are similar to the case of the seasonal users — the EI regime is subsidizing labour hoarding and encouraging an inefficiently high level of temporary layoffs and extended absences from long term employment relationships. As the STVC file lacks the information that would be helpful in assessing the relative validity of these two competing views, we suggest in the conclusion that this question should be the focus of further empirical research.

It appears that a major difference between the perpetual users and the FNS users lies not in the amount of benefits received nor in the length of time during which they collect benefits, but rather in the administrative configuration of EI claims and the corresponding qualifying periods of employment. Perhaps the perpetual users can anticipate their job interruptions and the timing of their employment spells to such an extent that they maintain an active EI claim at almost all times, whereas the timing of the jobs and the extended absences are less predictable for the FNS users. This behaviour would be consistent with our empirical finding that it is much more common for the perpetual users to take on short-term jobs while an EI claim is suspended than is the case for the FNS users.

Evidence From the Survey of Repeat Use of EI: Work Histories of the Types of Users

The primary objective of this sub-section is to compare and contrast the strictly seasonal users and the FNS users by examining differences in their *employment* histories. Although the statistics pertaining to all groups are presented, most of the discussion that follows deals with seasonal and FNS users. While both are frequent users of EI, by construction the latter group does not exhibit seasonal claims patterns. The prior expectation is that seasonal users tend to have a higher degree of job security. Although seasonal workers experience extended absences during which they typically collect EI benefits, they are attached over several years (with a fairly high probability of recall) to one employer. On the other hand, our prior expectation for the FNS users is that they have a lower degree of job stability and attachment to regular employers. They are more likely to work for a series of different employers on an interim and/or casual basis, and are less likely than seasonal users to return to the same employer over a period of several years.

The SRUEI contains detailed information on each EI user's employment pattern in 1997, and a few pieces of information for 1995 and 1996. The indicators that are extracted for this analysis concern job interruptions; they are tabulated by user type and reported in tables 5 and 6. In the first column of Table 5, the proportion of each type of EI user who held no job at all in 1997 is reported. It is apparent that the rates of joblessness (lasting the entire year) in 1997 are dramatically higher for the occasional users than for all other types of users. The rates of joblessness among the frequent users is quite low, ranging from one to four percent for men (with the exception of 8.3 percent for the other frequent user category), while the rates for the classic-displaced and the twice-unlucky user groups are in the range of 15 to 16 percent for men and 24 to 26 percent for women. These joblessness rates imply a very high degree of labour force attachment for the former groups. The relatively high joblessness

rates observed for the occasional users is surprising given that the EI program is supposed to be targeted mostly to them. Its putative primary function is to alleviate the financial hardship of occasional users and to facilitate their return to work, but in 1997 the latter objective was not attained for a sizeable minority of them. Although part of the high joblessness rate observed among the female occasional users probably reflects labour force withdrawal, most of the jobless men, and some of the jobless women, within this group exhausted the EI benefits that they were observed to receive in 1996 or 1997, and failed to find gainful employment in 1997.

Table 5: Work Histories in 1997 by Type of EI User

Type of EI User	(1) Proportion Holding No Job in 1997	(2) Proportion Working for One Employer in 1997	(3) Proportion Working for Two or More Employers in 1997	(4) Mean Number of Employers During 1997	(5) Average Age in Early 1998
Female					
Classic	26.0	56.7	17.4	1.31	41.0
Perpetual	1.1	85.3	13.7	1.20	44.8
Twice-unlucky	23.7	57.6	18.8	1.31	41.4
Seasonal	0.5	90.6	9.0	1.10	45.7
Mostly seasonal	5.4	79.7	14.9	1.19	43.7
New entry	7.0	53.7	39.4	1.61	24.1
FNS	1.5	75.3	23.2	1.29	44.0
Mostly FNS	9.6	68.5	21.9	1.34	42.1
Other frequent	11.3	66.7	22.1	1.33	40.2
Male					
Classic	15.7	62.9	21.4	1.31	40.3
Perpetual	0.9	70.0	29.1	1.47	43.5
Twice-unlucky	14.8	62.0	23.3	1.35	39.9
Seasonal	1.2	84.4	14.4	1.18	43.9
Mostly seasonal	3.4	73.6	23.1	1.32	42.2
New entry	3.3	55.5	41.3	1.63	23.0
FNS	1.7	73.2	25.2	1.43	41.5
Mostly FNS	4.1	66.4	29.6	1.46	40.6
Other frequent	8.3	64.9	26.9	1.41	39.3

Notes: Columns 1, 2, and 3 may not sum exactly to 100 percent due to rounding.

In columns 2 and 3, the proportions of the population having a single employer or multiple employers are reported by user category. The expectation that the strictly seasonal EI users are more likely than the FNS users and the perpetual users to work for one employer is realized for both genders. The numbers also indicate that the mostly seasonal EI users are more likely than the mostly FNS users to work for one employer, and are consequently less likely to work for several employers. In column 4, the mean number of distinct employers reported for the year 1997 is presented. The expectation that the strictly seasonal EI users have a lower mean than the FNS users and the perpetual users is realized for both men and women, and the mostly seasonal EI users have a lower mean than the mostly FNS users.

Table 6: Work Histories From 1995–1997 by Type of User

Type of EI User	(1)	(2)	(3)
	Proportion for Whom an Employer in 1997 Was Also an Employer in a Previous Year ^a	Potential Tenure With a 1997 Employer ^b	Proportion Who Worked for the Same Employer in 1995, 1996, and 1997 ^c
Female			
Classic	59.9	5.5	16
Perpetual	97.9	10.4	87
Twice-unlucky	63.6	5.2	17
Seasonal	98.2	12.0	90
Mostly seasonal	93.2	9.0	73
New entry	73.2	2.6	14
FNS	94.6	9.7	79
Mostly FNS	85.4	6.9	49
Other frequent	72.2	5.2	26
Male			
Classic	62.7	6.0	18
Perpetual	90.9	10.3	72
Twice-unlucky	64.8	5.9	20
Seasonal	95.3	11.7	85
Mostly seasonal	88.9	8.9	64
New entry	64.9	2.8	13
FNS	92.4	8.5	68
Mostly FNS	82.6	7.5	46
Other frequent	72.8	6.1	25

Notes: ^aThe response is affirmative if they have worked for the primary employer before, or if they have worked for the secondary employer (if there was one) before, or if they worked for the third most important employer of 1997 before (if there was one).
^bThe greatest value for potential tenure among the three most important employers of 1997.
^cThe response is affirmative if they worked for any of their three most important 1997 employers in 1995, 1996, and 1997.

In the last column of Table 5, the mean age of each user type in early 1998 is reported. The economic literature on labour turnover within a firm indicates that younger workers tend to exhibit much higher rates of separation than older workers, as the former tend to “shop for jobs” via a trial and error procedure. Picot, Lin, and Pyper (1998) indicate that, in the Canadian labour market, the separation rate is the highest among the 15–24 year age group, and lowest among the 45–54 year group. Against this backdrop, one might expect that repeat EI use tends to be concentrated among younger workers, who subsequently advance to better firm-worker matches with more secure employment opportunities. Such a scenario would allow them to reduce their dependency on the EI system. Our empirical finding that frequent as well as occasional users tend to be comprised of prime-age workers stands in sharp contradiction to that view. This result is consistent with the finding of Wesa (1995), which is based on a different methodology and a different EI incidence statistic. With the exception of the category of new entrants, who by definition are bound to be quite young, almost every other group is, on average, at least 40 years of age. We examine the question of age in relation to EI use patterns using a different technique below.

Although the SRUEI is primarily a cross section of information pertaining to 1997, it contains a bit of longitudinal information concerning employment patterns over the years 1995 to 1997. In column 1 of Table 6, the proportion of individuals within each EI user category who had worked in either 1995 or 1996 for at least one of their 1997 employers is

reported. The most noticeable pattern is that this number is quite high — between 83 percent and 98 percent — for all of the frequent users relative to the occasional users. The numbers listed in column 2 refer to the maximum *potential* tenure that an EI user could have had with any one of his or her 1997 employers.¹⁵ As expected, the strictly seasonal users have higher values than the FNS users and the perpetual users for both genders, and the mostly seasonal users have higher values than the mostly FNS users. All five of the groups of frequent users have much higher values of potential tenure than the two groups of occasional users. In column 3, the proportion of each user type that returned to the same employer in 1995, 1996, and 1997 is reported. For both genders, the strictly seasonal users have higher values than the FNS users and the perpetual users, and the mostly seasonal users have higher values than the mostly FNS users.

Although the information drawn from the SRUEI on the employment patterns of the various types of EI users is not very extensive, the empirical patterns support the conjecture that the FNS users and the perpetual users have the most fragmented employment patterns — characterized by a series of intermittent jobs with different employers. Despite the numerous and frequent job interruptions, however, all of the groups of frequent users, including the FNS users and the mostly FNS users (but excluding the other frequent users), have a much greater degree of attachment to a single employer than either the classic-displaced users and the twice-unlucky users between 1995 and 1997. For the latter groups, it appears that separations are usually permanent.

Table 7 contains information on the distribution of the various types of users within each of Canada's 10 provinces. The shares for the entire population of EI users, which appear in Table 4a, column 1, are replicated in the first column of Table 7. The numbers in the table reflect the shares of each of the nine categories of users within each province; each column of each panel thus sums to 100. For example, among men, classic-displaced users account for 9.8 percent of the population of EI users across Canada, but only 2.5 percent of the EI users in Newfoundland and Prince Edward Island, and 14.1 percent of EI users in Ontario. Among women, the mostly FNS users of EI account for 12.8 percent of the population of EI users, but only 5.5 percent of the EI users in Alberta. The general pattern indicates the existence of disproportionately high shares in the provinces east of the Ontario–Quebec border for the perpetual, seasonal, mostly seasonal, FNS, and mostly FNS claimants, and disproportionately high shares in the provinces west of the Ontario–Quebec border for the classic-displaced and twice-unlucky EI users. The provinces with the strongest labour markets (i.e., Ontario, Manitoba, Alberta, and B.C.) have the highest shares of the other frequent category of users, perhaps indicating a higher degree of heterogeneity among EI claimants in these provinces. The shares of the new entrant cohort of EI users show much less variation across provinces.

¹⁵The SRUEI does not contain any direct questions regarding job tenure, but it does list the year during which the respondent first worked for each of the 1997 employers. It is not known whether the respondent separated from an employer in the interlude and then subsequently returned. The potential tenure is derived as the difference between 1997 and that first year of employment, and does not necessarily reflect continuous service.

Table 7: Shares of EI User Types Within Each Province

Type of EI User	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Share for Canada	NF	PE	NS	NB	QC	ON	MB	SK	AB	BC
Female											
Classic	14.1	5.0	3.8	9.9	6.4	8.0	20.3	15.9	19.5	24.0	18.5
Perpetual	3.5	8.4	6.0	7.5	10.4	5.3	0.7	1.0	0.6	0.2	1.3
Twice-unlucky	19.0	10.1	7.2	13.1	9.0	16.2	23.3	21.4	19.1	29.1	21.0
Seasonal	6.3	4.7	10.4	7.2	6.8	6.0	7.5	10.9	9.4	3.1	4.3
Mostly seasonal	10.5	10.3	17.9	12.2	13.8	12.2	8.7	10.4	12.1	6.5	9.5
New entry	10.9	13.1	11.6	11.1	11.5	11.1	10.1	12.2	15.2	10.9	10.6
FNS	2.4	7.1	10.0	4.0	7.5	2.7	0.9	1.1	1.0	0.5	1.9
Mostly FNS	12.8	25.5	21.4	17.3	19.4	16.9	8.2	7.3	4.3	5.4	9.8
Other frequent	20.3	15.9	11.6	17.7	15.3	21.4	20.4	19.9	18.8	20.5	23.1
Male											
Classic	9.8	2.5	2.5	5.3	3.9	7.9	14.1	12.7	10.7	13.9	10.6
Perpetual	5.5	14.1	5.6	7.0	9.9	9.2	1.6	1.5	1.6	1.4	2.2
Twice-unlucky	13.7	4.9	3.8	10.1	7.1	10.9	18.7	13.9	12.6	17.3	17.9
Seasonal	4.1	5.5	6.2	4.4	6.6	5.2	2.9	5.0	7.9	2.1	2.1
Mostly seasonal	10.8	15.5	20.6	12.9	14.9	12.1	8.8	13.1	13.3	7.0	7.5
New entry	13.2	11.4	15.4	13.9	13.5	13.6	12.5	15.3	14.0	13.6	12.8
FNS	3.4	8.8	11.3	5.7	8.1	3.4	2.0	2.9	2.5	1.4	2.1
Mostly FNS	19.0	24.4	24.6	25.2	23.0	18.6	16.6	14.1	19.1	17.9	20.3
Other frequent	20.4	12.8	10.2	15.7	13.1	19.1	23.0	21.6	18.5	25.4	24.6

Notes: Shares within each province sum to approximately 100, and can be compared with the Canada-wide share of each type of user.

Further Analysis of Seasonality

The analysis presented above indicates the existence of at least six types of users within the broad category of frequent users of EI: perpetual, strictly seasonal, mostly seasonal, strictly FNS, mostly FNS, and the category of other frequent users. With the exception of the latter, a common trait among these distinct types is a seasonal pattern of EI claims, albeit to different degrees. Given the importance of this variable in affecting EI use patterns, this exercise involves a dichotomous decomposition of the entire population into seasonal versus non-seasonal claimants. Note the contrast between this demarcation and the one that is typically adopted in the literature on the Canadian EI program, which is frequent versus occasional users. The purpose of this exercise is to facilitate a simple, albeit broad, comparison of the major EI incidence statistics adopted in this paper along the single dimension of seasonality.

Unlike the typology analysis presented above, the criterion for categorizing the individuals is not a function of their EI claim histories. We employ a *self-reported* measure of seasonality which is contained in the SRUEI. There is a series of three questions which address whether the first, second, and third most important job held during the year 1997 was

a seasonal position.¹⁶ If the respondent indicated that any of these jobs was seasonal, he or she is classified as a self-reported seasonal worker.

The results from this exercise are reported in Table 8. Approximately 32 percent of the women and 46 percent of the men were seasonal users, which seems to be a large gender discrepancy. These numbers referring to the seasonality of the jobs held in 1997 are broadly comparable to the estimates for the seasonality based on the EI claims history over the 1992–1997 period. The sum of the shares for the five types of users who displayed some seasonality in usage patterns — the perpetual, strictly seasonal, mostly seasonal, FNS, and mostly FNS users — is 35.5 percent for women and 42.8 percent for men. For both genders, the workers who reported themselves to be seasonally employed for 1997 tended to have about 50 percent more claims and from 40 to 60 percent greater week counts for active claims. As far as the number of benefit-weeks and the amount of regular benefits received are concerned, the discrepancy between seasonal and non-seasonal users among males (females) was almost 80 percent (60 percent). Note that the gap between seasonal and non-seasonal users is especially high among men. In contrast to the situation for regular EI benefits, non-seasonal workers tended to draw higher levels of non-regular EI benefits than did seasonal workers.

Table 8: Measures of EI Incidence, Comparison of (Self-Reported) Seasonal Users Versus Non-seasonal Users

	Female		Male	
	(1)	(2)	(3)	(4)
	Non-seasonal	Seasonal	Non-seasonal	Seasonal
Population frequency	68.5	31.5	53.9	46.1
Total claim count	3.1	4.7	3.2	4.8
Claim count, regular	3.0	4.6	3.1	4.7
Claim count, non-regular	0.6	0.6	0.5	0.5
Total weeks, active claim	100	142	104	161
Total weeks, regular	53	82	55	92
Total weeks, non-regular	9	7	6	5
Total weeks, earnings	33	42	31	45
Benefit amount, regular, 1992–97	10,561	16,582	15,791	28,373
Benefit amount, non-regular, 1992–97	2,191	1,471	1,788	1,565
Benefit amount, regular, 1996	3,179	3,393	4,081	5,336
Benefit amount, non-regular, 1996	501	261	339	235

The numbers for the year 1996 are instructive, because all respondents filed an EI claim in that year. Men who were seasonally employed received substantially higher benefits during that year than their non-seasonal male counterparts received, but when non-regular EI benefits are considered as well as regular EI benefits, seasonal women did not draw higher benefits than their non-seasonal counterparts in 1996.

¹⁶Out of the approximately 22,500 respondents to the SRUEI, approximately 1,605 did not have a job in 1997, and they are categorized as non-seasonal users. Approximately 20,176 workers held at least one job in 1997, approximately 5,438 held at least two jobs in 1997, and approximately 1,434 held at least three jobs in 1997.

Age Profiles of EI Users

The final part of the empirical analysis consists of a further examination of the role of age in determining EI use patterns. In the preceding typology analysis it was shown that, with the exception of the group of new entrants, there was not a significant difference in the average ages of the categories of EI users, with the obvious exception of the new entrants. More importantly, the *average* age of all of the groups of frequent users was approximately 40 years. In order to examine from another perspective the influence of a worker's age in shaping EI outcomes, all of the types of EI users are pooled into the global population of EI users, which is then separated into fairly fine age brackets. The objective is to describe an empirical age-EI use profile for the entire population of EI claimants. One of the important policy issues is the EI program's impact on the employment patterns of younger workers. Concerns have been raised by Lemieux and MacLeod (2000) and others that entry-level workers accessing the EI program at an early stage of their working lives are less likely to pursue strategies for occupational and/or regional adjustment, and thus more likely to become dependent on the EI program. It has been suggested that once certain youthful workers have drawn EI benefits, they learn about accessing the EI regime and become acclimated to the labour market and its interface with the program parameters. This phenomenon would be associated with a tendency for high incidence rates to persist well into a worker's career.¹⁷

In Table A.1, the measures of EI incidence are cross-tabulated with the age bracket of the individual. The population of women was slightly older than the population of men — 40 versus 38.4 years. The values presented in this table indicate the claim counts, the week counts, and the benefit amounts for the population of EI users, conditional on having filed a claim in 1996; they do not refer to the entire labour force. In general, the numbers indicate that cumulative EI usage over the interval 1992–1997 tended to rise rather rapidly as the age of the group of EI claimants reached their mid-20s. This effect levels off after age 40 for women, but at a much later age for men. Note that the numbers for the 21–25 year old group are difficult to interpret, as many of them were not in the labour force during the entire interval 1992–1997. EI users in their 40s and 50s, although numerically less important in the case of men (44 percent of the women and 35 percent of the men were between 40 and 60 years of age), tended to have the highest levels of usage of regular EI benefits, both during the year 1996 and over the interval 1992–1997. At no age range over 30 years — even among those approaching retirement — did the incidence of use decline very much from the peak levels associated with prime-age EI claimants. Overall, it appears that there was little variation in the incidence of EI use across age categories for EI claimants older than 30. All of the analysis carried out in this paper indicates that, among those who drew EI benefits in 1996, the distribution across age groups is fairly uniform.

¹⁷Technically this is not a life-cycle approach because we do not follow individuals over time and measure their EI activity at different stages in their careers. Our analysis is cross-sectional. In order to thoroughly evaluate the degree to which entry-level workers become frequent users of the EI program, and how long they remain frequent users, it is necessary to carry out detailed longitudinal analysis of cohorts of younger workers. Such an exercise, carried out with data from the 1970s and 1980s by Lemieux and MacLeod, 2000, is beyond the scope of this paper.

CONCLUSIONS

The primary objective of this paper is to explore less often explored dimensions of use of Canada's EI program. Drawing on the administrative, longitudinal Status Vector (STVC) file of Human Resources Development Canada, we have examined the EI claims histories of the respondents of the Survey of Repeat Use of EI (SRUEI). An array of EI program incidence statistics, such as claim counts, length of benefit periods (i.e., week counts), and measures of benefit amounts, are calculated and compared across strata within the population of EI users. Some of the major findings are listed below.

1. It is well known that frequent or repeat use of the EI program exists, but there exists a considerable amount of heterogeneity of EI use patterns and the interacting employment patterns. Approximately 15 percent of the female users of EI and 22 percent of the male users of EI can be characterized as very habitual but *non-seasonal* users of the EI program. This group, which we label "frequent but non-seasonal" users, tends to exhibit very unstable, fragmented, and perhaps uncertain employment patterns, and tends to combine multiple intermittent jobs in order to attain eligibility for EI benefits.
2. Approximately five percent of the population of EI claimants in 1996 had an active EI claim for virtually the entire six-year period between 1992 and 1996, although they were not receiving benefits during every week of this period.
3. The so-called "10–40 seasonal" worker, who works for the same employer every year for the same three-month period on a recurring basis, and collects EI benefits for the remainder of the year, is a prototype that characterizes only about 15 percent of the population of EI users in 1996.
4. Among the occasional users of the EI regime, gender discrepancies are not very sharp. On the other hand, among the frequent users, almost all the incidence measures indicate that men benefit from the EI regime to a far greater extent than women.
5. Among the population of male EI claimants, the amounts of regular benefits received *per EI claim* are higher for frequent users than for occasional users. In a similar vein, during the year 1996, during which every worker in the sample filed an EI claim, the frequent users received higher benefits. These findings suggest that higher frequency of recourse is associated with longer EI claims as well as higher benefit levels per calendar year or per claim.
6. Despite the fact that many of the frequent users of EI do not display seasonal claim patterns on an individual basis, a very high degree of seasonality emerges when the claim histories are aggregated across the samples of frequent users.
7. Classic-displaced users are relatively rare, despite the fact that the unemployment insurance program was originally designed and developed to accommodate their risks of unemployment. Furthermore, occasional users who exhausted their benefits in 1996 or in early 1997 displayed a disturbingly high rate of joblessness for the remainder of 1997.
8. Frequent users of EI did not exhibit a heavy recourse to the special provisions of EI.
9. Among the population of EI users, repeat use was common among all age groups.

There are a number of implications that might flow from the research presented in this paper. First, there is a multiplicity of groups of claimants making different and distinctive uses of the EI programs. This heterogeneity of cases does not facilitate the identification and targeting of groups for more effective policy responses. Second, the itineraries of transitions between the states of EI receipt and employment — as well as possibly other states which we cannot observe — of many of the frequent users is very complex. This renders analysis of their labour market situation and possible policy interventions problematic. The EI program regulation concerning renewals (that permits users to take short term jobs while maintaining an active EI claim and gaining eligibility for future benefits) contributes to the analytical complexity. The effects of this provision on EI use and employment patterns should be examined thoroughly. Third, in our view, the extreme variation in the incidence of use raises important equity concerns. The justification for the public provision of unemployment insurance is based on the unemployment risks faced by occasional users, but these categories of users receive a very low share of the EI benefits, and in 1997 they display low re-employment rates relative to frequent users. It is noteworthy that the EI regime appears to be nearly gender-neutral when only occasional users are examined. The factors underlying the use patterns of female frequent users deserve much more study. To address this question, as well as to investigate the forces that give rise to the non-seasonal repeat use of EI benefits, it is desirable to match EI claims histories with information on the firms.

Appendix A: Identifying EI Claims From the STVC Administrative Base

Given the several different plausible ways of defining an “claim,” we define a regular EI claim in terms of any of the three following events: (1) a sequence of weeks of active claim status following the two-week waiting period common for most regular benefit claims, or (2) as an active claim that starts without a waiting period after a period in which no active claim was observed, or (3) as a sequence of regular benefit-weeks following a spell of non-regular benefits. Note that the act of having an active claim does not mean that benefits were paid. We differentiate between regular program claims and non-regular program claims (e.g., fishing, maternity, injury/illness, training, self-employment assistance, etc.). We count the latter separately and treat them as a single class of special benefits for the purposes of this study. Individual stretches of benefit receipt that combine regular and non-regular benefits are counted as both a regular claim and a non-regular claim. For example, if a person started an illness/injury claim, then moved into regular benefits, and finally took training benefits (all in a sequence without breaks), then it would be counted as one regular claim and one non-regular claim. We also keep a count of “total” claims that avoids this double counting, but it is not discussed much in this report as the discrepancy is not large. Overall, we estimate that, for each gender, over 50 percent of all claims are “mixed” or “compound” claims in that they contain weeks of both regular and non-regular benefits although, on average, the regular benefits are paid for much longer periods.¹ The fact that half of all EI claims have this characteristic is surprising, and it might be worth studying the nature and prevalence of compound claims in future research. The current sample, however, is probably not best suited for this purpose since it is selected based on regular claims only.

Table A.1: EI Program Incidence Measures Cross-Tabulated With Age Categories — Claim Counts, Number of Benefit-Weeks, and Benefit Amounts

Age Bracket	Women				Men			
	Share of the Labour Force	Share of the 1996 EI Population	Amount, Regular, 1992–97(\$)	Amount, Regular, 1996 (\$)	Share of the Labour Force	Share of the 1996 EI Population	Amount, Regular, 1992–97 (\$)	Amount, Regular, 1996 (\$)
21–25	9.25	8.4	5,440	2,170	8.29	12.8	9,664	2,888
25–30	15.57	13.5	10,224	3,036	14.88	15.6	17,459	4,044
31–35	15.92	14.1	12,492	3,263	15.93	15.7	22,201	4,639
36–40	16.14	16.4	13,476	3,347	15.62	14.9	24,007	4,902
41–45	14.93	15.6	13,452	3,417	14.09	12.3	26,131	5,401
46–50	12.54	13.5	14,741	3,496	12.55	9.6	27,463	5,426
51–55	8.55	8.8	14,087	3,516	9.22	7.2	26,278	5,525
56–60	4.81	5.9	14,320	3,416	6.04	5.4	28,270	5,806
61–65	2.29	2.5	14,692	3,459	3.40	4.0	25,144	5,494

(continued)

¹There is also a small number of claims of unknown type. If some fraction of a claim does not have its type of benefit identified, then the entire claim is assigned the type that is observed, and the unknown type code is effectively ignored. It is thus classified as a claim for non-regular benefits. This probably causes us to slightly undercount claims that are “mixed.”

Table A.1: EI Program Incidence Measures Cross-Tabulated With Age Categories — Claim Counts, Number of Benefit-Weeks, and Benefit Amounts (Cont'd)

Age Bracket	Women			Men		
	(1) Number of Claims	(2) Total Weeks Regular, 1992–97 (Max 313)	(3) Total Weeks Regular, 1996 (Max 52)	(4) Number of Claims	(5) Total Weeks Regular, 1992–97 (Max. 313)	(6) Total Weeks Regular, 1996 (Max. 52)
21–25	2.1	35.8	14.2	2.6	44.1	13.3
25–30	3.0	51.9	14.9	3.6	65.3	15.1
31–35	3.4	59.9	15.5	4.1	75.6	15.9
36–40	3.6	65.2	16.2	4.2	76.6	15.7
41–45	3.7	65.2	16.2	4.3	80.1	16.7
46–50	4.0	70.6	16.5	4.4	83.4	16.9
51–55	4.0	70.9	17.7	4.2	78.8	16.8
56–60	4.0	75.6	18.3	4.4	86.4	18.2
61–65	3.9	75.0	16.4	4.0	81.7	18.3

Notes: All dollar values reported in the top panel are in nominal terms.

Appendix B: The Sorting Algorithm

The following describes the sequence of the sorting algorithm that was executed to create the groups and to ensure that they are both exhaustive and mutually exclusive.

Once a group has been selected, its members are removed from the pool, and thus cannot be assigned to any other group. (1) Starting from the entire population, the first group that is sorted out is the new-entry users. They are identified solely on the basis of their labour market experience, and can have any number of claims. (2) Classic-displaced users have one EI claim. (3) Perpetual users are identified solely on the basis of the number of weeks of active claim, and can have any number of claims. (4) Seasonal users are identified in a fashion described in the text above. (5) Mostly seasonal users are identified in a fashion described above. (6) Twice-unlucky users are selected as those having two claims. (7) Frequent but non-seasonal users are those who received regular EI benefits in every single year, and who are not seasonal. (8) Mostly frequent but non-seasonal users are those who received regular EI benefits in almost every single year, and who are not mostly seasonal. (9) Other frequent users are selected as the residual group.

Allocating EI claimants to a single group is useful in this type of analysis. In the absence of our sequential algorithm for assigning claimants a unique type, our definitions would cause some respondents to be placed into multiple groups. For example, 355 of the females and 576 of the males who are assigned to the “new” category would also be categorized as “classic” were they not excluded from the possibility of being labelled “classic” by having previously been labelled “new.”

More important are the potential overlaps between the perpetual, seasonal, and FNS types. For example, about 65 percent of the females and 61 percent of the males who are categorized as perpetual would be classified as seasonal or mostly seasonal were membership in multiple types permitted. Recall, however, that our definitions of seasonal and mostly seasonal are very broad; each requires only that one claim (one out of multiple claims in a year in many of these cases) commence in the same two-month window each year (or, for workers with multiple claims in 1996, a similarly wide window for *each* claim).

We believe that, as is seen in tables 4a, 4b, and 4c, there are behavioural differences between the groups. Therefore, differentiating between them is useful. However, the overlap also makes the arbitrariness of the categorization obvious. What is crucial is not the details of our choices, but the broad range of “types” that exist.

References

- Azariadas, C. 1975. "Implicit Contracts and Under Employment Equilibria." *Journal of Political Economy* 83: 1183–1202.
- Baker, M., and S. Rae. 1997. "Employment Spells and Unemployment Insurance Eligibility." *Review of Economics and Statistics* 80,1: 80–94.
- Baily, M. 1974. "Wages and Employment Under Uncertain Demand." *Review of Economic Studies* 41: 37–50.
- Benjamin, D., M. Gunderson, and C. Riddell. 1998. *Labour Market Economics: Theory, Evidence, and Policy in Canada*. 3rd ed. Toronto: McGraw-Hill Ryerson Publishers.
- Corak, M. 1993a. "Unemployment Insurance Once Again: The Incidence of Repeat Participation in the Canadian UI Program." *Canadian Public Policy* 29: 162–176.
- . 1993b. "Is Unemployment Insurance Addictive? Evidence from the Benefit Durations of Repeat Users." *Industrial and Labour Relations Review* 47,1: 62–73.
- Green, C. 1994. "What Should We Do With the UI System?" In *The Social Policy Challenge*. Edited by J. Richards and W. Watson. Toronto: CD Howe Institute.
- Green, D., and C. Riddell. 1997. "Qualifying for Unemployment Insurance: An Empirical Analysis." *Economic Journal* 107: 17–35.
- Green, D., and T. Sargent. 1998. "Unemployment Insurance and Job Durations: Seasonal and Non-Seasonal Jobs." *Canadian Journal of Economics* 31: 247–278.
- Kuhn, P., and A. Sweetman. 1998a. "Unemployment Insurance and Quits in Canada." *Canadian Journal of Economics* 31: 549–72.
- . 1998b. *Pre-Separation Job Durations and Unemployment Insurance Eligibility: Evaluation Brief #41*. Ottawa: Human Resources Development Canada.
- Lemieux, T., and B. MacLeod. 2000. "Supply Side Hysteresis: The Case of the Canadian Unemployment Insurance System." *The Journal of Public Economics* 78: 139–170.
- May, D., and A. Hollett. 1995. "The Rock in a Hard Place: Atlantic Canada and the UI Trap." In *The Social Policy Challenge #9*. Edited by J. Richards and W. Watson. Toronto: C.D. Howe Institute.
- Nakamura, A. 1995. "New Directions for UI, Social Welfare, and Vocational Education and Training." *Canadian Journal of Economics* 54: 731–752.
- . 1996. "Employment Insurance: A Framework for Real Reform." *C.D. Howe Institute Commentary* 85. Toronto: C.D. Howe Institute.
- Nakamura, A., J. Cragg, and K. Sayers. 1994. "The Case of Disentangling the Insurance and Income Assistance Roles of Unemployment Insurance." *Canadian Business Economics* 3: 46–53.
- Nakamura, A., and W. E. Diewert. 1997. *Unemployment Insurance in Canada: Problems and Recent Reforms*. Mimeographed.
- Picot, G., Z. Lin, and W. Pyper. 1998. "Permanent Layoffs in Canada: Overview and Longitudinal Analysis." *Canadian Journal of Economics* 31,5: 1154–1178.

Wesa, L. 1995. *Seasonal Employment and the Repeat Use of Unemployment Insurance: Evaluation Brief #24*. Ottawa: Human Resources Development Canada.

Reservation Wages and Job-Search Behaviour: Evidence From the Survey on Repeat Use of Employment Insurance

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INTRODUCTION

The analysis of the behaviour of persons out of work, and particularly of the job-search behaviour of the unemployed, is often hampered by a lack of suitable data. Many of the central elements in economists' theoretical conceptualization of such behaviour, such as the reservation wage and the level of search effort, are not readily observed, and considerable effort and ingenuity has gone into the development of appropriate econometric techniques to overcome this paucity of data.¹ Concurrent with this advance in research techniques and results, a small amount of literature has developed that regards a broader range of search-related data as of potential use. In particular, this strand of investigation employs self-reported measures of magnitudes — “the desire for work,” “the lowest wage you would accept in a new job,” “how much take home pay you expect to be able to earn in a new job,” “the number of hours spent engaged in job search” — in an attempt to overcome the strong reliance on structural modelling assumptions necessitated by the customary data deficiencies.² This paper furthers this latter research program by investigating the structure and determinants of self-reported reservation wages using data collected in a recent survey of users of the Canadian employment insurance system³ — the 1998 Survey on Repeat Use of Employment Insurance (SRUEI).

The SRUEI arose primarily as a consequence of major problems encountered by the Earnings Supplement Project (ESP), an innovative randomized experiment implemented by Human Resources Development Canada (HRDC) in seven Canadian provinces in 1995–96.⁴ Under ESP, Employment Insurance (EI) claimants who found jobs within a fairly short time frame⁵ were eligible for a wage supplement, provided their new job paid less than their

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¹Leading examples of this type of analysis include Kiefer and Neumann, 1979; Wolpin, 1987; Eckstein and Wolpin, 1990; and Van Den Berg and Ridder, 1998. A recent survey of empirical analysis of equilibrium search models is provided by Van Den Berg, 1999.

²Examples of work using these four respective magnitudes are Jones and Riddell, 1999a; Feldstein and Poterba, 1984; Lancaster and Chesher, 1983; and Jones, 1989b. Many of the earlier contributions to the literature on the analysis of self-reported reservation wages are surveyed in Devine and Kiefer, 1991 (Ch. 4).

³On July 1, 1996, Unemployment Insurance (UI) was changed to Employment Insurance (EI). For simplicity, the term “EI” is used when referring to the program.

⁴On the implementation of ESP, see Bloom, Fink, Lui-Gurr, Bancroft, and Tattrie, 1997. Results are reported in Bloom, Schwartz, Lui-Gurr, and Lee, 1999, for the displaced worker sample, and in Tattrie, 1999, for the repeat user sample.

⁵Individuals offered the potential of a supplement had a maximum of only 12 weeks to find a qualifying job, to stop receipt of unemployment benefits, and to register for the supplementary payments (Tattrie, 1999, p. 6).

previous job. This supplement, which could have made up 75 percent of the difference between the old wage and the new, and which could have been paid for a period of up to two years, was intended to encourage re-employment. Specifically, for the displaced worker⁶ component of the target population of ESP, the goal was to generate a more rapid adjustment of future wage expectations and to compensate for short-term economic losses following displacement. For the repeat user⁷ sample, the goal was to promote year-round employment patterns and to stimulate “off-season” employment by encouraging lower reservation wages. In both cases, of course, an important subsidiary goal was to move these unemployed individuals into productive employment and hence reduce the cost of EI benefit provision.⁸ More generally, the project can be interpreted as part of the broader move away from passive and towards active labour market policies that was embodied in the move from Unemployment Insurance (UI) to EI in 1996.

With regard to the present research, an issue of particular significance in the ESP results concerned the behaviour of the repeat user group.⁹ Based on the stringent definition of a repeat user noted above — including the provision that the individual had filed a EI claim in *each* of the preceding three years — the ESP found that only 41 percent of those eligible chose to enrol, and that, after random assignment to supplement and control groups, over 95 percent of those in the supplement group received *no payments* under ESP (Tattrie 1999, pp. 8–11). The vast majority of the sample, therefore, neither returned to work nor took a wage loss within the required time period, and hence were essentially unaffected by the ESP. Tattrie (1999, p. 17) notes that a substantial number of the supplement group (88 percent) expected to be able to return to their former employer, and suggests that ESP may have offered insufficient incentives to break such a long-term relationship for more insecure year-round or off-season employment. In addition, the incentive structure in ESP may have been inadequate to compensate for the loss of non-market time, perhaps owing to the non-insurability of the supplement payments themselves, and hence may have been insufficient to induce a large enough adjustment in reservation wages to generate any significant re-employment in these alternative types of jobs.

With this background arising from the disappointing take-up of ESP there is, naturally, reason to examine the determinants of reservation wages and their role in job-search behaviour and, specifically, to assess whether there are differences that are significant in the reservation wages reported by repeat users and non-repeat users. Of course, a finding of a difference between repeat and non-repeat users would not directly imply that ESP would have worked for non-repeat users, but it would highlight a potentially important distinction

⁶The definition of a “displaced worker” is subject to some debate. For the ESP, the final set of criteria included only claimants with (i) continuous employment during the past 36 months (one or more employers), and (ii) no regular EI receipt (other than for temporary layoffs ending in a return to the old employer). See Bloom, Schwartz, Lui-Gurr, and Lee, 1999 (p. 10).

⁷The exact criteria used to generate the ESP repeat user sample were that individuals had (i) filed a regular EI claim in the relevant period at one of the four intake sites, (ii) had filed a paying regular EI claim in *each* of the past three years, and (iii) had not received a benefit payment in the preceding 12 weeks if the most recent claim was a renewal. See Tattrie, 1999 (p. 8). Later in this paper, I discuss below the relatively stringent nature of criterion ii.

⁸It is also worth noting that the supplementary payments were *not* insurable for EI purposes, so future EI benefit levels could be compromised by acceptance of a low wage together with the supplement offer (Tattrie, 1999, p. 6). This may have been a particularly important consideration for individuals with a pattern of regular EI use, that is, for the targets of the ESP.

⁹There has been considerable analysis of repeat users of the Canadian EI system and some of the provisions introduced in the initial EI reforms, specifically the “intensity provision” that reduces replacement rates for repeat users of EI, arose directly from this work. See, for example, Corak, 1993; and Lemieux and MacLeod, 1998. Based on an apparent absence of incentive effects, however, public policy is now considering the abandonment of these intensity provisions.

between the two groups. This paper tackles questions relating to reservation wages and job-search behaviour using the rich data available from the SRUEI.

I first examine the reservation wage data themselves, describing the properties of these self-reports and addressing how they compare with past wage levels, either based on a maximum observed past wage (in some time period) or based on the most recently observed wage. This work builds naturally on the study of “reservation wage ratios” developed in Feldstein and Poterba (1984) and employs comparative analysis from surveys with similarly worded questions to assess whether the patterns of responses in the SRUEI data are unusual. In particular, I examine the key hypothesis of whether the ratio of reservation wages to past wages is *higher* for repeat users of EI than for non-repeat users. I will hence examine whether such behavioural differences between the two groups may have played a role in determining the lack of interest in ESP exhibited by a repeat user population.¹⁰

I also address the comparative reservation wage behaviour of the employed population, compared with the job-search decisions of the unemployed. This provides some evidence that bears upon the comparative efficiency of employed vs. unemployed job search, a question which, though important to many theories and models in both labour and macroeconomics, has received relatively limited empirical investigation.¹¹ In part, this gap in research arises owing to a lack of reservation wage data for those employed. The SRUEI does have such self-reports, however, so that I can compare reported reservation wages for the employed and unemployed groups in the population, and hence address the question of whether these two groups differ significantly in this dimension. In addition, an auxiliary hypothesis arises from comparison of repeaters and non-repeaters and amounts to assessing whether the behaviour of the former group is more akin to the behaviour of the employed, with the strong ties to a *former* employer for a repeat user operating in the same way as ties to an *existing* employer for an employed searcher.

Given this, I go on to address the determinants of these reservation wages, compared with the determinants of past wage levels, examining the role of family demographics, education levels, health limitations, and other key variables. The SRUEI also permits some investigation of the relationship between self-reported reservation wages and responses to a battery of “attitudinal” questions concerning orientation to the labour market. While one cannot unravel the direction of causation between attitudes and behaviour from a single survey instrument (with no longitudinal structure to the data), these correlations are nonetheless of some interest. Again, one central focus, given the ESP, is whether the structure of the factors determining wages and reservation wages differs significantly for repeat and non-repeat users.

¹⁰A related question is whether the past wage is a good indicator of the current earnings capacity of the individual in question. I return to this point later in this paper.

¹¹Some key contributions to the study of the relative effectiveness of employed and unemployed job search are Kahn and Low, 1984; Holzer, 1987; Blau and Robins, 1990; Blau, 1992; and Jones and Kuhn, 1997.

