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**Employment Insurance and Geographic Mobility:
Evidence From the SLID**

The Earnings Supplement Project

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Recent census data indicate that more than one million individuals moved during the period from July 1, 2000 to June 30, 2001 in Canada. Of all individuals who moved, the vast majority (73 per cent) relocated within their own province, 22 per cent moved from one province to another, while the rest moved into or out of the country. Statistics Canada reports that 50 per cent of young adults aged 15 to 29 changed residence between 1996 and 2001, and 5 per cent moved to a different province or territory. Young adults often moved to enrol in college or university, join the job market, or get married. However, migration rates decline after young adulthood as older people develop tighter family ties and social networks. The fact that Canada's population is ageing is, according to Statistics Canada, one of the key reasons why we have seen a decline in overall migration rates over the past 20 years.

In deciding whether to move, individuals of all ages will weigh the benefits and costs from moving, for themselves and their family. They will consider such factors as expected employment opportunities and earnings, differences in the cost of living and quality of life, as well as financial and psychological costs of moving to another region. The accessibility to government services and financial assistance may also play an important role in migration decisions. For instance, access to Employment Insurance (EI) benefits may influence individuals' choice of residence, especially since the EI program is designed to respond to fluctuations in job opportunities for the unemployed across the country by having lower eligibility requirements and providing more generous benefits in regions of high unemployment. Some may argue that this feature of the EI program allows the unemployed to search exhaustively for a new job. Therefore, it makes a costly search away from one's home more feasible and may facilitate relocation to a new community where employment prospects are better. An alternative, and perhaps more prevalent, view is that the relative generosity of the EI program reduces the incidence of people moving out of regions of high unemployment to other areas where employment possibilities are better. Given the high and persistent unemployment rates in many areas of Canada, the notion that EI receipt acts as a disincentive to migrate and creates patterns of dependency on social programs has been the subject of considerable debate.

In this working paper, authors Rick Audas and Ted McDonald provide an original and rigorous contribution to this debate. Using longitudinal data from the Survey of Labour and Income Dynamics (SLID) that cover the period from 1993 to 1999, they show that the relationship between EI and migration is complex and critically depends on individuals' degree of attachment to the labour market. While they find no strong evidence of a

relationship between EI and geographic mobility, they find some evidence that the receipt of EI benefits inhibits migration among individuals who are moderately attached to the labour market, that is those who work between 20 to 49 weeks (full time or part time) during the year. However, their results suggest that the EI program does not have a significant effect on mobility decisions for individuals with a strong attachment to the labour market, which is not surprising since these individuals are relatively unlikely to rely on EI. They also find some evidence to support the hypothesis that tighter rules for EI eligibility may give people who are only marginally attached to the labour market a stronger incentive to leave areas of high unemployment in order to improve their employment prospects.

Audas and McDonald's analysis is an important contribution to the existing literature on the impact of EI on geographic mobility because it extends it in many significant ways. First, the authors broaden the concept of mobility to include all movements between "economic regions," a concept defined by Statistics Canada to reflect the notion of a local labour market. This concept is certainly the most relevant to the evaluation of the extent to which EI benefits inhibit the migration of individuals out of local labour markets characterized by high unemployment. What is more, by going beyond the analysis of movements between provinces to include mobility within provincial boundaries, they are able to capture the most important aspects of geographic mobility in Canada, one that has been unexamined by most Canadian studies. Although migration remains a relatively rare phenomenon at both the interprovincial and intraprovincial levels, they find that mobility within provinces is about 2.5 times more likely than interprovincial mobility.

Their analysis also improves on previous research by explicitly taking into account the fact that the EI program may affect not only the mobility of individuals actually receiving benefits but may also have an impact on individuals not currently receiving benefits, but who might expect to do so in the future. To this end, they allow the relationship between geographic mobility and parameters of the EI program to vary according to individuals' labour force status. In addition, the authors discuss extensively the various empirical challenges inherent to their analysis. Since both EI receipt and migration decisions may reflect personal characteristics that are unobservable (e.g. personal motivation), and since regional variations in eligibility and entitlement to EI are directly related to variations in the local unemployment rate, which is also likely to impact directly on a person's decision to move or not, the finding of a statistically significant relationship between mobility and EI may not reflect the true effects of EI on migration decisions. In other words, the decision to move may be simultaneously and jointly determined with the receipt of EI benefits. Audas and McDonald's approaches to address these difficulties are innovative and compelling: they use sophisticated econometric techniques and account for a variety of potentially determining factors that allow them to identify with a great deal of confidence the impact of the receipt of (or eligibility to) EI benefits on migration decisions.

This paper is part of the Earnings Supplement Project's ongoing research initiatives, which focus on providing empirical and analytical evaluations of key issues essential to formulating policy responses to the needs of workers who face barriers to secure, year-round employment and who must rely on EI benefits. The Earnings Supplement Project was originally implemented in 1995 as a demonstration project to test the use of a financial incentive as a way of hastening re-employment. It has now developed into a broader program of research that seeks to provide answers to three main questions: Who are the workers who

do not have secure, year-round employment and depend on EI benefits? What barriers to standard employment do they face? What can be done to better address their needs? This study by Rick Audas and Ted McDonald is the second paper to be published in this series of working papers that provides new evidence on work and EI use patterns.

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Abstract

A major component of the social safety net that protects Canadians is the Employment Insurance (EI) program, a federal program that provides temporary income support for workers who are displaced from their jobs. An important characteristic of the EI program is that its eligibility rules and benefit generosity reflect both the recent employment history of claimants and the local conditions of the labour market. Specifically the higher the local unemployment rate in the individual's region of residence, the easier it is to qualify for EI and the more generous are the benefits paid. This feature of the program raises the possibility that EI may affect an individual's decision about whether to move. On the one hand, the relative generosity of the EI program in areas of high unemployment might reduce out-migration from these regions to those with better employment possibilities. Alternatively, more generous EI benefits in an individual's region of residence might make it more affordable for that person to relocate to a new community where employment prospects are better.

This paper presents a comprehensive analysis of the relationship between the EI program and geographic mobility. Using consecutive waves of the Survey of Labour and Income Dynamics (SLID) for the period from 1993 to 1999, this paper provides estimates of the determinants of geographic mobility. The concept of geographic mobility is expanded to include both interprovincial and intraprovincial mobility and allow for an individual's actual receipt of EI as well as potential (or future) receipt of EI to impact on mobility decisions.

The overarching conclusion of this paper is that the relationship between EI and migration is complex and critically depends on the individual's degree of attachment to labour market. While no strong evidence of a direct relationship between EI program parameters and geographic mobility is found, there is some evidence of an indirect relationship for certain workers. For people who worked between 20 and 49 weeks during the year prior to the period of a potential move, the results suggest that actual EI receipt inhibits geographic mobility, although there was no effect for people who worked more than 49 weeks or fewer than 20 weeks. This paper finds that people who worked less than 20 weeks during the previous year were more likely to move out of a region when the local unemployment rate was high, but this seems to be true only for the 1997 to 1999 period.

Introduction

An important characteristic of the Canadian Employment Insurance (EI) program is that its eligibility rules and benefit generosity reflect both the recent employment history of claimants and the conditions of their local labour market. Specifically, the higher the local unemployment rate is in the individual's region of residence, the easier it is to qualify for EI and the more generous are the benefits paid. In order to be eligible for regular EI benefits, claimants must have worked a minimum number of hours in the year that precedes the date they became unemployed, and this minimum number of hours depends on the unemployment rate in the individual's region of residence. The minimum requirement ranges from 420 hours in regions with the highest unemployment rates to 700 hours in regions where the labour market conditions are good and unemployment rates are low. Moreover, the minimum number of weeks of entitlement ranges from 14 weeks in regions where unemployment is low to 32 weeks in regions with the highest unemployment rates, and the maximum number of weeks of entitlement ranges from 36 to 45 weeks.

While the program is national in scope, the fact that the unemployment rate varies from region to region means that specific program eligibility and generosity parameters also vary across the country. One question that arises is whether the relative generosity of the EI program in areas of high unemployment forestalls the market forces that might lead to out-migration from such regions to areas with better employment possibilities. Given the high and persistent unemployment rates in many areas of Canada, the notion that EI receipt may inhibit geographic mobility and create welfare traps has been the subject of considerable debate among public policy analysts. On the other hand, it can be argued that income support via EI allows unemployed workers to search exhaustively in their local labour market before financial necessity forces geographic or occupational mobility, or both.

There are also plausible theoretical grounds to expect a positive relationship between access to EI benefits and geographic mobility. One of the aims of any unemployment benefit scheme is to provide recently laid-off workers with the financial means to support the search for a new job. Since EI eligibility is not asset-means tested, and since the level of income support through EI tends to be relatively generous vis-à-vis social assistance or welfare benefits, EI benefits may make search outside an individual's home costly and (if necessary) relocation to a new community more feasible. In other words, those in receipt of EI should have fewer liquidity constraints than individuals experiencing unemployment and not receiving benefits.

Empirical evidence on the links between EI and geographic mobility is mixed. Results from the Survey on the Repeat Use of Employment Insurance (SRUEI) suggest that frequent EI claimants — defined as those who have received regular benefits in three or more years within the 1992 to 1996 period — have a stronger attachment to home and community than do occasional EI claimants. According to this survey, two thirds of EI frequent claimants have resided within 150 kilometres of their current home for 21 years or more compared with half of occasional claimants.¹

¹The socio-economic and demographic profile of occasional and frequent EI claimants is treated in detail in Schwartz, Bancroft, Gyarmati, & Nicholson (2001).

Day and Winer (1994) review the early research on the determinants of geographic mobility in Canada and conclude that, with respect to EI, there is no consensus about either the statistical significance or the magnitude of effect of the EI program on mobility. The main focus of most of this work is on the determinants of interprovincial mobility, typically analyzing aggregate data on number of movers at the provincial level. More recent work has modelled the determinants of an individual's decision to migrate using data based on individual survey responses. For instance, Osberg, Gordon, and Lin (1994) analyze survey data from Statistics Canada's Labour Market Activity Survey (LMAS) for the years 1986 and 1987 and find that the receipt of transfer payments, including EI benefits, does not affect an individual's decision to change region of residence.² Similarly, Lin (1995) uses data from the LMAS over the period from 1989 to 1991 and finds that neither receipt of EI benefits, social assistance, nor individual participation in a training program has any significant effect on interprovincial mobility.