THE STRUCTURE OF RESERVATION WAGES

I begin the analysis of self-reported reservation wages from the SRUEI by discussing the nature of the data. The SRUEI was a survey of two types of users of EI, repeat users and non-repeat users, conducted by Statistics Canada for HRDC in the first three months of 1998. The professed goal of the survey was to develop a typology of repeat EI users, in light of the issues arising from the ESP discussed above, so the non-repeat sample is present as a comparison group. The target group was EI claimants in 1996, with the twin qualifying criteria of (i) having filed a new claim in that year and (ii) having received some regular EI benefits as a consequence. Sampling was based on the 10 percent Status Vector file of HRDC and, in the case of potential multiple claims within a calendar year, was based only on the *last* claim filed by the individual in 1996. To meet the desire for appropriate sample sizes at the provincial level and with regard to the amount of past EI usage, the sampling was *stratified* according to province and years of EI receipt, so that the final sample is not random with respect to the underlying population. Weighting and survey-based statistical techniques appropriate to the use of data from such stratified sampling are hence appropriate.

Overall, the target sample size was about 30,000, with cell sizes in the {province × years of EI receipt} sampling frame ranging from 206 (one year of EI receipt in PEI) to 1,328 (three years of EI receipt in Quebec); details are provided in Statistics Canada (1999, Table 5.2.1, p. 9). The response rate for the survey was 75 percent overall, with provincial variation from 70 to 80 percent and with variation by number of past EI claims (in the window 1992–96) from 72 to 80 percent. Thus, the overall final sample size was somewhat over 22,000, distributed by cells reasonably closely to the design in the planned stratification.

The nature of the SRUEI data is summarized in Table 1. I report both unweighted and weighted data to give a better idea of the population characteristics of persons with an EI claim in 1996, and to permit comparison of the two columns so as to give an idea of the effects of stratification. Focussing initially on the weighted data, the working-age sample is nearly 60 percent male, has an average age of nearly 40, and 70 percent had a spouse present in 1997. Canadian-born individuals account for 85 percent of the sample and 55 percent own their residence. Almost 75 percent of those surveyed recorded EI receipt in 1997, though only eight percent recorded Social Assistance receipt in that year and 10 percent recorded Pension Plan income. Education levels are concentrated around “less than secondary” (23 percent), “completed secondary” (28 percent), and “less than college” (38 percent). In terms of reported job-search behaviour, over 70 percent reported some non-employed job search, while 39 percent reported some employed job search. On average, individuals recorded about 11 hours of search per week (with variation from 2.5 to 35 hours), which is a fairly high average level compared with some past work, though in line with more recent evidence for the Canadian labour market of the 1990s.¹² The job-search methods most commonly used are through Canada Employment Centres (CECs) (75 percent), through

¹²Jones, 1989b (p. 280), reports an average of 5.8 hours of search in his 1982 British sample, drawn from a very depressed labour market, although Barron and Mellow, 1981 (p. 432), report a somewhat higher average figure. For more recent Canadian comparators, see Crémieux, Fortin, Storer, and van Audenode, 1995a (Fig. 2a, p. 24), where the average job-search intensity as reported in the 1993 Canadian Out of Employment Panel lies between 10 and 20 hours per week at almost every elapsed duration of unemployment. See also their broader “intensity index” as discussed in Crémieux, Fortin, Storer, and Audenode, 1995b, and the related work in Jones, 1995.

employers (90 percent), and through friends (80 percent), although a majority (61 percent) also reported searching for a job by looking at ads, which is often regarded as a “passive” job-search method in the view that it could not alone generate a job offer.¹³ Overall, it is worth noting that the weighting owing to the stratified sample makes only small differences to most of these summary statistics.

Table 1: Summary Statistics From SRUEI

Variable	Observation	Unweighted			Weighted		
		Mean	Standard Deviation	Mean	Standard Deviation	Min.	Max.
Male	22,152	0.59	0.49	0.59	0.49	0	1
Age	22,347	39.40	10.89	38.80	11.11	18	65
Spouse in 1997	22,195	0.70	0.46	0.68	0.47	0	1
Health limits	22,168	0.08	0.27	0.08	0.28	0	1
Canadian-born	22,246	0.88	0.32	0.85	0.36	0	1
Rent	22,347	0.31	0.46	0.36	0.48	0	1
Own	22,347	0.61	0.49	0.55	0.50	0	1
Children aged 0–1	22,342	0.07	0.27	0.08	0.28	0	2
Children aged 2–5	22,110	0.16	0.44	0.15	0.44	0	5
Children aged 6–12	22,105	0.31	0.66	0.29	0.64	0	6
Children aged 13–17	22,333	0.26	0.57	0.24	0.55	0	5
Social assistance in 1997	21,961	0.07	0.25	0.08	0.27	0	1
EI in 1997	21,896	0.77	0.42	0.74	0.44	0	1
Pension plan income in 1997	21,986	0.11	0.31	0.10	0.30	0	1
EI benefits in 1997	10,334	3,263	2,729	3,370	2,825	1	21,476
EI weeks in 1997	11,439	13.99	10.13	14.45	10.54	1	52
Less than elementary education	22,147	0.06	0.25	0.06	0.23	0	1
Completed elementary education	22,147	0.04	0.19	0.03	0.17	0	1
Less than secondary education	22,147	0.25	0.43	0.23	0.42	0	1
Complete secondary education	22,147	0.29	0.46	0.28	0.45	0	1
Less than college education	15,621	0.35	0.48	0.38	0.48	0	1
Completed college education	22,147	0.09	0.29	0.11	0.32	0	1
Diploma	22,347	0.35	0.48	0.36	0.48	0	1
Job search when non-employed	19,478	0.70	0.46	0.71	0.46	0	1
Job search when employed	20,671	0.38	0.49	0.39	0.49	0	1
Job-search hours	13,412	10.02	8.56	10.85	8.98	2.5	35
Job search through CEC	15,333	0.77	0.42	0.75	0.43	0	1
Job search through private agency	15,312	0.17	0.37	0.19	0.39	0	1

(continued)

¹³If the justification for the “active” vs. “passive” job-search distinction lies in the ability of the former and not the latter to generate a job offer, then a case might also be made that search through contacts with friends is also a passive type of job-search method. For more on these issues, see Jones and Riddell, 1999b.

Table 1: Summary Statistics From SRUEI (Cont'd)

Variable	Observation	Unweighted			Weighted		
		Mean	Standard Deviation	Mean	Standard Deviation	Min.	Max.
Job search through union	15,337	0.15	0.36	0.12	0.33	0	1
Job search directly through employers	15,337	0.89	0.32	0.90	0.30	0	1
Job search through friends	15,341	0.80	0.40	0.80	0.40	0	1
Job search through ads	15,292	0.58	0.49	0.61	0.49	0	1
Job search — count of methods used	15,364	3.36	1.17	3.36	1.16	0	6

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

I next address the reported reservation wage data, based on responses to the question “What is the lowest salary that you would accept to take a job, either part-time or full-time?” (Statistics Canada 1999, p. 194). For both unemployed and employed individuals, I have compared this self-reported value with two individual-based past wages. The first approach is to assess the reservation wage relative to the individual's *highest* past wage over the observation period, while the second comparator is the wage of the job *most recently held*. Both options do seek to control for the many observed and unobserved individual characteristics that determine the wage in a way that comparison with, say, the predicted wage from a wage regression, might not. The highest wage may reflect the individual's long-term earnings capacity, unless the high wage was earned only on a temporary job (perhaps with unusual job characteristics), while the last wage may represent a better indicator of immediate labour market performance.

Unemployed Sample

Using all of the available data for the unemployed population, the Reservation Wage Ratio (RWR) — the ratio of the reservation to the past wage — has a mean of 0.899 based on the maximum wage and 0.937 based on the (lower) last wage, numbers that both lie close to their respective medians. However, these average results stem from including some very extreme values for the RWR, values that are reasonably interpreted as misreporting or misunderstanding the survey questions. After considerable experimentation and investigation, I decided to drop from the data all observations for which the computed RWR is less than 0.25 or greater than 4, and I refer to the resulting RWR data as trimmed. For the highest wage measure, this amounts to dropping 28 observations, while 26 are dropped for the last wage figures. There is essentially no effect on the medians from this trimming, of course, but the means fall to 0.895 and 0.924 respectively. Compared with the means for the RWRs that range from 0.98 to 1.09 for various unemployed labour market groups reported in Feldstein and Poterba (1984, p. 148), for example, these SRUEI figures appear quite low.¹⁴

¹⁴Jones, 1989a (p. 229), reports a sample RWR of 1.045 overall in his 1982 British data, based on the (indexed) past wage, with prime age males having the lowest mean RWR (0.989). These U.K. figures are closer to those of Feldstein and Poterba, 1984, than to the SRUEI results.

Henceforth, I concentrate on the trimmed RWR data using the highest wage observation as the comparator, and results for this measure, for both the unemployed and employed samples, are reported in Table 2. I discuss these results for several interesting sub-samples: repeat vs. non-repeat users, individuals with a broader definition of past patterns of EI usage, women vs. men, regional differences, and for individuals with reported differences in job-search inputs or in job-search methods employed. In so doing, I respect the stratified sampling framework used in the SRUEI and calculate the sample means and standard errors for these RWR measures using statistical procedures that explicitly allow for the {province \times years of EI use} sample structure.¹⁵ This structure means that weights must be applied to arrive at population averages, and that the level of stratification must be recognized to arrive at appropriate measures of standard errors (since sampling is not purely random and independent in this case).

Table 2: Summary Statistics on RWR for Unemployed and Employed Samples

	Unemployed		Employed	
	Mean	Standard Error	Mean	Standard Error
Overall	0.895	0.004	0.855	0.004
Non-repeater	0.919	0.015	0.869	0.008
Repeater	0.890	0.004	0.849	0.004
Equality test statistic	p=0.0556		p=0.0239	
ESP non-repeater	0.908	0.009	0.863	0.006
ESP repeater	0.888	0.004	0.846	0.003
Equality test statistic	p=0.0460		p=0.0118	
New claim in 1996	0.919	0.015	0.869	0.008
2 claims	0.897	0.011	0.855	0.008
3 claims	0.888	0.008	0.848	0.006
4 claims	0.884	0.006	0.845	0.007
5 claims	0.891	0.005	0.843	0.005
Female	0.879	0.007	0.846	0.005
Male	0.901	0.005	0.862	0.005
Equality test statistic	p=0.0083		p=0.0257	
Female non-repeater	0.880	0.020	0.853	0.010
Female repeater	0.879	0.007	0.843	0.006
Male non-repeater	0.941	0.020	0.883	0.013
Male repeater	0.894	0.004	0.853	0.004
Female ESP non-repeater	0.879	0.014	0.852	0.008
Female ESP repeater	0.879	0.006	0.838	0.006
Male ESP non-repeater	0.922	0.012	0.872	0.009
Male ESP repeater	0.891	0.004	0.851	0.004

(continued)

¹⁵See, for example, Scheaffer, Mendenhall, and Ott, 1996, and, for the implementation used in this work, StataCorp, 1999.

Table 2: Summary Statistics on RWR for Unemployed and Employed Samples (Cont'd)

	Unemployed		Employed	
	Mean	Standard Error	Mean	Standard Error
Newfoundland	0.896	0.009	0.834	0.009
P.E.I.	0.930	0.010	0.863	0.011
Nova Scotia	0.911	0.009	0.865	0.008
New Brunswick	0.941	0.009	0.877	0.009
Quebec	0.901	0.008	0.868	0.007
Ontario	0.902	0.012	0.852	0.007
Manitoba	0.857	0.011	0.830	0.008
Saskatchewan	0.874	0.012	0.831	0.008
Alberta	0.865	0.015	0.863	0.007
B.C.	0.842	0.010	0.822	0.008
Young (25 and under)	0.919	0.016	0.843	0.010
Prime age (25–50)	0.887	0.004	0.851	0.004
Older (over 50)	0.905	0.008	0.884	0.010
0–5 search hours	0.882	0.007	0.840	0.008
6–10 search hours	0.885	0.009	0.841	0.008
11–15 search hours	0.890	0.020	0.850	0.013
16–20 search hours	0.854	0.012	0.854	0.011
More than 20 search hours	0.899	0.017	0.887	0.019
Some search through CEC	0.881	0.006	0.846	0.005
Some search through private agency	0.887	0.015	0.876	0.013
Some search through union	0.810	0.009	0.789	0.010
Some search through employers	0.881	0.005	0.851	0.005
Some search through friends	0.880	0.005	0.850	0.005
Some search through ads	0.874	0.007	0.848	0.006

Note: All results are based on the author’s calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Among the unemployed group, I address two types of repeat use measures. The first, termed “Repeater” is a measure of whether the individual had recorded a claim in *any* other year (1992 onwards) prior to the 1996 claim that put the individual in the sampling frame. The second, termed “ESP Repeater,” is an attempt to be closer to the repeat user criterion that was actually implemented in the ESP, the relevant provision being that the individual had filed a EI claim in *each* of the preceding three years. Accordingly, an individual is classified in this analysis as an ESP repeater if he or she had three or more years of EI receipt (defined as initiating new claims in each year), and as an ESP non-repeater otherwise.¹⁶ For the simple repeat use measure, the mean RWR drop from 0.919 for non-repeaters to 0.890 for repeaters, with analogous drops of the median, but for the ESP measure — whereby fewer individuals are classified as repeaters — the drop is less sizeable for both of these measures of central tendency. Based on this first inspection of the RWRs in the data, there is no apparent reason

¹⁶Note that this criterion of three or more claims within the five calendar years in the 1992–96 window does *not* match exactly the three claims in the *preceding* three years used by ESP, however.

to think that repeat users are more reluctant to lower their reservation wages than non-repeaters. If anything, it appears the converse may be true.

The disaggregated data based on the past EI claim record reinforces this conclusion, with unemployed individuals with a new claim in 1996 having the highest mean RWR, and with lower RWRs on average for those with 2–5 past claims; the decline in the RWR, however, is not monotonic in the number of past claims, and is probably better viewed as being essentially flat in the number of claims, given that more than one claim has been made.

Variation by sex indicates that unemployed men have a higher mean RWR than unemployed women, a difference that is statistically significant. When I focus on repeat use for each sex group, the interesting result is that *all* of the difference according to the repeat use measures derives from the men while, for women, the mean RWRs are the same for the repeater/non-repeater groups (and for those following the ESP-based definitions). In no case, though, do unemployed repeat users of EI have lower average RWRs than the non-repeat users in the same population sub-group.

The provincial variation in Table 2 is also quite modest for the unemployed sample, ranging from 0.842 in B.C. to 0.941 in New Brunswick, with a weak pattern of lower reservation wage ratios as one moves west. By age, the young and the old portions of the population have higher RWRs than the middle prime age unemployed group, differences that are statistically significant.

Finally among the unemployed group, I compare the mean RWRs according to various realized dimensions of the job-search process. First, I examine the reported average weekly hours spent engaged in job search and I study RWRs for five groupings of these hours. For the three lowest groupings (0–5 hours, 6–10 hours, and 11–15 hours), there is essentially no difference in the average RWRs. However, the mean RWR is lowest for the group with 16–20 hours of reported job search but highest for the top group with over 20 hours of search. Of course, *both* the reservation wage *and* the number of hours of job search are properly viewed as endogenous variables, jointly chosen by the individual searcher, and in general the theory of optimal job search does not give a prediction on what the relationship between these two variables would be in equilibrium.¹⁷

Second, I examine whether the RWR is different for unemployed individuals who use different job-search methods, noting that an individual can report use of more than one such method. In fact, in the SRUEI data, the mean number of methods used, of the six listed in Table 2, is 3.36, so the statistics for the mean RWRs are certainly not independent.¹⁸ Given this, it is not surprising that the RWR means are quite close to one another, the only exception being job-search through a union, a method that is actually the least used in these data. Again, one should note that these choices of RWR and search method are both properly viewed as endogenous, and do not correspond to the effect on the RWR of, say, requiring a person randomly chosen from the population to use a particular job-search method.

¹⁷Similarly, Jones, 1989b (p. 283), found little apparent relationship between RWRs and reported hours of job search in a study using British data from 1982.

¹⁸Holzer, 1987 (p. 604), reports a mean of 3.3 methods used by his unemployed searchers sample.

Employed Sample

A related issue concerning reservation wage behaviour that can be addressed using the SRUEI is comparison of the job-search strategies of the employed and the unemployed. The idea that a significant amount of aggregate unemployment can be explained by workers' optimal job-search decisions permeates much of modern labour and macroeconomics. However, this notion depends critically on the assumption that searching for a new job is more effective while unemployed than while employed. If employed job search were more effective, one would expect unemployed workers to accept even low-quality employment early in a jobless spell, and then continue job search from employment. Most job search would then occur from employment, and workers would have little incentive to remain unemployed while waiting for better job offers than are currently available.

One key difficulty in the assessment of relative job-search efficacy is the difficulty of making inferences about the underlying structural features of interest for job-search models (namely the relative unit job-search costs and technologies in the employed and unemployed job-search regimes) from limited data on job-search outcomes, data that are usually confined to job-finding rates.¹⁹ Unfortunately, most existing empirical studies have paid relatively little attention to this problem, and have simply interpreted higher overall job-finding rates as greater overall job-search "effectiveness." This is not, however, the parameter of interest for most equilibrium job-search models.

Some other difficulties with existing studies of employed and unemployed job search arise whenever there are any unobserved differences in job-search costs or abilities across individuals. Whenever such differences exist, at least two kinds of selection bias can affect the interpretation of differences in job-search outcomes between employed and unemployed searchers. First, since (controlling for observables) individuals who are better job searchers are more likely to be employed at any given time, any sample of the *stock* of employed workers is likely to be composed disproportionately of these better searchers. This could lead to higher job-finding rates among employed than unemployed workers even if the job-search technologies in the two regimes were identical. Second, whenever (as is usually the case) the analysis of employed job search is confined to the sample of employed workers who report that they engaged in any job search, this subsample of employed workers is also likely to differ in unobserved ways from the sample of all employed workers. For example, if only employed workers with the best prospects search for a job, the sample of *searching*, employed workers will be even more positively selected than employed workers in general. More generally, the behaviour and outcomes of the relatively small proportion of employed

¹⁹Blau and Robins, 1990, reported that employed job search was, on average, more productive than unemployed job search, a finding that appeared robust both to endogenous choice of job-search methods and to observed differences between the employed and unemployed searchers. Relatedly, Kahn and Low, 1984, examined employed and unemployed job search and inferred from an ordered logit specification that unemployed search intensity was greater, although this does not speak directly to the question of effectiveness per unit of job-search effort. Holzer, 1987, presented a number of direct measures suggesting a greater effectiveness of unemployed search. Using the NLS-Youth Cohort for 1981, he found that unemployed job searchers used more job-search methods and spent more time in job search than their employed counterparts, and that the unemployed group had lower self-reported reservation wages. Further, these differences played a key role in explaining subsequent reported outcomes such as receipt of a job offer, acceptance of an offer, and the acceptance wage of subsequent employment. Jones and Kuhn, 1997, used data on employed workers under advance notice of layoff to compare job-search behaviour of the employed and the unemployed when both groups have similar future prospects.

workers who *voluntarily choose* to search for a job may be a poor representation of the likely effectiveness of employed job search for a typical member of the sample population.

The particular contribution that the SRUEI can make to this literature stems from the fact that, unusually, this survey yields direct observations on self-reported reservation wages for both the employed and the unemployed samples. The discussion is thus closest to the earlier work by Holzer (1987) in that it uses self-reported reservation wage data although, unlike Holzer, we do not have follow-up information subsequent to the survey to match up these self-reports with realized outcomes.

In the final two columns of Table 2, therefore, I present a variety of sample statistics on RWRs reported by the employed sample, analogous to those discussed for the unemployed group. The mean of 0.855 lies well below one and is also clearly below the level for the unemployed sample (0.895). There are small but significant differences between the repeater and non-repeater groups in this population, and similar differences for the ESP-repeater and ESP-non-repeater groups. On both definitions, the employed repeat users have lower RWRs than the non-repeat users, as previously found for the unemployed group. Looking at the breakdown of these groups, it is apparent that most of the differences in mean RWR by past claim history — which underlies the two repeater definitions, of course — stems from the higher RWR of those who had *never* had a EI claim in the 1992–96 period, with little apparent difference among those groups with 2–5 claims. This is similar to findings from the unemployed sample.

With regard to the other subsamples, women have somewhat lower RWRs than men, echoing the finding from the unemployed RWRs, and the difference between repeaters and non-repeaters is markedly more pronounced for men than for women. Provincially, the survey-based means do not display any strong pattern for the employed sample.

Across different levels and types of reported job search, there is little indication that employed RWRs vary a lot by job-search hours, the possible exception being that RWRs are highest for those in the highest level of job search (over 20 hours per week). As with the unemployed statistics, the lowest RWR is associated with search through a union but, as in the unemployed case more generally, there is little difference of RWRs across the various job-search methods reported.

Distributions of RWRs

Lastly, I also report evidence on the overall distribution of the RWRs for both the unemployed and the employed samples. The reason for doing this is that the shapes of the distribution on RWRs could influence behaviour in an important way, even if the means were the same; one such example would occur if one distribution were much more tightly concentrated than another. Table 3 gives the distribution of RWRs for the repeat user and the non-repeat user samples, using both definitions of repeat use and for both the unemployed and employed samples. I report five percentiles from the empirical cumulative distribution function (c.d.f.) of the RWR for these four groups (non-repeat, repeat, ESP non-repeat, ESP repeat). For the measure of any repeat usage, the c.d.f. for the non-repeat users lies above that for the repeaters, except at the very bottom of the distribution, and the same pattern is evident for the ESP-repeater measure. However, the differences at the various percentiles are quite small. Figures 1 and 2 graph estimated kernel densities for the RWRs for these groups, and the closeness of the two functions in each case is apparent. Both types of repeaters tend to

have slightly higher densities in the region for $RWR < 1.0$, and slightly lower densities above 1.0, but the differences are never large. Again, there is no clear evidence that the repeat users have higher RWRs than the rest of the population. For the employed group, similar conclusions are apparent for both repeat user definitions.

Table 3: Empirical c.d.f. of RWR

Variable	Percentile				
	10	25	50	75	90
Unemployed Sample					
Non-repeat user	0.607	0.765	0.923	1.000	1.200
Repeat user	0.603	0.750	0.899	1.000	1.111
ESP non-repeater	0.615	0.762	0.905	1.000	1.200
ESP repeater	0.600	0.741	0.900	1.000	1.100
Employed Sample					
Non-repeat user	0.583	0.727	0.891	1.000	1.099
Repeat user	0.550	0.705	0.864	1.000	1.025
ESP non-repeater	0.571	0.724	0.884	1.000	1.067
ESP repeater	0.556	0.700	0.857	1.000	1.015

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Figure 1: Kernel Density Estimate for Reservation Wage Ratio of the Non-employed

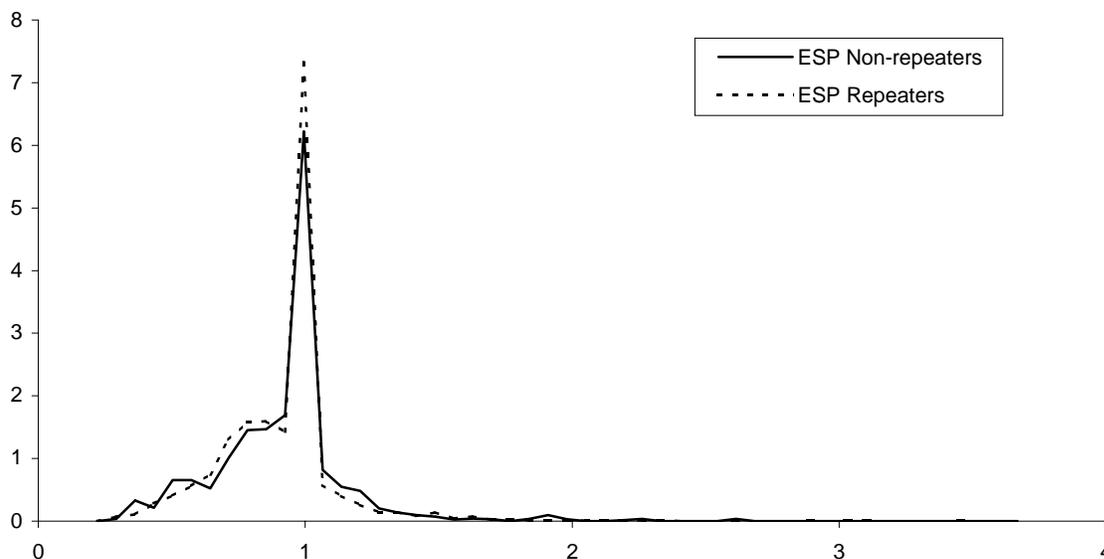
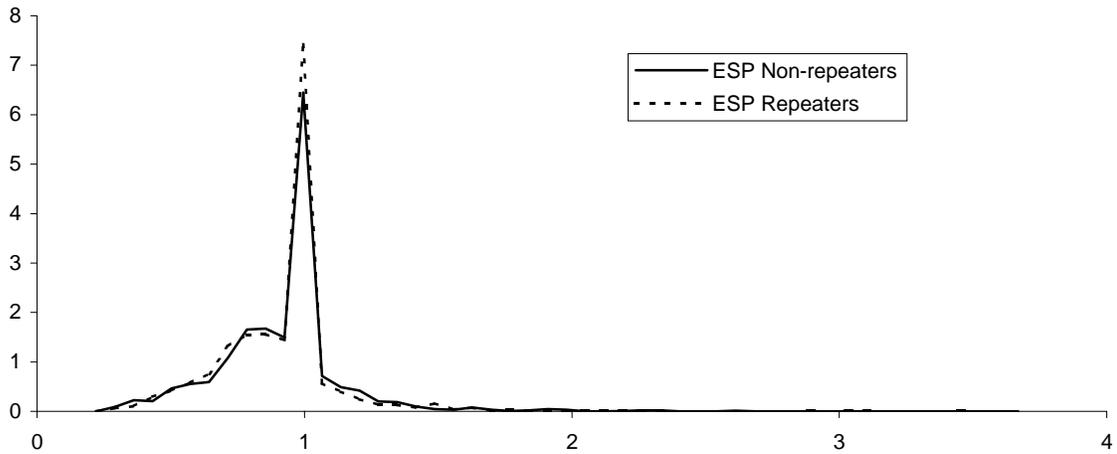
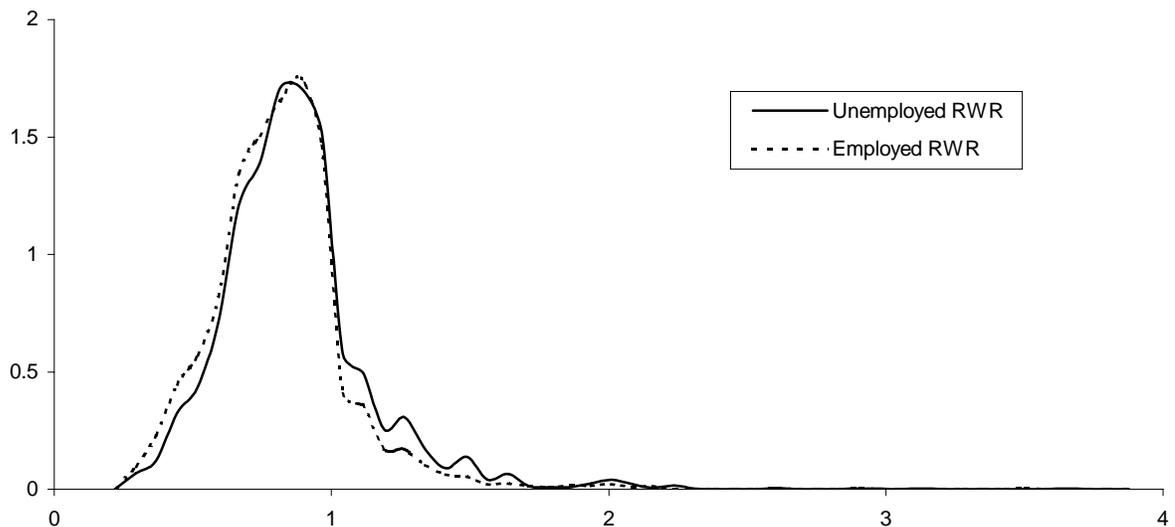


Figure 2: Kernel Density Estimate for Reservation Wage Ratio of the Non-employed



In addition, I have graphed the density estimate for the employed sample together with that for the unemployed sample. These estimates are presented in Figure 3. Both densities are highly concentrated at and just below 1.0, with almost equal height peaks just below 1.0. The employed group density is slightly higher at almost all estimated points in the 0.25–1.0 range, offset by clearly lower densities in the 1.0–1.5 range, and at higher values of the densities' support there are just a few outliers and essentially no difference between the two samples. This finding of lower employed RWRs contrasts with that of Holzer, and may be the result of different sampling schemes in the two studies.

Figure 3: Kernel Density Estimate for Reservation Wage Ratio — Employed and Unemployed Samples



THE DETERMINANTS OF RESERVATION WAGES

I now turn to investigate the determinants of reservation wages. It is instructive to compare the structure of reservation wages with those of market wages — as represented here by the individual’s own past wage observation — as well as to examine the determinants of their ratio, the RWR as discussed above. At the outset, we should note that any standard model of optimal job search²⁰ will have the property that *all* factors in the model contribute to the determination of the optimal reservation wage. This general result hence includes anything that affects the nature of the perceived wage offer distribution, such as region or education level, as well as anything that affects the agent’s decisions, given that offer distribution, such as the “cost” of job search and of being unemployed, the discount rate, and the perceived arrival rate of job offers. If the cost of job search and of being unemployed depends on past experience (and on repeat use of EI), it may prove difficult to think that such cost represents a set of exogenous regressors, however, and the results should be interpreted with this caveat in mind.

My basic strategy is to regress the RWR, the self-reported reservation wage, and the individual’s past wage, on a set of explanatory variables. Throughout these results, I use the common sample whereby these three dependent variables (and any explanatory variables used) are observed, so the samples are the same for the three columns in any one Table of these results. Also, I use survey-based regression techniques that allow for the stratified and weighted nature of the sample (StataCorp, 1999). Finally I, for the most part, report here the results from estimating these models in levels, although I have also investigated a variety of other specifications, including estimation in logarithms with and without imposing that the logarithm of the past wage has a coefficient of one. Where important, I also comment on the results from the log reservation wage specification in the discussion below.²¹

I begin by regressing the RWR, the reservation wage itself, and the past wage, on a dummy variable for repeater status, and these results are summarized in Table 4. The repeater variable has a positive coefficient in both wage level equations, with a larger effect for the past wage equation than for the reservation wage itself. This tendency to find similar effects in the two equations, models 2 and 3 respectively in Table 4, is a common one in this work, and it is typically accompanied by the reservation wage displaying *attenuated coefficients*, so that the slope of each respective effect is flatter in model 2. When I look at the ratio, that is the RWR in model 1 of the Table, the net effect is slightly negative, but this effect from repeater status is not significant at the five percent level. Note also that all three equations explain only a small fraction of the observed variation in the data, as evidenced by the small R-squared values.

Repeating this initial investigation for the ESP-repeater variable, which embodies a more stringent notion of repeater status requiring multiple past years of claims, the effects are very similar and are reported in Table 5. Both wage equations have a positive and significant coefficient on ESP repeater, the reservation wage variable has a smaller overall effect, and

²⁰See, for example, the exposition of a straightforward case in Jones, 1989a (pp. 230–1), the stationary model in Jones, 1988, the simultaneous model of Lancaster, 1985, and the survey in Devine and Kiefer, 1991.

²¹This logarithmic specification corresponds more closely to that in Jones, 1989a, while the levels and ratio specifications follow those of Feldstein and Poterba, 1984. I give some example results using the logarithmic models below.

the RWR has a small, negative but marginally insignificant coefficient. Again, little of the variation in these variables is explained by the ESP-repeater variable.

Table 4: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for Repeaters

Model	1	2	3
N	7,737	7,737	7,737
Dependent variable	RWR	Reservation wage	Past wage
Constant	0.919 * (0.015)	10.160 * (0.237)	11.669 * (0.293)
Repeater	-0.028 (0.015)	1.789 * (0.250)	2.467 * (0.309)
R-squared	0.002	0.019	0.023

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Table 5: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for ESP Repeaters

Model	1	2	3
N	7,737	7,737	7,737
Dependent variable	RWR	Reservation wage	Past wage
Constant	0.908 * (0.009)	10.583 * (0.179)	12.277 * (0.221)
ESP Repeater	-0.019 (0.010)	1.620 * (0.192)	2.195 * (0.239)
R-squared	0.001	0.024	0.028

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

In the analogous logarithmic models (the results of which are not reported in detail here but which are available upon request), when the dependent variable is the log of the RWR, the repeater effect and the ESP-repeater effect are both negative and insignificantly different from zero. When the dependent variable is the log reservation wage and the log past wage is included as an explanatory variable, the unconstrained coefficient on the past wage variable is about 0.69, rather than the 1.00 implied by the RWR specification.²² In each case, the coefficient on the repeater variable (and on the ESP-repeater variable) is small but positive and, as in the levels results, is larger in the equation for the logarithm of the past wage.

²²A referee has suggested that this result of a 0.69 coefficient on the past wage variable be interpreted as a test of the RWR specification, which implicitly imposes a coefficient of 1.00. My view on this is agnostic, which is why I also report some logarithmic specification results below. Since much of the literature has focussed on the nature of the RWRs themselves, however, I also wanted to report a direct investigation of their determinants in the ratios model.

I also estimate models based on the number of years of past EI receipt, rather than forcing the effect from repeat usage to be either 0 or 1, and the results are again similar. Years of past use have a positive and significant coefficient in both levels wages equations in Table 6 (and also in the analogous logarithmic models), with a larger effect on the past wage than on the reservation wage, but the effect on the RWR is small, negative, and not significantly different from zero at the five percent level.

Table 6: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for Years of EI Receipt

Model	1	2	3
N	7,737	7,737	7,737
Dependent variable	RWR	Reservation wage	Past wage
Constant	0.914 * (0.013)	9.879 * (0.234)	11.388 * (0.290)
Years of EI	-0.006 (0.003)	0.539 * (0.057)	0.711 * (0.071)
R-squared	0.001	0.026	0.028

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

I next examine whether these results differ once a richer set of controls is introduced. The first such specification has a standard set of family-based demographics, in addition to the repeater or ESP-repeater variables, and are reported in tables 7 and 8. With these controls, the repeater effect is now negative and on the margin of significance at the five percent level, being just significant in Table 7 (using the weaker definition of repeater) but just insignificant in Table 8 (using the ESP-based definition that requires multiple past years of claims). This finding is consistent with the evidence that showed lower RWRs for individuals with past claims. The fact that this effect persists when these demographic controls are present means that the effect is not driven exclusively by the particular observed demographics of the repeater population. Again, it raises some questions about an analysis based on inflexible reservation wage behaviour of the repeater group. Of the demographic controls, age and being male both exert a positive effect on the past wage and the reservation wage, with the coefficients in the past wage equation being slightly larger than those in the reservation wage model, but the effect of children in the household is apparently small. These results also hold up in the logarithmic models, with the coefficients being clearly larger in the log past wage specification than in the reservation wage equation, and with the repeater effects being negative and just insignificant at the five percent level.

Table 7: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for Repeater With Demographics

Model	1	2	3
N	7,544	7,544	7,544
Dependent variable	RWR	Reservation wage	Past wage
Constant	0.901 * (0.023)	5.055 * (0.335)	6.159 * (0.459)
Repeater	-0.032 ~ (0.016)	0.925 * (0.260)	1.505 * (0.334)
Age	0.000 (0.000)	0.064 * (0.008)	0.065 * (0.010)
Male	0.022 ~ (0.009)	4.034 * (0.139)	4.313 * (0.199)
Spouse 1996	0.004 (0.020)	1.066 ~ (0.460)	1.008 (0.545)
Spouse 1997	-0.019 (0.020)	-0.489 (0.463)	-0.078 (0.543)
Children < 2 years	0.025 (0.017)	0.651 ~ (0.265)	0.252 (0.324)
Children 2–5 years	-0.008 (0.009)	0.029 (0.154)	0.191 (0.221)
Children 6–12 years	-0.002 (0.006)	0.121 (0.106)	0.152 (0.138)
Children 13–17 years	-0.006 (0.008)	0.001 (0.118)	0.135 (0.159)
R-squared	0.006	0.166	0.13

Note: All results are based on the author’s calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Table 8: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for ESP Repeater With Demographics

Model	1	2	3
N	7,544	7,544	7,544
Dependent variable	RWR	Reservation wage	Past wage
Constant	0.888 * (0.020)	5.441 * (0.299)	6.789 * (0.415)
ESP repeater	-0.020 (0.010)	0.784 * (0.207)	1.247 * (0.263)
Age	0.000 (0.000)	0.061 * (0.008)	0.061 * (0.011)
Male	0.022 ~ (0.009)	4.015 * (0.144)	4.285 * (0.204)
Spouse 1996	0.004 (0.019)	1.038 ~ (0.467)	0.962 (0.543)
Spouse 1997	-0.020 (0.019)	-0.476 (0.468)	-0.054 (0.542)
Children < 2 years	0.025 (0.017)	0.646 ~ (0.266)	0.243 (0.325)

(continued)

Table 8: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for ESP Repeater With Demographics (Cont'd)

Model	1	2	3
N	7,544	7,544	7,544
Dependent variable	RWR	Reservation wage	Past wage
Children 2–5 years	-0.008 (0.009)	0.004 (0.156)	0.153 (0.223)
Children 6–12 years	-0.002 (0.006)	0.116 (0.108)	0.143 (0.140)
Children 13–17 years	-0.006 (0.008)	-0.002 (0.118)	0.129 (0.156)
R-squared	0.005	0.166	0.13

Note: All results are based on the author’s calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

When I add a set of educational control variables, a dummy for the Canadian-born, and an indicator of whether (self-reported) health limitations restrict employment activities, the results with these “expanded demographics” are shown in Table 9. Analogous results were obtained for the ESP-repeater measure and, for brevity, those additional results are not reported in full here. Relative to the previous set of results, the addition of these variables (with completed secondary education being the omitted category) acts to raise the repeater (and the ESP-repeater) coefficient, but still with a larger effect on the past wage than on the reservation wage. Thus, the RWR ends up being negatively affected by repeater status, significantly on the weak definition of repeater in Table 9 (and insignificantly on the stronger ESP-based definition). Interestingly, in both logarithmic models, the repeater/ESP-repeater effect is negative in the reservation wage equation, controlling for the log of the past wage. Of the new control variables in this table, lower levels of education exert a strong negative effect on the reservation wage, effects that are more significant than those in the past wage equation, while health limitations have a clear negative effect on both past and reservation wages. Most of these effects are fairly equal in size in the two levels equations, though, so they do not add up to a large effect on the RWR overall.

Table 9: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for Repeater With Expanded Demographics

Model	1	2	3
N	5,274	5,274	5,274
Dependent variable	RWR	Reservation wage	Past wage
Constant	1.018 * (0.072)	5.369 * (0.821)	4.951 * (1.104)
Repeater	-0.027 ~ (0.017)	1.340 * (0.302)	2.045 * (0.411)
Age	0.000 (0.001)	0.078 * (0.010)	0.086 * (0.013)
Male	0.026 ~ (0.010)	4.224 * (0.177)	4.472 * (0.241)
Spouse 1996	0.005 (0.024)	1.417 ~ (0.591)	1.487 ~ (0.651)

(continued)

Table 9: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Basic Model for Repeater With Expanded Demographics (Cont'd)

Model	1	2	3
N	5,274	5,274	5,274
Dependent variable	RWR	Reservation wage	Past wage
Spouse 1997	-0.024 (0.025)	-0.683 (0.604)	-0.249 (0.663)
Children < 2 years	0.057 * (0.021)	0.770 ~ (0.309)	-0.043 (0.388)
Children 2–5 years	-0.011 (0.010)	-0.016 (0.189)	0.215 (0.306)
Children 6–12 years	-0.001 (0.006)	0.249 (0.134)	0.246 (0.169)
Children 13–17 years	-0.013 (0.007)	-0.020 (0.137)	0.245 (0.189)
Less than elementary education	-0.071 (0.063)	-2.499 * (0.677)	-2.433 * (0.937)
Completed elementary education	-0.077 (0.064)	-1.959* (0.692)	-1.765 (0.960)
Less than secondary education	-0.107 (0.064)	-1.923 * (0.649)	-1.174 (0.911)
Less than college education	-0.121 (0.065)	-0.528 (0.666)	0.737 (0.929)
Completed college education	-0.116 (0.068)	1.092 (0.902)	3.097 ~ (1.234)
Canadian-born	-0.010 (0.015)	-0.026 (0.263)	0.213 (0.328)
Health limitations on job/activity	0.006 (0.017)	-1.251 * (0.264)	-1.424 * (0.364)
R-squared	0.017	0.192	0.159

Note: All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

I next estimate a comprehensive model that includes the controls used to date, together with a broad set of attitudinal variables (the definitions of which are summarized in Table A.1). This approach, similar to that used in Jones (1989a) for example, looks at the *correlates* of attitudinal variables, without necessarily inferring causation from this static structure. That is, it may be impossible to tell if a person has a low RWR because of a discouraged attitude towards job search, or if there is some other factor that operates to cause both outcomes: attitudes are likely endogenous, in other words. Of the battery of information on respondents' attitudes and orientations towards the labour market in the SRUEI, I employ the three questions concerning an individual's willingness to accept a new job at a new employer, or at a very different job, or in a different province (d_emp1-3). I also use aggregators of some of the other attitudinal variables to construct indices of attitudes towards "new things" and towards EI receipt. Specifically, the attitudinal indicator towards "new things," Op_new, is measured as the average of variables: "don't like to try new things," "prefer to stick with what I know," "can't change many important things in life," and "things are changing too fast today" (op_01, op_03, op_04 and op_07 as defined in Table A.1). In addition, the attitudinal index towards EI, Op_EI, is the average of variables: "can always

depend on EI,” “kind of work I do means EI is just fact of life,” “deserve all EI weeks, I paid into it,” “can’t do much to avoid using EI in future,” and “deserve all EI weeks, since no jobs around” (op_09, op_10, op_13, op_14 and op_16 in Table A.1).²³ Using the basic repeater definition, the results from this estimation are given in Table 10.