More recently, Finnie (2000) analyzes a large dataset drawn from the Longitudinal Administrative Database (LAD) over the period from 1982 to 1995 to study the determinants of interprovincial mobility. Finnie finds that the receipt of EI benefits actually has a positive and significant effect on interprovincial mobility for all individuals except males aged 20 to 24 years. The magnitude of the increase based on simulations is non-trivial — in the order of a 7 per cent to 16 per cent increase in the probability of changing provinces if the individual received EI in the year prior to the period of potential mobility. In contrast, Day and Winer (2001) conduct an extensive simulation analysis using aggregate mobility flows data constructed from linked personal income tax records for the period 1974 to 1996 and find that the effect of eliminating regional differences in parameters of the EI program (specifically, qualifying weeks and benefit levels of EI) has a uniformly small effect on the volume of interprovincial movements.³

In summary, at this time there is no clear empirical evidence regarding the impact of EI on geographic mobility. Some empirical studies have concluded that the receipt of transfer payments is not associated with lower mobility, even though workers will indeed evaluate the alternative economic rewards available to them whether they remain where they are, move to a different industry in the same region, or migrate to a new region of residence. Other studies have shown that individuals who were involuntarily unemployed were less likely to move if they received EI benefits because they would use the assistance to finance their wait for recall, while those who were voluntarily unemployed and received EI benefits were more likely to move because they would use the assistance to finance the search for a new job.

This study seeks to fill a gap by providing a deeper understanding of the relationship between EI receipt and migration decisions. The primary objective of this paper is to extend the current literature on the relationship between geographic mobility and receipt of EI in two ways. First, using consecutive waves of the Survey of Labour and Income Dynamics (SLID) for 1993 to 1999, it seeks to expand the concept of geographic mobility from the level of

²In their paper, geographic mobility is defined across aggregated province groups — Atlantic, Quebec, Ontario, the Prairies, and British Columbia — because of small sample size.

³In fact, they report that the simultaneous elimination of regional variation in all the policy variables included in the analysis (EI, personal income taxes, social assistance, and provincial and federal spending on goods and services) would raise the volume of migration by between 0.5 per cent and 5 per cent depending on the specification (Day & Winer, 2001, p. 30). Instead, moving costs are found to be by far the single most important determinant of the volume of migration.

interprovincial mobility that is prevalent in the literature to include intraprovincial mobility.⁴ It is well known that economic conditions can differ significantly across regions within a province — in particular between rural and urban areas. Since a significant part of any migration phenomenon might be movements within provinces, restricting the analysis to interprovincial mobility may lead to an incomplete picture of geographic mobility and its determinants.

Second, this analysis improves on previous research by explicitly allowing for both EI program parameters and an individual's actual receipt of EI to affect the mobility decision. It should be emphasized that the EI system may affect not only the mobility of individuals actually receiving EI, but may also affect the mobility of individuals who do not currently receive EI but who might expect to do so in the future. To this end, this paper investigates how the interaction of the EI system with individuals' labour market attachment may affect their mobility decisions.

⁴Of all of the papers reviewed in Day & Winer (1994), only Islam (1989) examines intraprovincial mobility. A number of recent papers have examined the issue of rural-urban mobility in a more descriptive way. See for instance Dupuy, Mayer, & Morissette (2000), Tremblay (2001), and Rothwell, Bollman, Tremblay, & Marshall (2002).

Modelling the Decision to Move

In deciding whether to move to a different region, city, or province, an individual typically considers a wide range of demographic, social, and economic factors that can be summarized by the answer to the question: “Will I be better off moving to another location than staying where I am?” The net benefits from moving will reflect expected changes in wage levels and employment opportunities; differences in the cost of living, amenities (e.g. climate, crowding, and safety); and differences in government services, transfers, and taxes. Migrating will likely involve trade-offs as, for example, not only the costs of living, but also expected earnings may be higher in the new location. At the same time, individuals will incur both financial and psychological costs when moving to another region, and these costs are likely to increase with the distance moved. The difficulty for the researcher in assessing the importance of these factors is that many of them are unobservable, yet failing to account for them can lead to an incorrect assessment of the true determinants of geographic mobility.

Another key difficulty in determining the effects of the Employment Insurance (EI) program on geographic mobility arises from the fact that regional variations in eligibility and entitlement to EI are directly related to variations in the local unemployment rate, which is also likely to impact directly on a person’s decision to move or not. Regions with high local unemployment offer fewer alternative job opportunities and possibly less secure job tenure, making out-migration more likely. In other words, the decision to move may be determined jointly with the receipt of (or eligibility to) EI benefits. It is thus problematic to identify empirically the impact of EI receipt on the geographic mobility decisions since variations in the program generosity and eligibility across regions are insufficient to identify the true relationship between the EI program and geographic mobility. (The approach used to address this endogeneity issue is discussed in more detail below.⁵)

The empirical model used in this paper assumes that the various factors affecting the decision to move to another region fall into five broad categories: those affecting the expected income gains from moving, those affecting monetary and psychological costs of moving, those related to the individual’s experience with EI and social assistance (SA) programs, those related to the individual’s degree of labour attachment, and a set of individuals’ human capital characteristics.

CHANGES IN EXPECTED INCOME

The first principal determinant of mobility is the expected income gain from moving. Other things being equal, the greater the expected wage in a particular region, the greater the financial gains from moving to that region. Expected wages vary according to the individual’s skill level (as reflected by education and experience on the job market), but the return to skills may also vary from region to region since some individuals may have a very

⁵Osberg, Gordon, and Lin (1994) identify another potential endogeneity issue related to the fact that geographic and occupational mobility decisions could be jointly determined. They suggest a simultaneous approach to modelling these two decisions.

specific set of skills that will not be well compensated in other labour markets. The approach of this paper is thus to measure the wage that an individual would expect to receive if he or she moved by first estimating separate earnings equations for each broad geographical area of Canada and each broad occupation group, and then use the results to predict what the earnings level would be for an individual with a given set of attributes.⁶ Wages are estimated using education, a quadratic measure of experience, gender, gender interactions with education and experience, an urban/rural indicator, visible minority status, and a set of economic region dichotomous variables. Each broad geographical area is made up of a number of economic regions as defined by Statistics Canada, and the wage equation estimated for each broad area allows the returns to experience and education to vary by economic region within that area. This approach allows for a prediction of an individual's expected wage in each economic region of Canada.⁷

The attractiveness of higher expected earnings is tempered by the distance that must be travelled to obtain those earnings. This means that a marginally higher wage in a region that is located relatively close to one's current residence might be more tempting than a substantially higher wage that can be achieved only on the other side of the country. To account for this factor, two wage series are constructed: the first is the highest expected wage for a person's skill set in the current broad area of residence (for example, the highest expected wage available in Ontario for a resident of Ottawa), and the second is the highest expected wage anywhere else in the country. Each expected wage measure is compared with the individual's predicted local wage. This gives a measure of the gains a person could anticipate receiving if that person chose to migrate within a province and between provinces.

An alternative definition of these expected wage measures is motivated by the fact that, for many prospective movers, there is a degree of uncertainty about whether employment at the expected wage in another region can easily be obtained. In order to capture this uncertainty, predicted employment rates are generated for each economic region and each occupation group (for a given set of personal characteristics), and these predictions are used to weight the relevant predicted wage rate. Details of this procedure are provided in the Appendix.

MOBILITY COSTS

Moving regions not only involves actual moving costs, but also implies financial and psychological costs associated with leaving family, friends, and existing social networks. This includes search costs incurred at the destination as migrants familiarize themselves with government and social services, amenities, and characteristics of the local labour market. While many of these costs are unobserved, they are likely to be strongly correlated with age, family structure, and other demographic characteristics such as cultural background and language fluency. For example, individuals with a spouse and children will, *ceteris paribus*,

⁶Due to sample size limitations, we define five broad areas — Atlantic Canada, Quebec, Ontario, the Prairies, and British Columbia — and define three broad occupation categories — professional/managerial, other white collar, and blue collar.

⁷Statistics Canada divides the country into 71 distinct areas referred to as “economic regions” with 15 in Atlantic Canada (4 in Newfoundland, 1 in PEI, and 5 each in New Brunswick and Nova Scotia), 17 in Quebec, 11 in Ontario, 7 in Manitoba, 5 in Saskatchewan, 8 in Alberta, and 8 in British Columbia. The results on individual's expected wage in each economic region of Canada are available from the authors upon request.

find it more costly to relocate. Based on these assumptions, the empirical model used here includes control variables for marital status, the number of children living at home, language normally spoken at home, ethnicity, and age.

Day and Winer (2001) provide strong empirical support for the importance of moving costs at the provincial level. They find that moving costs, as measured by the distance between province of origin and province of destination as well as an indicator variable to capture fixed costs, are the single most important determinant of the volume of migration flows.

Moving costs are likely positively correlated with the distance moved. However, since this paper models the decision to leave a region and not the choice of destination, it is not possible to include choice-specific characteristics, such as distance from home. Instead, the issue of moving costs that may vary according to distance is addressed by estimating two separate models: one for any type of migration and one for interprovincial migration only. As Gunderson (1994) suggests, distinguishing between intraprovincial and interprovincial migration is important since individuals may face substantial mobility costs when moving to another province that are not related to distance moved. These costs arise from structural and institutional barriers to interprovincial mobility through, for example, province-specific professional licensing and certification for some trades or occupations; institutional preferences for local residents as public employees and in the tendering of government contracts; and differences across provinces in occupational health and safety regulations, minimum wages, or regulations for overtime compensation.

EXPERIENCE WITH EI AND SOCIAL ASSISTANCE PROGRAMS

Of primary interest in this paper is the effect that government transfers — EI in particular — have on mobility decisions. Although EI recipients can generally continue to receive their benefits if they move regions, eligibility and entitlement to benefits vary across regions. Specifically, individuals' eligibility to receive EI depends on the number of hours worked in the 52-week qualifying period that precedes the date they became unemployed.⁸ As shown in Table 1, the minimum eligibility requirements depend on the local unemployment rate in the applicant's region of residence, updated monthly.⁹ This requirement ranges from 420 hours to 700 hours.¹⁰

⁸Prior to 1997 eligibility was based on weeks worked, and ranged from 12 to 20 weeks depending on the local unemployment rate of the applicant's region of residence.

⁹For the purposes of assessing EI eligibility, HRDC currently divides Canada into 58 distinct regions: 9 in the Atlantic provinces, 12 in Quebec, 17 in Ontario, 11 in the Prairies, 6 in BC, and 3 in the Territories. There is a pronounced distinction between urban and rural areas. There were 62 regions defined in 1990, which were reduced to 54 in 1996. The number was increased to the current 58 in 2000.

¹⁰With the exception of parents who left the labour market to take care of their children, workers who have worked for fewer than 490 hours in the year preceding the 52-week qualifying period are considered *new entrants* or *re-entrants* to the labour market. These individuals must have worked a minimum of 910 hours in their qualifying period in order to be eligible for EI benefits, no matter where they live.

Table 1: Eligibility and Entitlement Rules for EI Benefits by Regional Rate of Unemployment

| Regional Rate of Unemployment | Required Number of Hours of Insurable Employment in the Last 52 Weeks | Minimum Number of Weeks of Benefits Payable | Maximum Number of Weeks of Benefits Payable |
|--------------------------------------|--|--|--|
| 0% to 6% | 700 | 14 | 36 |
| 6.1% to 7% | 665 | 15 | 38 |
| 7.1% to 8% | 630 | 17 | 40 |
| 8.1% to 9% | 595 | 18 | 42 |
| 9.1% to 10% | 560 | 20 | 44 |
| 10.1% to 11% | 525 | 21 | 45 |
| 11.1% to 12% | 490 | 23 | 45 |
| 12.1% to 13% | 455 | 24 | 45 |
| 13.1% to 14% | 420 | 26 | 45 |
| 14.1% to 15% | 420 | 28 | 45 |
| 15.1% to 16% | 420 | 30 | 45 |
| 16.1% and over | 420 | 32 | 45 |

An individual's work history and region of residence also impact on the duration of EI benefits. The number of weeks of entitlement ranges from 14 to 36 weeks in regions where unemployment is low, while it ranges from 32 to 45 weeks in regions with the highest unemployment rates. Within an EI region, if the unemployment rate increases, the entrance requirement automatically falls and the benefit entitlement increases. The region of residence also impacts on the level of benefits paid through the minimum divisor rule, under which claimants maximize their weekly EI benefits if they work 70 hours more than the minimum entrance requirement applicable to their region of residence.

Because of these regional variations in eligibility and entitlement to EI benefit, differences in program parameters may directly affect mobility decisions. EI recipients might be reluctant to leave an area with relatively generous EI benefits even though potential job opportunities might be better elsewhere.¹¹ In contrast, EI may provide the liquidity necessary to help fund job searches in other regions. Thus, program participation may be an important determinant of mobility, although the direction of effect is uncertain. For this reason, and as is the case in studies of interprovincial mobility by both Lin (1995) and Finnie (2000), this empirical model includes an indicator variable for EI program participation as a determinant of mobility. However, one complication with this approach is that since both EI receipt and mobility may reflect other unobserved factors such as personal motivation, a significant estimated relationship between EI and mobility may not in fact reflect the true effects of EI receipt.

¹¹The notion that regions with relatively generous social assistance programs can act as migration magnets has found positive support in the case of recent immigrants to the United States. See for example Borjas, 1999. A related dimension explored in the US literature is the link between social networks and welfare use. For example, Bertrand, Luttmer, and Mullainathan (2000) find strong evidence that individuals living in proximity to others who speak the same language have an increased likelihood of receiving welfare benefits if those individuals are in language groups that have a relatively high incidence of welfare use.

It is possible to measure the potential effects of the EI system on mobility by including control variables for the key program characteristics that vary by economic region, such as the minimum number of weeks required in order to be eligible to collect EI and the minimum and maximum number of weeks of entitlement to EI benefit. The principal difficulty with this approach is the identification of the effects of the EI program itself. Macroeconomic conditions are likely to be important determinants of mobility, but the EI region unemployment rate is also the key determinant of each of the EI program parameters. Thus while it is necessary to control for local economic conditions in order to assess the effect of the policy parameters, these policy parameters are also very highly correlated with the EI region unemployment rate. Identification of the true relationship between the EI program and mobility decisions can be achieved only via exogenous changes in program parameters over time that are not related to the local unemployment rate.

From 1993 to 1999, the period of interest in this paper, EI underwent major changes affecting program parameters, especially in 1994 and in 1996–97. As reported in Lin (1998b), the proportion of the unemployed who were regular beneficiaries of EI fell from a peak of over 83 per cent in 1989 to 48 per cent by 1996. This decline was due in part to tighter eligibility rules introduced through the 1990s. For example, the number of weeks of work required for eligibility was raised from 10 to 14 weeks prior to 1990 to 10 to 20 weeks in 1990 and further to 12 to 20 weeks in 1994. In addition, as of April 1993 individuals who quit a job for reasons not considered valid for EI purposes, who were fired because of misconduct, or who refused to accept suitable employment became ineligible to receive EI. In 1996 the maximum weeks of EI benefit receipt was reduced to 45, and the minimum weeks of work required for EI eligibility for new labour market entrants and re-entrants was raised from 20 to 26 weeks. In January 1997 required weeks of work was changed to hours of work, with the hours figures based on 35 hours of work per week. Thus, an individual who previously needed to work 20 weeks (at a minimum of 15 hours per week) now needs to work a total of 700 hours to be eligible for benefits. With the change to hours, the minimum coverage requirement was also abolished, meaning that now claimants no longer have to work a minimum of 15 hours per week for a single employer in order to be eligible for EI; instead, every hour of work is insured. However, with this change, people working less than an average of 35 hours per week would thus either need to work more hours per week or more weeks per year than before in order to qualify for EI benefits. Finally, the replacement rate for earnings fell from 57 per cent in 1993 to 55 per cent in 1994.

These variations in program parameters over time may not be sufficient, however, to allow separate identification of their effects in the presence of controls for the local unemployment rate. One alternative is to control for business cycle effects using something other than the EI region unemployment rate. To this end, the approach used here is to measure local economic conditions using the employment rate and employment growth rate by economic region (rather than EI region). EI program parameters can then be included explicitly in the regression equation. Another approach is based on the idea that if geographic mobility is sensitive to EI program parameters, the responsiveness of mobility to changes in economic conditions should be different before and after this policy change (holding regional economic conditions constant). To test this hypothesis, an indicator variable has been defined for the 1997 to 1999 period, a period that corresponds to the second wave of changes of the 1996 EI reform, and the interaction of this post-EI reform variable with the EI region unemployment rate has been included as an additional explanatory variable. This approach

has the advantage that it is less specific in controlling for channels through which the EI program might affect geographic mobility.¹² A variable that indicates whether the individual received social assistance is also included to capture families with very limited financial resources.

LABOUR MARKET ATTACHMENT

Labour market attachment is likely to be an important determinant of mobility for many reasons. For instance, full-time work over the whole year may indicate longer job seniority and better job security, both of which may increase the fixed costs of moving. In contrast, stable jobs imply, *ceteris paribus*, greater financial resources and greater capacity to afford monetary moving costs. Stable employment may also send positive signals to prospective employers, increasing the probability of successful job search in other areas. Of direct relevance to the links between EI and mobility is the fact that the number of weeks worked the previous year determines an individual's subsequent EI eligibility and entitlement in the eventuality of a job loss.

This empirical model includes explicit control variables for labour market attachment that are based on weeks worked during the year prior to the period of a potential move. Four degrees of attachment to the labour market are defined: individuals are considered to exhibit a strong attachment if they worked 50 or more weeks during the year, a moderate attachment if they worked between 20 and 49 weeks, a weak attachment if they worked between 1 and 19 weeks, and no attachment if they did not work during the year.¹³

Including variables that capture the degree of labour market attachment raises an important econometric issue. A person's attachment to the labour force — or more precisely his or her decision about whether to work and for how many hours or weeks — is likely to be endogenous in an equation explaining geographic mobility. People who are more likely to be unemployed because of unobservable attitudes to work may also be less likely to move regions in order to gain employment. Alternatively, endogeneity could lead to negative bias if a person with weak labour market attachment may also have weak ties to his or her local area, and so may be more likely to move anyway. In order to identify the true effects of labour market attachment on mobility, it is necessary to use the method of instrumental variables, which consists of finding an explanatory variable that is correlated with a person's labour market attachment but uncorrelated with his or her propensity to move. Because there are no suitable variables in the Survey of Labour and Income Dynamics (SLID) dataset that satisfy those requirements, subsets of individuals defined by their degree of labour market attachment are identified, and the model for each subset of the full sample is re-estimated. This approach has the advantage of allowing the relationship between the other explanatory variables — in particular the economic and EI program variables — and geographic mobility to vary by labour force status.

¹²Unfortunately, given the sample window available in the dataset used, there is an insufficient sample size to allow for the relationship between macroeconomic conditions and mobility to vary between 1993 and 1994 in a meaningful way.

¹³Day and Winer (2001) adopt a similar set of definitions for an individual's degree of labour market attachment. For this paper, alternative definitions of labour market attachment were experimented with that were based on (1) weeks in the labour force — that is, weeks either working or looking for work — and (2) hours worked during the year. The main results were qualitatively unchanged.

UNOBSERVABLE FACTORS

Many of the factors that affect mobility decisions are unobservable to the researcher or unavailable in the data: for example, local amenities and services, non-pecuniary job characteristics, the extent of any credit constraints, and expectations about future employment and earnings opportunities are not easily observable. It is important to include personal and demographic characteristics that are likely to be correlated with the unobservable factors and will therefore reflect the influence of these factors in the regression analysis. To this end, a standard set of human capital indicators is included to capture characteristics of individuals that also affect the returns to skills in different regions that might not be reflected in the predicted wage measures. These variables include educational attainment, labour market experience, usual occupation, as well as interactions of the occupation variables with controls for local economic conditions.¹⁴ This empirical model includes variables related to the year as well as economic region indicator variables to capture the effect of systematic differences across regions that might affect mobility (e.g. differences in climate, amenities, or industrial structure).

¹⁴Including a range of demographic and personal characteristics is typical in economic analyses of geographic mobility (see Osberg, Gordon, & Lin, 1994; Lin, 1995, 1998a; and Finnie, 2000).

Data Sources and Definitions

The sample for this analysis is drawn from two distinct panels of the Survey of Labour Income Dynamics (SLID), covering seven years of data. The first panel surveys a particular sample of adults each year over the period 1993 to 1998, while the second panel surveys another sample of adults each year over the period 1996 to 1999. The panel nature of the dataset is used to define mobility as a change in region of residence between period t and period $t+1$, where explanatory variables relating to labour market attachment, receipt of Employment Insurance (EI) benefits, and other explanatory variables are based on recorded data for the time between period $t-1$ and period t . In the discussion that follows, the period between t and $t+1$ is referred to as the *observation year* — that is, the period in which migration may be observed. The year prior to the period of a potential move is referred to as the *reference year*. As in previous studies of labour mobility that use microdata, the focus here is on the determinants of an individual's decision to leave his or her current region of residence. Thus, the dependent variable is specified to be a binary indicator variable Y_{it} that takes the value 1 if individual i moves regions in period t and zero otherwise, and the determinants of mobility are estimated using a probit framework. The primary reason for restricting the analysis to the decision about whether to move, but not the decision about where to move, is that since the incidence of geographic mobility is quite low, even pooling across multiple panels of the SLID does not yield sufficient sample size to conduct an analysis of the choice of location.