Table 10: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Comprehensive Model for Repeater

Model	1	2	3
N	4,051	4,051	4,051
Dependent variable	RWR	Reservation wage	Past wage
Constant	1.056 *	4.415 *	3.405 *
	(-0.094)	(-1.088)	(-1.295)
Repeater	-0.018	0.952 *	1.490 *
	(-0.018)	(-0.348)	(-0.446)
Age	0.000	0.081 *	0.089 *
	(-0.001)	(-0.011)	(-0.013)
Male	0.049 *	3.774 *	3.543 *
	(-0.012)	(-0.196)	(-0.266)
Spouse 1996	0.013	1.540 ~	1.384 ~
	(-0.024)	(-0.667)	(-0.676)
Spouse 1997	-0.035	-1.290	-0.638
	(-0.024)	(-0.681)	(-0.680)
Children < 2 years	0.053 ~	0.895 *	0.213
	(-0.026)	(-0.331)	(-0.422)
Children 2–5 years	-0.008	-0.047	0.185
	(-0.010)	(-0.204)	(-0.322)
Children 6–12 years	0.006	0.401 *	0.253
	(-0.007)	(-0.136)	(-0.164)
Children 13–17 years	-0.012	-0.064	0.176
	(-0.008)	(-0.154)	(-0.200)
Less than elementary education	-0.111	-2.319 *	-1.776 ~*
	(-0.079)	(-0.771)	(-1.020)
Completed elementary education	-0.131	-1.704 ~	-0.789
	(-0.080)	(-0.781)	(-1.048)
Less than secondary education	-0.141	-2.086 *	-1.017
	(-0.080)	(-0.724)	(-0.988)
Less than college education	-0.152	-0.960	0.546
	(-0.082)	(-0.739)	(-1.013)
Completed college education	-0.164	0.423	2.970 ~
	(-0.085)	(-1.022)	(-1.350)
Canadian born	-0.005	-0.266	-0.119
	(-0.018)	(-0.315)	(-0.378)
Health limitations on job/activity	-0.018	-1.343 *	-1.119 *
	(-0.019)	(-0.275)	(-0.365)
Union member or covered	-0.116 *	2.999 *	5.447 *
	(-0.011)	(-0.265)	(-0.327)

(continued)

²³I have also investigated a number of models where these various attitudinal variables are used individually, rather than by being aggregated into two broad groupings. The pattern of results for the repeater effects is unchanged in this specification.

Table 10: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Comprehensive Model for Repeater (Cont'd)

Model	1	2	3
N	4051	4051	4051
Dependent variable	RWR	Reservation wage	Past wage
D_emp1	0.005 (-0.008)	-0.503 * (-0.132)	-0.570 * (-0.182)
D_emp2	0.022 * (-0.007)	0.758 * (-0.138)	0.514 * (-0.171)
D_emp3	0.005 (-0.005)	-0.050 (-0.084)	-0.202 (-0.109)
Op_new	-0.015 * (-0.006)	0.230 ~ (-0.104)	0.505 * (-0.126)
Op_EI	0.001 (-0.006)	0.019 (-0.119)	0.031 (-0.148)
R-squared	0.079	0.281	0.317

Note: All results are based on the author's calculations using weighted data from the SRUEL. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

The repeater coefficient in this model is always a significantly positive determinant of reservation and past wages, the former coefficient always being less than the latter. Moreover, these two effects combine so that the overall effect on the RWR always has a negative point estimate; however, it is insignificantly different from zero. This conclusion on the lack of a clear effect from repeater status is robust through all of the models I have estimated (and also holds for the ESP-repeater models), and is present both unconditionally and when a large variety of conditioning variables is incorporated. It is also maintained in the various logarithmic specifications I have estimated. The major conclusion is thus that repeater status is *not* associated with inflexible reservation wages, as would have been indicated by high values of the RWR for repeaters or by significantly positive coefficients on the repeat coefficient in the estimated equation for the determination of the RWR. Rather, repeater status has a weak but negative effect on the reservation wage, given the individual's past wage.

Turning to the effects of the set of flexibility/attitudinal variables, I focus here primarily on the effects of these magnitudes on the RWR. The d_emp2 variable, for which smaller values (scaled from 1 to 4) indicate a greater likelihood of accepting a new job with *very different characteristics* than the old job, has a significantly positive coefficient for both the reservation wage and the RWR equations. Individuals with less reported flexibility of this type tend to have higher reservation wages and RWRs, conditional on other factors, accentuating the overall degree of inflexibility. Neither of the other "flexibility" variables (d_emp1 and d_emp3) had a significant effect on the RWR, however.

Addressing the indices of the attitudinal statements themselves, the Op_new variable plays a significant role in the estimated equations for both reservation and past wages. It is also significantly different from zero, with a negative point estimate, in the RWR equation. Individuals with a high score for the indicator (who, for example, "do not like to try new things") have a lower RWR than individuals with a low score for Op_new and are apparently prepared to accept lower wages as a consequence. In contrast, the attitudinal variable Op_EI is never significant in the three estimated equations. Overall, it remains striking that this

comprehensive model, including such a range of attitudinal and other variables, explains only a modest amount of the observed variation in past and reservation wages, and explains but a small part of the overall variation in the RWR.

Finally, I have also augmented these respective models of the determinants of RWRs, reservation wages, and past wages by a set of measures of inputs in the job-search process. Specifically, I employ the reported number of job-search methods and the average level of weekly hours of job search as explanatory variables. These factors are *chosen* by the agent concerned, of course, in a joint process that also determines the reservation wage, so one cannot think of the regression of one on the other to be anything but a reduced form representation that does not have a structural interpretation. Nonetheless, the results hold some interest since they highlight the nature of these joint choices. In addition, it is certainly important to assess whether the results on the repeater status variable are robust to consideration of the differing levels of job-search intensity reported in these data.

For contrast with the earlier results, I report here the summary results of these models using the basic logarithmic specification; nothing, however, hinges on this difference. Table 11 records the point estimates for the main variables of interest in the model with expanded demographic controls, while Table 12 does the same, adding the set of attitudinal indices to the broad set of controls used. In both cases, two main conclusions are apparent. First, while job-search hours never has a significant coefficient in the log RWR specification, the job-search methods variable has a robust negative estimated coefficient. The interpretation is that agents who employ more methods of job search also tend to have lower log reservation and log RWRs. Agents do not compensate for a low RWR by using few methods, in other words; rather, they search actively and have low RWRs at the same time. This effect is somewhat smaller in the larger model (Table 12), but remains significant even in that case. Moreover, these results also obtain in the analogous ESP-repeater models which are not reported in full here.

Table 11: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Logarithmic Model With Search Inputs and Expanded Demographics

Model	1	2	3
N	3,554	3,554	3,554
Dependent variable	Log of RWR	Log of reservation wage	Log of past wage
Constant	0.083 (-0.075)	0.827 * (-0.068)	1.835 * (-0.108)
Repeater	-0.050 ~ (-0.021)	0.008 (-0.018)	0.144 * (-0.028)
Search methods	-0.023 * (-0.006) *	-0.015 * (-0.005)	0.018 ~* (-0.009)
Search hours	0.001 (-0.001)	0.000 (-0.001)	-0.003 ~ (-0.001)
Log of past wage		0.594 * (-0.019)	
R-squared	0.030	0.601	0.187

Notes: All models also include controls for demographics as in Table 14.

All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Table 12: Determinants of Unemployed RWRs, Reservation Wages, and Past Wages — Logarithmic Model With Search Inputs and Expanded Demographics

Model	1	2	3
N	2,814	2,814	2,814
Dependent variable	Log RWR	Log of reservation wage	Log of past wage
Constant	0.065 (0.010)	0.783 * (0.090)	1.786 * (0.128)
Repeater	-0.041 ~ (0.022)	0.003 ~ (0.020)	0.109* (0.030)
Search methods	-0.012 * (0.006)	-0.012 ~ (0.006)	0.000 (0.010)
Search hours	0.000 (0.001)	-0.001 (-0.001)	-0.001 (0.001)
Log of past wage		0.598 * (0.024)	
R-squared	0.111	0.609	0.359

Note: All models also include controls for demographic variables as in Table 9. All results are based on the author's calculations using weighted data from the SRUEI. For statistical results, ~ denotes a coefficient that is statistically different from zero at the five percent level and * denotes a coefficient that is statistically different from zero at the one percent level.

Second, across both tables, the repeater effect is small, negative, and significant at the five percent level. (The ESP-repeater effect operates similarly in the analogous estimated models.) This underlines the earlier conclusion that repeater status is *not* associated with relatively high reservation wages, as large values of the RWR for repeaters or significantly positive coefficients on the repeat coefficient might have shown. Rather, these logarithmic models with controls for job-search inputs confirm that repeater status has a small, negative effect on the reservation wage, given the past wage.

CONCLUSION

This paper has studied self-reported RWRs from the SRUEI, examining their characteristics for the unemployed and the employed samples, and studying the determinants of the reservation wages among the unemployed. Using two alternative definitions of repeat user of EI, my principal conclusion is that the repeat user group does *not* have more inflexible reservation wages, relative to past wage levels, than the non-repeat user groups. Since a central motivation for the SRUEI itself was the lack of interest in the ESP by repeat users (based on the stringent notion of a repeat user from the ESP itself), it is important to record that self-reported reservation wages are *not* higher for repeat users in this sample. Such findings hold unconditionally, and in a variety of models of the determinants of reservation wages where several different statistical specifications and many different sets of control variables are employed.

Two major open questions remain at the end of this study. First, despite the evidence for repeaters and non-repeaters, there is the issue of whether the repeaters' RWRs reported in these data were nonetheless unreasonably high, relative to a realistic assessment of the job prospects facing these particular individuals. The idea of this argument is that, for members

of this group, the past wage may have been quite high, relative to their current individual earning capacity, perhaps driven by rents, unionized bargaining, firm size, or the effects of particularly long job tenures on wages. Topel (1991), for example, notes that displaced workers typically take a wage drop of the order of 14 percent following job separation. If valid for the repeat users in the SRUEI sample, this magnitude of wage drop might suggest that an RWR of even, say, 0.890 — the mean for the unemployed repeat user sample here — would be too high. That is, repeat users might have similar RWRs to non-repeat users, but if their job prospects are significantly worse than those for the non-repeat users, then such similarity of RWRs would mask a failure of the repeaters' RWRs to adapt to the realities of their own job market. Essentially, this argument would rely on the structure of past wages being very different for repeat and non-repeat users, with such past wages being a much better guide for future job prospects among the non-repeat user group.

Second, although the pattern of these self-reported reservation wages is fairly consistent, in a number of senses — internally across samples, with reference to the common structure shared by reservation and past wages, and relative to other evidence — one cannot prove that such reports correspond, with any precision, to the theoretical notion of a reservation wage from job-search theory. In particular, one nagging issue that permeates work with self-reported reservation wage data, or with much self-reported “subjective” data of this type, is the extent to which such reports have *observable behavioural consequences*. In Jones and Riddell (1999a), for example, the worth of responses to the survey question “Do you want work?” was established not by *a priori* argument but by evidence that different answers to the question had significant implications for *subsequent labour market behaviour*. Persons who “wanted work,” although not searching for it, ended up getting jobs significantly faster than equivalent persons who did not report “wanting work.” Similarly, in the present context, one would like to be able to assess whether different answers to these reservation wage questions had different consequences for future observed behaviour. Unfortunately, the SRUEI was a one-time survey with no longitudinal or panel structure, and observations on reservation wages are not followed by any subsequent behaviour that we can observe. Whether the observed differences in reservation wages, say between the repeat and the non-repeat user groups, have implications for unemployment durations and job acquisition rates is not therefore a question that can be answered with these data.

Appendix: Definitions of Attitudinal Variables

Table A.1: Definitions of Attitudinal Variables

Variable Name in Tables	Short Definition and Scale of Responses (see Statistics Canada, 1999, for full wording)	Variable Name in SRUEI
d_emp1	"likely/unlikely:accept job at new employer?" 1–4	[dq1x]
d_emp2	"likely/unlikely:accept same pay very different job" 1–4	[dq1y]
d_emp3	"likely/unlikely:accept same pay different province" 1–4	[dq1z]
op_01	"agree/disagree: don't like to try new things" 1–5	[dq5]
op_02	"agree/disagree:work always available with my skills" 1–5	[dq6]
op_03	"agree/disagree: prefer to stick with what I know" 1–5	[dq7]
op_04	"agree/disagree: can't change many important things in life" 1–5	[dq8]
op_05	"agree/disagree: take risks with job opportunities" 1–5	[dq9]
op_06	"agree/disagree: want to change kind of work I do" 1–5	[dq10]
op_07	"agree/disagree: things are changing too fast today" 1–5	[dq11]
op_08	"agree/disagree: enjoy being first to try something new" 1–5	[dq12]
op_09	"agree/disagree: can always depend on EI" 1–5	[dq13]
op_10	"agree/disagree: kind of work I do means EI is just fact of life" 1–5	[dq14]
op_11	"agree/disagree: would not want friends to know of EI" 1–5	[dq15]
op_12	"agree/disagree: getting EI is real hassle" 1–5	[dq16]
op_13	"agree/disagree: deserve all EI weeks, I paid into it" 1–5	[dq17]
op_14	"agree/disagree: can't do much to avoid using EI in future" 1–5	[dq18]
op_15	"agree/disagree: I am worried EI program will stop" 1–5	[dq19]
op_16	"agree/disagree: deserve all EI weeks, since no jobs around" 1–5	[dq20]

References

- Barron, J.M., and W. Mellow. 1979. "Search Effort in the Labor Market." *Journal of Human Resources* 14: 389–404.
- . 1981. "Changes in Labor Force Status Amongst the Unemployed." *Journal of Human Resources* 16: 427–41.
- Blau, David M. 1992. "An Empirical Analysis of Employed and Unemployed Job Search Behavior." *Industrial and Labor Relations Review* 45: 738–52.
- Blau, David M., and Philip K. Robins. 1990. "Job Search Outcomes for the Employed and Unemployed." *Journal of Political Economy* 98: 637–55.
- Bloom, Howard, Barbara Fink, Susanna Lui-Gurr, Wendy Bancroft, and Doug Tattrie. 1997. *Implementing the Earnings Supplement Project: A Test of a Re-employment Incentive*. Ottawa: Social Research and Demonstration Corporation.
- Bloom, Howard, Saul Schwartz, Susanna Lui-Gurr, and Suk-Won Lee. 1999. *Testing a Re-employment Incentive for Displaced Workers: The Earnings Supplement Project*. Ottawa: Social Research and Demonstration Corporation.
- Corak, Miles. 1993. "Unemployment Insurance Once Again: The Incidence of Repeat Participation in the Canadian UI Program." *Canadian Public Policy* 19: 162–76.
- Crémieux, Pierre-Yves, Pierre Fortin, Paul Storer, and Marc van Audenrode. 1995a. *The Impact of Unemployment Insurance on Wages, Search Intensity and the Probability of Re-employment: Evaluation Brief #27*. Ottawa: Human Resources Development Canada.
- . 1995b. *Unemployment Insurance and Job Search Productivity: Evaluation Brief 3*. Ottawa: Human Resources Development Canada.
- Devine, Theresa J., and Nicholas M. Kiefer. 1991. *Empirical Labor Economics: The Search Approach*. New York: Oxford University Press.
- Eckstein, Zvi, and Kenneth I. Wolpin. 1990. "Estimating a Market Equilibrium Search Model from Panel Data on Individuals." *Econometrica* 58: 783–808.
- Feldstein, Martin, and James Poterba. 1984. "Unemployment Insurance and Reservation Wages." *Journal of Public Economics* 23: 141–67.
- Holzer, Harry J. 1987. "Job Search by Employed and Unemployed Youth." *Industrial and Labor Relations Review* 40: 601–11.
- Jones, Stephen R.G. 1988. "The Relationship between Unemployment Spells and Reservation Wages as a Test of Search Theory." *Quarterly Journal of Economics* 103: 741–65.
- . 1989a. "Reservation Wages and the Cost of Unemployment." *Economica* 56: 225–46.
- . 1989b. "Job Search Methods, Intensity and Effects." *Oxford Bulletin of Economics and Statistics* 51: 277–96.
- . 1995. *Effects of Benefit Rate Reduction and Changes in Entitlement (Bill C-113) on Unemployment, Job Search Behaviour and New Job Quality: Evaluation Brief #20*. Ottawa: Human Resources Development Canada.
- Jones, Stephen R.G., and Peter J. Kuhn. 1997. "Is Employed Job Search Really More Effective?" McMaster University. Mimeographed.

- Jones, Stephen R.G., and W. Craig Riddell. 1999a. "The Measurement of Unemployment: An Empirical Approach." *Econometrica* 67: 147–61.
- . 1999b. *Unemployment and Labour Force Attachment: A Study of Canadian Experience 1997–1999*. McMaster University. Mimeographed.
- Kahn, Lawrence M., and Stuart A. Low. 1984. "An Empirical Model of Employed Search, Unemployed Search, and Nonsearch." *Journal of Human Resources* 19: 104–17.
- Kiefer, Nicholas M., and George R. Neumann. 1979. "An Empirical Job Search Model, with a Test of the Constant Reservation Wage Hypothesis." *Journal of Political Economy* 87: 89–104.
- Lancaster, Tony. 1985. "Simultaneous Equations Models in Applied Search Theory." *Journal of Econometrics* 28: 113–26.
- Lancaster, Tony, and Andrew Chesher. 1983. "An Econometric Analysis of Reservation Wages." *Econometrica* 51: 1661–76.
- Lemieux, Thomas, and W. Bentley MacLeod. 1998. *Supply Side Hysteresis: The Case of the Canadian Unemployment Insurance System*. NBER Working Paper No. W6732. Chestnut Hill, MA: Boston College Department of Economics.
- Scheaffer, R.L., W. Mendenhall, and L. Ott. 1996. *Elementary Survey Sampling*, 5th ed. Boston: Duxbury Press.
- StataCorp. 1999. *Stata Reference Manual, Release 6, Volume 4*, College Station, TX: Stata Press.
- Statistics Canada. 1999. *Survey on Repeat Use of Employment Insurance: Data Sharing File Microdata Documentation*, May 1999.
- Tattrie, Doug. 1999. *A Financial Incentive to Encourage Employment among Repeat Users of Employment Insurance: The Earnings Supplement Project*. Ottawa: Social Research and Demonstration Corporation.
- Topel, Robert H. 1991. "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority." *Journal of Political Economy*, 99: 145–176.
- Wolpin, Kenneth I. 1987. "Estimating a Structural Job Search Model: The Transition from School to Work." *Econometrica* 55: 801–18.
- Van Den Berg, Gerard J. 1999. "Empirical Inference with Equilibrium Search Models of the Labour Market." *Economic Journal* 109: F283–F306.
- Van Den Berg, Gerard J., and Geert Ridder. 1998. "An Empirical Equilibrium Search Model of the Labor Market." *Econometrica* 66: 1183–221.

The Impact of Regional Ties and Workers' Attitudes Toward Job Search on EI Receipt

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INTRODUCTION

Much of the displaced worker literature is oriented around job-search outcomes of individuals who have a relatively high degree of labour force attachment (as measured by perhaps two or three years of tenure at their pre-displacement job) and who are *permanently* displaced with little prospect of recall.¹ While some displaced workers in Canada match that prototype, it is well known that many others experience frequent and numerous transitions into and out of unemployment. Such labour market behaviour gives rise to the repeat use of unemployment insurance (UI) by the same individual, which is a pervasive phenomenon in Canada. Repeat users of UI are often involved in long-term employment relationships characterized by recurring spells of temporary though perhaps extended layoff, which constitutes a very different labour market pattern than that of the displaced worker described above.

In the United States, there is also evidence that the labour market itinerary of the prototypical displaced worker — who transits (albeit with financial hardship) from one stable job to another — may be common but is by no means the only case. Farber (1997) and Huff-Stevens (1997) point out that some workers in the U.S. suffer multiple displacements, holding unstable jobs and transiting frequently between employment and unemployment. Analyzing the jobless outcomes of that type of displaced worker is thus a relevant area for research in both countries.

The topic of this paper is usage patterns of UI (the Canadian program was called “Unemployment Insurance” prior to July 1, 1996 then renamed “Employment Insurance,” and is henceforth abbreviated “UI/EI”). Although it is motivated by the phenomenon of frequent and/or repeat use of the UI/EI program, the analysis also includes occasional users of UI/EI for comparative purposes. The empirical analysis consists of a model of UI/EI incidence rates by individual workers in 1997 and 1998, and has two main thrusts. The first objective is to examine systematic differences in the UI/EI receipt outcomes between two categories of workers: occasional users and repeat users (defined below). The second objective is to examine the impact on UI/EI usage outcomes of two novel sets of latent variables that are thought to affect job-search and UI/EI receipt behaviour but have seldom been available for prior studies. A newly created Statistics Canada survey (1998) called the

¹For recent surveys of the huge literature covering the itineraries of displaced workers in the United States, see Kletzer, 1998; Fallick, 1996; and Farber, 1997.

Survey on Repeat Use of Employment Insurance (SRUEI) is a very rich micro-data source containing some information that, to my knowledge, does not appear in the displaced worker literature for any other country. First, there is a series of questions designed to assess workers' attitudes and perceptions regarding job search and UI/EI receipt. Second, there is a series of questions pertaining to the worker's familiarity with the UI/EI system and his or her social ties to a geographical area.²

SURVEY OF THE LITERATURE

Unemployment Insurance Policy Reform

Although there is agreement that a UI regime is an essential element of an advanced industrialized economy such as Canada's, concerns about behavioural effects have been raised for the past two decades, inciting much debate over the reform of the UI program.³ Research from the U.S. indicates that UI benefits tend to prolong the job-search period and raise reservation wages of displaced workers. Other studies treating firm behaviour indicate that UI benefits tend to raise the separation rate, reinforcing a pattern of temporary layoffs and recall.

In Canada, much of the policy analysis has focussed on the impact of the UI/EI program on the incidence of joblessness and long term dependence on UI/EI. In particular, the two provisions that are coupled together in regions of high unemployment, "regional extended benefits" and "variable entry requirements," which create the so-called "maximum entitlement" regions, are criticized by economists. There is widespread agreement that the UI/EI program parameters in effect in those regions have adverse impacts on the supply choices of workers and the demand choices of firms, working to raise the propensity to claim UI/EI benefits.

In a series of papers (Nakamura, 1995, 1996; Nakamura, Cragg, and Sayers, 1994; Nakamura and Diewert, 1997), Nakamura surveys the advantages and the disadvantages of Canada's UI/EI program in the context of the reform package of Bill C-12 passed in 1995. This rich economic analysis can be summarized succinctly: in high unemployment areas in which the qualification thresholds are low and the length of benefits is potentially long, both firms and workers have a strong incentive to engage in a recurrent pattern of intermittent, seasonal, and (sometimes) part-time employment alternating with spells of unemployment. In such regions, the UI/EI program functions more as a permanent income maintenance regime rather than the insurance regime that was originally intended. Until recently, the employment pattern of the prototypical "repeat user" was often characterized as having as few as 12 weeks of remunerated employment followed by up to 40 weeks of benefits. By subsidizing this pattern, the UI/EI program in "maximum entitlement" regions tends to discourage occupational and regional mobility, foster long-term dependency on UI/EI benefits, and possibly hinder upgrading of job skills.

²An important and related question is the proportion of EI users involved in stable long-term employment relationships, stable yet seasonal relationships, and unstable sequences of short-term, intermittent jobs. This topic is addressed in another paper that is part of this volume.

³Early policy analyses were carried out by Kesselman, 1983, and the Forget Commission.

Corak (1993a, 1993b) was one of the first authors to exploit longitudinal administrative data on UI/EI claims to measure the extent of repeat use of UI/EI benefits by the same worker. These studies inspired further work by Lemieux and MacLeod (2000), and Wesa (1995), which was part of a thorough, systematic project for the UI/EI program undertaken by the Evaluation Branch of Human Resources Development Canada (HRDC).⁴ The definition of repeat use is admittedly somewhat subjective — HRDC tends to define a “repeat user” as one having three claims over a five-year period. Using several statistical measures and different intervals, all authors find that repeat use is common. Although the occasional users outnumber the repeat users at any point in time, a majority of the spells are accounted for by repeat users.

Corak, and Lemieux and Macleod, have also uncovered a phenomenon of occurrence dependence, whereby first time use of the UI/EI program significantly increases the probability of receiving UI/EI in future years. This trend can lead to a cycle of UI/EI receipt coupled with intermittent employment patterns, sometimes labelled “the UI trap.” After demonstrating the existence of occurrence dependence, Lemieux and Macleod attempt to probe the underlying causes, which they conjecture are related to “learning effects” concerning the UI/EI program parameters and its interaction with the local labour market. They stress the importance of the dynamics of a series of UI/EI claims. Workers adjust their choices in subsequent years in reaction to options and constraints created by the UI/EI program, of which workers may have little knowledge until they actually gain experience using the system. Within an insular group of workers, the diffusion of information concerning social programs and the concomitant employment channels that might push workers into UI/EI reciprocity might constitute an example of a social capital effect applied to UI/EI usage patterns.

“Social Capital” Literature

One of the early works to incorporate the “social capital” approach into the economics literature is a formal model by Montgomery (1991) dealing with the role of social networking in the hiring process. The basic idea is that social ties among individuals generate referrals that are influential in determining labour market outcomes. This approach has given rise to some empirical applications involving participation in social assistance programs in the U.S. Borjas (1995), and Bertrand, Luttmer, and Mullainathan (1998) employ U.S. census data permitting the individual’s participation status in social assistance programs to be linked to attributes of his or her spatial unit (i.e., neighbourhood), such as the proportion of the inhabitants that speak the individual’s language and the usage rate of social assistance of that linguistic group.

Interpreting the “social capital” approach in this context, the UI/EI program status of an individual is influenced by characteristics of his or her spatial unit, which is labelled the neighbourhood or the *social network*. This element typically consists of groups of workers (and perhaps labour unions) working seasonal and/or intermittent jobs in “maximum entitlement” regions. The key economic variable is information spillovers regarding UI/EI

⁴Some analysts, such as Green, 1994; Green and Sargent, 1998; and May and Hollett, 1995, have examined the less stable, less continuous employment patterns using different data sets and modelling outcomes other than UI receipt, and have commented on the policy aspects.

eligibility, job availability, and social mores passing through the social network.⁵ Not only is knowledge of the program parameters useful, but UI/EI claimants also benefit from communications with those employers who tailor their hiring and separation policies in order to help more workers qualify for UI/EI benefits.⁶ Eligibility for UI/EI benefits can also be spread among workers who are sharing a non-seasonal job, and such a scheme would require close social ties among partners.

Although the SRUEI does contain some variables which are in the spirit of the “social capital” approach, that data set does not possess the regional disaggregation required to identify empirically “social capital” effects. In this application, it is problematic to specify the channels through which the appertaining information is transmitted. Nevertheless, there are a number of variables, primarily associated with a worker’s ties to a region, that are included in the estimating equations, and these covariates can be loosely related to the “social capital” approach.

INTRODUCTION OF THE DATA SETS

The data set consists of two merged files. First, there is the Survey on Repeat Use of Employment Insurance (SRUEI) produced by the Special Surveys Division of Statistics Canada. Second, there is the derived version the HRDC’s 10% Status Vector (STVC) file, which is an administrative database containing information on all UI/EI claims made by a one-in-ten sample of claimants.

The SRUEI was administered in early 1998 to a sample of individuals selected from the 10% STVC. Almost all of the information is reported by the worker. The target population was UI/EI claimants who initiated a UI/EI claim for regular benefits in 1996 and collected at least \$1 in regular benefits. Detailed questions were posed about the characteristics of the jobs that were held during the course of 1997 (e.g., sector, wage, and weeks and hours worked), the circumstances surrounding any jobs lost or left (i.e., duration of jobs held, duration of interruptions to employment), activities undertaken (including job search) during periods of joblessness, demographic characteristics, and personal attachments to the job and community.⁷ Because all individuals in the working sample initiated a UI/EI claim in 1996, workers who rarely claim UI/EI benefits are unlikely to be sampled. Frequent users of the program are intentionally over-sampled, but occasional users are sampled as well. For example, out of a working sample of 22,056 workers, 15,282 are classified as repeaters (having made three or more claims between the years 1992 and 1996 inclusive), and 6,848 are classified as occasional users of UI/EI (having made one or two claims between the years 1992 and 1996 inclusive).⁸ When the survey’s weights are applied, it is very

⁵Although Lemieux and Macleod, 2000, deal with learning effects in the context of Canada’s EI program, they do not appeal directly to the social capital approach in their work. One difference between their work and the social capital approach is that in Lemieux and Macleod workers are self-taught.

⁶Green and Riddell, 1997, provide persuasive evidence that many employers adjust these practices in such a fashion.

⁷For a detailed presentation of the descriptive statistics from the SRUEI file, see the companion to this volume, *The Frequent Use of Unemployment Insurance in Canada*.

⁸The sample is stratified according to two variables, the province and the number of EI claims over the 1992–1996 period, in order to create 50 cells. Survey weights are assigned to each of these cells. Out of 22,586 records, 7,335 come from Atlantic Canada; 3,826 from Quebec; 3,530 from Ontario; 5,487 from the Prairies; and 2,408 from B.C. In the global sample, 6,089 individuals made claims in every year between 1992 and 1996, while 3,619 claimed EI benefits only in 1996. Approximately 9,500 individuals claimed EI benefits in either three or four of the years spanning that interval.

representative of the population of UI/EI claimants in 1996, with a balanced presence of both genders and the various age groups.⁹

The survey is designed to collect information about the unstable and/or intermittent employment patterns. Information is recorded for the first four jobs that an individual held during 1997, as well as up to four interruptions for each of these jobs. Transitions between the states of joblessness, labour force withdrawal, and employment over the course of 1997 are reported in retrospective fashion. Despite the wide scope of the survey, its structure is primarily cross-sectional. It is problematic to construct a weekly or monthly array of the various states of labour market activity during the brief window of 1997 because of problems such as non-response and measurement error, filtering, left censoring, and the great complexity of the employment patterns for certain workers.

The advantage of the SRUEI file is that the cross-sectional attributes of the individual workers are thorough and reliable. This study exploits primarily the attributes of the workers — as measured for 1997 — in order to link them to UI/EI outcomes extracted from the STVC file. The records from the SRUEI file are matched very accurately to the UI/EI program participation history in the STVC file using social insurance numbers.

The SRUEI has a very large sample size, almost all of which is included in the estimating sample. In those instances in which interviewees did not give responses, indicated that they did not know, or gave responses that are difficult to interpret, I typically created binary variables. This step ensures that such individuals — and in particular the valid responses that they gave to dozens of other questions — are retained in the estimating sample.¹⁰

The STVC file is an administrative, longitudinal file of weekly frequency which gives the workers' UI/EI program status in every single week from the beginning of 1992 to the end of 1998. From this array, one can construct very reliable measures of UI/EI program activity, such as measures of UI/EI incidence, including the number of weeks that an individual collected over a certain period and the frequency of recourse to the UI/EI regime.

⁹There is a drawback in the sampling procedure. Individuals must have had at least one EI spell that occurred in one *particular* year, namely 1996. This implies that the underlying population is workers who participated during 1996. The weighting scheme, however, is based on the number of EI spells between 1992 and 1996, which would imply that the underlying population consists of workers who had at least one EI spell during *any* year between 1992 and 1996. One discrepancy between the distributions of these two populations concerns workers who had only one spell during the period; within the estimating sample, it must have occurred in 1996. The distribution of EI spells in 1997 and 1998 for workers in the estimating sample (i.e., conditional on having one spell between 1992 and 1996 which must have occurred in 1996) may be slightly different from the distribution of EI spells in 1997 and 1998 for the population of EI users who experienced one spell sometime over the period 1992–1996. Ideally, the sampling selection criteria should have been broadened to include those who had at least one spell in *any* year between 1992 and 1996. That criterion would also have had its own drawback, however. Workers experiencing a single spell early during this interval would be harder to track and include in the SRUEI, which was taken in 1998, so the attrition rate would probably have been higher.

¹⁰If every individual failing to respond to any question associated with an exogenous variable was to be deleted from the estimating sample (so that only those individuals providing a response to every question were included), 33.5 percent of the individuals would be omitted.

EMPIRICAL MODELS OF UI/EI RECEIPT

Endogenous Variable and Estimating Technique

Although the question of the individual worker's propensity to use UI has not received much attention in the U.S. literature, there are studies that seek to model the incidence of joblessness. In his survey of displaced workers in the U.S., Farber (1997) estimates discrete choice models of the underlying probability of a worker experiencing displacement within a given year. The STVC file contains analogous information on whether an individual initiated a UI/EI claim during each calendar year between 1992 and 1998. It also contains the number of weeks during which an individual worker collected UI/EI benefits in each year from 1992 to 1998. The values of this discrete variable, which range from 0 to 50, reflect two types of information: the incidence of UI/EI participation and the total length of the spell(s) of UI/EI receipt.

All of the empirical analysis in this paper is cross-sectional, and two types of empirical models are estimated:

- **Discrete choice models of the probability of initiating a UI/EI claim.** The endogenous variables (labelled EIR97 and EIR98) assume a value of unity if the individual initiated a claim for UI/EI benefits during the years 1997 and 1998, respectively. Both logit and probit equations are estimated but, due to space constraints, the latter are not presented.
- **Linear least squares models of the lengths of UI/EI claims.** The endogenous variables (labelled RWEEKS97 and RWEEKS98) measure the number of weeks that the individual received UI/EI benefits during 1997 and 1998, respectively. These equations are also estimated using the Tobit technique in order to examine the robustness of the linear least squares approach but, due to space constraints, these results are not presented.¹¹

One shortcoming of using the endogenous variables EIR97 and RWEEKS97 is the strong possibility that the attitudinal variables, which are reported in early 1998, are jointly determined with UI/EI outcomes. It seems reasonable to assume that the attitudes of many individuals toward their labour market prospects are shaped by their prior experience. In order to reduce the severity of this reverse causality problem, the empirical analysis focusses on the endogenous variables EIR 98 and RWEEKS98. This does not resolve the issue of reverse causality, but the values for the attitudinal measures are at least predetermined.

Sample Selection

The estimating sample contains 20,426 observations, which includes virtually all of the 22,573 observations (sampled by virtue of having initiated a UI/EI claim during 1996) that appear in the SRUEI survey. The omissions consist of workers who were under 19 and over 64 years of age in 1997. At the time of the survey (early 1998), 1,605 workers had not worked since January 1997, which constitutes about seven percent of the survey's observations. There is thus no information on the jobs that they held during 1997, and they

¹¹The Tobit technique is used by Ruhm (1991a, 1991b) in his analysis of an analogous measure: the incidence of joblessness, given as the number of weeks of joblessness of U.S. workers in a given year.

could not have qualified for UI/EI benefits in 1998. Due to this missing information and the fact that most of the empirical analysis deals with UI/EI outcomes in 1998, they are excluded from the estimating sample. Unfortunately, this exclusion does slightly undermine the sample's representativeness of the population of all UI/EI users in 1996. Seven hundred and seventy-eight workers identified themselves as self-employed for the primary job that they held in 1997. Like the individuals who reported being jobless for all of 1997, this group is unlikely to have qualified for regular UI/EI benefits in 1998. They are included in the estimating sample and are identified by the regressor SELF EMPLOYED. Combining these two groups, approximately 10 percent of the survey's observations did not have an employer in 1997. Approximately 6,000 workers found jobs in 1997 and retained them for the remainder of the 1997, implying that about 14,900 individuals out of an estimating sample of 20,426 experienced at least one job interruption in 1997.

Sample Decomposition

All of the equations are estimated for the overall sample as well as for several decomposed samples. As is typically done in labour economics research, the sample is partitioned into men versus women. In addition, one of the foci in this study is systematic differences in UI/EI outcomes between those classified as repeat users and those classified as occasional users of the UI/EI program. The overall sample is decomposed along this dimension as well, and tests for differences in estimated parameters are carried out. This decomposition does pose an issue of choice-based sampling, as the endogenous variables — UI/EI outcomes observed in 1997 and 1998 — are affected in part by prior UI/EI outcomes observed from 1992 to 1996. The separating variable of UI/EI user type is predetermined, however. Furthermore, while the sample decomposition by UI/EI user type may cast doubt on tests of behavioural hypotheses, the empirical patterns may serve to identify firm and/or worker characteristics and labour market conditions that are associated with frequent use of the UI/EI program.

Exogenous Variables

Sectoral and other job-related indicators: Although the SRUEI contains a fair amount of information concerning firm attributes, such as the size of the plant and the reason for the job interruptions, most of these variables are not included in the empirical models. This omission is due to reporting discrepancies between this survey and the STVC file, and to the fact that these attributes can vary over the SRUEI window of 1997. As mentioned above, the job-related questions of the SRUEI are grouped around each of the one to four jobs held during 1997, and information can be reported for up to four interruptions for each job held. Of the approximately 20,000 respondents who were employed at a firm for at least part of 1997, 5,600 held at least two jobs, and 1,500 held at least three jobs. Most of the information from this part of the survey is job-specific, such as whether each job was unionized, or the wage that was paid. It is unfeasible to match this information to the UI/EI claim information extracted from the STVC file.¹² This incompatibility is unfortunate, as many separations are

¹²One has no way of knowing with accuracy which separation reported in the SRUEI corresponds to an EI claim and, often, an EI claim can refer to two or more separations. For instance, each EI claim commences as a result of an initial separation, but a few months (or even weeks) later the worker could be recalled to the same employer or obtain a very

(continued)

caused by factors very specific to the firm, such as profitability and demand prospects (usually unobservable), detailed Standard Industrial Classification (SIC) code, firm size, and the age of the firm.

There are a few firm characteristics, however, which are included. First, there is a block of binary regressors relating to the broad industrial sector in which the respondent worked, which are: TRADE AND FINANCE, AGRICULTURAL AND PRIMARY, PUBLIC SERVICE, TRANSPORTATION AND COMMUNICATIONS AND UTILITIES, and CONSTRUCTION (the omitted category). These variables are measured for the “primary” job of the worker in 1997. The estimated coefficient is interpreted as the effect of having worked in that broad sector for the primary job, regardless of the sectors of the subsequent jobs (if any were held). The only measurement problem would arise in those cases in which the secondary job was in a different broad sector, which is probably an infrequent case. SEASONAL is a binary regressor that assumes a value of unity if the primary job held in 1997 was seasonal, as reported by the worker. A zero value could reflect either of two disparate cases: a stable, year-round job, or a series of intermittent, precarious, short-term jobs. SEASONAL is expected to have a strong, positive effect on UI/EI receipt.¹³

Demographic indicators: Most of the explanatory variables in the regression model pertain to personal attributes that are time-invariant and, thus, can be matched accurately to UI/EI outcomes. PARTNER IN 97 assumes a value of unity if the respondent reported residing with a spouse or partner in 1997. This measure typically has a negative effect (for men) on jobless durations in the displaced worker literature, perhaps reflecting a positive supply-side effect involving familial responsibilities. The immigration status is reflected in the regressor IMMIGRANT, which assumes a value of unity if the respondent was not born in Canada. The number of dependent children is reflected by a discrete measure NUMBER CHILDREN. ENGLISH and FRENCH assume a value of unity if the respondent speaks only English or only French, respectively, while BILINGUAL assumes a value of unity if the respondent is bilingual. The omitted linguistic category is those who speak neither official language, so the parameter of interest is not the point estimates in absolute terms but rather the discrepancy between the estimates for ENGLISH and FRENCH. The age of the respondent in 1997 (AGE, CONTINUOUS) is a continuous variable.

The human capital variables reflect the highest level of education that the respondent received, and there are five categories: elementary school (ELEMENTARY), high school (the omitted category), some college and/or technical training (SOME COLLEGE), a university degree (COMP. UNIVERSITY), and other unclassified educational certificates (OTHER ED.). One might expect a negative relationship between the level of educational attainment and the incidence of UI/EI use.

Provincial indicators: There is a set of 10 binary regressors reflecting the province in which the respondent resided at the time of the UI/EI claim in 1996. The omitted category is Ontario. As one generally associates the provinces to the east of Ontario with less favourable labour market outcomes, the parameters for those five provinces are expected to be positive.

brief employment contract from another firm. The EI claim is suspended until the worker experiences a second separation, at which time payments can resume.