However, two alternative definitions of what constitutes a move are considered. First, for consistency with previous research, the determinants of interprovincial mobility are analyzed so that the dependent variable takes the value 1 if the individual changed provinces in the observation year, and zero otherwise. Second, mobility is defined as movement between “economic regions” — agglomerations of Census divisions as defined by Statistics Canada — that correspond broadly to the notion of a local labour market.¹⁵ This is considerably broader than the definition of regional mobility based on interprovincial movements and is an important extension to existing work.

Two sets of variables are added to the SLID data. The first set includes measures of economic conditions such as employment growth rates at the level of the economic region. These are compiled from data published by Statistics Canada. The second set is the EI program parameters, which are constructed using Human Resources Development Canada unemployment rate data at the level of the EI region (similar to Statistics Canada's economic regions, but with minor differences) together with historical data on the EI program structure.¹⁶ To focus attention on the mobility decisions of individuals who are most likely to respond to economic factors, the sample is restricted to people who were aged between 21 and 59 and not self-identified as full-time students in the reference year. These restrictions

¹⁵There are 15 economic regions in Atlantic Canada, 17 in Quebec, 11 in Ontario, 20 in the Prairies, and 8 in BC. This demarcation is adopted because it corresponds roughly to the notion of a local labour market.

¹⁶Unemployment rates for each EI region covering the 1996 to 1998 period are taken from Human Resources Development Canada's National Employment Insurance Web site (<http://www14.hrdc-drhc.gc.ca/ei-ae/uratesei.htm>). Unemployment rates for the 1993 to 1995 period are based on data from Lin (1998b) and data provided by HRDC.

exclude teenagers who were unlikely to be the primary decision-makers, students who might have made location decisions based on characteristics of the educational system, as well as retired Canadians. Related to this, the sample is further restricted to include only those individuals who identified themselves as household heads. For families, the decision to move is likely to be a joint decision that involves weighing up the costs and benefits to all family members, including expected labour market outcomes for everyone in the family of working age. Since formal modelling of the net gains from migration that might accrue to the entire family is beyond the scope of this paper, the focus here is on the household head as the primary decision-maker for whom the economic consequences of a move are most relevant, while variables that reflect marital status and presence of children are included as potentially important determinants of an individual's decision to migrate.

Preliminary Analysis

Descriptive statistics based on the main variables are reported in Table 2. Since the focus of the econometric analysis is on the migration decision of household heads, it is not surprising that more than three quarters of the sample (approximately 78 per cent) had a strong attachment to the labour market, meaning that they worked at least 50 weeks during the reference year.¹⁷ The next two largest categories are those household heads with no labour market attachment and those with moderate labour market attachment, meaning that they were employed between 20 and 49 weeks during the year. Only 2.5 per cent of the sample had weak labour market attachment, that is they were employed for 1 to 19 weeks during the year.

Table 2: Summary Statistics for Estimating Samples by Selected Characteristics, 1994–1999

| | Household Heads With | | | | |
|---|----------------------|--|--|--------------------------------------|------------------------------------|
| | All Household Heads | Strong Attachment to the Labour Market | Moderate Attachment to the Labour Market | Weak Attachment to the Labour Market | No Attachment to the Labour Market |
| All (%) | 100 | 77.9 | 9.5 | 2.5 | 10.1 |
| Migration (%) | | | | | |
| Move to a different economic region | 2.7 | 2.4 | 4.3 | 5.2 | 2.4 |
| Intraprovincial only | 2.0 | 1.7 | 3.0 | 4.0 | 1.9 |
| Interprovincial only | 0.7 | 0.7 | 1.3 | 1.2 | 0.5 |
| Expected wage gain from moving (\$ per hour) | 1.47 | 1.42 | 1.50 | 1.55 | 1.86 |
| Receipt of transfers (%) | | | | | |
| EI benefits | 14.6 | 8.5 | 62.9 | 50.5 | 8.0 |
| Social assistance benefits | 9.6 | 2.4 | 14.7 | 34.1 | 54.8 |
| Gender (%) | | | | | |
| Female | 33.8 | 31.8 | 29.3 | 39.0 | 52.4 |
| Male | 66.2 | 68.2 | 70.7 | 61.0 | 47.6 |
| Language (%) | | | | | |
| English | 61.2 | 62.6 | 58.6 | 55.0 | 54.5 |
| French | 25.7 | 24.3 | 29.6 | 30.6 | 31.4 |
| Other | 13.1 | 13.1 | 11.8 | 14.4 | 14.1 |
| Marital status (%) | | | | | |
| Married | 62.6 | 67.2 | 56.3 | 45.8 | 36.7 |
| Sole parent | 8.8 | 7.0 | 9.1 | 16.4 | 21.3 |
| Other | 28.6 | 25.8 | 34.6 | 37.8 | 42.0 |
| Number of children | 1.00 | 1.05 | 0.90 | 0.83 | 0.81 |
| Age (# years) | 40.3 | 40.1 | 38.2 | 39.2 | 43.7 |
| Work experience (# years) | 17.1 | 17.8 | 15.5 | 14.4 | 14.0 |

(continued)

¹⁷It should be noted however, that strong labour market attachment does not necessarily equate to full-time employment, since an individual may hold a regular but part-time job.

Table 2: Summary Statistics for Estimating Samples by Selected Characteristics, 1994–1999 (Cont'd)

| | Household Heads With | | | | |
|---------------------------------------|----------------------|--|--|--------------------------------------|------------------------------------|
| | All Household Heads | Strong Attachment to the Labour Market | Moderate Attachment to the Labour Market | Weak Attachment to the Labour Market | No Attachment to the Labour Market |
| Educational attainment (%) | | | | | |
| Less than high school | 18.1 | 14.2 | 24.6 | 29.4 | 39.1 |
| High school graduate | 16.5 | 17.0 | 15.9 | 14.3 | 12.8 |
| Some post-secondary | 45.4 | 47.1 | 46.0 | 45.0 | 32.2 |
| Undergraduate degree | 13.6 | 15.6 | 9.2 | 5.6 | 4.3 |
| Graduate degree | 2.8 | 3.3 | 1.1 | 1.6 | 1.4 |
| Missing | 3.6 | 2.8 | 3.2 | 4.1 | 10.2 |
| Province (%) | | | | | |
| Newfoundland | 2.0 | 1.5 | 3.6 | 5.8 | 3.2 |
| Prince Edward Island | 0.5 | 0.4 | 0.7 | 1.1 | 0.3 |
| Nova Scotia | 3.0 | 2.8 | 3.7 | 3.8 | 3.7 |
| New Brunswick | 2.6 | 2.3 | 3.8 | 4.8 | 2.8 |
| Quebec | 26.5 | 24.7 | 30.0 | 30.5 | 36.4 |
| Ontario | 35.5 | 37.0 | 27.8 | 27.8 | 32.9 |
| Manitoba | 3.7 | 3.9 | 3.3 | 3.2 | 3.1 |
| Saskatchewan | 3.2 | 3.4 | 3.2 | 2.9 | 2.2 |
| Alberta | 9.7 | 10.3 | 9.6 | 8.7 | 5.7 |
| British Columbia | 13.3 | 13.7 | 14.3 | 11.4 | 9.7 |
| Occupation (%) | | | | | |
| Managerial and professional | 9.0 | 11.1 | 3.2 | 2.9 | n/a |
| Business, finance, and administrative | 12.0 | 14.6 | 5.0 | 5.6 | n/a |
| Natural and applied sciences | 5.0 | 6.0 | 2.4 | 1.4 | n/a |
| Health | 3.9 | 4.8 | 1.0 | 1.2 | n/a |
| Social sciences | 5.6 | 6.8 | 2.9 | 1.3 | n/a |
| Art, culture, and recreation | 1.6 | 2.0 | 0.6 | 0.5 | n/a |
| Sales and services | 12.4 | 14.8 | 7.9 | 8.0 | n/a |
| Trades and transport | 13.0 | 15.1 | 10.7 | 6.2 | n/a |
| Primary industries | 2.6 | 3.0 | 2.4 | 1.1 | n/a |
| Processing industries | 6.7 | 7.9 | 5.0 | 3.1 | n/a |
| Missing | 28.2 | 13.9 | 58.9 | 68.7 | n/a |
| Urban/Rural (%) | | | | | |
| Rural | 16.9 | 16.1 | 22.6 | 22.8 | 15.6 |
| Urban | 83.1 | 83.9 | 77.4 | 77.2 | 84.4 |

Note: “Household heads with strong attachment to the labour market” refers to individuals who worked at least 50 weeks during the reference year. “Household heads with moderate with strong attachment to the labour market” refers to individuals who worked 20 to 49 weeks during the year. “Household heads with weak with strong attachment to the labour market” refers to individuals who worked 1 to 19 weeks during the year. “Household heads with no with strong attachment to the labour market” refers to individuals who did not work at all during the year.

The sample statistics shown at the top of Table 2 indicate that movement between economic regions is a relatively rare phenomenon. On average, only 2.7 per cent of household heads moved economic regions in any 12-month period. Further, most mobility appears to be between economic regions within a particular province rather than between provinces: intraprovincial mobility is approximately 2.5 times more likely than interprovincial mobility. This also suggests that studies that focus only on interprovincial migration leave an important component of geographic mobility unexamined. The incidence of migration also varies according to the degree of labour market attachment. Individuals with moderate and weak attachment to the labour market are substantially more likely to migrate, although those with no labour market attachment are about as likely to migrate as those with a strong labour market attachment.

Unsurprisingly, there is a clear pattern between Employment Insurance (EI) and social assistance (SA) receipt and labour market attachment. Those with strong labour market attachment were very unlikely to receive SA or unemployment benefits in the year prior the observation year. A majority of individuals with moderate labour market attachment received unemployment benefits, but very few received SA benefits. These individuals have generally worked sufficient weeks to qualify for EI benefits to get through any period of unemployment. The converse is true for those with weak labour market attachment. A lower proportion of these individuals received EI as compared with those with moderate labour market attachment. However, these individuals were two and a half times more likely to have received SA benefits. Many of these individuals had not worked enough to qualify for EI, and those who did qualify for EI could only qualify for a relatively short period of time, and therefore had to rely on SA.

Since the sample used in this analysis is restricted to heads of households, males comprise a disproportionate fraction (two thirds) of the sample, compared with the proportion of men in the entire Survey of Labour and Income Dynamics (SLID) database, where they constitute about half of the sample.¹⁸ There is an interesting geographic pattern of labour market attachment, indicating a sharp “east-west” divide, with individuals from Quebec and Atlantic Canada tending to be under-represented in the “strong” labour market attachment category and over-represented in the “moderate,” “weak,” and “no” labour market attachment categories when compared with the provincial distribution of all household heads. The converse is observed in Ontario and the Western provinces, with each of these being over-represented in the “strong labour market attachment” category and under-represented in the other categories. There is also a strong correlation between educational attainment and labour market attachment, with those individuals having higher levels of educational attainment also tending to have stronger labour market attachment.

Examining the remaining demographic variables yields a few other noteworthy observations. The sample includes approximately 61 per cent of individuals who identified their mother tongue to be English, with 26 per cent and 13 per cent who identified French and other languages, respectively. Individuals with strong labour market attachment were more likely to be English-speaking and less likely to be French-speaking, more likely to be married, and less likely to be a lone parent than any other category. They also tended to be more likely to have children and, not surprisingly, they tended to have more employment

¹⁸Note that since the data used here contain two panels, 1993–1998 and 1996–1999, there are approximately twice as many observations in 1997 and 1998 as in the other years of the sample.

experience than individuals in the weaker labour market attachment categories. Finally, those with the strongest attachment were generally older than individuals with less attachment, although individuals who were not attached to the labour market have the highest average age among the four categories.

The Determinants of Geographic Mobility

Results of the probit estimations of the pooled sample with controls for labour market attachment are presented in Table 3.¹⁹ The figures reported in this table are not the estimated regression coefficients but rather the marginal effects. For continuous variables such as age, number of children, or years of experience the reported marginal effect gives the percentage point change in the probability of moving to a different economic region that arises from a one-unit change in the explanatory variable. For discrete variables such as language spoken, or whether or not the individual has a university degree, the marginal effect gives the percentage point change in the probability of moving that arises from the explanatory variable taking a value of one instead of zero.

Since the marginal effects are functions of all of the estimated coefficients and explanatory variables, it is necessary to assign a value to each explanatory variable in order to compute them. The conventional approach used in the literature is adopted and marginal effects for a hypothetical individual with “average” characteristics are computed. That is, the marginal effect is computed assuming that all other variables are evaluated at the sample means (for continuous variables such as age and experience) and sample proportions (for indicator variables such as gender, marital status, and education) reported in Table 2. One conceptual difficulty with this approach is that a hypothetical person with “average” characteristics might not exist. Furthermore, in the presence of multiple mutually exclusive controls for a particular personal or demographic characteristic, it makes no sense intuitively to measure the marginal effect on mobility of a university degree (for example) when the default state is a weighted average of the other education categories. Similarly, the marginal effect on mobility of having a child at home is computed for a person with some probability of being neither married nor a sole parent. However, it turns out that the marginal effects reported in Table 3 (as well as in later tables) are qualitatively similar to those computed using alternative sets of characteristics, and so for ease of presentation the convention for reporting marginal effects that is typically adopted in the literature is retained.

There are two sets of results reported in Table 3.²⁰ The first set attempts to capture the impact of Employment Insurance (EI) on mobility decisions directly by including a measure of EI benefit generosity, computed as the sum of the specified minimum weeks and maximum weeks of EI benefit receipt available to a qualified individual in his or her current

¹⁹Given that the Survey of Labour and Income Dynamics (SLID) is a panel dataset, the same individuals will appear in the dataset each year. Because each observation is no longer independent of all other observations, standard econometric methods used for cross-sectional data may not be appropriate. Tests were performed to determine the sensitivity of the main results to the inclusion of controls for unobserved individual-specific effects that account for the panel structure of the dataset, but no significant differences were observed. Moreover, these results are robust to different assumptions about the underlying stochastic process, including the assumption of an extreme value distribution.

²⁰In each specification, there are a large number of “economic region” dichotomous variables, occupation dichotomous variables, and interactions between occupation indicators and local labour market conditions variables. These are important statistical controls in the estimations, but are not informative from a policy perspective and are presented in Table A.1. The wage equations and complete table of disaggregated estimations are available upon request.

EI region of residence.²¹ The second set attempts to capture the effects of EI program parameters on mobility decisions by including the EI region unemployment rate and its interaction with an indicator variable for the 1997–99 period, the post-EI reform period. A close examination of the results suggests there is very little difference between the two specifications.

Table 3: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|--|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Labour market attachment | | | | |
| Strong | — | — | — | — |
| Moderate | 1.055*** | 5.37 | 1.053*** | 5.37 |
| Weak | 2.172*** | 5.99 | 2.175*** | 6.00 |
| No attachment | 0.185 | 0.82 | 0.185 | 0.82 |
| Receipt of transfers | | | | |
| EI benefits | -0.006 | -0.04 | -0.007 | -0.05 |
| Social assistance benefits | -0.284 | -1.57 | -0.285 | -1.58 |
| Expected wage gain from moving | 0.391* | 1.87 | 0.390* | 1.86 |
| EI program parameters | | | | |
| Region-specific EI benefit generosity indicator | 0.001 | 0.04 | — | — |
| EI region unemployment rate | — | — | -0.053 | -0.75 |
| EI region unemployment rate and post-1996 reform indicator | — | — | 0.027 | 0.96 |
| Labour market conditions | | | | |
| Employment rate | -0.018 | -0.36 | -0.039 | -0.66 |
| Employment growth rate | -0.302*** | -3.18 | -0.308*** | -3.24 |
| Gender | | | | |
| Female | -0.339*** | -3.12 | -0.338*** | -3.11 |
| Male | — | — | — | — |
| Marital status | | | | |
| Married | -0.682*** | -5.35 | -0.680*** | -5.33 |
| Sole parent | -0.220 | -1.11 | -0.219 | -1.10 |
| Other | — | — | — | — |
| Number of children | -0.229*** | -4.04 | -0.229*** | -4.04 |
| Age | -0.204*** | -4.39 | -0.204*** | -4.38 |
| Age squared | 0.001** | 2.15 | 0.001** | 2.14 |
| Work experience | -0.023 | -1.15 | -0.023 | -1.15 |
| Work experience squared | 0.000 | 0.12 | 0.000 | 0.12 |

(continued)

²¹The calculations were also tried including both minimum weeks and maximum weeks in the same regression, as well as each term included on its own, but the results generally were poorly determined. This was also true of a variable for the minimum weeks of work necessary to qualify for EI. There is a very high degree of collinearity among these measures, with correlation coefficients in the order of 0.85 to 0.95.

Table 3: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999 (Cont'd)

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|-------------------------------|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Educational attainment | | | | |
| Less than high school | 0.045 | 0.25 | 0.044 | 0.25 |
| High school graduate | — | — | — | — |
| Some post-secondary | 0.514*** | 3.59 | 0.514*** | 3.59 |
| Undergraduate degree | 1.243*** | 5.86 | 1.247*** | 5.88 |
| Graduate degree | 2.909*** | 6.88 | 2.910*** | 6.88 |
| Language | | | | |
| French speaker | 0.490* | 1.81 | 0.487* | 1.80 |
| French speaker in Quebec | -0.899*** | -2.98 | -0.892*** | -2.96 |
| English | — | — | — | — |
| Other than English or French | -0.876*** | -5.73 | -0.875*** | -5.73 |
| Sample size | 79,145 | | 79,145 | |
| Pseudo R squared | 0.083 | | 0.083 | |
| Log likelihood | -8,957.2 | | -8,956.6 | |

Note: Household heads with “strong” labour market attachment refers to individuals who worked at least 50 weeks during the year. Household heads with “moderate” labour market attachment refers to individuals who worked 20 to 49 weeks during the year. Household heads with “weak” labour market attachment refers to individuals who worked 1 to 19 weeks during the year. Household heads with “no attachment” to the labour market refers to individuals who did not work at all during the year. Both model specifications include a full set of year, province, and occupation indicator variables. In addition, the occupation variables are interacted with both the local employment and local employment growth rate. One asterisk indicates statistical significance at the 10 per cent level, two asterisks at the 5 per cent level, and three asterisks at the 1 per cent level. The “pseudo R squared” statistics indicate that the models can explain approximately 8.3 per cent of the variability in the dependent variable.

As can be seen from Table 3, other things being equal, an employed person who had a moderate degree of attachment to the labour market (i.e. who worked between 20 and 49 weeks during the year prior to a potential move) was about 1.05 percentage points more likely to move to another economic region compared with a person who was employed over the whole year. Since for all household heads the incidence of mobility was in the order of three per cent, this is a substantial increase in the estimated probability of moving. Similarly, a person who had a weak attachment to the labour market (i.e. who worked between 1 and 19 weeks during the reference year) was even more likely to move regions, with the probability of moving estimated at about 2.18 percentage points higher than that of a person who was employed full year. This is intuitively reasonable, as people working fewer than 50 weeks a year (perhaps due to spells of unemployment or casual work) may need to move elsewhere in order to improve their labour market outcomes. In addition, fixed costs of moving associated with employment, such as non-portable pension schemes or job security arising from long tenure, may be lower for people working less than a full year. In contrast, people who did not work at all during the year were about as likely to move regions as those who worked 50 weeks or more.

This set of estimations shows that individuals are less likely to leave a region where economic conditions are improving, as measured by the region’s employment growth rate. However, neither receipt of EI nor the degree of generosity of EI in the specific region where the individual resides seems to have any significant effect on mobility. The expected wage gain variable, measured as the difference between the highest predicted wage outside of the

individual's home region and the predicted wage in the home region is significant at the 10 per cent level, suggesting that those who stand to gain the most from migration are more likely to move.²²

Many of the variables included to reflect moving costs are found to have significant impacts on geographic mobility, and these impacts are as expected: people who are married or have children living at home are less likely to move. As well, older individuals are less likely to move, though the magnitude of the negative effect diminishes with age. Language is also found to be a significant determinant of geographic mobility. Both French speakers resident in Quebec and people who speak a language other than French or English at home seem to be substantially less likely to move economic regions. With respect to measures of human capital, work experience does not seem to have a significant effect on mobility (distinct from the general effect of age), but the degree of educational attainment appears to have a very pronounced positive influence: the higher the levels of educational attainment, the higher the probability of inter-regional mobility. For instance, the estimate presented here shows that a person with a post-secondary graduate degree is approximately three percentage points more likely to move regions than someone with only high school education.

For brevity, Table 3 does not report the results for occupation, geographic location, and year dichotomous variables and the interactions between the occupation variable and the employment and employment growth rates because they are primarily included to account for unobserved determinants of mobility that might otherwise be captured by the other variables. However, each set of variables is jointly significantly different from zero. In addition, indicator variables for survey year show a lower incidence of mobility in 1997, 1998, and 1999 compared with earlier years.