¹³Since this measure pertains only to the primary job held in 1997, there is some potential for measurement error, with some non-seasonal employment patterns in 1997 being misclassified as seasonal patterns and vice versa. It should be a reasonably good indicator, however, of whether the individual was engaged in seasonal employment patterns during 1997.

In addition, almost all of the “maximum entitlement” areas for UI/EI are located in those provinces, which would reinforce that effect. The Alberta (B.C.) labour market was strong (weak) relative to most of the other provinces in the late 1990s, so that coefficient might be expected to be negative (positive).

Locational factors: CITY is a binary variable that assumes a value of unity if the respondent resided in either an “urban core” area or an “urban fringe” area. This information was derived from the postal code of the respondent at the time of the interview. As urban areas tend to have denser labour markets with more activity, one would expect a negative coefficient for CITY. MOVED IN 1997 is a binary variable assuming a value of unity if the respondent moved to another city located more than 150 kilometres away. The expected effect of this covariate in 1997 depends on whether or not the move preceded a separation, so the effect for 1997 is ambiguous. For 1998, however, one would expect such a move to lower the incidence of collecting UI/EI benefits. SPOUSE WORKED 97 is a binary variable taking on a value of unity if the respondent’s spouse worked during 1997. This attribute would be expected to reduce labour mobility, which might raise the propensity to claim UI/EI benefits.

Occupational indicators: Each individual is categorized into four very broad “occupational prestige” variables: SELF EMPLOYED, WHITE COLLAR, UNSKILLED BLUE COLLAR, and SKILLED BLUE-COLLAR WORKERS which serves as the omitted category. These categories are aggregated from a list of 16 categories drawn from the classification scheme PINEO SOC80.¹⁴ These indicators are measured for the primary employer in 1997. WHITE COLLAR is expected to have a negative impact on UI/EI receipt, while UNSKILLED BLUE COLLAR is expected to have a positive effect. Apart from any intrinsic effect of being self-employed on experiencing a job separation, the measure SELF EMPLOYED will capture a mechanical effect, namely that workers who were self-employed for part of 1997 would have difficulty gaining eligibility for UI/EI benefits in 1998.

“Social capital” type variables: One might expect these indicators to have a greater influence on the propensity of making a UI/EI claim than on influencing the length of subsequent UI/EI claim(s). Authors such as Borjas (1995) have pointed out that the economic interpretation of statistical correlations between individuals’ outcomes (such as receipt of social assistance benefits) and neighbourhood attributes could be generated by unobserved factors affecting the individual and the aggregate unit jointly rather than to “social capital” effects. Individuals may share unobserved personal attributes or characteristics of the employment environment with others in the spatial unit. Since the data do not permit an identification of the “social capital” effects, in this application the estimates of the “social capital” indicators can only be interpreted as statistical correlations between attributes of individuals and UI/EI outcomes.

Four covariates that pertain to familiarity, social mores, and perceptions surrounding the UI/EI program are labelled FAMILY EI, STIGMA-FRIENDS, UNION, and EI WILL BE ABOLISHED. FAMILY EI assumes a value of unity if anyone among the respondent’s family and/or close friends has made a UI/EI claim within the past five years. This might positively influence the propensity to make a UI/EI claim. STIGMA-FRIENDS refers to the

¹⁴The SRUEI contains an alternative and slightly more detailed standardized occupational breakdown with 21 categories (OCC24 SOC80), but the more aggregated PINEO SOC80 scheme was adopted in the interest of a parsimonious specification.

survey question “If I were collecting EI, I would not want my friends to know,” while the third covariate consists of the response to the question “I am worried that it might not be too long before there is no EI program.” An affirmative answer could indicate an attitude of resignation by an individual who is heavily dependent on the UI/EI program, in which case EI WILL BE ABOLISHED could be indirectly capturing discouraged worker behaviour, generating a positive effect.¹⁵ UNION assumes a value of unity if the primary job held during the course of 1997 was unionized. Labour unions play an important role of providing information about the UI/EI program to workers and are well situated to co-ordinate the distribution of jobs which give rise to UI/EI program eligibility; a positive impact is expected.

The remainder of the “social capital” indicators are associated with the worker’s ties to the geographical area. FAMILY IN AREA assumes a value of unity if other family members or relatives live within 150 kilometres of the respondent’s residence. The presence of family in the area may reduce labour mobility, and a positive effect is expected. Four categorical variables correspond to the length of time that the individual has lived in his or her current residence: UNDER 1 YR RESIDENCE, 2–5 YRS RESIDENCE, 6–10 YRS RESIDENCE, and the omitted category is for longer than 10 years spent at the same residence. The expected signs for these estimated coefficients are not clear, but one might expect a pattern of longer-term residents exhibiting lower labour mobility, which in turn would raise the propensity to claim UI/EI benefits. OWNHOME is a regressor that assumes a value of unity if the respondent owns their residence. It is likely to be highly correlated with the previous set of regressors, and a positive effect is expected. LIVED IN REGION ALWAYS takes on a value of unity if the respondent has spent either “most of my life” or more than 10 years in the region, again defined as within 150 kilometres of the residence. This attribute might be expected to lower labour mobility and also strengthen the links to the social network, which would work to raise the propensity to claim UI/EI benefits.

Attitudinal variables: Most of the following questions from the attitudinal module of the survey pertain to the respondent’s perceptions of his or her labour market prospects or his or her job-search activity. Unlike the “social capital” variables, which are thought to influence primarily the propensity to claim UI/EI benefits, some of these variables may also have an influence on the number of weeks of UI/EI benefits claimed. Each of these indicators takes the form of a statement; they assume a value of unity if the respondent indicates either strong agreement, moderate agreement, or neutrality, and assumes a value of zero otherwise.

- **“Assuming that you are laid off from a job and that you *might* be recalled, are you likely to accept similar work with a different employer?” (ACCEPT SIMILAR WORK).** This is one of the three questions that address the reservation wage strategy of the worker. The expected sign may be ambiguous. According to job-search theory, if the worker has a high propensity to accept a job offer, the duration of joblessness is shortened, leading one to expect a negative effect. On the other hand, if a worker is receiving UI/EI benefits, he or she is required by program regulations to be available for other job opportunities, giving the UI/EI recipient a strong incentive to respond affirmatively. According to this interpretation, a positive effect for this

¹⁵An affirmative response could also be consistent with a choice by a forward-looking individual to engage in retraining to strengthen his or her human capital, or possibly relocate to another region.

regressor might be expected, which would be associated with a relatively high propensity to make a UI/EI claim.

- **“Assuming that you are laid off from a job and that you *might* be recalled, are you likely to accept different work with a different employer?” (ACCEPT DIFFERENT WORK).** This question is similar to the preceding one, although it addresses the occupational mobility of the worker and thus widens the scope for job search. Despite this discrepancy, the prior expectations for this covariate are similar.
- **“Assuming that you are laid off from a job and that you *might* be recalled, are you likely to accept similar work in a different province?” (ACCEPT DIFF. LOCATION).** This question addresses the geographical mobility of the worker and thus widens the scope for job search. In contrast with the two preceding cases, workers collecting UI/EI claims are not required to be available for job opportunities in other regions, so a frequent user of UI/EI does not have an incentive to respond affirmatively to that question. This covariate, therefore, may not have an influence on the propensity to make a UI/EI claim.
- **“There will always be enough work for people with my skills” (ENOUGH WORK).** This question appears to deal with occupational mobility and the worker’s perceived need to retrain in order to strengthen his or her long-term employability. If the perception that sufficient work is forthcoming is justified because the respondent has a set of marketable skills, one would expect a negative coefficient. If that perception turns out to be incorrect in the short run, a positive correlation could then be generated. The expectation for the sign of this covariate seems to be ambiguous.
- **“There is not much that I can do to avoid using EI in the future” (CANNOT AVOID EI).** This and the following question pertain to the discouraged worker effect. According to the job-search paradigm, displaced workers who are pessimistic about their job prospects experience longer durations of joblessness. This attribute is also likely to increase the propensity to claim UI/EI benefits, because the worker is less likely to relocate, gain higher levels of human capital, or change occupations. Both of these effects work in the same direction, so a positive correlation is expected
- **“I deserve to collect all my weeks of EI because there are no jobs around” (THERE ARE NO JOBS).**

The mean values for all of these exogenous variables are presented in Table 1. The first column lists the average values for the pooled sample. The means for the female and male samples are listed in columns 2 and 3, respectively, while the means for the sample of occasional users and repeat users are listed in columns 4 and 5, respectively. The overall sample (including the weights) is divided nearly evenly between occasional and repeat users, while men account for approximately 59 percent of the estimating sample.

Table 1: Descriptive Statistics, Mean

	All	Female	Male	Non-repeater	Repeater
REPEATER	0.49	0.44	0.53	0.00	1.00
MALE	0.59	0.00	1.00	0.55	0.64
SEASONAL	0.36	0.29	0.41	0.21	0.52
ACCEPT SIMILAR JOB	0.87	0.87	0.87	0.86	0.88
ACCEPT DIFFERENT JOB	0.77	0.78	0.77	0.76	0.78
ACCEPT DIFF. LOCATION	0.22	0.13	0.29	0.23	0.21
ENOUGH WORK	0.60	0.57	0.63	0.60	0.61
THERE ARE NO JOBS	0.50	0.50	0.51	0.44	0.57
CANNOT AVOID EI	0.47	0.45	0.49	0.41	0.54
MOVED IN 1997	0.04	0.04	0.04	0.05	0.03
FAMILY EI	0.45	0.43	0.47	0.40	0.51
UNDER 1 YR RESIDENCE	0.25	0.24	0.25	0.30	0.19
2-5 YRS RESIDENCE	0.30	0.30	0.30	0.33	0.27
6-10 YRS RESIDENCE	0.16	0.17	0.15	0.14	0.18
OWNHOME	0.55	0.61	0.51	0.45	0.65
LIVED IN REGION ALWAYS	0.71	0.69	0.72	0.64	0.79
FAMILY IN AREA	0.82	0.80	0.84	0.79	0.85
STIGMA-FRIENDS	0.17	0.16	0.18	0.19	0.16
EI WILL BE ABOLISHED	0.60	0.63	0.58	0.56	0.64
UNION					
CITY	0.61	0.63	0.59	0.71	0.50
SPOUSE WORKED 97	0.51	0.61	0.44	0.48	0.53
NFLD	0.04	0.04	0.04	0.02	0.06
PEI	0.01	0.01	0.01	0.01	0.02
NS	0.05	0.05	0.05	0.03	0.06
NB	0.05	0.05	0.06	0.03	0.08
QUEBEC	0.34	0.33	0.34	0.29	0.38
MAN	0.03	0.03	0.03	0.03	0.02
SASK	0.02	0.02	0.02	0.02	0.02
ALTA	0.07	0.07	0.07	0.09	0.05
BC	0.12	0.12	0.12	0.14	0.10
PARTNER IN 1997	0.67	0.72	0.64	0.62	0.73
ENGLISH	0.78	0.78	0.78	0.84	0.73
FRENCH	0.41	0.41	0.42	0.36	0.47
BILINGUAL	0.22	0.21	0.22	0.23	0.21
AGE, CONTINUOUS	38.84	39.81	38.16	36.78	40.98
ELEMENTARY	0.32	0.23	0.38	0.23	0.41
SOME COLLEGE	0.15	0.18	0.13	0.18	0.12
COMP. UNIVERSITY	0.11	0.15	0.08	0.15	0.08
OTHER ED.	0.02	0.02	0.01	0.02	0.01
IMMIGRANT	0.15	0.17	0.14	0.19	0.11
NUMBER CHILDREN	0.75	0.80	0.71	0.72	0.78
SELF EMPLOYED	0.04	0.03	0.05	0.05	0.03
WHITE COLLAR	0.19	0.27	0.13	0.22	0.16
UNSKILLED BLUE COLLAR	0.51	0.48	0.53	0.47	0.55
TRADE AND FINANCE	0.13	0.14	0.11	0.17	0.08
AGRICULTURAL AND PRIMARY	0.08	0.04	0.11	0.05	0.11
PUBLIC SERVICE	0.33	0.51	0.21	0.35	0.31
TRANSPORTATION AND COMMUNICATIONS AND UTILITIES	0.06	0.04	0.08	0.05	0.07
MANUFACTURING	0.16	0.12	0.18	0.16	0.15

A much more elaborate discussion of the descriptive statistics is contained in the companion to this volume, *The Frequent Use of Unemployment Insurance in Canada*. These descriptive statistics can shed some light on compositional differences between sub-samples; to the extent that the effects of these differences are not totally captured in the included variables due to the presence of non-linearities or interactive effects, biases might be imparted on some of the estimated structural differences between the separated equations. For instance, repeat users are on average four years older than occasional users. This discrepancy, however, should not generate a different cohort or life-cycle effect across the two groups because the difference is not large and because a continuous age measure is included in every equation. The proportion of men within the repeater group is 0.64, while the figure for the occasional group is 0.55. The group of repeat users tends to be less educated (21 percent have education beyond the high school level versus 35 percent of the occasional users) and less skilled (55 percent of the repeaters are unskilled blue-collar workers versus 47 percent of the occasional users).

REGRESSION RESULTS — DISCRETE CHOICE MODEL OF PROBABILITY OF CLAIMING UI/EI

The basic regression model for this section is a logit model of the event of initiating a claim for regular UI/EI benefits in 1997 (EIR97) and 1998 (EIR98). Both variables assume a value of unity if the respondent initiated a claim during that calendar year, and zero otherwise. There is a separate equation for each year. Due to the high number of regressors and the two dimensions of sample decomposition, there is a tremendous amount of empirical detail. All of the equations have the same set of exogenous variables. In order to examine the robustness of the results, the probit form is estimated as well, but on a qualitative level, the findings are not sensitive to this change in functional form. Due to space constraints, the probit results are not presented.

The results for the logit model estimated from the overall sample, in which men are pooled with women and repeaters are pooled with occasional users, are presented in Table 2. In the first (last) two columns, the estimated coefficients for the year of 1997 (1998) are reported. Many of the estimated effects are statistically insignificant, but the signs are usually in accordance with prior expectations.

In 1997, men were slightly less likely to receive UI/EI benefits, but the effect is insignificant in 1998. The impact of being a repeat user on the probability of making a claim is positive and significant in both years. Workers reporting at least some seasonal employment were more likely to claim UI/EI benefits in both years. As there is substantial overlap between the two criteria of seasonality and repeater status, it is difficult to disentangle these two estimated effects; they may best be interpreted jointly as indicators of unstable employment patterns.

Table 2: Total Sample, Logit Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received

	1997		1998	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
INTERCEPT	0.45	0.24	-1.23 **	0.22
REPEATER	0.67 **	0.04	0.78 **	0.04
MALE	-0.12 **	0.04	0.06	0.04
SEASONAL	1.12 **	0.05	1.19 **	0.04
ACCEPT SIMILAR JOB	0.12	0.08	0.05	0.07
ACCEPT DIFFERENT JOB	0.05	0.06	0.19 **	0.05
ACCEPT DIFF. LOCATION	-0.10 *	0.05	0.05	0.04
ENOUGH WORK	-0.21 **	0.04	-0.16 **	0.04
THERE ARE NO JOBS	0.22 **	0.04	0.15 **	0.04
CANNOT AVOID EI	0.06	0.04	0.24 **	0.04
MOVED IN 1997	0.23 *	0.10	-0.20 *	0.09
FAMILY EI	0.00	0.04	0.14 **	0.04
UNDER 1 YR RESIDENCE	-0.02	0.06	-0.01	0.06
2-5 YRS RESIDENCE	-0.04	0.06	-0.04	0.05
6-10 YRS RESIDENCE	-0.02	0.06	-0.02	0.05
OWNHOME	-0.01	0.05	-0.10 *	0.04
LIVED IN REGION ALWAYS	0.05	0.05	0.20 **	0.04
FAMILY IN AREA	-0.01	0.05	0.07	0.05
STIGMA-FRIENDS	-0.04	0.05	-0.05	0.05
EI WILL BE ABOLISHED	-0.03	0.04	0.11 **	0.04
UNION	0.12 **	0.04	0.21 **	0.04
CITY	-0.14 **	0.04	-0.31 **	0.04
SPOUSE WORKED 97	0.00	0.06	0.04	0.05
NFLD	1.05 **	0.13	1.05 **	0.10
PEI	1.15 **	0.26	0.98 **	0.17
NS	0.72 **	0.11	0.74 **	0.09
NB	0.65 **	0.11	0.81 **	0.09
QUEBEC	0.25 **	0.08	0.44 **	0.07
MAN	0.05	0.10	0.11	0.10
SASK	0.02	0.12	0.10	0.11
ALTA	-0.30 **	0.07	-0.32 **	0.07
BC	0.26 **	0.06	0.42 **	0.06
PARTNER IN 97	-0.07	0.07	-0.08	0.06
ENGLISH	0.05	0.17	-0.42 *	0.17
FRENCH	0.60 **	0.19	0.24	0.18
BILINGUAL	-0.44 *	0.19	0.01	0.17
AGE, CONTINUOUS	0.01 **	0.00	0.01 **	0.00
ELEMENTARY	0.02	0.05	0.08	0.04
SOME COLLEGE	-0.15 **	0.05	0.00	0.05
COMP. UNIVERSITY	0.00	0.06	-0.27 **	0.06
OTHER ED.	-0.07	0.14	0.09	0.14
IMMIGRANT	-0.08	0.05	0.08	0.05

(continued)

Table 2: Total Sample, Logit Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received (Cont'd)

	1997		1998	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
NUMBER CHILDREN	0.01	0.02	0.03	0.02
SELF EMPLOYED	-0.11	0.08	-1.38 **	0.10
WHITE COLLAR	-0.20 **	0.06	0.13 *	0.06
UNSKILLED BLUE COLLAR	-0.04	0.05	0.15 **	0.04
TRADE AND FINANCE	-0.51 **	0.08	-1.17 **	0.07
AGRICULTURAL AND PRIMARY	-0.21 *	0.10	-0.13	0.08
PUBLIC SERVICE	-0.43 **	0.07	-0.60 **	0.06
TRANSPORTATION AND COMMUNICATIONS AND UTILITIES	-0.36 **	0.09	-0.63 **	0.08
MANUFACTURING	-0.64 **	0.07	-0.65 **	0.06
Sample size	20,597		20,597	
Number who received no UI/EI benefits	3,546		7,890	

Note: One asterisk indicates statistical significance at the five percent level, two asterisks at the one percent level.

Turning now to the attitudinal questions, the willingness to accept a job offer for a different type of work (ACCEPT DIFFERENT WORK) has a small but positive estimate. This result probably does not capture a direct behavioural effect, but rather the fact that users have an incentive to state their willingness to accept job offers. Those who believe that there will always be enough work for workers with their skills appear to exhibit a slightly lower propensity to claim (ENOUGH WORK). Perhaps the most noteworthy results are the fairly strong and positive effects of the indicators for discouraged worker behaviour, THERE ARE NO JOBS and CANNOT AVOID EI.

Turning now to the “social capital” type variables, if someone within the worker’s family collected UI/EI benefits (FAMEI), there is a small, positive, significant effect on the incidence of UI/EI receipt in 1998. Most of the regressors that are associated with the workers’ ties to the geographical region do not have significant and robust estimates in both 1997 and 1998. For instance, LIVED IN REGION ALWAYS has a positive effect in only 1998. These findings are somewhat surprising given the anecdotal evidence, which suggests that such ties dampen regional mobility. Indeed, these social ties form part of the rationale for regional equalization policies and the regional extended benefits provision of the UI/EI regime. STIGMA-FRIENDS (one would not want their peers to know about UI/EI receipt) was estimated to have no influence, and the result for EI WILL BE ABOLISHED is significant only in 1998. The impact of the union indicator UNION is positive and significant, which dovetails with the interpretation that unions diffuse information on opportunities to claim UI/EI. The possibility that the mostly insignificant results that are obtained for the social capital variables are masking opposing effects for men and women is addressed below.

The attitudinal indicators and some of the “social capital” variables are likely to be collinear, which will tend to generate imprecise estimates for the coefficients of the individual regressors. In order to test for the explanatory power of these groups of variables,

likelihood ratio tests for the joint significance of each group were carried out. When the attitudinal variables are excluded from the equation, the chi-squared statistics are higher (85 for the equation modelling EIR97, 140 for the equation modelling EIR98) than is the case for the exclusion of the “social capital” variables (33 for EIR97, 122 for EIR98). These large chi-squared values might be expected given the large sample size, and the null hypothesis of no joint effects is rejected handily in all cases.¹⁶

A consistent finding with the locational variables throughout this analysis is that workers in urban areas have less of a propensity to claim (CITY). As expected, workers who moved in 1997 had a lower likelihood of claiming UI/EI benefits in 1998 (MOVED IN 97).

The provincial indicators have a high degree of explanatory power, and the estimates are quite robust between 1997 and 1998. As expected, there is a tendency of a monotonic, decreasing pattern as one moves from the East Coast to the Prairie provinces. All comparisons are made with Ontario, with Alberta having the lowest probability of UI/EI program participation.

Among the demographic variables, perhaps the most notable result is that in 1998, exclusively Anglophone individuals have a lower propensity to claim UI/EI than exclusively Francophone ones. Note that the equation accounts for the difference between Quebec, with its largely Francophone workforce, and the remaining provinces. Higher levels of education tend to be associated with lower incidences of UI/EI receipt, as one would expect, but the estimated magnitudes are low and non-robust. There is a positive and significant association with the age variable throughout this empirical analysis.

The results for the occupational indicators are mixed; individuals who were self-employed in 1997 exhibited a substantially lower incidence of UI/EI receipt in 1998 (SELF EMPLOYED). Much of that effect could reflect a reduced eligibility for UI/EI benefits in 1998. Relative to skilled blue-collar workers, unskilled blue-collar workers were slightly more likely to receive UI/EI benefits in 1998, but the estimated magnitudes are not very large and are somewhat non-robust.

The sectoral indicators have a greater degree of explanatory power than either the occupational or the demographic indicators. The estimated effects relative to the construction industry are negative, indicating a lower incidence of UI/EI usage in all of the sectors whose parameters are included. Overall, in addition to SEASONAL and REPEATER, the provincial and the sectoral indicators are the two most influential categories of regressors.¹⁷

The Logit Equation — Men Versus Women

In order to examine whether certain estimates generated from the overall sample are masking gender-specific effects, the estimating sample is partitioned into the male and female observations. Due to space constraints, the discussion dwells on the results for 1998 (regressand EIR98), and the results are presented in Table 3. Note that due to the non-linear form of the estimating equation and the fact that the mean value for the probability of UI/EI

¹⁶For a 95 percent confidence level, the critical values are 18.31 for the social capital variables (with 10 dof), and 12.6 for the attitudinal variables (with 6 dof).

¹⁷The SAS output for the logit model produces calculations of the marginal impact of each covariate on the logarithm of the odds of claiming EI benefits. These calculations give some idea of the relative magnitudes of the estimated effects. These figures are not shown.

receipt is not the same for the male and female sample, one cannot directly compare the magnitudes of the estimated coefficients. The joint null hypothesis that there is no difference between the vector of parameters for the male equation and the vector of parameters for the female equation is rejected handily using a likelihood ratio test (a chi-squared statistic of about 196 compared with a critical value of 18.5). Nevertheless, a casual inspection of the discrepancies between the estimates listed in columns 1 and 2 (women) and those in columns 3 and 4 (men) indicates there are not major qualitative differences between the results of the pooled and the separated regressions; the pattern of significance and signs are similar. The pooling of men and women apparently does not obscure many empirical patterns. For instance, the positive impact of being a repeat user of UI/EI benefits (REPEATER) is similar in magnitude.

Table 3: Men/Women — Occasional/Repeater Decomposed Samples, Logit Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received

	1998, Women		1998, Men		1998, Occasional		1998, Repeater	
	Parameter Estimate	Standard Error						
INTERCEPT	-0.80 *	0.38	-1.27 **	0.30	-1.42 **	0.39	-0.24	0.31
REPEATER	0.86 **	0.06	0.73 **	0.05				
MALE					0.11	0.07	0.00	0.05
SEASONAL	1.03 **	0.06	1.30 **	0.05	1.13 **	0.07	1.25 **	0.05
ACCEPT SIMILAR JOB	-0.07	0.11	0.14	0.09	0.01	0.12	0.15	0.09
ACCEPT DIFFERENT JOB	0.20 *	0.08	0.17 *	0.07	0.27 **	0.09	0.11	0.07
ACCEPT DIFF. LOCATION	0.03	0.08	0.07	0.05	0.07	0.07	0.01	0.05
ENOUGH WORK THERE ARE NO JOBS	-0.11	0.06	-0.21 **	0.05	-0.18 **	0.07	-0.15 **	0.05
CANNOT AVOID EI	0.18 **	0.06	0.13 **	0.05	0.14 *	0.07	0.16 **	0.05
MOVED IN 1997	0.26 **	0.06	0.22 **	0.05	0.13	0.07	0.37 **	0.05
FAMILY EI	-0.10	0.15	-0.25 *	0.12	-0.24	0.15	-0.18	0.13
UNDER 1 YR RESIDENCE	0.10	0.06	0.19 **	0.05	0.19 **	0.07	0.08	0.05
2-5 YRS RESIDENCE	-0.08	0.09	0.07	0.07	0.20 *	0.10	-0.20 **	0.07
6-10 YRS RESIDENCE	-0.15	0.08	0.06	0.06	0.15	0.09	-0.18 **	0.06
OWNHOME LIVED IN REGION ALWAYS	0.00	0.08	-0.02	0.07	0.17	0.11	-0.13 *	0.06
FAMILY IN AREA	-0.04	0.07	-0.16 **	0.06	-0.23 **	0.08	0.03	0.05
STIGMA-FRIENDS EI WILL BE ABOLISHED	0.24 **	0.07	0.18 **	0.06	0.19 *	0.08	0.23 **	0.06
UNION	0.12	0.07	0.01	0.07	0.17 *	0.09	-0.06	0.06
CITY SPOUSE WORKED 97	-0.02	0.07	-0.05	0.06	-0.01	0.08	-0.11	0.06
	0.16 **	0.06	0.08	0.05	0.12	0.07	0.10 *	0.05
	0.19 **	0.06	0.24 **	0.05	0.22 **	0.07	0.21 **	0.04
	-0.40 **	0.06	-0.26 **	0.05	-0.45 **	0.07	-0.17 **	0.05
	0.17	0.10	-0.04	0.06	-0.09	0.10	0.15 *	0.06

(continued)

Table 3: Men/Women — Occasional/Repeater Decomposed Samples, Logit Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received (Cont'd)

	1998, Women		1998, Men		1998, Occasional		1998, Repeater	
	Parameter Estimate	Standard Error						
NFLD	0.96 **	0.15	1.14 **	0.13	1.13 **	0.20	0.93 **	0.11
PEI	1.00 **	0.26	0.96 **	0.23	1.06 **	0.38	0.87 **	0.18
NS	0.76 **	0.14	0.75 **	0.11	0.76 **	0.16	0.70 **	0.10
NB	0.65 **	0.14	0.94 **	0.12	0.87 **	0.17	0.77 **	0.10
QUEBEC	0.25 *	0.11	0.59 **	0.09	0.52 **	0.12	0.40 **	0.09
MAN	0.16	0.16	0.06	0.13	0.10	0.18	0.12	0.13
SASK	-0.11	0.19	0.23	0.15	0.13	0.21	0.04	0.14
ALTA	-0.35 **	0.12	-0.28 **	0.10	-0.17	0.13	-0.49 **	0.09
BC	0.55 **	0.09	0.38 **	0.08	0.56 **	0.10	0.28 **	0.08
PARTNER IN 97	-0.21 *	0.11	0.02	0.07	0.06	0.11	-0.21 **	0.07
ENGLISH	-0.25	0.25	-0.52 *	0.23	-0.49	0.28	-0.43	0.24
FRENCH	0.52	0.27	0.04	0.25	0.32	0.31	0.06	0.25
BILINGUAL	-0.36	0.26	0.27	0.24	-0.01	0.30	0.12	0.25
AGE, CONTINUOUS	0.01 **	0.00	0.01 **	0.00	0.01 **	0.00	0.01 **	0.00
ELEMENTARY	0.03	0.08	0.12 *	0.05	0.01	0.08	0.13 **	0.05
SOME COLLEGE	-0.11	0.08	0.08	0.07	0.07	0.09	-0.06	0.07
COMP. UNIVERSITY	-0.26 **	0.09	-0.33 **	0.09	-0.22 *	0.11	-0.35 **	0.08
OTHER ED.	-0.30	0.21	0.45 *	0.19	0.25	0.24	-0.08	0.17
IMMIGRANT	0.16 *	0.08	0.03	0.07	0.07	0.09	0.09	0.07
NUMBER CHILDREN	0.09 **	0.03	-0.03	0.02	0.04	0.03	0.02	0.02
SELF EMPLOYED	-1.27 **	0.18	-1.39 **	0.13	-1.53 **	0.20	-1.25 **	0.12
WHITE COLLAR	0.17	0.09	0.00	0.08	0.22 *	0.11	0.02	0.07
UNSKILLED BLUE COLLAR	0.04	0.08	0.17 **	0.05	0.14	0.08	0.16 **	0.05
TRADE AND FINANCE	-1.70 **	0.20	-1.00 **	0.08	-1.33 **	0.13	-0.98 **	0.09
AGRICULTURAL AND PRIMARY	-0.30	0.24	-0.14	0.09	-0.09	0.16	-0.14	0.09
PUBLIC SERVICE	-1.01 **	0.19	-0.50 **	0.07	-0.68 **	0.12	-0.57 **	0.07
TRANSPORTATION AND COMMUNICATIONS AND UTILITIES	-0.77 **	0.22	-0.67 **	0.09	-0.79 **	0.16	-0.54 **	0.09
MANUFACTURING	-0.74 **	0.20	-0.73 **	0.07	-0.70 **	0.12	-0.63 **	0.07
Sample size	8,123		12,474		6,036		14,561	
Number who received no UI/EI benefits	3,509		4,381		3,729		4,161	

Note: One asterisk indicates statistical significance at the five percent level, two asterisks at the one percent level.

Among the attitudinal variables, the estimates for the covariate ACCEPT DIFFERENT WORK are significant and positive for both genders. The negative influence of the covariate ENOUGH WORK appears to be stronger for men. The positive estimated coefficients of the covariates for worker discouragement, CANNOT AVOID EI and THERE ARE NO JOBS, are also similar for both men and women. The attitudinal variables appear to have greater

joint explanatory for men, as measured by the significance levels for the likelihood ratio test.¹⁸

Most of the estimates for the “social capital” variables are insignificant for both genders in 1998. Two exceptions are the findings for the effect of having lived in the region for a lengthy period (LIVED IN REGION ALWAYS) and holding a unionized job (UNION) in 1997, which have significant and positive estimates for both genders. The positive effect of having a family member who received UI/EI benefits is positive and significant only for men (FAMEI), while the advantage of residing in an urban area (CITY) is present for both men and women.

There are few discrepancies across genders in the provincial effects. Among the demographic effects, the most notable difference concerns the impact of children which, unsurprisingly, has a slight positive effect on the likelihood that a woman will receive UI/EI benefits.

Unskilled blue-collar men display a higher tendency to receive UI/EI benefits, while the occupational variables are insignificant for women.

The Logit Equation — Repeaters Versus Occasional Users

In order to examine whether certain estimates generated from the overall sample are masking effects that are different for repeat users and occasional users, the estimating sample is partitioned according to these types. The estimates for 1998 (regressand EIR98) are presented in columns 5 through 8 of Table 3. The joint null hypothesis that there is no difference between the vector of parameters for the equation of occasional users and the vector for the equation of repeat users is rejected handily using a likelihood ratio test (a chi-squared statistic of about 161 compared with a critical value of 18.5). Most, but not all, of the regression results between the sample of occasional and the sample of frequent users are qualitatively similar.

There is no significant effect tied to gender for either the sample of occasional users or the sample of repeat users. The positive impact of having seasonal work in 1997 (SEASONAL) is similar for both groups.

Turning to the questions from the attitudinal module, the positive estimated effect of the willingness to accept an offer for a different type of work arises solely from the group of occasional users (ACCEPT DIFFERENT WORK). The advantage of having moved during 1997 (MOVED IN 1997) is estimated imprecisely for both groups. The likelihood ratio test for the joint significance of the attitudinal variables indicates that they are relevant for both groups, but have stronger explanatory power in the sample of repeat users.¹⁹

Among the “social capital” variables, the measures for the years at current residence do display different empirical patterns. Among the repeaters, those who have not lived for a relatively long time in the region are slightly less likely to receive UI/EI benefits, but the effects are mostly positive and insignificant for the occasional users. There is a slight positive

¹⁸The chi-squared statistic in 1998 for women when the social capital variables are excluded is 63, while the corresponding value for men in 1998 is 87. The chi-squared statistic in 1998 for women when the job-search variables are excluded is 51, while the corresponding value for men in 1998 is 103.

¹⁹The chi-squared statistic is 140 for the sample of repeat users versus 36 for the sample of occasional users.

effect for FAMILY EI among the occasional users that is not present among the repeat users. The likelihood ratio test for the joint significance of the “social capital” variables indicates that they have fairly strong explanatory power in both samples, with perhaps a bit more relevance in the sample of repeat users.²⁰

The provincial effects have the same signs throughout this empirical analysis, but the estimated magnitudes (obtained from the measure of the effects on the odds ratio) suggest that the effects are slightly stronger for the occasional users. The same basic pattern applies to the demographic variables; most of the discrepancies are not notable, with the possible exception of the human capital variables. While holding a university degree is associated with a lower incidence of claiming UI/EI for both groups, not holding a high school diploma raises the incidence only for repeat users.

The advantage associated with being a white-collar worker is discerned only for the sample of occasional users. Finally, most of the sectoral effects appear to differ little between repeat users and occasional users.

REGRESSION RESULTS — WEEKS OF RECEIPT MEASURE

Another measure of participation in the UI/EI program is the discrete but multi-valued length of UI/EI receipt variable. The endogenous variables for this set of equations are the number of weeks during 1997 (RWEEKS97) and 1998 (RWEEKS98) that an individual received UI/EI benefits. The primary empirical approach is a linear model estimated by least squares techniques. In order to test the robustness of the estimates to a change in functional form, a Tobit model of RWEEKS97 and RWEEKS98 estimated by maximum likelihood techniques.²¹

Due to space constraints, the discussion which follows treats only the least squares estimates, as they are generated by the more general linear functional form, and the point estimates are easy to interpret. In addition, because almost all of the independent variables are categorical, the point estimates essentially reflect conditional mean values of the dependent variables RWEEKS97 and RWEEKS98. These predicted values are unlikely to fall beyond the bounds of 0 to 50. The least squares estimates are qualitatively very robust to the application of the Tobit procedure.

First, equations are estimated for the overall sample. The sample is then decomposed according to gender and subsequently according to repeater status. In addition to these two 2-way decompositions (men versus women and repeater versus occasional users), a four-way sample decomposition (male repeaters, female repeaters, male occasional users, and female occasional users) was analyzed. As these disaggregated results did not yield many new

²⁰The chi-squared statistic is 99 for the sample of repeat users versus 64 for the sample of occasional users.

²¹The structure of the Tobit model allows for a non-linear component in order to take account of the fact that the process generating zero spells of EI receipt may be quite different than the process generating the length of positive spells. With the Tobit procedure, a strictly linear functional form is no longer imposed on a model encompassing two outcomes: the propensity to claim EI and the number of weeks of receipt. The disadvantages of the Tobit procedure are that the disturbances are heteroskedastic, and there is no method of adjusting for it. These disturbances can bias all of the estimated coefficients. In addition, the Tobit model is identified on the assumption of normality, which may well not apply to this empirical model. Finally, both the least squares procedure and the Tobit procedure share the disadvantage of imposing the same vector of coefficients to the factors determining the incidence of an EI claim and the number of weeks claimed.

insights and involved an enormous amount of empirical detail, they are not reported. The estimates for the year 1998 (endogenous variable RWEKS98) are perhaps more reliable than those for 1997, as all of the regressors, and most importantly the attitudinal indicators and the geographical mobility measure, are pre-determined for that year.

This cross-sectional equation is heteroskedastic, particularly because the distributions of the endogenous variables are very skewed to the left. For instance, in 1997 (1998), 18 percent (42 percent) of the sample received no weeks of UI/EI benefits. In the absence of prior information concerning the nature of form of the heteroskedasticity, White's heteroskedasticity consistent estimation procedure is applied in order to generate consistent estimates of the standard errors.

The Linear Equation — Overall Sample

The results for the estimating sample in which men are pooled with women and repeaters are pooled with occasional users are presented in Table 4. In the first column, the results for the year of 1997 are reported; the point estimates can be compared with a mean of 12.81 weeks of UI/EI benefits received. In the third column, the results for 1998 are reported; the point estimates can be compared with a mean of 8.82 weeks of UI/EI benefits received. The explanatory power for the 1997 equation is much lower than that of the 1998 equation, with adjusted coefficients of determination of 0.21 and 0.33, respectively, which reflects the fact that in 1998 UI/EI outcomes were less dispersed.²²

Table 4: Total Sample, OLS Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received

	1997		1998	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
INTERCEPT	9.56 **	0.94	3.53 **	0.85
REPEATER	1.48 **	0.16	2.59 **	0.15
MALE	-0.24	0.17	0.19	0.15
SEASONAL	4.53 **	0.16	4.96 **	0.15
ACCEPT SIMILAR JOB	0.27	0.29	0.51	0.27
ACCEPT DIFFERENT JOB	0.86 **	0.22	0.96 **	0.20
ACCEPT DIFF. LOCATION	0.11	0.18	0.39 *	0.16
ENOUGH WORK	-1.35 **	0.15	-0.62 **	0.14
THERE ARE NO JOBS	1.69 **	0.16	1.42 **	0.14
CANNOT AVOID EI	0.30	0.16	0.67 **	0.14
MOVED IN 1997	0.70	0.38	-0.67	0.35
FAMILY EI	0.00	0.04	0.14 **	0.04
UNDER 1 YR RESIDENCE	0.15	0.23	-0.32	0.21

(continued)

²²The fact that EI usage was much higher in 1997 than in 1998 is due partly to the sampling procedure. The estimating sample is representative of the population of all workers who initiated an EI claim in 1996. Many members of this cohort were still collecting some of their EI benefits in 1997. In 1998, all of those claims initiated in 1996 were terminated, and this cohort of EI users had incidence levels that were similar to their levels (in terms of number of weeks claimed) for the years 1992–1995.

Table 4: Total Sample, OLS Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received (Cont'd)

	1997		1998	
	Parameter Estimate	Standard Error	Parameter Estimate	Standard Error
2-5 YRS RESIDENCE	0.07	0.20	-0.27	0.19
6-10 YRS RESIDENCE	-0.06	0.23	-0.11	0.20
OWNHOME	-0.45 *	0.18	-0.40 *	0.16
LIVED IN REGION				
ALWAYS	0.31	0.19	0.14	0.17
FAMILY IN AREA	-0.09	0.20	0.20	0.18
STIGMA-FRIENDS	-0.16	0.19	0.03	0.17
EI WILL BE ABOLISHED	-0.08	0.16	0.22	0.14
UNION	-1.06 **	0.15	-0.36 **	0.14
CITY	-1.01 **	0.16	-1.74 **	0.15
SPOUSE WORKED 97	-0.03	0.21	0.03	0.19
NFLD	8.40 **	0.38	8.85 **	0.34
PEI	7.49 **	0.65	8.19 **	0.59
NS	4.56 **	0.36	4.51 **	0.32
NB	4.57 **	0.35	5.50 **	0.32
QUEBEC	2.12 **	0.29	1.51 **	0.27
MAN	-0.41	0.43	-0.06	0.39
SASK	-0.93	0.48	-0.23	0.44
ALTA	-2.08 **	0.30	-1.11 **	0.27
BC	0.39	0.25	1.50 **	0.23
PARTNER IN 97	-0.54 *	0.24	-0.40	0.22
ENGLISH	-1.66 *	0.69	-2.00 **	0.63
FRENCH	0.07	0.75	1.12	0.68
BILINGUAL	0.67	0.73	0.05	0.66
AGE, CONTINUOUS	0.05 **	0.01	0.05 **	0.01
ELEMENTARY	0.94 **	0.18	0.76 **	0.16
SOME COLLEGE	-0.91 **	0.21	-0.25	0.19
COMP. UNIVERSITY	-0.47	0.26	-0.77 **	0.24
OTHER ED.	1.41 *	0.58	0.28	0.53
IMMIGRANT	-0.62 **	0.23	0.00	0.21
NUMBER CHILDREN	0.04	0.07	0.03	0.07
SELF EMPLOYED	1.08 **	0.35	-3.27 **	0.32
WHITE COLLAR	-0.83 **	0.25	-0.27	0.22
UNSKILLED BLUE				
COLLAR	0.51 **	0.18	0.53 **	0.17
TRADE AND FINANCE	-1.18 **	0.28	-3.11 **	0.26
AGRICULTURAL AND				
PRIMARY	-0.07	0.30	0.36	0.28
PUBLIC SERVICE	-1.33 **	0.25	-2.43 **	0.23
TRANSPORTATION AND				
COMMUNICATIONS AND				
UTILITIES	-1.52 **	0.33	-2.59 **	0.30
MANUFACTURING	-2.65 **	0.25	-2.66 **	0.23
R ²	0.21		0.32	
Sample size	20,596		20,596	

Note: One asterisk indicates statistical significance at the five percent level, two asterisks at the one percent level.