DETERMINANTS OF MOBILITY ACCORDING TO THE DEGREE OF LABOUR MARKET ATTACHMENT

One general limitation with the model specification reported in Table 3 is that it is overly restrictive. Aside from the possibility that labour force status is endogenous to the mobility decision, including explicit controls for labour force status imposes the restriction that the relationship between geographic mobility and the other variables — in particular, local economic conditions and characteristics of the EI system — is the same for all individuals regardless of labour force status. In order to address this limitation, the sample is divided into four groups, corresponding to the four categories of labour force status defined earlier, and then the specification for each subsample is re-estimated. The results of this exercise are presented in tables 4a and 4b, which correspond to two different specifications that attempt to capture the effects of the EI program on mobility decisions in two distinct ways: directly (Table 4a), through the variable reflecting benefit generosity (which is equal to the sum of maximum and minimum benefit weeks available to eligible unemployed individuals in their EI region of residence), and indirectly (Table 4b), through the interaction of the EI region unemployment rate with the indicator variable for the post-1996 reform period.

²²A more complete discussion of the expected wage gain variable can be found in the Appendix.

Table 4a: Impact of the EI Program and Other Determinants on Geographic Mobility by Degree of Labour Market Attachment, 1994–1999 (Probit Model With EI Benefit Generosity Indicator)

| | Degree of Labour Market Attachment | | | | | | | |
|---|------------------------------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| | Strong | | Moderate | | Weak | | No Attachment | |
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Receipt of transfers | | | | | | | | |
| EI benefits | 0.179 | 1.02 | -0.864*** | -3.37 | 0.227 | 1.09 | 0.477 | 0.96 |
| Social assistance benefits | 0.517 | 1.61 | -0.245 | -0.77 | 0.055 | 0.25 | -0.700** | -2.00 |
| Expected wage gain from moving | 0.601*** | 2.58 | -0.512 | -0.88 | 1.159** | 2.48 | -0.940 | -1.50 |
| EI program parameters | | | | | | | | |
| Region-specific EI benefit generosity indicator | -0.006 | -0.41 | 0.013 | 0.53 | 0.036* | 1.86 | 0.015 | 0.48 |
| Labour market conditions | | | | | | | | |
| Employment rate | -0.035 | -0.66 | 0.162** | 2.32 | 0.034 | 0.69 | 0.038 | 0.96 |
| Employment growth rate | -0.369*** | -4.01 | 0.233 | 0.86 | 0.375* | 1.68 | 0.095 | 0.97 |
| Gender | | | | | | | | |
| Female | -0.481*** | -4.21 | -0.004 | -0.01 | 0.241 | 1.09 | 0.424 | 1.27 |
| Male | — | — | — | — | — | — | — | — |
| Marital status | | | | | | | | |
| Married | -0.742*** | -5.43 | -0.169 | -0.60 | -0.350 | -1.39 | -0.288 | -0.74 |
| Sole parent | -0.185 | -0.82 | -1.229*** | -2.98 | -0.155 | -0.49 | 0.155 | 0.32 |
| Other | — | — | — | — | — | — | — | — |
| Number of children | -0.227*** | -3.86 | -0.074 | -0.55 | -0.193 | -1.40 | -0.140 | -0.76 |
| Age | -0.041 | -0.73 | -0.388*** | -3.83 | -0.145** | -1.98 | -0.232** | -2.21 |
| Age squared | 0.000 | -0.66 | 0.004*** | 2.84 | 0.001 | 1.37 | 0.002 | 1.19 |
| Work experience | -0.079*** | -3.23 | 0.023 | 0.50 | 0.058* | 1.83 | 0.024 | 0.54 |
| Work experience squared | 0.001 | 1.48 | -0.001 | -0.66 | -0.001 | -1.15 | 0.000 | 0.40 |
| Educational attainment | | | | | | | | |
| Less than high school | -0.025 | -0.12 | 0.245 | 0.63 | 0.072 | 0.24 | 0.103 | 0.21 |
| High school graduate | — | — | — | — | — | — | — | — |
| Some post-secondary | 0.477*** | 3.21 | 0.368 | 1.10 | 0.288 | 1.02 | 0.531 | 1.06 |
| Undergraduate degree | 0.969*** | 4.60 | 0.694 | 1.31 | -0.001 | 0.00 | 4.578*** | 3.52 |
| Graduate degree | 2.099*** | 5.29 | 6.916*** | 3.72 | 1.330 | 1.24 | 2.311 | 0.97 |
| Language | | | | | | | | |
| French speaker | 0.724*** | 2.57 | -0.803 | -1.16 | 0.518 | 0.92 | -0.409 | -0.53 |
| French speaker in Quebec | -1.404*** | -5.21 | 3.336** | 2.34 | 0.642 | 0.61 | 1.390 | 1.19 |
| English | — | — | — | — | — | — | — | — |
| Other than English or French | -0.818*** | -5.20 | -0.854** | -2.43 | -0.434 | -1.61 | -0.689 | -1.48 |
| Sample size | 60,565 | | 8,572 | | 2,198 | | 7,677 | |
| Pseudo R squared | 0.088 | | 0.108 | | 0.200 | | 0.091 | |
| Log likelihood | 6,318.1 | | -1,365.0 | | -369.3 | | -789.1 | |

Note: Household heads with “strong” labour market attachment refers to individuals who worked at least 50 weeks during the year. Household heads with “moderate” labour market attachment refers to individuals who worked 20 to 49 weeks during the year. Household heads with “weak” labour market attachment refers to individuals who worked 1 to 19 weeks during the year. Household heads with “no attachment” to the labour market refers to individuals who did not work at all during the year. Each specification includes a full set of year indicators. The specifications for strong, moderate, and weak labour force attachment also include a full set of occupation indicator variables and occupation indicators interacted with the local employment and employment growth rates. The specification for strong labour force attachment includes a full set of economic region indicator variables. However, the small sample sizes for the other labour force attachment categories precluded using these measures; instead, a set of variables indicating the province and the urban/rural status in each province was used. One asterisk indicates statistical significance at the 10 per cent level, two asterisks at the 5 per cent level, and three asterisks at the 1 per cent level. The “pseudo R squared” statistics indicate that the models are more effective at explaining migration for individuals with less than strong labour force attachment.

Table 4b: Impact of the EI Program and Other Determinants on Geographic Mobility by Degree of Labour Market Attachment, 1994–1999 (Probit Model With Post-1996 EI Reform Indicators)

| | Degree of Labour Market Attachment | | | | | | | | | |
|--|------------------------------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| | Strong | | Moderate | | | | Weak | | No Attachment | |
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Receipt of transfers | | | | | | | | | | |
| EI benefits | 0.178 | 1.01 | -0.868*** | -3.38 | -4.001* | -1.67 | 0.217 | 1.08 | 0.454 | 0.93 |
| Social assistance benefits | 0.520 | 1.61 | -0.250 | -0.79 | -0.934 | -1.52 | 0.062 | 0.29 | -0.661* | -1.92 |
| Expected wage gain from moving | | | | | | | | | | |
| | 0.604*** | 2.59 | -0.531 | -0.91 | -0.480 | -0.63 | 1.111** | 2.45 | -0.936 | -1.52 |
| EI program parameters | | | | | | | | | | |
| EI region unemployment rate | -0.056 | -0.73 | -0.007 | -0.07 | 0.134 | 1.27 | 0.034 | 0.50 | -0.043 | -0.36 |
| EI region unemployment rate and post-1996 reform indicator | -0.012 | -0.38 | 0.038 | 0.67 | 0.054 | 0.90 | 0.086** | 2.25 | 0.197*** | 2.82 |
| Labour market conditions | | | | | | | | | | |
| Employment rate | -0.057 | -0.93 | 0.159** | 2.07 | 0.164* | 1.79 | 0.046 | 0.85 | 0.054 | 0.94 |
| Employment growth rate | -0.374*** | -4.05 | 0.234 | 0.86 | 0.290 | 0.86 | 0.367* | 1.72 | 0.085 | 0.89 |
| Gender | | | | | | | | | | |
| Female | -0.480*** | -4.21 | -0.006 | -0.02 | -0.171 | -0.44 | 0.255 | 1.19 | 0.456 | 1.39 |
| Male | — | — | — | — | — | — | — | — | — | — |
| Marital status | | | | | | | | | | |
| Married | -0.742*** | -5.44 | -0.166 | -0.58 | -0.530 | -1.31 | -0.337 | -1.39 | -0.290 | -0.76 |
| Sole parent | -0.186 | -0.83 | -1.228*** | -2.97 | -1.014* | -1.75 | -0.157 | -0.51 | 0.147 | 0.31 |
| Other | — | — | — | — | — | — | — | — | — | — |
| Number of children | | | | | | | | | | |
| | -0.227*** | -3.85 | -0.072 | -0.53 | -0.184 | -1.01 | -0.191 | -1.43 | -0.143 | -0.79 |
| Age | | | | | | | | | | |
| | -0.041 | -0.73 | -0.388*** | -3.82 | -0.534*** | -3.80 | -0.139** | -1.96 | -0.222** | -2.15 |
| Age squared | | | | | | | | | | |
| | 0.000 | -0.65 | 0.004*** | 2.84 | 0.005*** | 2.95 | 0.001 | 1.34 | 0.001 | 1.13 |
| Work experience | | | | | | | | | | |
| | -0.079*** | -3.21 | 0.022 | 0.49 | 0.103* | 1.72 | 0.056* | 1.83 | 0.026 | 0.62 |
| Work experience squared | | | | | | | | | | |
| | 0.001 | 1.47 | -0.001 | -0.66 | -0.003* | -1.73 | -0.001 | -1.09 | 0.000 | 0.37 |

(continued)