While there is no significant difference in the intercept term between men and women, repeat users claimed, on average, approximately 2.6 more weeks of UI/EI benefits than occasional users in 1998 (REPEAT). Workers reporting at least some seasonal employment in 1997 claimed on average about 4.9 more weeks of UI/EI benefits in 1998 (SEASONAL). The effect of REPEAT may also be captured in some of the provincial indicators, rendering the interpretation of that estimate ambiguous.

As far as the signs of the estimates are concerned, there are few changes from the results generated by the discrete choice models of the incidence of UI/EI receipt. Despite the fact that the RWEEKS measures reflect the length of a UI/EI claim as well as its incidence, the direction of the effects of most of the covariates is the same. This discussion that follows will, therefore, concentrate on those results that change when the dependent variable is the length of benefits.

The indicator LIVED IN REGION ALWAYS has a small positive effect in the logit equation for 1998, but this effect is insignificant in the model of the number of UI/EI weeks claimed.²³ The impact of having a unionized job (UNION) is negative in 1998, which is the opposite sign that is obtained for the discrete choice models presented above. It appears that holding a unionized job may raise the propensity to file a UI/EI claim, but is associated with shorter UI/EI claims. A possible explanation for this discrepancy is that while union jobs may often involve layoffs, union jobs tend to be of longer duration and are less likely to be intermittent than is the case for non-union jobs, giving rise to fewer weeks of UI/EI benefits.

The empirical patterns for the provincial indicators are quite similar to those generated by the discrete choice equations. They have a high degree of explanatory power, and the estimates are quite robust between 1997 and 1998. As expected, there is a tendency of a monotonic, decreasing pattern as one moves from the East Coast to the West Coast. All comparisons are made with Ontario, with Alberta having the lowest number of weeks received. Higher levels of education tend to be associated with shorter UI/EI claims, as one would expect, but the estimated magnitudes are low.

The occupational and the educational attainment indicators tend to have the expected pattern of signs but somewhat imprecise estimates. Relative to skilled blue-collar workers, white-collar workers claimed fewer weeks (the results from the discrete choice equation in 1998 are insignificant), and unskilled blue-collar workers received more weeks of benefits. Relative to high school graduates, university graduates claimed fewer weeks while elementary school graduates claimed more weeks. The estimated magnitudes for almost all of these effects are not very large.

Concerning the sectoral indicators, with the exception of AGRICULTURAL AND PRIMARY whose estimate is insignificant, all the sectors are associated with substantially shorter UI/EI claims than the construction industry. The provincial indicators and the sectoral indicators are the most influential categories of regressors.

²³In order to test for the joint explanatory power of the attitudinal indicators and the social capital variables, F-tests for the joint significance of each group were carried out. When the attitudinal variables are excluded from the estimating equation, the F-statistics are much higher (43.4 for the equation modelling RWEEKS97, 38.9 for the equation modelling RWEEKS98) than is the case when the social capital variables are excluded (5.94 for RWEEKS97, 3.77 for RWEEKS98). Due to the low critical values resulting from the large sample size (for a 95 percent confidence level: approximately 1.83 for the social capital variables and 2.01 for the attitudinal variables), the null hypotheses of no joint effects is rejected for both the attitudinal variables and the social capital variables in 1998.

The Linear Equation — Men Versus Women

In order to examine whether certain estimates generated from the overall sample are masking effects that are gender-specific, the estimating sample is partitioned into the male and female observations. Due to space constraints, only the results for 1998 are presented in Table 5 (regressand RWEEKS98). There is a difference in the mean number of weeks of UI/EI benefits received during 1998 (7.56 for women and 9.65 for men). In order to examine structural differences in all of the estimated parameters between the pooled and the separated equations, a Chow test is carried out. The null hypothesis of equality is rejected.²⁴ Despite this finding, as is the case for the discrete choice equations, there are no major qualitative differences between these two versions, as the pattern of significance and signs are similar. A casual inspection of the discrepancies between the estimates listed in columns 1 and 2 (women) and those in columns 3 and 4 (men) indicates that most are unremarkable. For example, the positive impact of being a repeat user (REPEATER) of UI/EI benefits is an increase of about 2.6–2.7 weeks for both genders. The impact of holding a seasonal job (SEASONAL) is an increase of approximately 5.4 weeks for men versus 4.2 weeks for women. The overall explanatory power of the male and female regression equations is quite similar, as measured the adjusted coefficients of determination is approximately 0.32 for both.

Table 5: Men/Women — Occasional/Repeater Samples, OLS Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received

	1998, Women		1998, Men		1998, Occasional		1998, Repeater	
	Parameter Estimate	Standard Error						
INTERCEPT	6.60 **	1.41	2.50 *	1.12	4.03 **	1.33	6.19 **	1.19
REPEATER	2.72 **	0.22	2.56 **	0.19				
MALE					0.39	0.23	0.03	0.21
SEASONAL	4.22 **	0.23	5.41 **	0.19	4.46 **	0.26	5.30 **	0.18
ACCEPT SIMILAR JOB	0.03	0.41	0.81 *	0.35	0.10	0.42	0.89 *	0.36
ACCEPT DIFFERENT JOB	0.90 **	0.31	0.95 **	0.26	1.17 **	0.31	0.78 **	0.27
ACCEPT DIFF. LOCATION	-0.41	0.29	0.69 **	0.19	0.37	0.26	0.46 *	0.21
ENOUGH WORK	-0.41	0.21	-0.84 **	0.18	-0.36	0.23	-0.87 **	0.18
THERE ARE NO JOBS	1.44 **	0.22	1.33 **	0.19	0.90 **	0.24	1.91 **	0.19
CANNOT AVOID EI	0.44 *	0.21	0.83 **	0.19	0.50 *	0.23	0.89 **	0.18
MOVED IN 1997	0.07	0.54	-1.03 *	0.45	-0.55	0.49	-0.75	0.55
FAMILY EI	0.63 **	0.22	0.64 **	0.19	0.53 *	0.23	0.70 **	0.19
UNDER 1 YR RESIDENCE	-0.36	0.34	-0.25	0.27	0.49	0.34	-1.08 **	0.28

(continued)

²⁴The F-statistic with 74 dof in the numerator and over 20,000 dof in the denominator is 5.12, which is compared with an extremely low critical value of 1.32.

Table 5: Men/Women — Occasional/Repeater Samples, OLS Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received (Cont'd)

	1998, Women		1998, Men		1998, Occasional		1998, Repeater	
	Parameter Estimate	Standard Error						
2-5 YRS RESIDENCE	-0.61 *	0.29	0.02	0.24	0.29	0.32	-0.52 *	0.24
6-10 YRS RESIDENCE	-0.26	0.31	0.02	0.27	0.67	0.37	-0.53 *	0.25
OWNHOME	0.21	0.25	-0.89 **	0.21	-0.59 *	0.26	-0.26	0.22
LIVED IN REGION ALWAYS	0.21	0.25	0.10	0.23	0.26	0.26	0.15	0.24
FAMILY IN AREA	0.50	0.26	-0.05	0.25	0.31	0.28	-0.06	0.25
STIGMA-FRIENDS	-0.02	0.27	0.08	0.22	-0.03	0.27	-0.05	0.23
EI WILL BE ABOLISHED	0.26	0.22	0.21	0.19	0.20	0.23	0.17	0.19
UNION	-1.04 **	0.22	0.21	0.18	-0.05	0.24	-0.55 **	0.18
CITY	-2.08 **	0.23	-1.53 **	0.19	-1.86 **	0.25	-1.50 **	0.19
SPOUSE WORKED 97	-0.26	0.36	-0.06	0.23	-0.41	0.35	0.34	0.23
NFLD	8.37 **	0.53	9.04 **	0.45	6.18 **	0.70	10.02 **	0.40
PEI	8.39 **	0.86	7.83 **	0.79	6.18 **	1.36	9.01 **	0.64
NS	4.58 **	0.49	4.34 **	0.43	2.90 **	0.59	5.67 **	0.39
NB	5.13 **	0.49	5.60 **	0.42	4.38 **	0.62	6.25 **	0.39
QUEBEC	0.62	0.40	2.00 **	0.36	0.89 *	0.42	2.57 **	0.37
MAN	-0.50	0.59	0.19	0.52	-0.29	0.60	0.37	0.54
SASK	-1.23	0.67	0.34	0.57	-0.24	0.69	-0.01	0.59
ALTA	-0.83 *	0.42	-1.31 **	0.36	-0.77	0.40	-1.74 **	0.41
BC	1.89 **	0.35	1.28 **	0.30	1.58 **	0.34	1.44 **	0.32
PARTNER IN 97	-0.12	0.39	-0.29	0.27	-0.03	0.38	-0.75 **	0.28
ENGLISH	-1.98 *	0.91	-1.56	0.86	-2.39 *	0.96	-2.07 *	0.87
FRENCH	1.51	0.98	1.26	0.93	1.03	1.07	0.47	0.94
BILINGUAL	-0.42	0.96	-0.04	0.90	-0.08	1.03	0.79	0.91
AGE, CONTINUOUS	0.04 **	0.01	0.06 **	0.01	0.05 **	0.01	0.05 **	0.01
ELEMENTARY	1.30 **	0.27	0.49 *	0.21	0.49	0.29	0.75 **	0.20
SOME COLLEGE	-0.50	0.28	0.06	0.27	0.25	0.29	-0.78 **	0.28
COMP. UNIVERSITY	-0.11	0.32	-1.56 **	0.36	-0.29	0.35	-1.83 **	0.36
OTHER ED.	-0.43	0.75	0.93	0.74	1.58	0.82	-1.12	0.73
IMMIGRANT	-0.17	0.30	0.13	0.28	-0.09	0.31	0.17	0.30
NUMBER CHILDREN	0.39 **	0.10	-0.19 *	0.09	0.25 *	0.11	-0.15	0.09
SELF EMPLOYED	-3.04 **	0.52	-3.21 **	0.41	-3.09 **	0.46	-3.80 **	0.50
WHITE COLLAR	-0.23	0.33	-0.29	0.32	-0.02	0.35	-0.72 *	0.31
UNSKILLED BLUE COLLAR	0.44	0.30	0.41 *	0.20	0.21	0.28	0.80 **	0.21
TRADE AND FINANCE	-6.08 **	0.69	-2.26 **	0.31	-3.30 **	0.44	-2.86 **	0.36
AGRICULTURAL AND PRIMARY	-0.61	0.81	0.46	0.31	0.46	0.57	0.21	0.31
PUBLIC SERVICE	-4.82 **	0.67	-1.79 **	0.28	-2.52 **	0.43	-2.34 **	0.28

(continued)

Table 5: Men/Women — Occasional/Repeater Samples, OLS Regressions
Dependent Variable: Number of Weeks of UI/EI Benefits Received (Cont'd)

	1998, Women		1998, Men		1998, Occasional		1998, Repeater	
	Parameter Estimate	Standard Error						
TRANSPORTATION COMMUNICATIONS AND UTILITIES	-4.99 **	0.80	-2.20 **	0.34	-2.54 **	0.56	-2.79 **	0.35
MANUFACTURING	-3.60 **	0.70	-3.00 **	0.26	-2.73 **	0.43	-2.88 **	0.28
Sample size	0.32		0.32		0.19		0.27	
Number who received no UI/EI benefits	8,122		12,473		6,035		14,560	

Note: One asterisk indicates statistical significance at the five percent level, two asterisks at the one percent level.

The attitudinal variables appear to have greater joint explanatory power in the case of men, while the opposite applies to the social capital variables.²⁵ The negative effect of having moved in 1997 is significant only for men, while the negative effect associated with holding a unionized job (UNION) is discerned only for women.

There are few discrepancies across genders in the provincial effects. Among the demographic effects, the most notable difference concerns the impact of children; unsurprisingly, a slight positive effect on the length of UI/EI claims is discerned only for women. Finally, the negative sectoral effects associated with TRADE AND FINANCE, PUBLIC SERVICE, and TRANSPORTATION AND COMMUNICATION AND UTILITIES are much stronger for women, which may be influenced by the gender composition of the labour forces in those sectors. Women are heavily represented in the first two, but not very present in the omitted category of construction.

The Linear Equation — Repeaters Versus Occasional Users

In order to examine whether certain estimates generated from the overall sample are masking effects that are different for repeat users and occasional users, the estimating sample is partitioned. The estimates for 1998 (regressand RWEEKS98) are presented in Table 5. Occasional users received an average of 5.07 weeks of UI/EI benefits in 1998, while repeat users received 12.4 weeks. The explanatory power of the regression is significantly higher for the repeat users, with a coefficient of determination of 0.27 (versus 0.19 for occasional users), suggesting that this former group is more homogenous. As noted in the previous section, when REPEATER enters as a regressor in the pooled sample, the estimate of that intercept-shift effect is significantly different from zero. In order to examine structural differences between the entire vector of point estimates, the slope coefficients from the decomposed samples are compared with those from the pooled sample by using a Chow test. The null hypothesis of equality between all of the estimated parameters of two equations is rejected.²⁶

²⁵The F-statistic in 1998 for women when the social capital variables are excluded is 4.65, while the corresponding value for men in 1998 is 3.09. The F-statistic in 1998 for women when the attitudinal variables are excluded is 12.61, while the corresponding value for men in 1998 is 28.3.

²⁶The F-statistic with 74 dof in the numerator and over 20,000 dof in the denominator is 7.75, which is compared with an extremely low critical value of 1.32.

The discussion below treats the notable discrepancies in results between the two groups of users. The effect of gender (MALE) on the number of weeks of UI/EI receipt is nil in both cases. The effect of holding a seasonal (SEASONAL) job in 1997 on the length of the UI/EI claim in 1998 is slightly higher for repeat users.

Turning to the questions from the attitudinal module of the survey, those who believe that there will always be enough work for someone with their skills tend to claim fewer weeks of UI/EI benefits, but this effect is significant only among the repeaters. The two indicators for worker discouragement, CANNOT AVOID EI and THERE ARE NO JOBS, tend to have stronger and more positive effects among the repeaters. For both samples, the test for the joint significance of the attitudinal variables rejects the null hypothesis of no effects, although the role is stronger among the sample of repeaters.²⁷

Among the social capital variables, the measures for the years at current residence are significant only for the sample of repeaters. Although the pattern is not marked, workers who have not lived for a relatively long time at the current residence tend to claim slightly fewer weeks of UI/EI benefits. There is not a marked discrepancy between the two groups for the positive effect of having family members who received UI/EI benefits (FAMILY EI), although one might expect this informational effect to be somewhat stronger among the occasional users. For the occasional users, the effect of UNION is nil, so the negative impact of that covariate is generated only amongst the repeat users. Among the occasional users, the social capital variables have little joint explanatory power in 1998. Among the repeat users, however, the null hypothesis for the social capital variables is rejected. For both groups, the attitudinal indicators have a much greater degree of explanatory power than the social capital indicators

The provincial effects are of much higher magnitude for the repeat users, with the exception of the province of B.C. Although repeat users and occasional users tend to face similar UI/EI program parameters within a province, they exhibit distinctive patterns in UI/EI usage. Apparently, these groups tend not to face identical labour market conditions.

Among occasional users, the effects for the occupational indicators, as well as for most of the educational attainment indicators, are insignificant. In contrast, the estimates are significant and of the expected sign for the repeat users. Finally, most of the sectoral effects appear to differ little between repeat users and occasional users.

Further Examination of the Social Capital and Attitudinal Effects

The effects of the social capital and the attitudinal indicators, as well as the impact of the influential covariates SEASONAL and REPEATER, could be partially captured in the estimates attributed to the provincial effects. This is particularly likely in the case of the Atlantic provinces, where the employment patterns (i.e., seasonal or intermittent jobs) associated with the “maximum entitlement” areas tend to occur. In order to investigate this possibility, the least squares equations were estimated without the provincial dummy

²⁷For the occasional users, the F-statistic for the social capital variables, with 10 dof in the numerator and 5,963 dof in the denominator, is 1.78. The F statistic for the attitudinal variables, with 6 dof in the numerator and 5,963 dof in the denominator, is 8.21. For the repeat users, the F-statistic for the social capital variables, with 10 dof in the numerator and 14,488 dof in the denominator, is 4.09. The F statistic for the attitudinal variables, with 6 dof in the numerator and 14,488 dof in the denominator, is 37.54.

variables. Due to space constraints, the results are not shown, but the changes are summarized as follows. In the pooled sample, the effect of REPEATER in 1998 is pretty robust to the exclusion of the provincial indicators, as it increases from 2.59 (Table 4) to 2.96. There is also little change in the estimated coefficient for SEASONAL. The discrepancy between solely Anglophone and solely Francophone individuals — with the latter claiming more weeks of benefits — widens when the provincial indicators for Quebec and the other provinces are dropped. For the sample of occasional users, there is some loss in explanatory power, but the estimates and their significance levels are robust to the exclusion of the provincial dummy variables. For the sample of repeat users, there is a great loss in explanatory power, and the estimates of the covariates ENOUGH WORK, CANNOT AVOID EI, FAMILY EI, the years in residence variables, and CITY increase in magnitude. The results from this exercise may suggest that in the full specification, the effects of certain social capital and attitudinal indicators may be partially captured in effects attributed to the provincial binary variables.

CONCLUSION

This study has attempted to model the incidence of participation in Canada's UI/EI program, which is measured by an intensity indicator — the number of weeks that the respondent received UI/EI benefits in 1997 and 1998 — and by a frequency indicator — a binary measure of whether or not he or she received benefits during 1997 or 1998. Those UI/EI outcomes are linked to a rich array of worker-specific attributes, including novel information on the workers' attitudes, variables associated with their regional ties, as well as to certain firm attributes.

The propensity to claim UI/EI benefits appears to be driven to a substantial extent by region-specific factors. The provincial indicators, which capture a combination of local labour market conditions and parameters of the UI/EI program, have a high degree of explanatory power. Due to UI/EI program design, these two variables are jointly determined, and the specific effects attributed to each cannot be disentangled empirically. The job-specific effects that can be specified in this model, such as the seasonality, the union status, and the sector of the primary job held by the worker, also have predictable and fairly important influences. In summary, provincial and sectoral attributes seem to account for a good part of the variation that is explained by the regression model. In contrast, most of the observable personal attributes, such as the demographic and human capital effects, do have signs that are consistent with the displaced workers' literature, but these indicators do not appear to play an important role in influencing patterns of UI/EI receipt.

The questions from the attitudinal module do yield mostly reasonable results: those associated with discouraged worker behaviour do have the expected effect. The stated willingness to accept an external job offer is positively but weakly correlated with UI/EI use. Nevertheless, the estimated magnitudes appear to be minor. One can certainly claim that the attitudes can be mismeasured and are jointly determined with UI/EI outcomes, so these findings are best interpreted as statistical correlations. Despite the probable infeasibility of instrumenting for these attitudinal variables, they are probably reflecting features of particular segments of the labour market and, in some cases, the cycle of UI/EI dependency.

The “social capital” variables appear to be less influential than the attitudinal variables. Somewhat surprisingly, most of the indicators pertaining to regional ties, such as whether the worker has spent a much of his or her life in the region or the presence of family in the area, seem to matter little. There is a small positive effect associated with having family members who have recently received UI/EI benefits.

Finally, the study has discerned some structural differences in the point estimates between the equation for frequent users and the equation for occasional users of UI/EI. In particular, repeat users exhibit longer lengths of UI/EI claims conditioned on the province, suggesting that it is meaningful to analyze frequent and infrequent users as distinct groups even when they face similar UI/EI program parameters. On the other hand, the discrepancies between the estimated parameters of the equations for men and women are typically not very remarkable.

The regression results are qualitatively very robust to the changes in functional form. Despite that robustness, the empirical model of the weeks-of-receipt variable could be made more flexible by applying the Heckit procedure, which permits the processes generating the event of making a UI/EI claim and of generating its length to be modelled separately. The explanatory power of the model could perhaps be improved if more detailed information on the region were to be introduced into the data set, or if more of the time-varying traits of the jobs held could be accurately linked to UI/EI outcomes.

Prior research such as that by Green and Riddell (1994), Corak and Pyper (1995), and others cited above suggest that the UI/EI program is heavily ingrained in labour demand choices in “maximum entitlement” regions. The very strong provincial patterns and marked sectoral patterns for UI/EI program incidence — and the much weaker and less robust patterns associated with educational attainment, skill level, and demographic factors — that are discerned in this study are consistent with that perspective. Furthermore, the relatively low degree of explanatory power of the attitudinal and social capital indicators may suggest the greater importance of demand-side factors relative to supply-side factors in determining UI/EI outcomes, but an improvement in the quality of those indicators might yield different empirical results. In the absence of a major change in the UI/EI program parameters that would reduce eligibility for seasonal and intermittent jobs, it may be useful to reinforce job-counselling services in an attempt to boost sectoral and regional mobility, with an eye toward directing the participants to more stable and continuous employment patterns. Some of the unconstructive attitudes, especially those pertaining to the perceived availability of work, might be addressed by improved diffusion of labour market information and regional mobility grants.

Appendix

Following the study by Lemieux and Macleod (1995), I appeal to a very simple, stylized labour supply approach incorporating three basic elements:

- The incentive structure that workers face as they interact with the UI/EI system, represented by the program parameters;
- The preferences of the workers regarding the value of leisure and/or home production (preferences); and
- The labour market productivity of workers, represented by the market wage.

Workers can end up in four possible states: (1) choosing full-time work with no UI/EI receipt; (2) choosing part-time work with UI/EI receipt but would work full time without UI/EI benefits; (3) choosing part-time work with UI/EI receipt but would withdraw from the labour force without UI/EI benefits; and (4) choosing to remain out of the labour force.

This perspective differs from the job-search approach in that it models separations and it assumes negligible job-search costs, thus implying that jobless workers do not face rationing on the job market and can choose their separation times. This perspective is distinct from the implicit contract approach in that it does not incorporate firm behaviour. This model is admittedly very simplified, and many analysts may question the validity of the assumption that jobs are not rationed. Its predictions, however, tend to be supported by stylized facts of UI/EI participation patterns, however, such as those with marginal labour force attachment raising their labour supply in “maximum entitlement” areas.

References

- Bertrand, M., E. Luttmer, and S. Mullainathan. 1998. *Network Effects and Welfare Cultures*. Working Paper No. 405. Princeton, NJ: Princeton University Industrial Relations Section.
- Borjas, G. 1995. "Ethnicity, Neighborhoods, and Human-Capital Externalities." *American Economic Review* 85: 365–390.
- Coleman, J. 1988. "Social Capital in the Formation of Human Capital." *American Journal of Sociology* 94: S95–S120.
- Corak, M. 1993a. "Unemployment Insurance Once Again: The Incidence of Repeat Participation in the Canadian UI Program." *Canadian Public Policy* 29: 162–176.
- . 1993b. "Is Unemployment Insurance Addictive? Evidence from the Benefit Durations of Repeat Users." *Industrial and Labour Relations Review* 47, 1: 62–73.
- . 1995. *Unemployment Insurance, Temporary Layoffs, and Recall Expectations: Evaluation Brief #8*. Ottawa: Human Resources Development Canada.
- Corak, M., and W. Pyper. 1995. *Firms, Industries, and Cross-subsidies: Patterns in the Distribution of UI Benefits and Taxes: Evaluation Brief #8*. Ottawa: Human Resources Development Canada.
- Crémieux, P-Y, P. Fortin, P. Storer, and M. Van Audenrode. 1995a. *Unemployment Insurance and Job-search Productivity: Evaluation Brief #3*. Ottawa: Human Resources Development Canada.
- . 1995b. *The Impact of Unemployment Insurance on Wages, Search Intensity, and the Probability of Re-Employment: Evaluation Brief #27*. Ottawa: Human Resources Development Canada.
- Fallick, B.C. 1996. "A Review of the Recent Empirical Literature on Displaced Workers." *Industrial and Labor Relations Review* 50: 5–16.
- Farber, H. 1997. "The Changing Face of Job Loss in the United States." *Brookings Papers On Economic Activity: Microeconomics*, pp. 55–142.
- Green, C. 1994. "What Should We Do With the UI System?" In *The Social Policy Challenge*. Edited by J. Richards and W. Watson. Toronto: CD Howe Institute.
- Green, D., and C. Riddell. 1997. "Qualifying for Unemployment Insurance: An Empirical Analysis." *Economic Journal* 107: 17–35.
- Green, D., and T. Sargent. 1998. "Unemployment Insurance and Job Durations: Seasonal and Non-Seasonal Jobs." *Canadian Journal of Economics* 31: 247–278.
- Huff-Stevens, Ann. 1997. "Persistent Effects of Job Displacement: The Importance of Multiple Job Losses." *The Journal of Labor Economics* 15: 165–188.
- Kesselman, J.R. 1983. *Financing Canadian Unemployment Insurance*, Toronto: Canadian Tax Foundation.
- Kletzer, L. 1998. "Job Displacement." *The Journal of Economic Perspectives* 12: 115–136.
- Lemieux, T., and B. MacLeod. 1995. *State Dependence and Unemployment Insurance: Evaluation Brief #4*. Ottawa: Human Resources Development Canada. Also forthcoming in *The Journal of Public Economics*.

- . 2000. “Supply Side Hysteresis: The Case of the Canadian Unemployment Insurance System.” *The Journal of Public Economics* 78: 139–170.
- May, D., and A. Hollett. 1995. “The Rock in a Hard Place: Atlantic Canada and the UI Trap.” In *The Social Policy Challenge* #9. Edited by J. Richards and W. Watson. Toronto: CD Howe Institute.
- Montgomery, J. 1991. “Social Networks and Labor-Market Outcomes: Toward an Economic Analysis.” *American Economic Review* 81: 1408–1418.
- Mortensen, D. 1986. “Job Search and Labour Market Analysis.” In *Handbook of Labor Economics*. Edited by O. Ashenfelter and R. Layard. Amsterdam: Elsevier Science Publishers.
- Nakamura, A. 1995. “New Directions for UI, Social Welfare, and Vocational Education and Training.” *Canadian Journal of Economics* 54: 731–752.
- . 1996. “Employment Insurance: A Framework for Real Reform.” C.D. Howe Institute Commentary #85. Toronto: C.D. Howe Institute.
- Nakamura, A., J. Cragg, and K. Sayers. 1994. “The Case of Disentangling the Insurance and Income Assistance Roles of Unemployment Insurance.” *Canadian Business Economics* 3: 46–53.
- Nakamura, A., and W. E. Diewert. 1997. *Unemployment Insurance in Canada: Problems and Recent Reforms*. Mimeographed.
- Ruhm, C. 1991a. “Are Workers Permanently Scarred by Job Displacements?” *American Economic Review* 81: 319–324.
- . 1991b. “Displacement Induced Joblessness.” *Review of Economics and Statistics* 73,3: 517–522.
- Statistics Canada. 1999. *Survey on Repeat Use of Employment Insurance: Data Sharing File Microdata Documentation*, May 1999.
- Wesa, L. 1995. *Seasonal Employment and Repeat Use of Unemployment Insurance: Evaluation Brief #24*. Ottawa: Human Resources Development Canada.
- Wong, G. 1995. *Job Separations and the Passage to Unemployment and Welfare Benefits: Evaluation Brief #9*. Ottawa: Human Resources Development Canada.

Immigrants and Employment Insurance

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As citizens of a major immigrant-receiving country, Canadians are concerned with how those not born in the country access social services. One question of interest to Canadian policy-makers is the use immigrants make of Unemployment Insurance (UI) or, following July 1996, Employment Insurance (EI), which is one of Canada's largest and best known social programs.¹ This study seeks to document differences in the use of UI/EI by those born in Canada compared with those born elsewhere. It seems plausible that immigrants, especially recent immigrants, may have different experiences with UI/EI. They may have a different frequency of use, and different demographic and job-search characteristics, and therefore require a different package of services from Human Resources Development Canada (HRDC). Since very little work has been done on this topic in Canada, this study will survey several broad issues regarding immigrants' use of the UI/EI system.

Previous research on immigrant integration into the Canadian labour market has focussed almost exclusively on earnings and unemployment (e.g., Baker and Benjamin, 1994; Bloom, Grenier, and Gunderson, 1995; MacDonald and Worswick, 1997; Grant, 1999; and Schaafsma and Sweetman, 1999). The theoretical framework has relied on a few simple concepts, one of which is commonly traced to work by Chiswick (1978): immigrants may suffer a negative shock or "entry effect" on arrival as they get set up in a new environment, but this should be eliminated over time and immigrant employment outcomes, starting from below on average, should gradually approach those of the Canadian-born. Immigrants' outcomes may surpass those of the Canadian-born in time if immigrants are positively selected for employment attributes by the Canadian immigration system. A second strand in the literature, popularized by Borjas (1985, 1995) is that various immigrant landing cohorts (i.e., groups arriving in the same year or set of years) may have quite different labour market outcomes, on average, because of differences in English- or French-language ability or other characteristics. Borjas argues that the outcomes of successive arrival cohorts have declined over time in the U.S.²

When thinking about social programs, other issues are also of concern. Unlike employment where much of the economic return to success or failure is internalized by the worker, social programs imply a transfer across workers, and some commentators in the popular press have suggested that immigrants benefit overly much from Canada's social safety net. While UI/EI is only one part of that net, understanding the use immigrants make of it is an important part of answering this policy challenge. Further, information deficits or other issues related to settlement may hinder immigrants in their job search, and

¹Note that EI is not simply UI renamed. This transition, which occurred in the midst of the period being considered by the paper, was a major redesign of the program.

²Formally, Borjas measures fixed unobserved factors as declining since he controls for some observable demographics.

understanding these and any other differences from the Canadian-born population can be useful in designing policies to aid immigrants in integrating economically.

One empirical study, using Canadian data, that looked at immigrant use of UI/EI focussed on the incidence of benefit receipt (i.e., the percentage of immigrants, relative to the Canadian-born, who receive benefits). In particular, it explored how the incidence varies as a function of years since migration and as a function of cohort-fixed effects. Crossley, McDonald, and Worswick (2000) use 13 years of data from Statistics Canada's survey of consumer finances and find that immigrants are somewhat less likely to receive UI/EI benefits, but that there is no consistent evidence of a trend in UI/EI with years since migration. In contrast to this, Citizenship and Immigration Canada (1999), using administrative data, finds that immigrants are more likely than the Canadian-born to claim UI/EI benefits in their first 10 years in Canada.

In contrast to these previous studies, the current paper employs data from a survey of UI/EI claimants, identified from HRDC administrative records, that focusses on issues related to UI/EI. While the incidence of UI/EI use is addressed in order to put the study in context and to try to reconcile the earlier results, this analysis goes much further. It exploits some of the features of a special survey of repeat users of UI/EI to look for any differences, relative to the Canadian-born, in the intensity of UI/EI use by immigrants, and also in re-employment outcomes, the nature of job search, and job-search methods. Since this is a first look at a relatively unknown topic, this paper provides simple descriptive statistics for both immigrants and non-immigrants. At this simple level, it may be possible to observe quite different behaviours and outcomes with respect to UI/EI use if they exist. Beyond this, since it is well known that the age distribution of immigrant and Canadian-born workers differs substantially, as do other demographic characteristics such as average education level, many results will statistically condition on these variables to provide a more satisfactory understanding of the differences between the two groups.

Overall, some interesting patterns emerge from the data. Immigrants were much less likely to claim UI/EI benefits than the Canadian-born — that is, their incidence of use was lower. Even recent immigrants, who are more likely to use the system than immigrants who have been in Canada longer, had a claim rate that was lower than that of the Canadian-born. Moreover, of those who did claim, their intensity of use, measured as weeks of benefit receipt and dollars received, was lower. Further, immigrant UI/EI claimants had quite dissimilar demographic characteristics from those born in the country. More importantly, the nature of their job search differed substantially. Immigrant users of UI/EI were much more likely to experience a permanent separation, whereas those born in Canada are very likely to be laid off temporarily and expect recall. This difference remains even when I account for differences in industry, occupation, education, and geography. Thus immigrants, on average, appear to have had a more difficult job search. However, immigrants also appear to have searched more intensely: they searched more hours, and regularly used more job-search methods. Further, unemployed immigrants, especially more recent immigrants, appear to have been willing to take jobs with wages that were lower than those that Canadian-born workers with similar observable characteristics were willing to take. At the survey date, immigrants were somewhat less likely to have been employed than the Canadian-born, but they were facing a more difficult challenge and were searching for employment more actively.

This paper first describes the data that will be used for the study. It then looks at the two groups' UI/EI use; in this analysis and throughout the rest of the paper, males and females are studied separately and a four-way gender-immigrant status comparison is possible. Next, various aspects of re-employment are addressed, and differences in job-search techniques are explored. Finally, repeat UI/EI use is addressed.

DATA SOURCE AND METHODOLOGY

From January to March 1998, Statistics Canada conducted telephone interviews for the Survey on Repeat Use of Employment Insurance (SRUEI) as part of a program conducted for HRDC by the Social Research and Demonstration Corporation (SRDC). The sampling frame consists of anyone who initiated a new UI/EI claim on which regular benefits were paid in 1996, and lived in one of the 10 provinces of Canada as determined from HRDC's administrative records. Information on re-employment, job search, and basic demographics were collected by the survey and, of particular relevance to this analysis, immigrant status and year of arrival into Canada were obtained. Almost all of the employment information collected refers to the 1997 calendar year, and detailed information is captured on up to three employers.³ A limited set of information from HRDC's administrative records on UI/EI receipt is matched to the survey data.

The survey's response rate is about 75 percent, which is normal for this type of survey where individuals must be located by phone based on information in federal administrative records.⁴ The nature of the non-response is, however, probably subject to important sample selection on some dimensions. For example, the tracing procedures are much less likely to locate individuals who move geographically than those who do not. While this issue must be borne in mind when interpreting the study's results, little can be done to address it formally within the confines of this analysis.

A more fundamental issue, one that applies to most data of this type, is that business cycle effects cannot be observed. The years 1995 and 1996 were ones of slow expansion; neither the peak of a boom, nor the depths of a recession. It is plausible that the types of workers who claim UI/EI benefits during this part of the business cycle are, on average, different from those who claim in other phases. Further, immigrant and Canadian-born workers might be differently impacted by the business cycle (e.g., their industrial and/or occupational distribution may differ). McDonald and Worswick (1998) argue that immigrants' earnings (perhaps like those of young workers who are also new entrants to the labour market) are more cyclically sensitive than those of the Canadian-born. Similarly, Crossley, McDonald, and Worswick (2000) find that the profile of immigrant UI/EI use with years since migration, relative to the Canadian-born, is very sensitive to the choice of the year in which the survey is conducted. Thus it is possible that immigrants may have been more severely hit by the recession of the early 1990s and had a more difficult time obtaining the hours of work required to qualify for benefits. As with the response rate, while this needs to be borne in mind, there is little formal analysis of this issue that is possible in a single cross section of data.

³Some of the questions are, however, phrased in terms of the period from January 1997 to the survey date, which varies from 12 to about 15 months across individuals. For most of the purposes of this study, this will not be a serious problem as long as immigrant and Canadian-born respondents are approximately similarly distributed across the interview window.

⁴HRDC's Canadian Out of Employment Panel (COEP) has a similar frame and a similar response rate.

Repeat users of UI/EI are intentionally oversampled in the SRUEI. The sampling strategy involves 50 strata with each stratum representing a province, times the number of years in which a new claim was initiated in the five years ending in 1996.⁵ This implies that the analyst must be very careful to employ the appropriate survey weights to recover the population parameters of interest (i.e., means, regressions, coefficients, etc.) and, perhaps less importantly, to correct the standard errors for the stratification. Throughout this study all means, standard errors, and other statistics are estimated while taking these issues into account.

In much of the analysis that follows, I explore differences among immigrants as a function of the date they migrated to Canada since, as has been observed frequently in the past (see, for example, Chiswick, 1978; Borjas, 1985, 1995; and, pertaining to Canada, Baker and Benjamin, 1994; Bloom, Grenier, and Gunderson, 1995; MacDonald and Worswick, 1997; Grant, 1999; and Schaafsma and Sweetman, 1999): first, immigrants integrate economically as their time in their new country increases and, second, arrival cohorts have different labour market outcomes because of factors such as language skills that, on average, vary with landing year. Note that since I am using only a single cross section of data here, as pointed out by Borjas (1985), it is not possible to distinguish between changes that occur as a result of economic integration over time, and changes in outcomes across subsequent arrival cohorts resulting from fixed differences in their composition.

The data set contains 22,577 observations. However, some are not used in the analysis because of non-response to a small number of crucial variables such as immigrant status, age, re-employment status, or gender. The final sample for analysis contains 1,395 immigrant males, 1,127 immigrant females, 11,799 Canadian-born males, and 7,844 Canadian-born females. Throughout the analysis, males and females are analyzed separately and each has their own set of regression coefficients. Within each gender though, immigrants and the Canadian-born are frequently assigned the same regression coefficients on many variables in the regression portion of the analysis.

EMPIRICAL ANALYSIS

UI/EI Use

It is worthwhile to put the analysis in context by first describing the differences in regular UI/EI usage rates across immigration-gender groups. These estimates are of interest since, as mentioned, it appears that only a few measures of UI/EI incidence exist in the Canadian literature, and there are no comparisons of weeks on claim and/or the value of benefits drawn (and almost all the research looks at males only, or at both sexes combined). In panel A of Table 1, immigrants are further categorized according to their year of immigration or, equivalently (given that this is a cross-sectional survey conducted in 1998), how long they have been in Canada; panel B looks at selected age groups. Since the SRUEI contains only UI/EI claimants, the population and labour force estimates in the upper panel of Table 1 are based on the 1996 Census and include all permanent residents between the ages of 15 and 65 who did not live in the territories. Column 1 (males), and 6 (females) present the fraction

⁵The survey can, therefore, be thought of as a collection of 50 independent sub-populations (strata) since 50 identifiable groups are sampled independently. This has some desirable statistical properties. The survey design contains no clustering.

of the Canadian labour force represented by each group. Thus Canadian-born males were 43 percent, and females 37 percent, of the labour force, and immigrant males and females were 11 percent and nine percent respectively (and $43+37+11+9=100$ percent). By contrast, the population shares in columns 2 (males) and 7 (females) show that both Canadian-born and immigrant males were slightly over-represented in the labour force relative to females.⁶

Table 1: Immigrant and Canadian-Born UI/EI Claim Rates

	Males					Females				
	Labour Force (%) (1)	Population (%) (2)	UI/EI Claim (%) (3)	Claim/Labour Force (4)	Claim/Population (5)	Labour Force (%) (6)	Population (%) (7)	UI/EI Claim (%) (8)	Claim/Labour Force (9)	Claim/Population (10)
Panel A: Age 15 to 65										
Canadian-born	43.27	39.75	50.58	1.17	1.27	37.60	40.46	34.27	0.91	0.85
Immigrants	10.39	9.68	8.34	0.80	0.86	8.73	10.10	6.83	0.78	0.68
Immigrants by year of arrival										
pre-1961	1.44	1.45	0.85	0.59	0.59	1.03	1.36	0.78	0.76	0.57
1961–70	1.98	1.72	1.30	0.66	0.76	1.61	1.75	1.16	0.72	0.66
1971–80	2.69	2.29	1.81	0.67	0.79	2.36	2.36	1.62	0.69	0.69
1981–90	2.48	2.32	2.26	0.91	0.97	2.15	2.45	1.65	0.77	0.67
1991–96	1.80	1.91	2.11	1.17	1.10	1.59	2.18	1.62	1.02	0.74
Panel B: By Age Group										
Age 25–35										
Canadian-born	44.20	40.43	54.14	1.22	1.34	38.77	41.48	32.48	0.84	0.78
Immigrants	9.06	8.67	7.71	0.85	0.89	7.97	9.42	5.68	0.71	0.60
Age 36–45										
Canadian-born	42.53	39.36	46.41	1.09	1.18	38.10	40.50	37.70	0.99	0.93
Immigrants	10.17	9.66	8.51	0.84	0.88	9.20	10.48	7.38	0.80	0.70
Age 46–55										
Canadian-born	40.71	37.14	42.65	1.05	1.15	33.67	37.47	38.26	1.14	1.02
Immigrants	14.06	12.63	9.43	0.67	0.75	11.56	12.76	9.67	0.84	0.76

Note: The population and labour force samples are from the 1996 Census and have sample sizes of 537,474 and 401,248 respectively. The SRUEI sample contains 1,395 immigrant males, 1,127 immigrant females, 11,799 Canadian-born males, and 7,844 Canadian-born females.

Source: Calculations by the author using the SRUEI and the 1996 Canadian Census Individuals Microdata file.

The fraction of claimants represented by each group is presented in columns 3 and 8. Ratios of the claim rate to the labour force are given in columns 4 and 9, and the ratios relative to the population are in 5 and 10. Canadian-born males are the only group that is over-represented among UI/EI claimants relative to their shares in both the labour force and population. They comprised 42.6 percent of the labour force, but 50.6 percent of all claims in the year, for a claim ratio of $(50.6/42.6)=1.19$. Canadian-born females are the next most likely to have claimed benefits, with a ratio of claims to labour force of 0.93. Immigrant males, in contrast, comprised about 11 percent of the labour force, but make only eight

⁶Since part-time workers were less likely to be covered by UI (although they are covered under EI), and females were much more likely to work in part-time jobs, the male-female comparison of UI/EI relative to the labour force needs to be interpreted carefully.

percent of the claims, for a ratio of 0.75. Immigrant females had the lowest claim rate, with a ratio of 0.73, which is quite close to that of immigrant males. Overall, Canadian-born males appear to have made the heaviest use of UI/EI, with Canadian-born females having the next highest use rate.

Looking, in the lower part of panel A, at how UI/EI usage changes for immigrants as their time in Canada increases (i.e., across arrival cohorts), there is a clear trend in both columns 4 and 5 (males), and 9 and 10 (females), to less UI/EI use as time in Canada increases. This profile is steeper for males than for females. For immigrant men, their share of UI/EI usage drops from being slightly above their share of the population (1.03) to a ratio that indicates usage just over half of their share of the population (0.55). For women this ratio falls from 0.69 to 0.53. Even recent cohorts, however, did not have claim rates as high as that of Canadian males. Of course, those with more years in Canada were from different entry cohorts, and their characteristics and experiences may differ along a range of dimensions.

Chiswick's (1978) "classic" theory of immigrant economic integration makes predictions that are only partly in accord with the results observed here. Although he focusses on wages in his original work, researchers such as Baker and Benjamin (1995) have applied his ideas to social benefit receipt. His theory has immigrants starting with worse labour market outcomes than the Canadian-born due to shocks associated with entry and a lack of local knowledge, but moving towards the labour market outcomes of the Canadian-born as time in Canada increases (perhaps doing better than the Canadian-born eventually if immigrants are selected for positive labour market characteristics). While the coefficients estimated here pick up both integration and cohort-fixed effects so that it is not known how much of what is observed is the result of an economic integration, it appears that immigrants are initially more similar to the Canadian-born and become less so over time. However, the trend suggested by Chiswick is evident: immigrant labour market outcomes get "better" (i.e., UI/EI use decreases) with time in Canada.

It is worth comparing the results in Table 1 to other research results. Crossley, McDonald, and Worswick (2000) employ 13 cross sections and use a longitudinal methodology that attempts to isolate cohort-fixed effects from "pure" economic integration profiles in the incidence of UI/EI use. They are responding to a more limited study by Baker and Benjamin (1995) that found "economic assimilation" in the use of UI. The interpretation of Crossley, McDonald, and Worswick's results is thus quite different from that of the estimates in this paper since the profiles in Table 1 are a mixture of those effects. Using Statistics Canada's Survey of Consumer Finance, they find no consistent pattern in the incidence of immigrant UI/EI use, relative to that of comparable Canadian-born male workers (they do not look at females), with years since migration. However, in some sets of years, the profiles appear to be quite steep. They also find substantial differences in cohort-fixed effects, but these also vary across surveys. One explanation is that the relative labour market outcomes of immigrants and the Canadian-born vary across the business cycle, and/or that the immigrant-fixed effects interact with the profiles in some way. Their work serves as a reminder of the limitations placed upon interpreting cross-sectional results.

Crossley, McDonald, and Worswick's most robust result, one that is consistent with that found in Baker and Benjamin (published in 1995 using a subset of the same data) and this study, is that the incidence of immigrant UI/EI use is lower than that of the Canadian-born. In contrast, recent work published in 1999 by Citizenship and Immigration Canada (CIC) using the Immigration Database (IMDB) finds results on the incidence of UI/EI claims by immigrants relative to that of the Canadian-born that are, at first glance, quite different. CIC's study combines both sexes and only includes immigrants who landed at age 18 or older. It uses a retrospective cross-sectional approach for its analysis, with a focus on UI receipt in 1995. Ignoring the landing year itself, which has a low claim rate, the study finds that, relative to all Canadian tax-filers age 20 and over, immigrants on average use UI/EI more frequently for about their first 10 years in the country.⁷ At first glance, the higher UI/EI claim rate appears to contradict that observed both in this study and those by Baker and Benjamin, and Crossley, McDonald, and Worswick. However, the difference likely lies in the sample selection. Schaafsma and Sweetman (1999) show that immigrant earnings are a steep function of age at landing. Immigrants who arrive as children have much better earnings outcomes than those who arrive later in life. It seems plausible that this same effect (poorer labour market outcomes for those who land later in life) occurs for UI/EI use. By restricting the sample to those who landed as adults, CIC is dropping from the sample those immigrants with the best economic outcomes.

Returning to Table 1, panel B breaks the immigrant groups down by age since, as will be seen, the immigrant and Canadian-born age distributions differ. Interestingly, for both immigrant and Canadian-born males (columns 4 and 5), the claim rate decreases with age, but the reverse holds true for females (columns 9 and 10). In all cases immigrants make much less use of UI/EI than their Canadian-born counterparts.

Given that, as seen in Table 1, immigrants were less likely to receive benefits, a natural next question concerns the intensity of use of those who did claim. Table 2 looks at this question, one that is not addressed in the papers on immigrant UI/EI use discussed above, by a simple tabulation of the average weeks of benefit receipt and the dollar value of that receipt in 1996. Like many that follow, this table presents 95 percent confidence intervals, for each estimate, in square brackets to allow for evaluations of statistical differences across the four sex-immigration status groups. Overall, immigrants claimed for slightly fewer weeks — 1.0 for males, 1.4 for females — and these differences are strongly statistically significant as seen by gaps between the 95 percent confidence intervals. These gaps represent approximately 6.25 percent and 8.6 percent less use for males and females respectively. The value of benefits received are similarly lower for immigrants, although the overlapping 95 percent confidence intervals for females indicate that the difference is not statistically significant at the five percent level for them, although it is at the 10 percent level.

⁷CIC's work is one of the few studies to use annual cohorts, as opposed to the five- to ten-year groupings imposed by most public use data files. It clearly shows a very speedy integration of immigrants to UI use. The incidence is low in the year of arrival but, after an increase in the second year, it is relatively constant for a decade. This implies that the groupings do not severely distort the underlying data.

Table 2: Average Weeks on Employment Insurance and Benefits Received in 1996 for Canadian-Born and Immigrants

	Males		Females	
	Weeks	Dollar Value	Weeks	Dollar Value
Canadian-born	16.0 [15.8; 16.2]	4,715 [4,648; 4,783]	16.3 [16.1; 16.5]	3,270 [3,210; 3,330]
Immigrants				
All	15.0 [14.5; 15.6]	4,312 [4,128; 4,496]	14.9 [14.3; 15.5]	3,085 [2,934; 3,237]
Immigrants by year of arrival				
pre-1961	15.7 [14.1; 17.2]	5,277 [4,716; 5,838]	16.2 [14.5; 17.9]	3,799 [3,255; 4,343]
1961–70	15.7 [14.5; 17.0]	5,393 [4,942; 5,844]	14.5 [13.2; 15.9]	3,119 [2,797; 3,441]
1971–80	14.7 [13.7; 15.8]	4,346 [3,977; 4,715]	14.3 [13.0; 15.5]	3,156 [2,830; 3,482]
1981–90	15.7 [14.6; 16.8]	4,255 [3,914; 4,597]	15.0 [13.7; 16.3]	3,083 [2,789; 3,377]
1991–96	13.9 [12.6; 15.2]	3,267 [2,880; 3,655]	14.9 [13.6; 16.2]	2,638 [2,372; 2,904]

Notes: 95 percent confidence intervals are in brackets.

Source: Calculations by the author using the SRUEI.

Looking across entry years, immigrants who arrived longer ago claimed benefits for numbers of weeks that are closer to those of the Canadian-born, but more recent immigrants made much less intense use of the system. Moreover, the average dollar value to early immigrant cohorts is higher than that of the Canadian-born (although not significantly so for either gender).

Overall, immigrants were less likely to make use of the UI/EI system and, when they did, their use was slightly less intense as measured by weeks of benefits claimed and the dollar value of those benefits. Of course, these simple tabulations do not control for differences in demographics that may exist; this issue is, therefore, discussed later in the section entitled “Ongoing EI Use.”

Descriptive Statistics

Table 3 presents simple descriptive statistics comparing immigrant and Canadian-born UI/EI beneficiaries using the SRUEI data. Some very large differences are evident. As can be seen, immigrant males at 41.6 years, on average, were just under four years older than their Canadian-born counterparts, and females were just under three years older. Further, the male immigrant group had higher variance educational outcomes than the Canadian-born with almost twice as many university graduates, but also more individuals with only elementary education. While the two female distributions are more similar, there was a much larger group of immigrant women with only elementary schooling. These patterns are in accord with what one might expect given Canada’s immigration policy. Immigrants arriving under the points system are screened in part for their educational outcomes, but each family chooses

only one person to be assessed, and empirically it is observed that the family tends to nominate the man. However, there are also large non-points-tested streams in the immigration process, and some individuals in these streams have relatively low educational credentials.

Table 3: Descriptive Statistics by Sex and Immigrant Status

	Males		Females	
	(1) Immigrants	(2) Canadian-Born	(3) Immigrants	(4) Canadian-Born
Age	41.60 (0.31)	37.79 (0.11)	42.39 (0.32)	39.46 (0.12)
Elementary	0.14	0.10	0.14	0.05
Some high school	0.18	0.29	0.14	0.18
High school	0.25	0.29	0.25	0.28
Some college	0.09	0.08	0.11	0.10
College	0.16	0.13	0.15	0.18
Some university	0.05	0.04	0.05	0.06
University	0.13	0.07	0.16	0.15
English	0.73	0.54	0.70	0.55
French	0.05	0.22	0.08	0.22
Both	0.15	0.23	0.15	0.23
Neither	0.07	0.00	0.08	0.00
Partner	0.74	0.63	0.74	0.72
Urban	0.90	0.61	0.90	0.65
Newfoundland	0.00	0.05	0.00	0.05
Prince Edward Island	0.00	0.01	0.00	0.01
Nova Scotia	0.01	0.05	0.01	0.05
New Brunswick	0.01	0.06	0.01	0.06
Quebec	0.18	0.37	0.21	0.35
Ontario	0.48	0.22	0.47	0.25
Manitoba	0.03	0.03	0.02	0.03
Saskatchewan	0.00	0.03	0.00	0.02
Alberta	0.08	0.07	0.07	0.07
British Columbia	0.20	0.11	0.20	0.09
Sample size	1,395	11,799	1,127	7,844

Notes: “Partner” implies that the person was married or had a common-law partner.
Standard errors for age are in parentheses. Some groupings may not sum to 1 because of rounding.

Source: Calculations by the author using the SRUEI.

Substantial language ability differences can also be observed. About seven to eight percent of immigrants spoke neither English nor French and, of those who spoke one of Canada’s official languages, they were much more likely to speak English than Canadian-born claimants. Additionally, immigrants were more likely to have a partner (e.g., be married) and were very heavily concentrated in urban areas with about 90 percent of them living there, whereas only 61–65 percent of Canadian-born claimants lived in an urban area. On a related point, immigrant UI/EI users were also much more concentrated in Ontario and British Columbia. Overall, it is evident that immigrant and Canadian-born UI/EI claimants had substantially different demographic characteristics. Sizeable differences between industry and occupation distributions also exist (see tables A.1 and A.2).

Re-employment

Employment at any time between January 1997 and the survey in early 1998, and the number of jobs held in that period, are examined in Table 4. It is clear that immigrants had a lower probability of obtaining employment than the Canadian-born; just over 10 percent of the male immigrants remained non-employed for the entire period compared with about six percent of the Canadian-born.⁸ Similarly, approximately 18 percent of the female immigrants were continuously without jobs compared with 12 percent for the Canadian-born. This represents a substantial number of UI/EI claimants with extended non-employment spells. For each sex, the immigrant and Canadian-born re-employment rates clearly differ statistically since their confidence intervals do not overlap.

Table 4: Number of Jobs, January 1997 to Survey Date

Number of Jobs	Males		Females	
	(1) Immigrants	(2) Canadian-Born	(3) Immigrants	(4) Canadian-Born
0	0.107 [0.083, 0.137]	0.064 [0.057, 0.071]	0.182 [0.150, 0.220]	0.121 [0.110, 0.134]
1	0.667 [0.631, 0.702]	0.654 [0.642, 0.667]	0.671 [0.631, 0.709]	0.658 [0.642, 0.674]
2	0.171 [0.146, 0.201]	0.201 [0.191, 0.212]	0.109 [0.089, 0.133]	0.168 [0.156, 0.181]
3	0.035 [0.023, 0.051]	0.057 [0.051, 0.064]	0.023 [0.014, 0.039]	0.038 [0.033, 0.045]
4	0.015 [0.009, 0.028]	0.015 [0.012, 0.018]	0.010 [0.005, 0.020]	0.010 [0.007, 0.015]
5	0.002 [0.001, 0.006]	0.006 [0.004, 0.009]	0.001 [0.000, 0.004]	0.004 [0.002, 0.007]
6	0.002 [0.001, 0.005]	0.003 [0.002, 0.004]	0.002 [0.000, 0.017]	0.000 [0.000, 0.001]

Notes: 95 percent confidence intervals are in brackets.

Source: Calculations by the author using the SRUEI.

Of the re-employed, the Canadian-born of both sexes appear to have been more likely to have multiple jobs by the survey date. Table 4 shows the number of jobs held during the time period. Immigrants appear to have been more likely to have a single job, and the Canadian-born to have multiple jobs, although the differences in the fractions with a single job are not statistically different in these simple tabulations.

As seen in Table 3, there are substantial differences between the Canadian-born and immigrants in observable characteristics, and it is appropriate to control for at least some of these to ensure that any differences that are observed in simple tabulations do not result from differences in, for example, the age distributions of the groups. Table 5 presents results from a series of logit regressions where, as an extension from Table 4, the dependent variable is 1 if the individual did not find a job, and 0 otherwise.⁹ The format of this table is similar to

⁸The term non-employed is used since each worker's labour force status during the entire period is not known.

⁹Details regarding the estimation and interpretation of regressions of various types can be found in many econometrics textbooks. Green, 1996, is a standard reference.

others that follow. Columns 1 and 2 (males), and 5 and 6 (females), contain controls for a cubic polynomial in age, and the remaining four columns contain additional controls, usually education, urban status, province, and previous industry and occupation. The specification for each set of variables conforms to those shown in tables 3, A.1, and A.2. Coefficients for these additional control variables are not displayed to conserve space; see the notes under each regression for a detailed list of the control variables in each regression. The idea is, first, to see if immigrants and the Canadian-born of the same age, but ignoring other observable differences, have differences in outcomes, and, second, to see how those differences are affected by controlling for a range of demographics. The regressions frequently do not control for some factors that are too closely correlated with immigrant status in our data, for example, language. For the purposes of this study, differences in these characteristics can be thought of as reflecting part of what it is to be an immigrant and are subsumed in the immigrant indicator variable. Further, in many of the tables that follow both the overall average difference between immigrants and the Canadian-born, and that for different immigrant arrival cohorts, are examined separately.

Table 5: Logit Regressions for Non-employment in 1997

	Males				Females			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigrant	—	1.500 ** (0.245)	—	1.499 ** (0.272)	—	1.485 *** (0.208)	—	1.296 * (0.200)
Immigrants by year of arrival								
pre-1961	0.956 (0.318)	—	1.120 (0.393)	—	1.017 (0.324)	—	0.824 (0.295)	—
1961–70	2.028 ** (0.624)	—	2.197 ** (0.730)	—	0.722 (0.266)	—	0.718 (0.278)	—
1971–80	0.875 (0.337)	—	0.806 (0.338)	—	1.080 (0.312)	—	0.982 (0.291)	—
1981–90	1.177 (0.401)	—	1.155 (0.401)	—	2.516 *** (0.600)	—	2.228 *** (0.535)	—
1991–96	2.626 *** (0.809)	—	2.497 *** (0.851)	—	2.110 *** (0.547)	—	1.762 ** (0.492)	—
F	30.65	56.23	10.15	6.54	15.12	26.35	4.54	4.60
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The dependent variable for the logistic regressions is 1 if the respondent was not employed at any time from January 1997 to early 1998, and 0 otherwise. The female regressions contain 8,971 observations, the males ones 13,194. Some regressions do not use a small number of the observations since they contain combinations of variables that are perfectly collinear with the dependent variable. The regressions in columns 1, 2, 5, and 6 include a third-order polynomial in age. Those in columns 3, 4, 7, and 8 additionally include one urban, six education, nine provincial, 27 industry, and 21 occupation indicators. The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

Output for the logit regressions, both here and subsequently, is presented not as regression coefficients, but as “odds ratios,” which are much easier to interpret. In these regressions, the reported estimates are for indicator variables that are set to 1 if the condition (e.g., being an immigrant) is true, and 0 otherwise. Thus, the estimates are all relative to the omitted group, which in all of these regressions is the Canadian-born of the appropriate gender. Therefore, an odds ratio of 1.5 on an immigrant indicator variable, for example,

implies that immigrants were 1.5 times more likely *not* to be re-employed (“not” since the dependent variable is set to 1 if the person was never employed in the period) than the Canadian-born (the omitted group). Similarly, an odds ratio of 0.8 would mean that immigrants were 20 percent more likely to be re-employed. The omitted group, Canadian-born, are normalized to 100 percent, or 1, and an odds ratio of 0.8 indicates that immigrants were less likely to be without a job.

As can be seen in columns 2 and 6 of Table 5, both male and female immigrants were about 50 percent more likely to be non-employed in the period under study. Although these estimates, which control for the differences in age between immigrants and the Canadian-born, are slightly larger than the estimates in Table 4, they are not dramatically different. One caveat that must be remembered in studying re-employment using this survey is that the time of the job loss is not captured and the data measures employment from January 1997. Thus the operative assumption is that the distribution of job-loss dates does not differ very much across the groups so that inferences can be drawn when comparing them. It seems reasonable to assume, however, that these gaps in outcomes result from differences in immigrant and Canadian-born job-finding rates, and not differences in the duration since the last job ended. Unfortunately, while very probable, this conjecture cannot be verified using the data at hand. Weeks of UI/EI benefit receipt are known, but this is a very unreliable estimator of weeks since job loss. As is well known, there are substantial differences across provinces in severance payments realized under provincial employment standards laws, and a recipient’s UI/EI payments do not start until these payments (amortized at the recipient’s usual weekly rate of pay) are exhausted. In principle, a reliable estimate of this duration could be obtained from federal administrative records (the Record of Employment (ROE)), but it has not been done for this survey since information from the ROE is not available.

Columns 1 and 5 of Table 5 illustrate important heterogeneity across arrival cohorts in the probability of remaining unemployed. In accord with Chiswick’s theory, female immigrants who arrived substantially prior to the survey have re-employment rates that are indistinguishable from the Canadian-born, but those who arrived more recently were much more likely to remain non-employed and have odds ratios far above 1.¹⁰ For male immigrants there is a deviation from a similar profile. Those who arrived between 1961 and 1970 are twice as likely to have been non-employed for the entire year than the Canadian-born. A deviation for this cohort will also be observed in some subsequent regressions. It is unclear what was causing it since previous work looking at years-since-migration profiles of economic outcomes using different data sets (McDonald and Worswick, 1998; Baker and Benjamin, 1995; Grant, 1999; and Schaafsma and Sweetman, 1999) has not observed an economic deviation in earnings and unemployment for this cohort. Although the odds ratio is large, as can be gauged by the estimates in columns 1 and 3, only a small percentage of the population of immigrant UI/EI claimants is represented by the deviation, probably under about 2.5 percent of the males.¹¹ Further and much more importantly, for both males and females, recent immigrants appear to have had some difficulty becoming re-

¹⁰Recall the identification problem that occurs in cross-sectional data. What is observed could be the results of time in Canada and/or a cohort-specific effect.

¹¹The coefficient is statistically significant at the five percent level, which implies that there is a five percent chance that an extreme value such as this one might be observed by chance even if no “true” effect exists. Given the large number of estimates in a research study such as this one, it is extremely likely that some of them will be extreme estimates relative to the “truth.” This may be one such estimate.

employed. Given that this latter is observed for both sexes, and is broadly in accord with results from previous studies, it represents a more credible policy issue.

The regressions in columns 3, 4, 7, and 8 of Table 5 replicate those previously discussed, but add six education, one urban status, nine provincial, 27 industrial, and 21 occupational indicator variables as controls (industry and occupation are for the previous year). Surprisingly, and more strikingly for males, these additional variables do not change the immigrant estimates very much. The impact of immigrant status on re-employment does not appear to be correlated with differences in education, geography, industry, or occupation as measured by the survey, since, if it were, then controlling for these variables would change the value of the immigrant coefficient. There is some other, unmeasured, aspect of immigrant status that is responsible for the difference.

Job stability is explored in Table 6 in a set of logit regressions similar to those in Table 5. The sample for these regressions includes only the re-employed, and the dependent variable is set to 1 if the person had multiple jobs following the reference UI/EI claim and 0 otherwise. Thus, an odds ratio below 1 indicates that the relevant characteristic is associated with a lower probability of having multiple jobs relative to the omitted comparison group. Overall, for both males and females, immigrants appear to have been less likely to have multiple jobs as seen in the even numbered columns, although the estimate for males, controlling only for age, is not statistically significant. The probability of having multiple jobs is lower for more recent immigrants, and this is especially clear for females (there is also, once again, a deviation for the male 1961–70 arrival cohort).

Table 6: Logit Regressions Examining Having Multiple Jobs in 1997

	Males				Females			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigrant	—	0.871 (0.083)	—	0.783 ** (0.081)	—	0.731 *** (0.087)	—	0.607 *** (0.077)
Immigrants by year of arrival								
pre-1961	1.024 (0.284)	—	0.855 (0.257)	—	0.922 (0.301)	—	0.800 (0.271)	—
1961–70	1.667 ** (0.346)	—	1.571 ** (0.329)	—	0.926 (0.250)	—	0.924 (0.258)	—
1971–80	0.659 (0.142)	—	0.653 ** (0.124)	—	0.976 (0.190)	—	0.831 (0.159)	—
1981–90	0.721 * (0.129)	—	0.656 ** (0.123)	—	0.528 *** (0.116)	—	0.399 *** (0.090)	—
1991–96	0.782 (0.159)	—	0.711 (0.151)	—	0.535 ** (0.152)	—	0.398 *** (0.111)	—
F	15.91	28.52	9.01	6.02	12.69	24.00	6.04	6.16
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The dependent variable for the logistic regressions is 1 if the respondent had a second or higher order job by the survey date, 0 otherwise. The female regressions contain 8,971 observations, the males ones 13,194. Some regressions do not use a small number of the observations since they contain variables that are perfectly collinear with the dependent variable. The regressions in columns 1, 2, 5, and 6 include a third-order polynomial in age. Those in columns 3, 4, 7, and 8 additionally include one urban, six education, nine provincial, 27 industry, and 21 occupation indicators. The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

Source: Calculations by the author using the SRUEI.

The evidence to this point, and that which will follow, suggests that Canadian-born UI/EI claimants, on average, appear to have less stable employment patterns and this, at least in part, explains their greater propensity to use UI/EI than immigrants. Some might argue that, for example, seasonal workers who use UI/EI in the off-season and regularly return to the same employer, or perhaps are employed by a series of different employers in the same industry (as in construction), have a “stable” employment pattern. This is a reasonable interpretation. However, it is unclear whether this pattern would exist, or exist in the same form, without the UI/EI subsidy. Inasmuch as these workers are using UI/EI as a regular and economically substantial source of support, I am labelling the employment pattern as unstable: it involves periods of unemployment and needs the subsidy to exist in its present form. In a different context, a different use of the term “stable” might be more appropriate. Immigrants, as it will become clear, use somewhat less UI/EI and appear to work in jobs that rely less on UI/EI. Therefore, using this definition, they have more stable jobs.

To better understand the source of the differences in employment outcomes, Table 7 explores the types of employment undertaken after January 1997 by those who were re-employed at any point, and selected characteristics of those jobs. The top part of panel A displays responses to a series of questions that determine the fraction of time spent working in each of five mutually exclusive and exhaustive categories: paid employment, self employment, paid family employment, unpaid family employment, and volunteer employment.¹² It is clear from the table that the vast majority of those who worked in each immigrant-gender category, about 93–94 percent, spent most of their time in paid employment, and there are no statistically significant differences between any of the four groups. (Although not shown, this remains true when controlling for demographics in regressions akin to those in Table 5.) In fact, there are no significant differences in any of the five categories across the four immigrant-gender groups. Since the sample comprises only individuals who had claimed UI/EI in 1996, this is perhaps not surprising because only those who had been in paid employment were covered by UI/EI.

Panel B reports the fraction of the time respondents worked for pay, in 1997, in various circumstances. In the first row, both male and female immigrants are seen to have had an economically important, and statistically significant, greater propensity to work in jobs that are (self-reported to be) permanent. For males, the difference is over six percentage points, while for females it is over eight percentage points. Perhaps surprisingly, there is no difference in the propensity to hold union jobs among males, although there is a difference among females that is statistically significant at the 10 percent level. There is no difference, for either sex, in the percentage of work time that is on contract. But the Canadian-born, especially males, were more likely to work as temporary or term employees. Also, for both genders, the Canadian-born appear to have had just under a four-percentage-point-higher probability of working on call or casually, but the event itself is not very frequent with it being the most common for Canadian-born females at eight percentage points.

¹²Only volunteer work that the respondent classifies as being a “job” for an employer is considered in this categorization.

Table 7: Types of Employment

	Males		Females	
	(1) Immigrants	(2) Canadian-Born	(3) Immigrants	(4) Canadian-Born
Panel A: Proportion of Time by Work Type in 1997				
Paid employment	0.926 [0.905, 0.947]	0.937 [0.930, 0.944]	0.943 [0.922, 0.965]	0.941 [0.932, 0.950]
Self employment	0.058 [0.038, 0.077]	0.044 [0.038, 0.050]	0.039 [0.020, 0.059]	0.036 [0.029, 0.043]
Paid family employment	0.016 [0.007, 0.024]	0.019 [0.016, 0.023]	0.017 [0.007, 0.027]	0.023 [0.017, 0.028]
Unpaid family employment	0.000 —	0.000 —	0.001 [0.000, 0.003]	0.001 [0.000, 0.002]
Volunteer employment	0.926 [0.905, 0.947]	0.937 [0.930, 0.944]	0.943 [0.922, 0.965]	0.941 [0.932, 0.950]
Panel B: Proportion of Work Time in 1997 in Job With Listed Characteristic				
Permanent work	0.792 [0.760, 0.824]	0.724 [0.711, 0.736]	0.777 [0.739, 0.814]	0.691 [0.674, 0.707]
Unionized employment	0.392 [0.354, 0.431]	0.391 [0.378, 0.405]	0.315 [0.274, 0.355]	0.368 [0.351, 0.386]
On contract	0.061 [0.039, 0.082]	0.056 [0.049, 0.063]	0.069 [0.048, 0.090]	0.088 [0.077, 0.099]
Temporary or term	0.106 [0.083, 0.128]	0.132 [0.127, 0.145]	0.088 [0.061, 0.114]	0.115 [0.105, 0.126]
On call or casual	0.028 [0.017, 0.039]	0.062 [0.056, 0.068]	0.043 [0.025, 0.061]	0.080 [0.071, 0.089]
Panel C: Selected Other Job Characteristics for 1997				
Permanent 1st job	0.736 [0.703, 0.769]	0.679 [0.667, 0.692]	0.742 [0.704, 0.780]	0.645 [0.628, 0.662]
Any seasonal job	0.385 [0.350, 0.420]	0.515 [0.502, 0.529]	0.319 [0.282, 0.355]	0.371 [0.355, 0.387]
Multiple jobs at one time	0.144 [0.116, 0.172]	0.174 [0.163, 0.184]	0.113 [0.088, 0.137]	0.155 [0.142, 0.168]
First job part-time	0.080 [0.059, 0.100]	0.080 [0.071, 0.088]	0.231 [0.195, 0.267]	0.315 [0.299, 0.332]
Only job part-time	0.072 [0.052, 0.092]	0.071 [0.063, 0.079]	0.189 [0.155, 0.222]	0.269 [0.253, 0.284]

Notes: Means are presented with 95 percent confidence intervals in brackets.

Source: Calculations by the author using the SRUEI.

Panel C looks at other job characteristics. In contrast to the measure of job permanence in panel B that looked at all work in the period, the first row of panel C presents the fraction of workers whose *primary* job in 1997 was permanent. Both measures, for both genders, show a statistically significant difference between immigrants and the Canadian-born. Immigrants were about seven or eight percent more likely to obtain a permanent first job. This is substantial. Part of the explanation for this is seen in the subsequent rows. Canadian-born UI/EI claimants, especially males, were much more likely to report working in seasonal jobs. This is consistent with the Canadian-born's greater propensity to work as a temporary or term

employee, or on call, as seen in panel B. Together this evidence continues to suggest that immigrant UI/EI users appear to have had a lower re-employment rate, but those re-employed have more stable employment.

There is no observable difference in part-time employment between immigrant and Canadian-born males for either of the two measures presented. Females of both groups were much more likely to work part time than the males. More interestingly, Canadian-born females were more likely to hold a part-time job as their primary re-employment job, and they were more likely to have had a part-time job as their only job. In both cases the gaps are substantial. Immigrant females may have quite different needs than their Canadian-born counterparts; they appear to be more likely to want full-time jobs.

Job Search

Having looked at differences in re-employment, next differences in job-search behaviour between immigrants and the Canadian-born are explored. Table 8 looks at differences in a small set of variables that form a context for job search and are commonly thought to be associated with re-employment. One reason for multiple successive jobs might be that workers took a first job and then searched while employed for better employment. While about 35 to 40 percent of the re-employed did this, there do not appear to be any statistically significant differences across the immigrant-gender groups. However, the next rows show that the fraction of immigrants who moved geographically to obtain employment is much lower than for the Canadian-born, and the differences for both sexes are clearly statistically significant. Further, females were less likely to move than males. Finally, Canadian-born UI/EI claimants were also much more likely to be expecting recall to a previous employer than immigrants — this is clearly an extremely important issue that affects not only job-search intensity, but the probability of re-employment.¹³ Jones and Riddell (1999), although not distinguishing between immigrants and the Canadian-born, show that expecting recall is associated with a very high rate of transition to employment.

Table 8: Job Search

	Males		Females	
	(1) Immigrants	(2) Canadian-Born	(3) Immigrants	(4) Canadian-Born
Engaged in job search while working	0.382 [0.345, 0.420]	0.382 [0.369, 0.395]	0.353 [0.313, 0.394]	0.411 [0.394, 0.428]
Moved	0.053 [0.041, 0.067]	0.110 [0.102, 0.117]	0.012 [0.007, 0.020]	0.044 [0.037, 0.052]
Recalled	0.362 [0.327, 0.396]	0.486 [0.473, 0.499]	0.370 [0.331, 0.410]	0.437 [0.421, 0.454]

Notes: Means are presented with 95 percent confidence intervals in brackets.

Source: Calculations by the author using the SRUEL.

¹³The measure of recall used is whether the claimant expected to be recalled in 1997 to one of his or her post-reference-claim employers. A measure more tightly connected to the reference claim is not available in the survey data. The “moved” variable refers to relocating to obtain employment with an employer for whom the respondent worked in 1997.

Odds ratios from logistic regressions looking at geographic mobility are presented in Table 9. Unlike the previous tables, regressions controlling for a wide range of characteristics are not presented since, akin to tables 5 and 6, their inclusion has very little impact on the results of interest. In brief, the regressions indicate that male immigrants were only half as likely to move as the Canadian-born, and females were a full 70 percent less likely. Further, more recent immigrants appear to have been more constrained geographically. Given that geographic mobility (as seen in Table 8, the percentage of Canadian-born males that moved is about 11 percent) is an important mechanism for labour market adjustment on the margin, the gap between immigrants and the Canadian-born is substantive. It seems possible that since Canadian-born UI/EI users were much less urbanized (see Table 3), geographic mobility might have been more important, and more common, for them. However, when urban residence is included as a control variable (not shown), it has a strong and very statistically significant effect for males, but a statistically insignificant effect for females. More importantly, it has almost no impact on the coefficient of the immigrant dummy variable. Differences in rates of urbanization, as measured in the survey, have no effect on the incidence of geographic mobility as it relates to the immigrant–Canadian-born difference.

Table 9: Logistic Regressions for Geographic Mobility

	Males		Females	
	(1)	(2)	(3)	(4)
Immigrants				
All	—	0.453 *** (0.063)	—	0.291 *** (0.082)
Immigrants by year of arrival				
pre-1961	0.811 (0.262)	—	—	—
1961–70	0.723 (0.270)	—	0.453 (0.270)	—
1971–80	0.499 *** (0.119)	—	0.696 (0.254)	—
1981–90	0.434 *** (0.108)	—	0.085 *** (0.052)	—
1991–96	0.198 *** (0.067)	—	0.181 ** (0.139)	—
F	8.93	14.66	12.23	20.84
P-value	0.000	0.000	0.000	0.000

Notes: The dependent variable for the logistic regressions is 1 if the respondent moved to find employment, 0 otherwise. The regressions also include controls for a third-order polynomial in age. The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively. The female regressions contain 8,971 observations; the males ones 13,194. Some regressions do not use a small number of the observations since they contain variables that are perfectly collinear with the dependent variable.

Source: Calculations by the author using the SRUEL.

Table 10 looks at recall and employs a similar format to the previous tables of logistic regressions. It uses the same measure of recall as Table 8. Overall, the estimates suggest that when the Canadian-born are laid off, they are *much* more likely to have an expectation of recall. Immigrant job separations are much more likely to be permanent. Further, among immigrants there does not appear to be any change in recall expectations with time in Canada. Older and more recent cohorts are equally less likely to be recalled. When a wide array of controls are added to these regressions, the immigrants' odds ratios become more like those of the Canadian-born (and the standard errors get bigger). The difference appears to be correlated with geography and education but immigrants remain, in all cases, less likely to be affected by recall.¹⁴ Recall expectations clearly have a large impact on both job search and re-employment and are an extremely important difference between immigrants and Canadian-born UI/EI claimants. It would be nice to explore the recall issue in more detail and to look at recall's relationship to re-employment more formally. Unfortunately, this is difficult to do since the worker's recall expectation for the separation that initiated the claim that, in turn, triggered his or her inclusion in the sample is not known. Rather, all that is known is that the recall expectation was in 1997 from a 1997 employer. It seems likely that similar differences existed in 1996 as well.

Table 10: Logistic Regressions for Expectation of Recall, 1997

	Males				Females			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigrant	—	0.544 *** (0.045)	—	0.773 *** (0.068)	—	0.707 *** (0.068)	—	0.765 *** (0.078)
Immigrants by year of arrival								
pre-1961	0.546 *** (0.119)	—	0.855 (0.257)	—	0.659 (0.146)	—	0.727 (0.154)	—
1961–70	0.419 *** (0.073)	—	1.571 *** (0.329)	—	0.673 ** (0.135)	—	0.701 (0.143)	—
1971–80	0.556 *** (0.087)	—	0.653 (0.124)	—	0.700 ** (0.119)	—	0.756 (0.133)	—
1981–90	0.639 *** (0.095)	—	0.656 (0.123)	—	0.575 *** (0.110)	—	0.622 ** (0.121)	—
1991–96	0.512 *** (0.096)	—	0.711 (0.151)	—	0.927 (0.201)	—	1.034 (0.231)	—
F	18.68	35.74	24.47	28.9	6.78	11.84	14.79	17.29
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: The dependent variable for the logistic regressions is 1 if the respondent is recalled to a job held in 1997, 0 otherwise. The regressions in columns 1, 2, 5, and 6 include a third order polynomial in age. Those in columns 3, 4, 7, and 8 additionally include one urban, six education, and nine provincial indicator variables. The female regressions contain 8,971 observations, the males ones 13,194. Some regressions do not use a small number of the observations since they contain variables that are perfectly collinear with the dependent variable. The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

Source: Calculations by the author using the SRUEI.

¹⁴Of course, there is a difference between employers' and workers' perceptions of the expectation of recall, and in the realization. See Abe et al., 2000, for an empirical analysis of these issues. Workers' expectations, while not perfect, are reasonable predictors of recall.

Taken together, the differences in recall expectations and geographic mobility suggest the job searches of immigrants and the Canadian-born would have been very different. An aspect of job-search intensity is presented in Table 11, which looks at reported average weekly hours spent searching for a job for both immigrants and the Canadian-born. Panel A gives the average for all workers, those who were re-employed at some point in 1997, and those who were continuously unemployed. The percentage not searching for a job at any time in 1997, shown in the first row, is almost identical for each of the four groups; these are assigned zero search hours in panel A. For both sexes, on average, immigrants searched more hours per week, and the difference is statistically significant. There appears to be a large difference for those who were never re-employed, but the sample size is small enough that little can be said with confidence given the standard errors. Although not shown in the table, for those who were searching for a job while employed, immigrants reported searching about 20 percent more hours each week.

Table 11: Hours Spent Searching for a Job

	Males		Females	
	(1) Immigrants	(2) Canadian-Born	(3) Immigrants	(4) Canadian-Born
Panel A: Average Hours of Searching for All Claimants (Assigned 0 Hours if Did Not Search)				
Percent not searching	33.6	34.4	34.5	35.2
All	9.18 [8.25, 10.12]	7.48 [7.21, 7.75]	8.42 [7.41, 9.42]	6.58 [6.25, 6.91]
Never re-employed	11.48 [7.63, 15.34]	7.22 [6.08, 8.37]	7.99 [5.57, 10.42]	6.39 [5.39, 7.39]
Re-employed	8.92 [7.98, 9.86]	7.50 [7.22, 7.78]	8.51 [7.41, 9.62]	6.60 [6.25, 6.95]
Panel B: Average Hours of Searching for Those Who Searched				
All	14.36 [13.24, 15.40]	11.56 [11.23, 11.89]	13.11 [11.89, 14.33]	10.28 [9.86, 10.71]
Never re-employed	17.16 [12.65, 21.66]	12.62 [11.07, 14.18]	12.36 [9.37, 15.35]	10.44 [9.10, 11.79]
Re-employed	14.02 [12.89, 15.15]	11.50 [11.15, 11.84]	13.28 [11.94, 14.62]	10.26 [9.81, 10.71]
Panel C: Distribution of Hours Searching, All Claimants Who Searched				
0–5	0.242 [0.203, 0.285]	0.326 [0.311, 0.342]	0.282 [0.238, 0.330]	0.390 [0.370, 0.410]
5–10	0.205 [0.170, 0.244]	0.263 [0.248, 0.277]	0.256 [0.214, 0.302]	0.259 [0.240, 0.278]
10–15	0.108 [0.083, 0.140]	0.130 [0.119, 0.142]	0.100 [0.074, 0.134]	0.105 [0.093, 0.119]
15–20	0.187 [0.151, 0.230]	0.137 [0.126, 0.149]	0.155 [0.118, 0.201]	0.118 [0.104, 0.133]
20–25	0.069 [0.047, 0.098]	0.055 [0.048, 0.064]	0.058 [0.036, 0.092]	0.055 [0.045, 0.067]
25–30	0.087 [0.061, 0.123]	0.048 [0.042, 0.056]	0.092 [0.063, 0.133]	0.036 [0.028, 0.044]
30 or more	0.102 [0.074, 0.139]	0.040 [0.034, 0.048]	0.056 [0.036, 0.086]	0.038 [0.030, 0.048]

Source: Calculations by the author using the SRUEL.

Panel B looks at the means for the sample of those who engaged in job search — those who never searched for a job are excluded rather than set to zero. A very similar pattern emerges, but without the zeros the means are higher and the standard errors are smaller so that the substantial immigrant–Canadian-born gaps are statistically significant for the “all” and “re-employed” groups. In panel C, the distribution of job-search hours for the entire sample of searchers is presented. Each immigrant-gender group spans the full range of hours, and the largest fraction in each reports the fewest hours, zero to five per week, but fewer immigrants reported being in the lower job-search hours categories, and more were in the higher ones. Immigrants appear to have spent more time searching for a job no matter which way the numbers are viewed, but the estimates for the never re-employed group are very imprecise, in part because of the small sample size.

A series of interval regressions are run to explore differences in job-search hours, controlling for age and other characteristics. Including those who did not engage in job search makes little substantive difference to the pattern of the coefficients of interest — that is, the differences between immigrants and the Canadian-born and among different arrival cohorts of immigrants — so only results for those who engaged in job search are presented. Interval regression is a maximum-likelihood technique akin to an ordered probit regression, but the cutoff points delimiting each category are known and need not be estimated. The highest and lowest points are treated as unbounded extremes similar to the treatment in Tobit regression. Since the cutoff points, and hence the scale of measure, are known, the coefficients from interval regressions have the same interpretation as those from ordinary least squares (OLS). Table 12 presents coefficients reflecting hours of job searching by immigrant cohort. To conserve space, regressions with a single immigrant dummy variable are not presented; in all cases they are statistically significant and far in excess of one, indicating that immigrants searched more hours on average. Both the even-numbered columns that control only for age, and the odd-numbered ones that additionally control for urban status, education, and province of residence, give the same general results: immigrants engaged in job search more, and job-search hours decreased with time in Canada.