Table 4b: Impact of the EI Program and Other Determinants on Geographic Mobility by Degree of Labour Market Attachment, 1994–1999 (Probit Model With Post-1996 EI Reform Indicators) (Cont'd)

| | Degree of Labour Market Attachment | | | | | | | | | |
|-------------------------------|------------------------------------|-------------|-------------------|-------------|-----------------|-------------|-----------------|-------------|-----------------|-------------|
| | Strong | | Moderate | | | | Weak | | No Attachment | |
| | | | Without IV Method | | With IV Method | | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic | | | | |
| Educational attainment | | | | | | | | | | |
| Less than high school | -0.026 | -0.13 | 0.245 | 0.64 | 0.227 | 0.45 | 0.070 | 0.24 | 0.068 | 0.14 |
| High school graduate | — | — | — | — | — | — | — | — | — | — |
| Some post-secondary | 0.477*** | 3.21 | 0.367 | 1.10 | 0.618 | 1.40 | 0.273 | 1.00 | 0.514 | 1.04 |
| Undergraduate degree | 0.967*** | 4.60 | 0.694 | 1.31 | 1.976** | 2.37 | 0.015 | 0.03 | 4.637*** | 3.59 |
| Graduate degree | 2.096*** | 5.28 | 6.968*** | 3.73 | 3.702 | 1.64 | 1.325 | 1.25 | 2.098 | 0.91 |
| Language | | | | | | | | | | |
| French speaker | 0.723*** | 2.57 | -0.800 | -1.15 | 0.291 | 0.38 | 0.462 | 0.85 | -0.385 | -0.51 |
| French speaker in Quebec | -1.404*** | -5.21 | 3.331** | 2.33 | -0.231 | -0.18 | 0.685 | 0.66 | 1.348 | 1.17 |
| English | — | — | — | — | — | — | — | — | — | — |
| Other than English or French | -0.818*** | -5.21 | -0.855** | -2.43 | -0.242 | -0.40 | -0.420 | -1.61 | -0.642 | -1.39 |
| Sample size | 60,565 | | 8,572 | | 8,572 | | 2,198 | | 7,677 | |
| Pseudo R squared | 0.088 | | 0.108 | | 0.083 | | 0.203 | | 0.095 | |
| Log likelihood | -6,317.7 | | -1,365.0 | | -1,451.1 | | -367.9 | | -785.2 | |

Note: Household heads with “strong” labour market attachment refers to individuals who worked at least 50 weeks during the year. Household heads with “moderate” labour market attachment refers to individuals who worked 20 to 49 weeks during the year. Household heads with “weak” labour market attachment refers to individuals who worked 1 to 19 weeks during the year. Household heads with “no attachment” to the labour market refers to individuals who did not work at all during the year. Each specification includes a full set of year indicators. The specifications for strong, moderate, and weak labour force attachment also include a full set of occupation indicator variables and occupation indicators interacted with the local employment and employment growth rate. The specification for strong labour force attachment includes a full set of economic region indicator variables. However, the small sample sizes for the other labour force attachment categories precluded using these measures; instead, a set of variables indicating the province and the urban/rural status in each province was used. The magnitude of the predicted marginal effect in the instrumental variable probit specification is not directly comparable to the predicted marginal effects from the other probit specifications. Since the instrumental variable probit uses the predicted probability of EI receipt instead of actual EI receipt, the associated marginal effect gives the percentage point change in the probability of moving that arises from a one percentage point change in the probability of receiving EI benefits. One asterisk indicates statistical significance at the 10 per cent level, two asterisks at the 5 per cent level, and three asterisks at the 1 per cent level. The “pseudo R squared” statistics indicate that the models are more effective at explaining migration for individuals with less than strong labour force attachment. They also suggest that the inclusion of indicators for the post-1996 reform and the unemployment rate offers slightly more explanatory power than the inclusion of a region-specific program benefit generosity variable.

Focusing first on the first two columns of tables 4a and 4b, individuals who worked for the whole year (50 or more weeks) were less likely to change regions if local economic conditions were improving, as measured by the employment growth rate in the economic region of residence. However, none of the other economic or policy variables is significant. This is not surprising since individuals with strong labour market attachment are unlikely to

expect to use EI. The variables capturing the relative costs and benefits of migration behave as expected, and the expected wage gain coefficient is better defined than in the pooled specification.

The next four columns of tables 4a and 4b present marginal effects (and t-statistics) of the same factors for those people with moderate labour market attachment — people who worked between 20 and 49 weeks during the previous year. This group would generally have been eligible for EI since they were likely to have accumulated sufficient hours of work during the year. Among this group, a higher local employment rate is found to be associated with a greater incidence of mobility out of the region. One interpretation of this result is that since this group of individuals had only moderate labour market attachment, living in a region with a low employment rate might reflect lower average incomes that impose financial constraints on moving. A general conclusion is that the relationship between economic conditions and geographic mobility is a complex one, and depends importantly on a person's labour market attachment.

Table 4a shows that the variable reflecting the benefit generosity of the EI program does not seem to be a significant determinant of mobility among individuals who are moderately attached to the labour market, and the same is true for the EI region unemployment rate interacted with the post-1996 reform indicator, as shown in Table 4b. However, the marginal effect of actual receipt of EI in the previous year is found to have a significant and negative impact on mobility. The estimates imply that individuals are almost one percentage point less likely to move economic regions if they received EI benefits in the previous year. This result suggests that EI receipt significantly reduces mobility. However, one econometric issue relates to the question of the endogeneity of benefit receipt. Since it is possible that benefit receipt might be reflecting other unobserved factors that are correlated with geographic mobility (such as personal motivation), it is necessary to control for potential endogeneity using the method of instrumental variables. A set of industry variables is used to predict an individual's receipt of EI, and then the predicted EI receipt is used as an explanatory variable in the main regression.²³ The results of this exercise are presented in the fifth and sixth columns of Table 4b. The findings indicate that the endogeneity of EI receipt explains only part of the estimated effect. There remains a negative relationship between predicted EI receipt and mobility, although the effect is significant only at the 10 per cent level.

The next columns of tables 4a and 4b report results for people with weak labour market attachment, defined as individuals who worked between 1 and 19 weeks per year. It should be noted at the outset that caution is appropriate in drawing inferences from these results owing to the small size of the sample for this group (2,198 observations). As with individuals having moderate labour market attachment, but in contrast to those with strong labour market attachment, the mobility decisions of this group seem to be positively associated with local economic conditions — the lower the local employment growth rate, the less likely a person with weak labour market attachment would move to another economic regions. This again suggests that for people without full-year work, weaker local economic conditions might imply lower household incomes that inhibit geographic mobility. Also notable is that for this group the expected wage gain from migration is found to have a significant impact on mobility: the

²³Though not reported in the tables, the use of an instrumental variable for EI benefit receipt was tried in the regressions for people with strong, low, and no labour market attachment, as well as in the regression that used the pooled sample. The estimated impact of the predicted EI benefit receipt was not significantly different from zero in each regression.

estimated marginal effect suggests that an increase in the best alternative hourly wage rate of approximately \$2.75 per hour would raise the probability of moving by about 1.1 percentage points.

Different parameterizations of the EI program effects also appear to be important determinants of mobility among individuals with weak labour market attachment. The positive relationship shown in Table 4a between region-specific EI benefit generosity and mobility seems counterintuitive, implying that people who live in regions where more weeks of EI benefit are available are more likely to leave those regions. However, in the presence of controls for economic region and controls for local economic conditions, the effects of this variable are identified only via exogenous changes in benefit generosity. The main period of change to benefit weeks was in 1994, and, as noted earlier, there is likely an insufficient sample size in 1993 to generate meaningful estimates. In any event, the magnitude of the marginal effect is small and statistically significant at only the 10 per cent level, implying only minor economic significance.

Of greater interest is the positive and significant effect of the interaction of the EI region unemployment rate with the post-1996 reform period indicator among individuals with weak labour market attachment, as shown in Table 4b.²⁴ For those individuals who might have expected to have to rely on EI in the future because of low labour market attachment, mobility decisions are found to be more sensitive to changing economic conditions in the post-1996 reform period, when EI eligibility was tightened. In particular, people living in regions with high unemployment were more likely to leave those regions during the 1997 to 1999 period, perhaps because more hours of work were required in order to qualify for EI. However, it should be noted again that these results should be interpreted with caution for this group because of the relatively small number of observations.

The last two columns of tables 4a and 4b report results of the estimated determinants of mobility for people with no labour market attachment during the year. For this group, the incidence of EI receipt is less than 10 per cent while the incidence of social assistance (SA) receipt is greater than 50 per cent. Among this group, high unemployment is associated with greater out-migration, but again only in the 1997 to 1999 period. Since individuals in this group did not accumulate any hours of work in their qualifying period, they were not eligible for EI benefits during the reference year. However, since at least some of these individuals would have been out of the labour force for two years or more, and since eligibility requirements for re-entrants to the labour market were increased during this period, individuals anticipating a return to the labour market appear to have been driven to locate in areas where employment prospects might have been better — namely, regions with lower unemployment rates. Also notable in this set of results is the negative relationship observed between receipt of SA benefits and geographic mobility. Given the stringent means testing for receipt of social assistance and the low benefit level offered by the SA program, it is likely that SA receipt is acting as a proxy for very limited financial means, since each person in this subsample is a household head but had not worked at all during the year. One interpretation is that since the poorest members of society do not have the financial resources to move from their local area, support from family and friends might be important. For example local support networks might provide child care, opportunities for non-market work,

²⁴As expected, the EI region unemployment rate has no effect on mobility given that the models already control for business cycle effects.

or informal income support. They may also act as the main mechanism for future job search. This support would be lost if the person were to move regions. It should also be noted that the macroeconomic variables are all poorly determined, suggesting that people with no labour market attachment are, in general, not responsive to changes in economic conditions.

Turning next to other determinants of geographic mobility, the lower part of tables 4a and 4b report results for demographic and human capital variables. The results for these variables are unaffected by switching to the alternative specification of the policy and macroeconomic variables. In general, most estimated impacts are as expected, but tend to be statistically significant only for those people with strong labour market attachment. For these individuals, being married and having children living at home both reduce the estimated probability of moving, as does speaking a language other than French or English at home. French-speaking people are more likely to move regions, although French speakers residing in Quebec who have a strong labour force attachment have a significantly lower estimated probability of moving regions.²⁵ For French-speaking residents of Quebec who have a weaker labour force attachment, the incidence of mobility is actually positive, but the marginal effects are only significant for the group with no labour force attachment. Mobility also declines with age. A crucial determinant of mobility for individuals with strong labour market attachment is education, with higher levels of educational attainment associated with markedly higher incidence of mobility. For instance, persons with an undergraduate post-secondary degree are one percentage point more likely to move and those with a graduate degree are two percentage points more likely to move than a person with a high school education only. Patterns between education and mobility are less well defined for people with lower labour market attachment. Finally, for people with strong attachment to the labour market, additional years of job experience decrease the probability of moving, but at a decreasing rate. This likely reflects the substantial costs associated with loss of job seniority. However this effect eventually diminishes as the individual nears retirement, perhaps capturing the increasing incidence of people completing work prior to age 60.

DETERMINANTS OF INTERPROVINCIAL MOBILITY

To this point, geographic mobility has been defined as movement between economic regions and no distinction has been made between intraprovincial and interprovincial mobility. Given the substantially higher frequency of movements within provinces, the results presented so far are likely to reflect primarily the determinants of movements across regions within provinces. To test whether the determinants of interprovincial mobility are similar, the same type of analysis is conducted but with a focus on only the determinants of individuals' decisions to change their province of residence. Again, the sample is decomposed according the household head's degree of labour market attachment, with the exception that, due to small sample sizes, individuals with moderate and low labour market attachment are pooled together. The results are reported in Table 5.