Further, Table 12 displays coefficients from regressions that are run separately for those who are re-employed and those who are not. With the exception of females who arrived prior to 1961 and, in some instances, for males who arrived between 1961 and 1970, all of the point estimates in Table 12 are positive, indicating that immigrants spent more hours searching for jobs than did the Canadian-born, on average. In particular, among the re-employed, more recent male immigrants searched a lot more. Among males who were not re-employed, searching for a job was even more intense, with immigrants searching up to 10 or 20 hours per week more than comparable Canadian-born individuals. The differences for females are not as large but, again, they show much more effort by immigrants to find re-employment. The large observed difference is not surprising. Immigrants were not as likely to be expecting recall (i.e., their separation was more likely permanent) and they must have, therefore, on average, searched more intensely.¹⁵ Further, more recent immigrants may have had less local knowledge and appear to have compensated by providing extra effort in job search.

¹⁵In principle, immigrants would not need to search more intensely if, on average, the arrival rate of job offers was faster for them than the Canadian-born, but this seems implausible.

Table 12: Interval Regressions of Search Hours

	Males				Females			
	Re-employed		Not Re-employed		Re-employed		Not Re-employed	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Immigrants by year of arrival								
pre-1961	3.103 (2.144)	1.132 (1.993)	23.995 *** (8.381)	24.206 *** (7.968)	2.527 (1.669)	0.569 (1.559)	-1.866 (5.124)	-2.367 (5.073)
1961–70	0.434 (1.566)	-0.962 (1.503)	3.956 (4.661)	3.673 (4.589)	2.848 * (1.550)	1.616 (1.533)	8.247 (6.607)	6.880 (6.690)
1971–80	2.682 ** (1.112)	0.941 (1.102)	10.281 *** (3.717)	10.430 *** (3.845)	3.194 ** (1.44)	1.721 (1.425)	4.749 (4.899)	3.609 (4.610)
1981–90	3.445 *** (1.244)	1.609 (1.220)	2.185 (2.243)	2.449 (2.535)	5.544 *** (1.345)	3.690 *** (1.325)	1.935 (2.092)	0.844 (2.132)
1991–96	7.179 *** (1.435)	5.316 *** (1.429)	11.497 *** (4.470)	9.781 ** (4.172)	3.105 (1.957)	1.076 (1.908)	6.246 * (3.369)	5.604 (3.666)
F	6.60	9.98	4.56	2.64	4.01	10.25	1.75	1.18
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.084	0.250

Notes: The dependent variable is the grouped variable measuring hours of job search where the grouping is as in Table 10. The regressions in columns 1, 3, 5, and 7 also include controls for a third-order polynomial in age. Those in columns 2, 4, 6, and 8 additionally include one urban, six education, and nine provincial indicators. The male re-employed regression has 7,647 observations, the not re-employed 386, the female re-employed has 4,832, the not-re-employed 460. The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero. One, two and, three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

Source: Calculations by the author using the SRUEI.

Reservation wages are explored in Table 13. They are collected only for respondents who were not working at the survey date, and this places important restrictions on their interpretation. Still, they provide some information on the job-search process. Only two models are presented since the counterfactual of interest is a conditional one: controlling for age, education, and geographic location. Are the lowest wages that immigrants are willing to accept to take a (suitable) job lower than they are for the Canadian-born? Most strikingly, there is a clear profile in years since immigration. More recent immigrants were, on average, willing to accept a much lower wage than observationally equivalent Canadian-born workers, and immigrants who arrived earlier. New immigrants appear to have had not only greater job-search hours, but also lower wage thresholds for the acceptability for new jobs, holding observable personal characteristics constant. Their job search was clearly, on average, different from that of the Canadian-born. A related issue is explored in Table 14, which looks for differences in self-reported reasons for having not found a job among those never observed to be re-employed after the start of the UI/EI claim. In brief, the reasons are remarkably, and surprisingly, similar. Immigrants appear to have been adjusting on sufficient margins so that their outcomes are broadly similar to the Canadian-born in many dimensions despite facing a more challenging job search.

Table 13: Reservation Wages

	Males	Females
	(1)	(2)
Immigrants by Year of Arrival		
pre-1961	0.121*** (0.047)	0.067 (0.053)
1961–70	0.029 (0.046)	-0.033 (0.038)
1971–80	-0.026 (0.047)	-0.064** (0.030)
1981–90	-0.048 (0.045)	-0.094*** (0.033)
1991–96	-0.245*** (0.033)	-0.174*** (0.056)
F	34.89	21.78
P-value	0.000	0.000
R-squared	0.133	0.268

Notes: The dependent variable is the logarithm of the reported reservation wage and includes one urban, six education, and nine provincial indicators.

One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

The F-statistics and associated p-values test the null hypothesis that all of the coefficients of the relevant model, except the intercept, are equal to zero.

The male regression has 5,899 observations and the female one has 2,313.

Source: Calculations by the author using the SRUEL.

Table 14: Main Reason Why Non-employed Respondent Did Not Find a Job

	Male		Female	
	Canadian-Born	Immigrant	Canadian-Born	Immigrant
	(1)	(2)	(3)	(4)
Too young/too old/age	0.2529 [0.1881, 0.3310]	0.2614 [0.1407, 0.4333]	0.1841 [0.1338, 0.2478]	0.1979 [0.1108, 0.3283]
No jobs available/ shortage of jobs	0.2913 [0.2337, 0.3564]	0.3093 [0.1868, 0.4661]	0.2904 [0.2343, 0.3537]	0.2959 [0.1877, 0.4331]
Not enough skills/ education	0.0820 [0.0499, 0.1319]	0.0130 [0.0027, 0.0610]	0.0997 [0.0629, 0.1545]	0.0846 [0.0407, 0.1676]
Over qualified	0.0211 [0.0099, 0.0443]	0.0374 [0.0091, 0.1408]	0.0075 [0.0030, 0.0188]	0.0207 [0.0042, 0.0967]
Own illness, sickness, injury, or disability	0.0509 [0.0250, 0.1009]	0.0346 [0.0075, 0.1448]	0.0449 [0.0221, 0.0890]	0.0344 [0.0077, 0.1401]
No good jobs available/ no suitable jobs	0.0259 [0.0101, 0.0648]	0.1233 [0.0478, 0.2828]	0.0646 [0.0357, 0.1140]	0.0715 [0.0295, 0.1631]
No transportation	0.0231 [0.0063, 0.0802]	0 —	0.0201 [0.0064, 0.0620]	0.0252 [0.0035, 0.1595]
Lack of adequate child care	0 —	0 —	0.0142 [0.0037, 0.0530]	0 —
Low wages	0.0256 [0.0103, 0.0620]	0.0332 [0.0047, 0.2009]	0.0297 [0.0119, 0.0721]	0 —

(continued)

Table 14: Main Reason Why Non-employed Respondent Did Not Find a Job (Cont'd)

	Male		Female	
	Canadian-Born (1)	Immigrant (2)	Canadian-Born (3)	Immigrant (4)
Pregnancy	0 —	0 —	0.0174 [0.0061, 0.0487]	0.0027 [0.0004, 0.0193]
Personal or family responsibilities	0.0077 [0.0022, 0.0262]	0 —	0.0305 [0.0150, 0.0611]	0.0394 [0.0146, 0.1019]
Not bilingual	0.0014 [0.0010, 0.0096]	0.0389 [0.0055, 0.2299]	0.0168 [0.0056, 0.0496]	0 —
In school or other training	0.0653 [0.0350, 0.1186]	0.0028 [0.0010, 0.0202]	0.0395 [0.0196, 0.0778]	0.0190 [0.0052, 0.0663]
Other (SPECIFY)	0.1530 [0.1004, 0.2261]	0.1461 [0.0633, 0.3025]	0.1406 [0.0980, 0.1976]	0.2087 [0.1172, 0.3439]

Notes: Means are presented with 95 percent confidence intervals in brackets.

Source: Calculations by the author using the SRUEL.

Finally, in looking at job search, I look at differences in the use of various job-search techniques by estimating a series of 32 logistic regressions that are presented in Table 15. The sample combines those who found re-employment, and those who did not, but excludes those who did not search in 1997 since no data is collected from them on this topic.¹⁶ The coefficients presented are for an immigrant indicator variable, which can be interpreted as immigrant–Canadian-born difference at landing, and a linear-years-since-migration term. A coefficient of, for example, 1.018 in this latter variable indicates that the probability of the dependent variable being 1 increases by about 1.8 percent each year the immigrant is in Canada; so the probability is 18 percent higher after 10 years in the country. Since there is no curvature permitted in the years-since-migration specification, extrapolating a large number of years is not realistic; the linear term should be interpreted as providing a general sense of the direction rather than a precise estimate. Regressions presented in the odd-numbered columns control for age, while those in the even-numbered ones also control for geography and education.

Table 15: Logistic Regressions for Job-Search Techniques

	Males		Females	
	(1)	(2)	(3)	(4)
Use Canada Employment Centre (CEC)				
Years since migration	0.997 (0.0085)	0.997 (0.0089)	1.017 * (0.0095)	1.018 * (0.0096)
Immigrant	1.081 (0.2111)	0.921 (0.1869)	0.647 ** (0.1440)	0.584 ** (0.1346)

(continued)

¹⁶Separate regressions were also run stratifying the sample on re-employment, but the results were very similar for the two groups, so they were merged to make the presentation more concise. Further, different specifications for years since migration were tested (a quadratic, and a series of dummy variables as in some previous tables), but this parsimonious one seems to capture the features of the data well and make the table more manageable.

Table 15: Logistic Regressions for Job-Search Techniques (Cont'd)

	Males		Females	
	(1)	(2)	(3)	(4)
Use CEC regularly				
Years since migration	0.979 ** (0.0103)	0.979 ** (0.0101)	0.986 (0.0106)	0.988 (0.0103)
Immigrant	2.073 *** (0.5223)	1.873 ** (0.4732)	1.384 (0.3760)	1.158 (0.3169)
Use private employment centre				
Years since migration	0.997 (0.0097)	1.001 (0.0090)	1.008 (0.0089)	1.009 (0.0094)
Immigrant	1.775 *** (0.3871)	1.183 (0.2580)	1.282 (0.2770)	1.049 (0.2485)
Use private employment centre regularly				
Years since migration	0.992 (0.0166)	0.993 (0.0169)	0.993 (0.0169)	0.987 (0.0198)
Immigrant	2.120 * (0.8705)	2.010 * (0.8454)	2.010 * (0.8454)	1.015 (0.4791)
Use union employment centre				
Years since migration	1.044 *** (0.0087)	1.045 *** (0.0085)	1.026 ** (0.0116)	1.034 *** (0.0120)
Immigrant	0.453 *** (0.0931)	0.401 *** (0.0863)	0.473 ** (0.1476)	0.328 *** (0.1092)
Contact employers directly				
Years since migration	0.993 (0.0134)	0.994 (0.0138)	1.009 (0.0139)	1.009 (0.0137)
Immigrant	1.095 (0.3484)	0.909 (0.2975)	0.769 (0.2336)	0.634 (0.1960)
Check with friends and relatives				
Years since migration	0.994 (0.0091)	0.995 (0.0095)	1.006 (0.0117)	1.007 (0.0123)
Immigrant	1.641 ** (0.3920)	1.278 (0.3171)	1.560 (0.4780)	1.299 (0.4241)
Read newspaper ads				
Years since migration	0.980 *** (0.0076)	0.981 ** (0.0082)	1.001 (0.0087)	1.005 (0.0090)
Immigrant	2.276 *** (0.4112)	1.409 * (0.2720)	1.443 * (0.3110)	0.887 (0.2049)

Notes: The dependent variable is an indicator for using the appropriate service, or reporting using it “on a regular basis.” The regressions in columns 1 and 3 include controls for a third-order polynomial in age. Those in columns 2 and 4 additionally include one urban, six education, and nine provincial indicators. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively. Standard errors are in parentheses. The female regressions use regressions contain approximately 5,520 observations, and the male 8,710. Some of the levels of use regressions used slightly different sample sizes because of differential non-response or a small number of observations having variables that predicted the outcome perfectly. The intensity of use of the CEC regression had 4,297 observations for the females, and 6,694 for the males. The intensity of use of the private agencies regression had 1,011 observations for the females, and 1,341 for the males. One, two, and three asterisks represent statistical significance at the 10, 5, and 1 percent level respectively.

Source: Calculations by the author using the SRUEL.

Male and female immigrants have some similar patterns, but also some differences. The use of Canada Employment Centres (CECs), in the first set of rows, appears to have been the same for immigrant and the Canadian-born males although, conditional on use, immigrants appear to have frequented the centres more regularly. However, immigrant females used them much less upon their arrival in Canada relative to the Canadian-born, but their use increased with time in the country. Conditional on use (the second row of regressions in the table), immigrant females did not employ CECs any more regularly though. Continuing down the table, immigrant males appear to have been more likely to use private employment centres upon arriving in Canada, and to use them more regularly. Interestingly, both genders were much less likely to use union employment centres, although the frequency of use increases with time in the country — recall that time in the country could imply a convergence over time, or that earlier cohorts are more unionized and that there is little or no trend; as discussed earlier, one cannot distinguish between inter-cohort differences, and trends with years since migration. Since union coverage is associated with “good” jobs, this difference is important. There is no discernable difference in the propensity of the groups to contact employers directly, but immigrant males appear to have been more likely to check with friends and relatives. Immigrants were also more likely to use newspaper ads to find jobs, but this declines with time in Canada for males.

Taken together, the results in Table 15 again suggest that immigrants searched for jobs more intensely than their Canadian counterparts of the same age. Although, once education and geography are taken into account, they are sometimes somewhat more similar. This extra effort expended by immigrants seems reasonable given their more difficult searches.

ONGOING EI USE

An obvious question that follows from finding that immigrants searched for jobs more intensely and were more likely to obtain permanent jobs is: What happens to future use? Table 16 addresses this issue by looking at weeks of EI claimed in 1996 (partly repeated from Table 2), 1997, and 1998 by the sample that was randomly drawn in 1996 and is studied here. It is clear that, in both subsequent years, the immigrant claimants continued to use slightly fewer weeks of EI than their Canadian-born counterparts; in fact, the gap widened. In particular, those who immigrated more recently did not show a marked increase in EI use. The regression results, with weeks of UI/EI use as the dependent variable, in the lower panel provide an interesting perspective on this though. Once controls for age, education, and geography are introduced, the gap in EI use between immigrants and the Canadian-born is eliminated. For both genders, it appears that the gap can be “explained” as resulting from observable differences between the two groups. In a more detailed analysis that is not shown, it appears that age was not a crucial factor, but differences between immigrants’ educational levels (more so for the males), and especially geographic locations, relative to the Canadian-born is associated with their decreased use. Plausibly, because immigrants were more urbanized, were concentrated in provinces with less EI use, and, for the males, had a more highly educated sub-group, they needed less EI.

Table 16: Ongoing EI Use

	Males			Females		
	1996	1997	1998	1996	1997	1998
Panel A: Mean Weeks of EI Use						
Canadian-born	16.0 [15.8, 16.2]	13.9 [13.6, 14.1]	9.6 [9.4, 9.8]	16.3 [16.1, 16.5]	12.6 [12.3, 12.9]	7.1 [6.9, 7.3]
Immigrants						
pre-1961	15.7 [14.1, 17.2]	12.6 [11.2, 14.0]	8.3 [6.8, 9.8]	16.2 [14.5, 17.9]	9.3 [7.8, 10.8]	5.3 [4., 6.6]
1961–70	15.7 [14.5, 17.0]	11.1 [9.7, 12.5]	6.1 [5.0, 7.2]	14.5 [13.2, 15.9]	11.7 [10.2, 13.2]	5.0 [3.8, 6.2]
1971–80	14.7 [13.7, 15.8]	9.7 [8.6, 10.8]	5.9 [4.9, 6.9]	14.3 [13.0, 15.5]	9.1 [7.9, 13.2]	5.4 [4.4, 6.4]
1981–90	15.7 [14.6, 16.8]	10.9 [9.8, 12.0]	6.3 [5.3, 7.3]	15.0 [13.7, 16.3]	10.8 [9.5, 12.2]	4.8 [3.8, 5.8]
1991–96	13.9 [12.6, 15.2]	10.6 [9.1, 12.0]	5.2 [4.1, 6.3]	14.9 [13.6, 16.2]	9.8 [8.3, 11.3]	3.6 [2.6, 4.6]
Panel B: Regression Coefficients						
Regression 1: No control variables						
Immigrants	-0.98 ** (0.453)	-3.16 *** (0.471)	-3.53 *** (0.359)	-1.44 * (0.487)	-2.49 *** (0.496)	-2.34 *** (0.332)
Regression 2: With control variables						
Immigrants	0.34 (0.482)	-0.69 (0.499)	-0.65 * (0.374)	-0.35 (0.520)	-0.75 (0.525)	-0.43 (0.343)

Notes: Means are presented with 95 percent confidence intervals in brackets. Standard errors are in parentheses. The female regressions contain 8,971 observations, the males ones 13,194.

Source: Calculations by the author using the SRUEI.

CONCLUSION

Immigrant and Canadian-born workers, according to the information in the SRUEI, had very different experiences of the UI/EI system. Firstly, immigrants were much less likely to use the program. Secondly, those who did use it, used it somewhat less intensively (fewer weeks and dollars of claim). Third, immigrant claimants had demographic characteristics that were quite different from the Canadian-born: the immigrants were older, more urbanized, more concentrated in Ontario and British Columbia, more likely to speak English or neither official language, and (especially for the males) had a different education distribution. Perhaps most importantly, it is much more likely that the Canadian-born were on a temporary layoff where UI/EI was being used to supplement income received from a (perhaps seasonal) single employer. In contrast, immigrants were more likely to use UI/EI after a permanent separation in a situation where the worker was searching for a new job. Immigrants appear to have searched for jobs more intensely, that is, they searched more hours and used more job-search techniques. They also appear to have been somewhat more geographically constrained and concentrated in large urban centres. Immigrant UI/EI claimants were also slightly less

likely to be re-employed between January 1997 and early 1998, but that is not surprising given their more difficult job search. Overall, their extra job-search intensity appears to have closed much of the gap that might have arisen because of their more challenging situation.

More recent immigrants differed systematically from earlier cohorts. Their incidence of use of the UI/EI program was high, though still not as heavy as the Canadian-born. Further, they engaged in job search more, used more job-search techniques, and the unemployed were willing to accept lower wages conditional on their age, region, and education. Very recent immigrants also had a lower likelihood of becoming re-employed. As with immigrants overall, they appear to have faced a more daunting re-employment challenge and to have worked harder to resolve it.

Females appear to have used the UI/EI program less than males, but the immigrant–Canadian-born gap is similar for each gender. While, unsurprisingly, females were also much more likely to work part time than their male counterparts, immigrant female claimants were substantially more likely to work full time than Canadian-born ones.¹⁷ Surprisingly, while among recent immigrants males were more likely to make use of CECs and other employment centres than both earlier cohorts and comparable Canadian-born workers, the reverse was true for females. Earlier cohorts of immigrant females made greater use CECs than more recent ones.

Immigrants appear to have been less likely to use UI/EI, but when they did use it they faced greater challenges than the Canadian-born chiefly because they were much less likely to be on a temporary layoff. Users of UI/EI who were immigrants appear to have been more likely to find a job that was permanent. Unfortunately, immigrants' likelihood of re-employment in the interval between the reference UI/EI claim and the survey date was somewhat below that of the Canadian-born. The gap is important, but not enormous, and future work should look more carefully at how much of it is attributable to Canadian-born workers returning to jobs from which they were temporarily laid off.

Finally, patterns of repeat use appear to have been less prevalent among the immigrant community. As in 1996, immigrants continued to use less EI in 1997 and 1998; in fact the gap widened. However, the differences in their use can be “explained” by their geographic location (more urban and concentrated in provinces that make less use of EI) and, for males, by their having a larger fraction of highly educated workers among claimants.

¹⁷Given the increased coverage of part-time work, which is predominantly female, under EI relative to UI, female use of the program might be expected to change in the future.

Appendix

Table A.1: Occupational Distribution for Main Employer

Occupation Codes	Males		Females	
	Immigrants (1)	Canadian-Born (2)	Immigrants (3)	Canadian-Born (4)
Managerial, administrative	0.058 [0.040, 0.083]	0.040 [0.035, 0.047]	0.076 [0.053, 0.106]	0.075 [0.066, 0.085]
Natural science	0.052 [0.035, 0.075]	0.031 [0.026, 0.036]	0.010 [0.004, 0.030]	0.012 [0.009, 0.017]
Social science	0.009 [0.004, 0.022]	0.006 [0.004, 0.009]	0.021 [0.012, 0.037]	0.032 [0.025, 0.039]
Religion	0.001 [0.000, 0.008]	0.001 [0.000, 0.002]	0.000 —	0.001 [0.000, 0.003]
Teaching	0.022 [0.013, 0.036]	0.026 [0.021, 0.031]	0.110 [0.090, 0.135]	0.139 [0.127, 0.151]
Medicine	0.011 [0.005, 0.024]	0.004 [0.003, 0.007]	0.024 [0.013, 0.041]	0.056 [0.048, 0.065]
Artistic	0.011 [0.005, 0.024]	0.024 [0.019, 0.029]	0.019 [0.009, 0.037]	0.016 [0.012, 0.020]
Clerical	0.048 [0.032, 0.071]	0.037 [0.031, 0.043]	0.171 [0.141, 0.207]	0.236 [0.221, 0.251]
Sales	0.038 [0.024, 0.059]	0.042 [0.036, 0.049]	0.061 [0.042, 0.088]	0.079 [0.069, 0.090]
Service	0.102 [0.080, 0.130]	0.069 [0.062, 0.077]	0.179 [0.149, 0.214]	0.175 [0.164, 0.188]
Farming	0.060 [0.047, 0.075]	0.047 [0.042, 0.052]	0.063 [0.049, 0.079]	0.021 [0.018, 0.025]
Fishing	0.003 [0.001, 0.007]	0.012 [0.010, 0.014]	0.000 [0.000, 0.002]	0.003 [0.002, 0.004]
Forestry	0.010 [0.005, 0.020]	0.046 [0.042, 0.051]	0.002 [0.001, 0.007]	0.004 [0.003, 0.006]
Mining	0.004 [0.001, 0.012]	0.016 [0.013, 0.018]	0.000 —	0.000 [0.000, 0.001]
Processing	0.040 [0.028, 0.056]	0.049 [0.043, 0.055]	0.046 [0.030, 0.068]	0.043 [0.038, 0.048]
Machining	0.048 [0.034, 0.065]	0.042 [0.037, 0.047]	0.005 [0.001, 0.019]	0.005 [0.003, 0.009]

(continued)

Table A.1: Occupational Distribution for Main Employer (Cont'd)

Occupation Codes	Males		Females	
	Immigrants	Canadian-Born	Immigrants	Canadian-Born
	(1)	(2)	(3)	(4)
Fabricating	0.161 [0.132, 0.195]	0.101 [0.092, 0.110]	0.152 [0.120, 0.191]	0.046 [0.039, 0.054]
Construction	0.233 [0.207, 0.260]	0.248 [0.238, 0.258]	0.002 [0.001, 0.006]	0.007 [0.005, 0.011]
Transportation	0.052 [0.038, 0.070]	0.108 [0.100, 0.117]	0.007 [0.003, 0.012]	0.027 [0.023, 0.032]
Materials handling	0.033 [0.022, 0.048]	0.041 [0.036, 0.047]	0.046 [0.030, 0.070]	0.017 [0.013, 0.022]
Other crafts	0.007 [0.002, 0.019]	0.012 [0.009, 0.016]	0.006 [0.003, 0.013]	0.008 [0.005, 0.012]

Source: Calculations by the author using the SRUEL.

Table A.2: Industry Classification for Main Employer

Industry Codes	Males		Females	
	Immigrants	Canadian-Born	Immigrants	Canadian-Born
	(1)	(2)	(3)	(4)
Agriculture	0.037 [0.028, 0.049]	0.027 [0.023, 0.031]	0.062 [0.049, 0.078]	0.022 [0.018, 0.027]
Forestry	0.014 [0.007, 0.025]	0.056 [0.051, 0.061]	0.004 [0.002, 0.009]	0.006 [0.005, 0.008]
Fishing and trapping	0.002 [0.001, 0.006]	0.013 [0.011, 0.015]	0.000 [0.000, 0.002]	0.004 [0.003, 0.005]
Mining	0.009 [0.005, 0.016]	0.027 [0.024, 0.031]	0.002 [0.000, 0.007]	0.006 [0.003, 0.009]
Manufacturing, non-durables	0.097 [0.074, 0.126]	0.076 [0.069, 0.084]	0.182 [0.148, 0.221]	0.094 [0.085, 0.103]
Manufacturing, durables	0.162 [0.134, 0.193]	0.106 [0.098, 0.115]	0.051 [0.033, 0.077]	0.030 [0.024, 0.038]
Construction	0.252 [0.224, 0.281]	0.263 [0.252, 0.273]	0.007 [0.004, 0.012]	0.026 [0.021, 0.032]
Transportation	0.040 [0.029, 0.056]	0.072 [0.066, 0.079]	0.011 [0.006, 0.022]	0.038 [0.032, 0.045]
Communications	0.003 [0.001, 0.018]	0.006 [0.004, 0.008]	0.005 [0.002, 0.011]	0.005 [0.003, 0.009]
Post office	0.002 [0.000, 0.005]	0.004 [0.002, 0.007]	0.000 [0.000, 0.003]	0.004 [0.002, 0.006]
Utilities	0.008 [0.005, 0.013]	0.007 [0.005, 0.009]	0.000 —	0.003 [0.001, 0.006]

(continued)

Table A.2: Industry Classification for Main Employer (Cont'd)

Industry Codes	Males		Females	
	Immigrants	Canadian-Born	Immigrants	Canadian-Born
	(1)	(2)	(3)	(4)
Wholesale trade	0.035 [0.022, 0.054]	0.041 [0.035, 0.047]	0.031 [0.018, 0.052]	0.028 [0.022, 0.035]
Retail trade	0.076 [0.055, 0.104]	0.070 [0.062, 0.078]	0.080 [0.059, 0.109]	0.109 [0.097, 0.121]
Finance, etc.	0.013 [0.005, 0.029]	0.013 [0.010, 0.017]	0.029 [0.017, 0.048]	0.030 [0.024, 0.037]
Education	0.037 [0.025, 0.055]	0.039 [0.033, 0.044]	0.156 [0.132, 0.183]	0.198 [0.185, 0.211]
Hospitals	0.013 [0.007, 0.024]	0.014 [0.010, 0.018]	0.075 [0.055, 0.102]	0.105 [0.095, 0.116]
Doctors	0.006 [0.002, 0.025]	0.000 [0.000, 0.001]	0.003 [0.001, 0.008]	0.020 [0.015, 0.026]
Religious organizations	0.001 [0.000, 0.008]	0.002 [0.001, 0.003]	0.001 [0.000, 0.002]	0.003 [0.002, 0.005]
Recreation	0.008 [0.004, 0.014]	0.030 [0.026, 0.036]	0.013 [0.006, 0.025]	0.025 [0.021, 0.031]
Business services	0.070 [0.051, 0.096]	0.040 [0.034, 0.047]	0.092 [0.067, 0.126]	0.057 [0.048, 0.066]
Personal services	0.071 [0.052, 0.095]	0.032 [0.027, 0.038]	0.119 [0.092, 0.150]	0.116 [0.106, 0.127]
Private households	0.000 [0.000, 0.002]	0.000 [0.000, 0.001]	0.008 [0.002, 0.026]	0.008 [0.006, 0.011]
Miscellaneous services	0.026 [0.016, 0.042]	0.028 [0.023, 0.033]	0.041 [0.025, 0.065]	0.022 [0.018, 0.028]
Federal government	0.005 [0.002, 0.011]	0.008 [0.006, 0.011]	0.010 [0.006, 0.017]	0.016 [0.013, 0.020]
Provincial government	0.004 [0.001, 0.016]	0.007 [0.006, 0.009]	0.007 [0.003, 0.014]	0.012 [0.009, 0.016]
Local government	0.012 [0.007, 0.020]	0.020 [0.017, 0.024]	0.012 [0.006, 0.023]	0.015 [0.012, 0.020]
Other government	0.000	0.000	0.000	0.000

Source: Calculations by the author using the SRUEL.

References

- Abe, Masahiro, Yoshio Higuchi, Peter J. Kuhn, Masao Nakamura, and Arthur Sweetman. 2000. "Worker Displacement in Japan and Canada." In *Losing Work, Moving On: Worker Displacement in International Context*. Edited by P. Kuhn. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Baker, Michael, and Dwayne Benjamin. 1994. "The Performance of Immigrants in the Canadian Labor Market." *Journal of Labor Economics* 12,3: 369–405.
- . 1995. "The Receipt of Transfer Payments by Immigrants to Canada." *Journal of Human Resources* 30,4: 650–76.
- Bloom, D.E., G. Grenier, and M. Gunderson. 1995. "The Changing Labor Market Position of Canadian Immigrants." *Canadian Journal of Economics* 28,4: 987–1005.
- Borjas, G.J. 1985. "Assimilation, Change in Cohort Quality, and the Earnings of Immigrants." *Journal of Labor Economics* 3,4: 463–89.
- . 1995. "Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrant Earnings in the 1980s?" *Journal of Labor Economics* 13,2: 201–45.
- Chiswick, B.R. 1978. "The Effect of Americanization on the Earnings of Foreign-Born Men." *Journal of Political Economy* 86,5: 897–921.
- Citizenship and Immigration Canada, Strategic Policy, Planning and Research. 1999. "The Economic Performance of Immigrants: Education Perspective" <<http://www.cic.gc.ca>>.
- Crossley, Thomas F., James Ted McDonald, and Christopher Worswick. 2000. "Immigrant Benefit Receipt: Sensitivity to the Choice of Survey Years and Model Specification." *Journal of Human Resources*. Forthcoming.
- Grant, Mary L. 1999. "Evidence of New Immigrant Assimilation in Canada." *Canadian Journal of Economics* 32,4: 930–955.
- Green, Alan G., and David E. Green. 1995. "Canadian Immigration Policy: The Effectiveness of the Point System and Other Instruments." *Canadian Journal of Economics* 38,4b: 1006–41.
- Green, William H. 1996. *Econometric Analysis*. 2nd ed. New York: Macmillan Publishing Company.
- Jones, Stephen R. G., and Craig Riddell. 1999. "The Measurement of Unemployment: An Empirical Approach." *Econometrica* 67,1: 147–161.
- McDonald, J., and C. Worswick. 1997. "Unemployment Incidence of Immigrant Men in Canada." *Canadian Public Policy* 23,4: 353–373.
- . 1998. "The Earnings of Immigrant Men in Canada: Job Tenure, Cohort and Macroeconomic Conditions." *Industrial and Labor Relations Review* 51,3: 465–482.
- Schaafsma, J., and A. Sweetman. 1999. *Immigrant Earnings: Age at Immigration Matters*. RIIM Working Paper 99-03.

Volunteer Activities of Employment Insurance Recipients

Rafael Gomez and Morley Gunderson

Volunteer activity has attracted increased policy attention both as a source of labour for social purposes and as a socially productive activity for the volunteers themselves. Although unemployment is a perennial policy issue, increased attention is being paid to the socially productive nature of the activities of the unemployed including job search and training. Volunteer work would also generally qualify as a socially productive activity, both in the sense of benefiting the volunteer and the recipient of the volunteer activity. While *each* of the areas of volunteer activity and unemployment are of policy importance, the intersection of *both* areas — volunteer activities amongst the unemployed — compounds that importance.

For recipients of Employment Insurance (EI) — the focus of this analysis — voluntary activity can also be an important form of human capital *formation*. This is especially the case for younger EI recipients and relatively new labour market participants. As is the case with youths, volunteering may also be a source of résumé building and may lead to the formation of networks and social capital that can result in subsequent jobs for EI recipients. For more experienced EI recipients, or for those facing rapid skill deterioration following job loss, volunteer activity can function as a means of human capital *preservation*. Prospective employers would likely look positively on such activity, especially if it were complementary to job search and thought to reveal something positive, such as motivation and work ethic, about the unemployed person. For the unemployed person, volunteer activity can foster self-worth, a sense of purpose, and even job skills, in contrast to the demoralizing and stigmatizing effects of being unemployed. In sum, even though there may be considerable time costs associated with volunteer activity, as well as opportunity costs if it results in foregoing more traditional forms of job search, volunteering may provide substantial benefits to both EI recipients and to the economy as whole. It, therefore, merits more systematic empirical attention.

The purpose of this study is to analyze the determinants of formal volunteer activity amongst EI recipients. A theoretical framework is first outlined based largely on a household production function framework, augmented to consider such factors as social capital formation. This will facilitate interpreting the empirical relationships found in the subsequent data analysis. The Survey on Repeat Use of Employment Insurance (SRUEI) is then discussed, emphasizing its pros and cons as a data set for work in this area. The empirical

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Without implicating them for any of the conclusions, we are grateful to Louis Grignon, Saul Schwartz, and Frances Wooley for helpful comments and suggestions.

results are then presented in three formats: the various forms of formal volunteer unpaid activity engaged in by EI recipients; the extent to which formal volunteer activity varies by different characteristics of such EI recipients; and regression results of the determinants of the probability of engaging in formal volunteer activities. The paper concludes with a summary and a discussion of the policy implications and areas in need of further research.

THEORETICAL PERSPECTIVE

A variety of theoretical frameworks may be used to analyze volunteer activity. No single framework, however, is likely to be entirely satisfactory for a number of reasons: the difficulty of incorporating the demand side for volunteers; the difficulty of relating the theoretical concepts to be measured to observable phenomenon; and because some theoretical constructs like those involving “social capital” are still in rudimentary stages of development.

The theoretical framework used here is based on the concept of a household production function. Essentially, this is a modification of the conventional labour supply analysis of economics expanded to include internal household decision making, the fact that the household is an important producer as well as consumer of activities that involve time and money, and that different household members will specialize in different types of activity, including charitable activity.

As with conventional labour supply analysis, the household production function approach is a supply-side theory. The demand for volunteer activity by formal organizations is not modelled directly, but is dealt with in an *ad hoc* fashion where it appears to shed light on the observed relationship. Similarly, the nascent “social capital” theories¹ are sometimes referenced to explain the observed relationship that may result from the family interacting in the community in which they are involved. In the household production function context, households may engage in voluntary activity as part of building social networks in their community to foster trust, mutual insurance, community infrastructure, and information sharing, or because their “family” is the community and not simply the nuclear family.

In the household production function framework, families are assumed to maximize utility where utility is a function of not only the conventional goods and leisure, but also of charitable activity. As discussed subsequently, charitable activity can be valued for a variety of interrelated purposes:² its own rewards (a “warm glow”);³ social cohesion and social capital formation; gift giving for reasons of pure altruism and self-realization,⁴ or for reasons of community building and reciprocity;⁵ responses to peer pressure;⁶ résumé and skillbuilding;⁷ reducing a void not filled by government services;⁸ and as a complement to

¹See, for example, Putnam, 1995. For a discussion of this literature and the distinction between social cohesion and social capital formation, see Wooley, 1999.

²Discussions of the rationale for volunteering and charitable activities are given in many of the references and works cited at the end of this chapter, and in Wooley, 1999.

³See, for example, Andreoni, 1990.

⁴See, for example, Titmus, 1971.

⁵See, for example, Cheal, 1988; Rose-Ackerman, 1996; and Sugden, 1984.

⁶See, for example, Ben-Porath, 1980; Freeman, 1996; and Weisbrod, 1975.

⁷Canadian evidence on this is provided in Day and Devlin, 1998.

⁸See, for example, Browne, 1996; and OECD, 1997. Wooley, 1999, extensively discusses the literature on whether government spending “crowds-out” volunteer activity, highlighting that some studies provide some support, although

(continued)

childraising. In this household production function framework, utility is maximized subject to the usual “full-income” budget constraint of time and non-labour wealth or assets. Charitable activity is produced via a household production function using inputs of volunteer time or money⁹ (i.e., goods).

Assuming that charitable activities are a “normal” good, the household demand for charitable activities will increase with wealth, other things equal. Via the household production function for charitable activities, this implies that wealthier families will give more of both money and volunteer time inputs to charitable activities.

An increase in wages will have a more complicated effect working through the household production function. It will increase income and hence have the conventional *wealth effect* discussed above, leading to an increase in volunteer time. Working in the other direction, an increase in wages will also lead to a substitution away from time-intensive household activities like charitable activities that can involve volunteer time. This is *the substitution in consumption* effect of household production theory, and it will lead to less use of both inputs of money and time that are involved in charitable activities. Reinforcing this effect for the use of volunteer time, an increase in wages will also cause a substitution away from time inputs in the production of charity and into goods inputs (i.e., a substitution of money for volunteer time *within* the household production function). This is the *substitution in production* effect of household production theory. Both substitution effects reinforce each other, reducing the use of the more expensive volunteer time and giving rise to the possibility of a strong substitution effect in reducing the use of volunteer time for high-wage persons through the household production function.

Intuitively, individuals with higher wages are likely to volunteer less because they are likely to do fewer time-intensive activities like charity (with its input of volunteer time) and, for any given amount of charitable activity, they are likely to substitute goods or money for their more “expensive” volunteer time. Working in the opposite direction is the wealth effect from their higher wages, which may induce them to spend more on charitable activities involving both time and money.

The substitution effects that occur can also lead to intertemporal substitutions over the lifecycle in response to how wages vary over the lifecycle. Specifically, the model predicts that individuals are likely to do more time-intensive activities (like volunteering) and to use time rather than goods or money at stages in their lifecycle when wages are low — that is, when “time is cheap.” This is more likely to be the case for younger individuals and older individuals (especially if retired or phasing into retirement), as well as for the unemployed, given that unemployment is not “leisure” since most unemployed are seeking work. Of course, for each of these types, volunteer activity can still conflict with their use of time, for example, for education for young people and for job search for the unemployed.

mainly for partial crowding out and for some government activities (e.g., Day and Devlin, 1996) with other studies indicating a strong positive correlation between public expenditures and volunteering (e.g., Putnam, 1995).

⁹The trade-off between time and money and the impact of taxes is emphasized, for example, in Brown, 1987; Brown and Lankford, 1992; Clotfelter, 1985; Dye, 1980; Kingma, 1989; Long, 1977; Menchik and Weisbrod, 1981, 1987; Reece, 1979; and Roberts, 1984.

Substitutions can also occur across individuals within the family. The person with the highest opportunity cost of time is likely to engage in less time-intensive activities such as charitable giving, and to volunteer less time and contribute more money. Women, for example, are likely to engage in more charitable activities and to volunteer more of their time given their relative lower wage. Substitution may also occur towards family members who are unemployed, especially if volunteering is complementary to productive job search.

An increase in the price of other goods and services will have an ambiguous effect on charitable activities of the household (and hence the contribution of time and money) depending upon whether they are complements or substitutes to charitable activities of the household. Furthermore, the effect of the prices of other goods and services can have a complicated effect on charitable activities because the other goods and services can be complements or substitutes in *consumption* (i.e., in the household's decision to do more charitable activities or consume other goods and services), and they can be complements or substitute inputs in the *production* of charitable activities. That is, other goods and services enter both the household utility function and household production function above.

In general, these prices reflecting the cost and availability of other goods and services are not likely to have substantial effects on charitable activity and, hence, volunteer time. That is, they are more of theoretical interest than of practical importance. For example, a reduction in the cost of vacations will increase the amount of vacation time a family takes and possibly lead to a substitution into higher "quality" vacations. To the extent that vacations and charitable activities are substitutes in consumption in the utility function of families, this will lead to a reduction in charitable activity. However, if vacations are complementary to charitable activity (e.g., you coach a little league team while on vacation), the amount of volunteer time can increase as a result of the fall in the price of the activity that was complementary in consumption. These effects all occur within the household utility function and hence involve substitutes or complements in consumption.

As indicated, other goods and services also enter the household production function and, hence, their prices can alter the amount of charitable activity depending upon whether they are substitutes or complements in production. If government provision of such services is regarded as a substitute for household charity, then an increase in the cost of such substitutes (e.g., institutional health care or care for the indigent) will increase the need for private charity to fill that void. Conversely, if governments increase the cost of services that are complementary to providing private charity (e.g., reducing subsidies to non-governmental organizations that coordinate private charity), then this would also reduce the amount of private charity.

Changes in preferences for goods, leisure, or charitable activity will have an ambiguous effect on charitable activity, depending upon the nature of those preferences. If religious beliefs, for example, become less important in people's lives, then charitable activity may decline to the extent that religious persons are more inclined to contribute to charitable causes. If society becomes more consumer and "me" oriented, then individual demands for consumption goods may take precedence over collective goods that could involve volunteer activity.

The household production approach also emphasizes that different individuals are likely to have different productivity in volunteering just as in any other activity. Some individuals simply may be “good at it,” whether it is coaching for Little League or organizing a funding drive. This further complicates the relationship between wages and volunteering since labour market skills that yield high wages can also be valued skills in the volunteer sector. Such individuals may be more likely to be “pressed into service” and they may feel more of a responsibility to use their skills. In such circumstances, they may volunteer more even though it involves a high opportunity cost of their time.

The household production function approach also emphasizes that charitable activities can be produced with goods and services as well as time. Where goods and services are scarce (e.g., rural areas) volunteer time may be more important. Similarly, if governments cut back on services, there may be more pressure to fill the void with private charity and volunteer time.

The household production function approach also emphasizes the investment component of activities. Activities may be undertaken because they yield immediate satisfaction, but they may also be undertaken to yield future income or satisfaction. For example, volunteer activities as part of résumé building or job contacts are likely to be more important for younger persons than for older persons, other things equal.

While tastes and preferences can be an important determinant of any type of behaviour, they are likely to be extremely important in this area. Different individuals are simply likely to have different embodiments of such factors as altruism, guilt, community spirit, and empathy for the disadvantaged, or a desire to “do good deeds.” These may be shaped by such factors as their education, religious beliefs, and ties to their community. Sometimes they may have “survival value” in that altruism may lead to returned favours, community spiritedness may reduce crime and enhance property values, and helping the disadvantaged may be a form of insurance in case you yourself become disadvantaged. But they may also be simply “fixed effects” that vary across individuals and that are embedded or inculcated in them as social values.

Individuals with such values may still respond to the economic incentives previously discussed. For example, individuals who are extremely altruistic may donate relatively more money and less time if the opportunity cost of their time is high. They would donate more of both, however, than would people who are less altruistic.

In many circumstances, it is not possible to get inside the “black box” of tastes and preferences. They simply become a residual explanation for behaviour that is not explained by other factors. In other circumstances, however, it is possible to link tastes and preferences to other observable characteristics (e.g., religion, education) that are likely to shape preferences.

In the empirical work that follows, the observed empirical regularities will be interpreted largely through the lens of the household production function perspective, augmented by other perspectives such as those involving social capital formation. In some cases, the interpretations are clear. In other cases, however, the relationships are more ambiguous and are likely to be the net effect of a variety of different channels through which the underlying causal determinants work.

DATA

The data we use to investigate the determinants of voluntary activity are drawn from the Survey on Repeat Use of Employment Insurance (SRUEI) conducted by Statistics Canada in the early part of 1998. Between January and March 1998, interviewers collected information on the 1997 employment experiences of a nationally representative sample of individuals who initiated a claim in 1996, and who then received regular Employment Insurance (EI) benefits in 1996. “Repeat” users of EI — those who received EI benefits in three of the five years in the period 1992–1996 — were identified and over-sampled in the survey (hence the name of the survey). The sampling frame, therefore, is EI recipients in 1996 and, hence, the respondents will be referred to as EI recipients, with special identification of repeat users, as appropriate.

Standard demographic data such as respondents’ age and marital status, along with extensive information on household characteristics, including income levels and family EI history, were included.

Perhaps the most important feature of the SRUEI, however, is its focus on respondents’ attitudes toward the world of work. As compared with other surveys of its type, participants in the SRUEI were asked about risk taking, switching jobs, future prospects, and their sense of control over important aspects of their lives. This data led to some interesting lines of inquiry regarding the relationship between such measured attitudes and the propensity to engage in voluntary activity. The survey was particularly relevant to our study of voluntary activity because in addition to measurements commonly found in labour force surveys (such as data on employment experiences, income, and household composition), the SRUEI includes information on volunteer activities, attitudes regarding the EI system, community ties, satisfaction with work and worktime arrangements, as well as perceptions respondents have on their own ability to affect society.

Moreover, the data set is quite large, making it empirically feasible to tease out relationships that otherwise would be imprecisely estimated in smaller data sets. The sample size was reduced by 215 observations (from the full sample of 22,577 observations) because of missing observations in one of our continuous variables (i.e., numbers living in household). Missing or unknown observations among our dummy variables were coded as such (i.e., an unknown categorical measure was added) and, thus, no missing observations resulted from unknown answers to survey questions cases in any of our categorical variables.¹⁰

¹⁰This is true for most of the regressors. However, in certain cases, the number of missing observations or unknown responses for some variables was either non-existent or so small (50 or fewer cases) as to not warrant its own “unknown” category. In such cases, the omitted reference category was used to absorb the small number of unknown cases.

VOLUNTEER ACTIVITIES OF EI RECIPIENTS

As indicated in Table 1, slightly over one third (37.8 percent) of EI recipients engaged in some form of *formal group*¹¹ volunteer activity during 1997, averaging slightly under three activities.¹² The most important formal group activity was organizing or supervising events, followed by canvassing, campaigning, or fundraising, and being on a committee or board.

Table 1: Percent of EI Recipients Who Engaged in Various Forms of Formal Unpaid Volunteer Activity, 1997

Type of Activity	Percent Who Engaged in Activity
Formal activity for group	37.8
Organizing or supervising events	15.9
Canvassing, campaigning, or fundraising	14.5
Being a member of board or committee	11.0
Teaching or coaching	7.4
Lobbying, educating, or influencing public opinion	6.7
Collecting, serving, or delivering food	6.2
Driving on behalf of an organization	5.9
Providing care or support, including counselling and visiting	5.8
Engaging in executive, office, or administrative work	5.3
Maintaining, repairing, or building facilities	4.9
Environment of wildlife protection	4.0
First aid, fire fighting, or search and rescue work	3.7
Assisting self-help mutual aid groups	2.5
Providing health care (e.g., through a hospital or seniors home)	1.8
[Average number of formal activities]	[2.84]

Source: Statistics Canada, Survey on Repeat Use of Employment Insurance, 1999.

Table 2 illustrates how participation in volunteer activity varies by the different characteristics of EI recipients. These are *gross* relationships that do not control for the impact of other variables (as is done later in the regression analysis). They generally portray a similar pattern to that which prevails in the regression analysis; hence, our discussion will focus on the subsequent regression results.

While there is considerable variation in the *proportion of persons* (column 1) in each category who engage in formal volunteer activities, there is remarkably little variation across the characteristics of the unemployed in the average *number* of formal volunteer activities (column 2). For example, no group averages less than two activities, most cluster around the average of about three activities, and none averages four or more activities.

¹¹The empirical analysis presented here was also done on *informal* volunteer activities, with the five most common types of informal volunteering (the percentage who engaged in each activity is indicated in parenthesis) being visiting the elderly (33.7 percent), shopping or driving (33.5 percent), yard work or maintenance (28.6 percent), baby-sitting (28.4 percent), and housework (23.2 percent). Since such activities are more often thought of as “helping out” rather than “volunteering,” our analysis will focus on the formal volunteer activities. The patterns that prevailed for the formal activities, however, are generally similar to those that prevailed for the informal volunteer activities.

¹²The survey question pertaining to one of the formal volunteer activities was as follows: “I have some questions about whether you have participated in any unpaid volunteer activities. Some people spend time helping other individuals directly, while others give their time to various groups or organizations. My first question deals with volunteering for groups or organizations. Did you do any canvassing, campaigning, or fundraising as an unpaid volunteer in 1997?”

Table 2: Formal Volunteer Activity of EI Recipients, by Various Characteristics, 1997

Independent Variable	Percent Engaging in Activity (1)	Average Number of Activities (2)
Total for all EI recipients	37.8	2.84
(Age 15–20)	30.2	2.40
Age 21–24	32.5	2.54
Age 25–34	36.6	2.78
Age 35–44	41.7	2.98
Age 45–54	38.9	2.87
Age 55 and over	32.2	2.63
(No spouse or partner)	34.3	2.70
Spouse or partner	39.6	2.89
(Female)	45.0	2.90
Male	33.0	2.78
(Non–North American Indian)	37.9	2.83
North American Indian	40.9	3.22
(Non-immigrant)	39.1	2.87
Immigrant	29.7	2.55
(Less than secondary school)	21.7	2.23
Some secondary	28.6	2.57
Completed secondary	37.8	2.71
Some college or university	40.6	2.80
Completed university	52.4	3.19
(Unskilled, labourer)	31.7	2.58
Semi-skilled manual	31.3	2.74
Semi-skilled clerical/sales	38.5	2.77
Skilled crafts and trade	32.2	2.63
Skilled clerical/sales/service	50.0	3.01
Technician, middle manager, supervisor, or foreperson	46.0	3.06
Semi-professional	61.2	3.30
Professional or managerial	57.8	3.37
(Primary industry)	34.1	2.74
Manufacturing	30.9	2.49
Construction	29.1	2.62
Transport/communication/utilities	33.2	3.04
Trade and finance	37.0	2.70
Community services	56.2	3.18
Business/personal/miscellaneous services	37.7	2.85
Public administration	46.8	2.96
(No health limitation)	38.0	2.83
Health limitation	37.6	2.91
(Non-union main employer)	36.5	2.80
Union main employer	40.5	2.91
Unknown	37.7	2.84

(continued)

Table 2: Formal Volunteer Activity of EI Recipients, by Various Characteristics, 1997 (Cont'd)

Independent Variable	Percent Engaging in Activity (1)	Average Number of Activities (2)
(1 year or less at current residence)	34.8	2.82
2–5 years at current residence	36.4	2.76
6–10 years at current residence	39.6	2.88
11–20 years at current residence	43.2	3.03
20+ years at current residence	38.7	2.73
(Free or other housing)	33.4	2.48
Rent home	32.4	2.80
Own home	41.5	2.89
(Lowest household income group)	35.1	2.90
Lower middle income	36.1	2.80
Middle income	38.6	2.78
Upper middle income	40.4	2.88
Upper income	47.0	3.06
Not stated	30.8	2.54
(Unusually low income in 1997)	39.8	2.85
Same as usual income in 1997	36.4	2.79
Unusually high income in 1997	40.8	2.96
Don't know	28.6	2.39
Number living in household		
(British Columbia)	35.5	2.86
Alberta	39.1	2.63
Saskatchewan	48.1	3.06
Manitoba	42.8	2.73
Ontario	34.2	2.73
Quebec	30.1	2.88
New Brunswick	37.5	2.74
Nova Scotia	42.2	3.04
Prince Edward Island	42.2	2.87
Newfoundland	41.7	2.92
(Rural fringe)	37.6	2.88
Rural	42.0	2.98
Urban outside CMA/CA	38.4	2.93
Urban fringe	37.4	2.64
Urban core	34.8	2.71
(Very satisfied with work hours)	37.8	2.80
Satisfied with work hours	36.3	2.82
Neither	36.1	2.76
Dissatisfied with work hours	42.0	2.90
Very dissatisfied with work hours	43.4	3.03

(continued)

Table 2: Formal Volunteer Activity of EI Recipients, by Various Characteristics, 1997 (Cont'd)

Independent Variable	Percent Engaging in Activity (1)	Average Number of Activities (2)
(Very strong need for work change)	37.9	2.85
Strong need for work change	38.9	2.89
Neither	38.7	2.90
Low need for work change	40.0	2.87
Very low need for work change	38.2	2.80
Unknown	24.6	2.46
(Very little effect on society)	32.0	2.62
Little effect on society	32.4	2.55
Neutral	33.0	2.42
Large effect on society	37.9	2.88
Very large effect on society	43.4	2.97
Unknown	22.0	2.41
Number of years initiated claim 1992–96	n/a	n/a
(Very strong EI embarrassment)	37.7	3.02
Strong EI embarrassment	42.3	2.88
Neutral	38.7	2.80
Weak EI embarrassment	39.4	2.84
Very weak EI embarrassment	38.0	2.85
Unknown	23.5	2.28

Source: Statistics Canada, Survey on Repeat Users of Employment Insurance, 1999.

Because there is little variation in the *number* of such activities, the discussion will focus on the determinants of the probability of participating in formal volunteer activities as given in the regression analysis of Table 3.¹³ As indicated, this pattern is generally fairly close to that which prevailed in the *gross* relationships of Table 2 that do not control for the impact of other variables.

DETERMINANTS OF PROBABILITY OF VOLUNTEERING

Table 3 gives the determinants of the probability of engaging in formal volunteer activities based on regression analysis where the dependent variable is dichotomous — coded “1” if the individual participated in some form of voluntary activity, and “0” if they did not. Formally, such a linear probability function is not the “correct” functional form since predicted values of the probability can be outside of the unit interval even within the sample range of the data. This gives rise to an inconsistency in interpreting this as a probability

¹³A regression on the determinants of the *number* of volunteer activities is available from the authors on request. Because there is so little variation in the number of such activities across the different explanatory variables, the coefficients were often statistically insignificant. When they were significant, the quantitative magnitude of the effect was generally fairly small (consistent with there being very little variation in the number of such activities) and the pattern of effects for the number of activities was very similar to that which prevailed for the probability of participating in formal volunteer activities. Hence, our analysis focuses on the determinants of the probability of engaging in formal volunteer activity as given in Table 3. As indicated, these patterns are also similar to that which prevailed for *informal* “helping out” activities.

function since probabilities can be negative or greater than one. Logistic regression is an alternative functional form that constrains the predicted values to fall within the unit interval. The logit coefficients can be used to calculate the changes in probabilities (marginal effects or derivatives of the probability with respect to an explanatory variable) for different probabilities of the event occurring. In our particular analysis, the linear probability function estimates from conventional regression analysis were very close to the logit changes in probability evaluated at the mean probability. As such, in the text we report and discuss the simpler and more readily understood conventional regression estimates. The logit coefficients and the changes in probabilities calculated from those coefficients are given in an appendix available from the authors on request.

Table 3: Determinants of Probability of EI Recipients Participating in Formal Volunteer Activities (OLS Estimates of Linear Probability Function) [Mean Probability = 0.378]

Variable	Mean (1)	Coefficient (2)	Significance Level (3)
(Age 15–20)			
Age 21–24	0.071	0.011	0.75
Age 25–34	0.287	0.039	0.26
Age 35–44	0.305	0.083	0.02
Age 45–54	0.215	0.072	0.04
Age 55 and over	0.114	0.089	0.02
(No spouse or partner)			
Spouse or partner	0.692	-0.007	0.38
(Female)			
Male	0.591	-0.031	0.00
(Non-North American Indian)			
North American Indian	0.029	0.014	0.44
(Non-immigrant)			
Immigrant	0.121	-0.046	0.00
(Less than secondary school)			
Some secondary	0.244	0.031	0.01
Completed secondary	0.293	0.105	0.00
Some college or university	0.062	0.128	0.00
Completed university	0.275	0.195	0.00
(Unskilled, labourer)			
Semi-skilled manual	0.175	0.016	0.09
Semi-skilled clerical/sales	0.081	0.026	0.05
Skilled crafts and trade	0.141	0.025	0.02
Skilled clerical/sales/service	0.051	0.079	0.00
Technician, middle manager, supervisor, or foreperson	0.079	0.081	0.00
Semi-professional	0.069	0.117	0.00
Professional or managerial	0.048	0.122	0.00

(continued)

Table 3: Determinants of Probability of EI Recipients Participating in Formal Volunteer Activities (OLS Estimates of Linear Probability Function) [Mean Probability = 0.378] (Cont'd)

Variable	Mean (1)	Coefficient (2)	Significance Level (3)
(Primary industry)			
Manufacturing	0.140	-0.024	0.04
Construction	0.180	-0.033	0.00
Transportation/ communication/utilities	0.061	-0.017	0.24
Trade and finance	0.102	-0.009	0.51
Community services	0.169	0.082	0.00
Business/personal/miscellaneous services	0.098	-0.005	0.73
Public administration	0.044	0.065	0.00
(No health limitation)			
Health limitation	0.082	0.017	0.13
(Non-union main employer)			
Union main employer	0.304	0.005	0.49
Unknown	0.106	0.022	0.08
(1 year or less at current residence)			
2–5 years at current residence	0.274	0.009	0.30
6–10 years at current residence	0.161	0.029	0.01
11–20 years at current residence	0.170	0.055	0.00
20+ years at current residence	0.161	0.052	0.00
(Free or other housing)			
Rent home	0.306	0.019	0.16
Own home	0.608	0.050	0.00
(Lowest household income group)			
Lower middle income	0.187	0.019	0.06
Middle income	0.166	0.036	0.00
Upper middle income	0.164	0.035	0.00
Upper income	0.149	0.059	0.00
Not stated	0.160	-0.023	0.04
(Unusually low income in 1997)			
Same as usual income in 1997	0.415	-0.022	0.00
Unusually high income in 1997	0.260	0.005	0.55
Don't know	0.040	-0.032	0.07
Number living in household	3.065	0.029	0.00
(British Columbia)			
Alberta	0.100	0.028	0.04
Saskatchewan	0.067	0.089	0.00
Manitoba	0.076	0.053	0.00
Ontario	0.157	-0.018	0.14
Quebec	0.170	-0.063	0.00
New Brunswick	0.096	-0.011	0.44
Nova Scotia	0.088	0.028	0.06
Prince Edward Island	0.048	0.040	0.03
Newfoundland	0.091	0.025	0.09

(continued)

Table 3: Determinants of Probability of EI Recipients Participating in Formal Volunteer Activities (OLS Estimates of Linear Probability Function) [Mean Probability = 0.378] (Cont'd)

Variable	Mean (1)	Coefficient (2)	Significance Level (3)
(Rural fringe)			
Rural	0.342	0.065	0.00
Urban outside CMA/CA	0.062	0.034	0.04
Urban fringe	0.019	-0.018	0.48
Urban core	0.488	-0.026	0.03
(Very satisfied with work hours)			
Satisfied with work hours	0.274	0.002	0.78
Neither	0.035	0.009	0.63
Dissatisfied with work hours	0.117	0.037	0.00
Very dissatisfied with work hours	0.129	0.051	0.00
(Very strong need for work change)			
Strong need for work change	0.167	0.002	0.88
Neither	0.072	0.008	0.54
Low need for work change	0.233	-0.007	0.51
Very low need for work change	0.319	-0.027	0.01
Unknown	0.025	-0.033	0.18
(Very little effect on society)			
Little effect on society	0.127	-0.000	0.97
Neutral	0.034	0.018	0.35
Large effect on society	0.216	0.023	0.04
Very large effect on society	0.459	0.069	0.00
Unknown	0.035	-0.043	0.04
Number of years initiated claim 1992–96	3.284	-0.003	0.23
(Very strong EI embarrassment)			
Strong EI embarrassment	0.061	0.060	0.00
Neutral	0.083	0.031	0.07
Weak EI embarrassment	0.245	0.034	0.02
Very weak EI embarrassment	0.528	0.038	0.01
Unknown	0.020	0.037	0.22

Demographic Determinants of Volunteer Activity

As indicated in column 2 of Table 3, the probability of EI recipients participating in formal volunteer activity rises fairly steadily with age. In fact, it is highest for recipients aged 55 and over who are nine percentage points more likely to participate in formal volunteer activities than are recipients aged 15 to 20. This is a fairly substantial difference relative to the average probability of volunteering of 38 percent. Volunteering is also very high amongst EI recipients aged 35 to 44 likely because that is an age when they are settled into their communities, they have work-type connections and commitments, and their children are involved in organized activities that engage the parents.

After controlling for the effect of other variables, there is no significant difference between the probability of volunteering for EI recipients with or without a spouse or partner. Male recipients are three percentage points less likely to volunteer than are female recipients. The greater likelihood of females volunteering likely reflects their “caring” function associated with children and family members, and their involvement in unpaid work in general.

There is no significant difference between North American Indian EI recipients and non-North American Indian recipients in their probability of participating in volunteer activities. Immigrant EI recipients, however, are five percentage points less likely to volunteer than are non-immigrant recipients. This is surprising given the importance of networks and social capital for immigrants. It could be that their volunteer activity is more internally directed to their own extended family and immigrant community, or to remittances to their country of origin. Their focus could be on their own assimilation, and their own disadvantaged position may make them more likely to be the recipient rather than the donor of volunteer activity. As well, immigrants may volunteer less because of language barriers, a lack of initial contacts, and insecurity with respect to interacting with their new community.

Human Capital Determinants of Volunteer Activity

The probability of EI recipients participating in volunteer activities rises steadily and strongly with education. Recipients who completed university, for example, are 20 percentage points more likely to volunteer than are persons who have less than secondary school. This is an extremely large effect relative to the average probability of volunteering of 38 percent. A similarly strong relationship exists for those in higher occupation levels. Again, this does not support the economic hypothesis that persons with a high opportunity cost of time (e.g., the educated and persons in higher occupations) would volunteer less of their time. The effect of a high opportunity cost of time may be present, but it is offset by something else in the education process and in the process of acquiring occupational skills. At this stage it is possible only to speculate on what those factors may be. Possible candidates include social consciousness acquired through education, a desire to share one’s good fortune, greater productivity in volunteer activity, or perhaps the desire and ability to be intensely involved in all activities — education, occupational upgrading, and volunteering. There is an adage that if you want something done, go to a busy person. It may be that some persons are simply “busy” at everything including volunteer activity.

The most likely explanation, however, is based on the link between social capital and human capital formation. If one thinks of voluntary activity as a complement to educational attainment (e.g., the knowledge gained in a hands-on way and the social relationships acquired through volunteerism both benefit individual educational attainment), then it is natural to find a strong positive relationship between educational attainment and volunteering. In a similar fashion, educated persons are more likely to perceive the link between volunteering and social capital formation, and thus participate more actively than their less-educated counterparts.

Fixed Effects and Health Limitations

The possibility that there is a “fixed effect” whereby some persons are simply prone to volunteer is borne out by the fact that EI recipients who had worked in community service and public service are much more likely to volunteer than are persons in other occupations. Some persons are more community-oriented or civic-spirited and this is likely to affect their desire to work in community or public service jobs as well as to volunteer.

EI recipients with health limitations are not significantly less likely to volunteer. This may reflect the net effect of opposing forces. Persons with health limitations may find it more difficult to volunteer, but they may also see the greater need for volunteer activity. There is no significant difference between the probability of volunteering of non-union members and of union members.

The Effects of Social Capital on Volunteering

There is a positive relationship between the probability of volunteering and the years that EI recipients have lived at their current residence. Recipients who have lived at their current residence for a long time have a stronger identification with and stake in their community. Social capital networks have likely been built up with volunteering being part of that social capital. *Quid pro quos* are more likely when there is a degree of permanence to facilitate reciprocal action. Externalities generated by volunteering are more likely to be internalized when a sense of community has developed. People are simply more likely to care about others in their community, just as they are more likely to care about family members. Information is both more expansive and accurate if one has lived in one locality for a long period of time. This leads to a greater level of effectiveness in any voluntary activity undertaken, which feeds back to individuals and increases their likelihood of participating. The more years spent in a community, the closer is the connection between individual voluntary activity and improved outcomes. In other words, from an instrumental perspective, it makes more sense to volunteer in areas where your knowledge of the locality is great, because it becomes a more effective activity than it would in an unknown environment. EI recipients who have lived in the same environment for a considerable amount of time, are better able to target their investments in voluntary time effectively, as opposed to someone who has just moved to a new residence and has fewer social connections and less institutional knowledge.

EI recipients who own their own home are also more prone to volunteer, likely also reflecting their greater stake in their community as well as greater wealth. The positive effect of wealth is further indicated by the higher probability of volunteering that is generally associated with each higher category of household income. Since this is a measure of household income, in addition to reflecting non-labour income, it can reflect wages and hours of work of the volunteer that is not controlled for by the included variables such as education and occupation.

The Effect of Income on Volunteer Activity

Temporary fluctuations in income do not seem to have a substantial effect on volunteering amongst EI recipients. This is counter to the economic hypothesis that people will volunteer more when their opportunity cost of volunteering is low — that is, when they are experiencing unusually low income in that year and, hence, would not be forgoing much

income by volunteering. Such temporary fluctuations in their income should not substantially alter their wealth (and hence have little wealth effect) since they are temporary, but they should alter their opportunity cost of time and induce a substitution into time-intensive activities like volunteering. Yet this does not seem to occur.

Household Determinants of Volunteer Activity

The number of persons living in the household has a statistically significant and quantitatively substantial effect on the probability of volunteering amongst EI recipients. Each additional household member is associated with a three percentage points greater probability of volunteering on the part of the EI recipient. An EI recipient from a household of four persons, therefore, would be nine percentage points more likely to volunteer than would an EI recipient who lived alone, other things equal. This suggests that volunteer activity is complementary to family activity. Since there is a very high correlation (correlation coefficient of 0.75) with the number of persons in a household and the number of children under the age of 18, the volunteer activity is likely associated with activities related to children.¹⁴ In addition, it may be that larger families are sources of valuable information regarding “where” and “how” to volunteer. Once again, this channel can be thought of as a subset of the social capital argument, with larger households (all else equal) having more cohesive social relationships which lead to better information flows.

Regional Determinants of Volunteer Activity

There is considerable regional variation in the probability of volunteering even after controlling for the effect of other variables included in the regression. Specifically, the probability of an EI recipient engaging in formal volunteer activity is highest in Saskatchewan and Manitoba and in the Maritime provinces, and it is lowest in Quebec. The differences are fairly substantial. For example, persons in Saskatchewan are 15.2 percentage points (i.e., .089-(-.063)) more likely to participate in volunteer activities compared with persons in Quebec. Reasons for these provincial differences are not obvious once one controls for the impact of other factors in the regression. The differences do suggest, however, that there are subtle factors that can affect the decision to volunteer. For example, Saskatchewan may have a co-operative tradition that spills over to volunteer activity, while Quebec may have more of a tradition of relying on state regulation to deal with the functions that are often carried out through volunteer work.¹⁵

EI recipients in rural areas have the highest probability of participating in volunteer activities, with that probability dropping with each successive higher category of urban size. While the image of a community barn raising in rural areas may now be more of an image than a reality, the fact is that volunteer activity is more prominent in rural (and hence smaller)

¹⁴This is highlighted by the fact that when a “number of children” variable is added to the regression, the “number of persons in the household” variable becomes an insignificant 0.004 and the “number of children” variable has a significant coefficient of 0.042. That is, the number of persons in the household largely reflects the number of children and the volunteer activity associated with them.

¹⁵See, for example, Vaillancourt, 1994. Some of the low volunteer activity in Quebec may reflect the influence of Catholicism that is not controlled for in this analysis. Wooley (1999) reviews the literature and provides an extensive discussion of why predominantly Protestant societies have so much more volunteer activity. Reasons include the following: they are founded as volunteer associations; they tend to be local and non-hierarchical; and they rely on social norms.

communities. People in such communities are more likely to identify with their neighbours, with reciprocal *quid pro quo*s being more likely to occur. Co-operation may be more important as a form of insurance and have more “survival value” in such communities, and volunteer activities may be more easily recognized by others in the community. Reputation effects are also more strongly enforced in smaller communities, again leading to greater investments in voluntary activity within rural areas.

The Effects of Attitudes on Volunteer Activity

EI recipients who feel that they could have a very large effect on society are seven percentage points more likely to volunteer compared with recipients who feel that they are likely to have very little effect on society. Such persons who feel that they can have a large effect on society may feel that their volunteer activity is likely to have an effect on those who receive the volunteer activity.

EI recipients who are dissatisfied with their work hours when they are working, and who generally would want to work longer hours, are also more likely to volunteer. Specifically, persons who are very dissatisfied with their work hours are about four percentage points more likely to volunteer than are persons who are very satisfied with their hours. Presumably, volunteer activity is a viable way for the underemployed to fill a void caused by an unfilled desire to work more and, in this sense, demonstrating the involuntary nature of unemployment for this group.

Dissatisfaction with work in general can induce voluntary activity. For example, EI recipients who had a very low need for work change had the lowest probability of participating in volunteer activity. The effect is not large, however, with that group having only about a three percentage points lower probability of participating in volunteer activity than most other groups. Presumably, volunteer activity provides an avenue for achieving greater satisfaction with work in general, albeit the effect is not large.

The Effect of EI on Volunteer Activity

There is no significant relationship between the number of years that an EI claim was initiated in the five years prior to 1997 and the probability of engaging in volunteer activity. That is, repeat users were neither more likely nor less likely to volunteer than were non-repeat users of EI.

The probability of volunteering is *lowest* amongst EI recipients who are *very* strongly embarrassed about collecting EI, but it is *highest* amongst those who are strongly embarrassed. In essence, being strongly embarrassed seems to induce volunteering, but being *very* strongly embarrassed has the opposite effect. A bit of guilt seems to spur action, but too much can be paralyzing. It is also possible that the largest coefficient in the strongly embarrassed category is simply an anomaly (only six percent of the observations are in that category). If this is the case, the generalization that would emerge is that unemployed persons who are not very embarrassed about collecting EI are more likely to volunteer, albeit the effect is not large (i.e., they have about a three to four percent greater probability of volunteering compared with persons who were very strongly embarrassed about collecting EI).

“Unknown” Categories and Volunteer Activity

EI recipients who responded that they did not know or that did not state an answer to any of the survey questions asked of them generally had lower probabilities of participating in volunteer activity. It is difficult to interpret this relationship (it was included mainly as a control regressor). One possible explanation is that it is a proxy for being uninformed, and such persons are not likely to volunteer, just as was the case with persons who had lower education or lower skills hierarchies. It could also be that such persons who did not care enough to bother to respond to the question (an unpaid volunteer activity!) do not care enough to volunteer for unpaid work in general.

Employment Experience

Additional regressions¹⁶ were also run with various measures to capture the employment experience of EI recipients. Variables were included to reflect whether, at the time of the survey in 1997, the EI recipient was unemployed only part of the year, employed as a paid worker all of the year, or self-employed, with the omitted reference category being unemployed all of the year. Relative to those who were unemployed all of the year, there was no significant difference in the probability of volunteering for those who were unemployed only part of the year, or for those who were employed all of the year. The self-employed, however, were a statistically significant 7.3 percentage points more likely to volunteer. This likely reflects a combination of initiative (doing both self-employment and volunteering) as well as the importance of social capital formation for the self-employed entrepreneur. When these additional variables were included, the coefficients on the other variables as previously discussed were invariably very similar (i.e., the relationships as previously discussed were the same).

Similarly, variables were added to capture whether the EI recipient was a seasonal employee when they were working in 1997. The effect of these variables on the probability of volunteering was statistically insignificant. Only the self-employed had a significantly greater probability of volunteering. Again, the coefficients on the other variables as previously discussed remained very similar when the seasonal variable was added.

SUMMARY AND DISCUSSION

- For EI recipients, the patterns that prevail for the *probability* of participating in volunteer activities also generally prevail for the *number* of such activities, although the relationship to the number of activities tends to be more muted. In essence, there is much more variation in the probability that EI recipients will volunteer than there is in the number of activities they will undertake if they do volunteer.
- The patterns that prevail in the *gross* relationships when the proportion of EI recipients are tabulated by their various characteristics, generally prevail in the *net* relationships of the regression analysis that gives the independent effect of the various characteristics of EI recipients after controlling for the effect of other variables included in the regression analysis.

¹⁶The results are available from the authors on request. Coefficients on the other variables remained similar as in the reported regressions.

- Other things equal, the probability of EI recipients engaging in formal volunteer activities is higher for older recipients than for younger recipients, and for female recipients compared with male recipients. The latter differences, however, are not as great as one may expect given the more extensive involvement of females in unpaid work in the household and within the family.
- The probability of volunteering is similar for EI recipients with a spouse or partner compared with recipients without a spouse or partner, and for North American Indian recipients compared with non-North American Indian recipients.
- Immigrant recipients are surprisingly less likely to participate in volunteer activities than are non-immigrant recipients. This may reflect a concentration on their own issues of assimilation, family issues, or remittances to their country of origin. Immigrants may also be recipients of voluntary activity rather than suppliers. In addition, language barriers and lack of institutional knowledge may impede volunteer activity amongst immigrants, despite the obvious instrumental benefits for immigrants in terms of increased social connections with mainstream society.
- Education and occupational skill level are positively and strongly associated with volunteer activity on the part of EI recipients. This may reflect a social consciousness acquired through education, a desire to share one's good fortune, greater productivity in volunteer activity, greater network and visibility benefits from volunteering, or perhaps the desire and ability to be intensely involved in all activities — education, occupational upgrading, and volunteering.
- EI recipients who had worked in community service and public service jobs are much more likely to volunteer than are recipients from other occupations, suggesting that some persons are simply more community-oriented or civic-spirited. This is likely to affect their desire to work in community or public service jobs as well as to volunteer.
- EI recipients with health limitations are not significantly less likely to volunteer. Recipients with health limitations may find it more difficult to volunteer, but they may also see the greater need for volunteer activity.
- There is no significant difference between the probability of volunteering between non-union and union EI recipients.
- There is a positive relationship between the probability of volunteering and the years that the EI recipient has lived at their current residence. Such individuals have a stronger identification with, and a greater stake in, their community. Social capital networks have likely been built up with volunteering being part of that social capital.
- EI recipients who own their own home or are wealthier are also more likely to volunteer, likely reflecting their greater stake in their community as well as the ability to afford to volunteer.
- Temporary fluctuations in income do not seem to have a substantial effect on volunteering amongst EI recipients. This is counter to the economic hypothesis that people will volunteer more when their opportunity cost of volunteering is low — that is, when they are experiencing unusually low income in that year and, hence, would not be forgoing much income by volunteering. Such temporary fluctuations in their income should not substantially alter their wealth (and hence have little wealth effect)

since they are temporary fluctuations, but they should alter their opportunity cost of time and induce a substitution into time-intensive activities like volunteering. Yet this does not seem to occur. This paradoxical observation may be an indication that voluntary activity is viewed as more of a consumption good for individuals (e.g., something from which they derive psychological benefits), rather than an investment good (e.g., something that they expect will have a future return or payoff). Temporary shocks in income should have no effect on the consumption of charitable activity. Indeed, the permanent-income hypothesis would predict that only permanent shifts in income should alter consumption patterns.

- EI recipients are more likely to volunteer if they have a large number of individuals living in their own household (a proxy for number of children), suggesting that volunteer activity is complementary to family activity.
- Volunteer activity amongst EI recipients is highest in Saskatchewan, Manitoba, and the Maritime provinces, and lowest in Quebec. These differences suggest that there are subtle/latent factors that can affect the decision to volunteer. For example, Saskatchewan and the Maritimes may have a co-operative tradition that spills over to volunteer activity, while Quebec may have more of a tradition of relying on state regulation to deal with the functions that are often carried out through volunteer work.
- Volunteer activity amongst EI recipients is highest in rural (e.g., less populated) areas possibly reflecting a more co-operative tradition, a lack of more formal institutional supports, greater reputation effects, and the greater effectiveness of volunteering within smaller communities.
- Volunteer activity is highest among EI recipients who feel that they could have a very large effect on society, highlighting that they may volunteer because they feel it will have a positive effect on those who receive their volunteer time.
- EI recipients who are dissatisfied with their work hours and who would generally want to work longer hours are more likely to volunteer, presumably to fill a void caused by an unfilled desire to work more. Dissatisfaction with work in general can also induce voluntary activity, but the effect is not large.
- Repeat use of EI does not affect volunteer activity amongst EI recipients. However, EI recipients who are not embarrassed about collecting EI are generally more likely to volunteer, although the relationship is not large or uniform.
- EI recipients who responded that they did not know or did not state an answer to the particular survey question asked of them generally had lower probabilities of participating in volunteer activity. Their unwillingness or inability to offer an answer seems to carry over to volunteer activity in general.
- There was no significant difference in the probability of volunteering amongst those who were unemployed all year, part of the year, or who were employed all year. The same was the case for EI recipients who were seasonal workers and those who were not seasonal workers in the period when they were employed. Only the self-employed had a significantly greater probability of volunteering.

The relationships summarized above provide some support for an “economic model” of volunteering. Volunteer activity amongst EI recipients tended to increase with wealth, and the underemployed who value additional work tended to volunteer more, suggesting that unemployment is an “involuntary” phenomenon. Younger EI recipients tended to volunteer less in formal activities possibly due to lack of credentials and other barriers to entry for such participation. Volunteer activity amongst EI recipients tended to be greatest in rural regions, where it has “survival value” and where alternative forms of paid institutional support may not be available. EI recipients who had a greater stake in their community (homeowners and long-time residents) were also more likely to volunteer.

While there is some support for an economic model, other economic hypotheses were often contradicted by the data. Specifically, EI recipients with a high opportunity cost of time (educated and higher status occupation groups) tended to volunteer substantially more of their potentially “expensive” time. As well, EI recipients with unusually low income in a given year were not more likely to volunteer in spite of the fact that the opportunity cost of volunteering should have been low at that time.

The analysis strongly suggests that there are less tangible factors, peculiar to specific individuals, that strongly influence volunteer activity. Some individuals are simply more likely to be community-spirited and civic-minded, and this affects their choice of job as well as volunteer activity. EI recipients who feel they can have an effect on society are also more likely to volunteer.

The analysis has raised a number of questions, sometimes with speculative answers suggested. Why should there be more variation in the probability of volunteering than in the number of volunteer activities taken? If a variable induces a person to volunteer why does it have a much smaller effect on the number of volunteer activities they undertake? Why are immigrants much less likely to volunteer given the importance of networks and social capital in their lives? Why is there such a strong positive relationship between education and occupational skill levels and volunteering given the high opportunity cost of time for such persons? Why are union members not more likely to volunteer given their emphasis on collective action and their identification with social causes? Possible answers were sometimes provided, but more research is necessary to uncover the answers.

The analysis suggests that, among EI recipients, repeat use of EI does not affect volunteer activity. The patterns of repeat users, as with non-repeat users, are affected by economic factors as well as by factors that are more innate to them as individuals such as civic-spiritedness and a sense of community.

From a policy perspective, the analysis does suggest that more consideration could be given to voluntary activity, like job search or training, as a viable activity for the unemployed. More would have to be known, however, about its viability as part of networking, confidence building, skill development, or résumé building for the unemployed. This analysis suggests that volunteer activity merits more consideration in that regard, especially given its potential benefits to both donors and recipients.

References

- Andreoni, J. 1990. "Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving." *Economic Journal* 100: 464–477.
- Ben-Porath, Y. 1980. "The F-Connection: Families, Friends and Firms, and the Organization of Exchange." *Population Development Review* 6: 1–30.
- Brown, E. 1987. "Tax Incentives and Charitable Giving: Evidence from New Survey Data." *Public Finance Quarterly* 15: 386–396.
- Brown, E., and H. Lankford. 1992. "Gifts of Money and Gifts of Time: Estimating the Effects of Tax Prices and Available Time." *Journal of Public Economics* 47: 321–41.
- Browne, P. L. 1996. *Love in a Cold World? The Voluntary Sector in an Age of Cuts*. Ottawa: Canadian Centre for Policy Alternatives.
- Cheal, D. 1988. *The Gift Economy*. London: Routledge.
- Clotfelter, C. 1985. *Federal Tax Policy and Charitable Giving*. University of Chicago Press.
- Day, K., and R.A. Devlin. 1996. "Volunteerism and Crowding Out: Canadian Econometric Evidence." *Canadian Journal of Economics* 29: 37–53.
- . 1998. "The Payoff to Work Without Pay: Volunteer Work as an Investment in Human Capital." *Canadian Journal of Economics* 31: 1179–91.
- Dye, R. 1980. "Contributions of Volunteer Time: Some Evidence of Income Tax Effects." *National Tax Journal* 33: 89–93.
- Freeman, R. 1996. "Working for Nothing: The Supply of Volunteer Labor." *Journal of Labor Economics* 15: S140–S166.
- Kingma, R. 1989. "An Accurate Measure of the Crowd-Out Effect, Income Effect, and Price Effect for Charitable Contributions." *Journal of Political Economy* 97: 1197–1207.
- Long, S. 1977. "Income Tax Effects on Donor Choice of Money and Time Contributions." *National Tax Journal* 30,2: 207–211.
- Menchik, P., and B. Weisbrod. 1981. "Volunteer Labor Supply in the Provision of Public Goods." In *Nonprofit Firms in a Three Sector Economy*. Edited by M. White. Washington, D.C.: Urban Institute.
- . 1987. "Volunteer Labor Supply." *Journal of Public Economics* 32: 159–183.
- OECD. 1997. *Social Cohesion and the Globalising Economy*. Paris: Organization for Economic Co-Operation and Development.
- Putnam, R. 1995. "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America." *Political Science and Politics* 28 (December): 664–83.
- Reece, W. 1979. "Charitable Contributions: New Evidence on Household Behavior." *American Economic Review* 69: 142–151.
- Roberts, R. 1984. "A Positive Model of Private Charity and Public Transfers." *Journal of Political Economy* 92: 136–148.

- Rose-Ackerman, S. 1996. "Altruism, Nonprofits and Economic Theory." *Journal of Economic Literature* 34: 701–28.
- Statistics Canada. 1999. *Survey on Repeat Use of Employment Insurance: Data Sharing File Microdata Documentation*, May 1999.
- Sugden, R. 1984. "Reciprocity: The Supply of Public Goods Through Voluntary Contributions." *Economic Journal* 94: 772–87.
- Titmus, R. 1971. *The Gift Relationship*. London: George Allyn and Unwin.
- Vaillancourt, F. 1994. "To Volunteer or Not: Canada, 1987." *Canadian Journal of Economics* 27: 813–825.
- Weisbrod, B. 1975. "Toward a Theory of the Voluntary Nonprofit Sector in a Three Sector Economy." In *Altruism, Morality and Economic Theory*. Edited by E. Phelps. New York: Russell Sage Foundation.
- Woolley, F. 1999. "Social Cohesion and Voluntary Activity: Making Connections." Ottawa: Carleton University, Department of Economics, working paper.