²⁵Since immigrants to Canada often choose to settle in regions (primarily Toronto and Vancouver) with concentrations of immigrants from similar regions of origin, the significance of "other" language spoken may indicate an immigrant's reluctance to leave such communities. Similarly, it might also be the case that French speakers living in Quebec prefer not to move to areas where English is more likely to be the prevalent language used, other things equal. French speakers outside of Quebec constitute only a small percentage of the total sample.

Table 5: Impact of the EI Program and Other Determinants of Interprovincial Mobility by Degree of Labour Market Attachment, 1994–1999 (Probit Model With Post-1996 EI Reform Indicators)

| | Degree of Labour Market Attachment | | | | | | | |
|--|------------------------------------|-------------|-------------------|-------------|-----------------|-------------|-----------------|-------------|
| | Strong | | Moderate and Weak | | | | No Attachment | |
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Receipt of transfers | | | | | | | | |
| EI benefits | -0.003 | -0.05 | -0.115** | -2.18 | -0.565 | -0.64 | 0.001 | 0.04 |
| Social assistance benefits | -0.103 | -1.13 | -0.098* | -1.67 | -0.353 | -1.47 | 0.020 | 0.89 |
| Expected wage gain from moving | | | | | | | | |
| | 0.181*** | 2.82 | -0.175 | -1.48 | -0.352 | -1.11 | -0.017 | -0.46 |
| EI program parameters | | | | | | | | |
| EI region unemployment rate | 0.007 | 0.53 | 0.020 | 1.12 | 0.091** | 2.23 | -0.003 | -0.36 |
| EI region unemployment rate and post-1996 reform indicator | -0.008 | -0.88 | 0.016* | 1.74 | 0.050** | 2.39 | 0.002 | 0.38 |
| Labour market conditions | | | | | | | | |
| Employment rate | 0.005 | 0.53 | 0.064*** | 3.08 | 0.115*** | 2.69 | 0.001 | 0.18 |
| Employment growth rate | -0.043 | -1.49 | 0.077 | 1.07 | 0.150 | 0.86 | -0.010 | -1.41 |
| Educational attainment | | | | | | | | |
| Less than high school | 0.040 | 0.59 | 0.080 | 0.91 | 0.095 | 0.45 | -0.028 | -1.02 |
| High school graduate | — | — | — | — | — | — | — | — |
| Some post-secondary | 0.033 | 0.72 | 0.107 | 1.45 | 0.323* | 1.74 | -0.012 | -0.43 |
| Undergraduate degree | 0.214*** | 3.17 | 0.487*** | 2.86 | 1.570*** | 3.33 | -0.003 | -0.05 |
| Graduate degree | 0.539*** | 4.05 | -0.099 | -0.42 | 0.213 | 0.22 | 0.426 | 1.33 |
| Language | | | | | | | | |
| French speaker | 0.341*** | 4.24 | -0.102 | -0.88 | 0.015 | 0.05 | -0.004 | -0.10 |
| French speaker in Quebec | -0.522*** | -10.03 | -0.647*** | -2.90 | -1.342*** | -3.61 | -0.098** | -2.09 |
| English | — | — | — | — | — | — | — | — |
| Other than English or French | -0.175*** | -4.05 | -0.116* | -1.90 | -0.179 | -0.80 | -0.037 | -1.53 |
| Sample size | 65,065 | | 10,794 | | 10,794 | | 7,677 | |
| Pseudo R squared | 0.151 | | 0.211 | | 0.149 | | 0.169 | |
| Log likelihood | -2,019.5 | | -582.0 | | -823.1 | | -199.0 | |

Note: Household heads with “strong” labour market attachment refers to individuals who worked at least 50 weeks during the year. Household heads with “moderate” labour market attachment refers to individuals who worked 20 to 49 weeks during the year. Household heads with “weak” labour market attachment refers to individuals who worked 1 to 19 weeks during the year. Household heads with “no attachment” to the labour market refers to individuals who did not work at all during the year. Due to relatively small sample sizes and low incidence of interprovincial migration, the moderate and weak labour force attachment categories were combined into a single category. Each specification includes variables reflecting age, experience, marital status, and the presence of children as well as a full set of year indicators, province indicators, and urban/rural status in each province. For the strong and moderate and weak labour force attachment categories a full set of occupation indicator variables as well as interaction terms with the local employment and employment growth rate are included. The magnitude of the predicted marginal effect in the instrumental variable probit specification is not directly comparable to the predicted marginal effects from the other probit specifications. Since the instrumental variable probit uses the predicted probability of EI receipt instead of actual EI receipt, the associated marginal effect gives the percentage point change in the probability of moving that arises from a one percentage point change in the probability of receiving EI benefits. One asterisk indicates statistical significance at the 10 per cent level, two asterisks at the 5 per cent level, and three asterisks at the 1 per cent level. The “pseudo R squared” statistics again suggest that the model is superior at predicting interprovincial migration for those with lower labour force attachment and it should be noted that there is a pronounced decline in explanatory power when using an the instrumental variable method.

Focusing first on household heads with a strong attachment to the labour market, the findings show that mobility is not significantly affected by EI program parameters or local economic conditions. However, the results for people with weak-to-moderate labour market attachment are similar to those reported earlier. Specifically, mobility is positively related to local economic conditions and to the local unemployment rate, but only during the 1997–99 period. This result could mean that, in a period when qualifying for EI is more difficult, people are more likely to move provinces when the local unemployment rate is high (after controlling for general economic conditions). The results also indicate that mobility is negatively related to an individual's actual receipt of EI but, as before, it is possible that this result is reflecting an endogeneity problem.

In order to gauge the impact of possible endogeneity on the estimated marginal effect, the model is again re-estimated using the method of instrumental variables. Using predicted rather than actual EI receipt results in the estimated marginal effect being not significantly different from zero. Therefore, it appears that the negative relationship between EI receipt and interprovincial mobility is due to unobservable differences related to both factors, rather than receipt of EI per se, so that there is no evidence that EI receipt itself either hinders or facilitates interprovincial mobility.

For people with no labour market attachment, none of the economic or policy variables seems to be a significant determinant of interprovincial mobility.²⁶ The costs of moving provinces are likely to be substantially greater than the costs of moving regions within provinces. Thus for people with no labour market attachment, a tightening of the EI eligibility rules seems to encourage greater mobility between regions but not between provinces.

The degree of educational attainment appears to be an important determinant of interprovincial mobility for people who worked during the year, but in particular for people with a strong labour market attachment. Also, people whose language normally spoken at home is French and who are resident in Quebec are less likely to move provinces, regardless of their degree of labour market attachment. People who speak a language other than French or English at home are also less likely to move provinces, although the marginal effect is not significant for people who did not work at all during the year.²⁷ In summary, it would appear that the determinants of interprovincial mobility are broadly similar to those of regional mobility; while there is no compelling evidence that mobility decisions are affected by either the receipt of EI or specific program parameters, the decision to move to a different province is affected by changes in the EI region unemployment rate over the 1997–99 period.

²⁶It should be emphasized that, even with a large number of observations, the incidence of interprovincial mobility is sufficiently low that there may be insufficient variation in the dependent variable to allow precise estimation of the effects of the explanatory variables. For example, there are only approximately 50 cases of interprovincial mobility in a total sample of 7,677 household heads with no labour market attachment.

²⁷Though not reported in the table, the specifications also include controls for age, experience, marital status, and presence of children, as well as controls for year, occupation, and urban/rural status in each province. The presence of children seems to be associated with lower mobility, as is the case for age. Interestingly, interprovincial mobility did not decline through the 1990s, suggesting that the decline in mobility generally is reflected primarily in fewer moves between regions within provinces.

Conclusion

While there is a popular perception that Employment Insurance (EI) benefits that are relatively generous and easy to obtain inhibit the migration of people out of high unemployment regions, there has been relatively little formal research on this question. There is no doubt that the decision to move regions or provinces is a complex function of personal, economic, and social costs and benefits, and that, particularly for individuals with less than strong labour market attachment, the EI program may play a significant role in their decision. Various features of the EI program might exert different — and sometimes competing — influences on the propensity to migrate. For some individuals, receiving EI likely facilitates labour market adjustment, perhaps providing sufficient financial resources to pay for search and relocation, while for others a relatively generous local eligibility and receipt duration acts as a disincentive to migrate.

This analysis of geographic mobility has highlighted a number of important results. First, a person's degree of labour market attachment, as measured by weeks worked in the previous year, is a key determinant of mobility. The traditional view that people will move to regions where general economic opportunities are better seems to be more applicable to individuals with a strong attachment to the labour force. Moreover, the impact on mobility of variables reflecting employable skills — experience and education — seems to be more important for workers who have the strongest links to the labour market. However, the results presented in this paper indicate that neither direct nor indirect measures of EI program parameters have a significant effect on mobility decisions for individuals with a strong attachment to the labour market. This is not surprising since these individuals are relatively unlikely to rely on EI and, therefore, changes in access to and generosity of benefits would not be expected to have much effect on their labour market and mobility decisions.

For people with a moderate or low labour market attachment, the results are somewhat different. Regional mobility appears to be positively related to local economic conditions, perhaps implying that people in more depressed economic regions do not have the same means or opportunity to move that people with stronger labour market attachment have. Household heads who worked between 20 and 49 weeks during the year are the most likely to receive EI, and the results presented in this paper suggest that, for this group, receipt of EI inhibits geographic mobility. However, additional estimations that attempted to address the potential endogeneity of actual EI receipt reduced both the magnitude and the degree of statistical significance of the estimated effect of EI receipt on mobility decisions.

Although no strong evidence of a direct relationship between EI program parameters and geographic mobility for people with low labour market attachment is found, there is some evidence of an indirect relationship. The findings show that people with either low or no labour market attachment are more likely to move out of a region when the local unemployment rate is high, but this is true only for the 1997 to 1999 period. The EI reforms that took place in 1997 had the general effect of tightening eligibility for people with low labour market attachment and people out of the labour force for two or more years. One interpretation of the estimated result is that after the reform, tighter eligibility rules gave

people who were the most likely to rely on EI a stronger incentive to leave areas of high unemployment in order to improve their chances of gaining better employment.

Appendix: Procedure for Calculating the Expected Wage Gains From Moving

One of the research hypotheses presented in this paper is that a principal determinant of mobility is the expected income gain from moving. It is assumed that expected wages vary according to an individual's skill level and that the return to skills also vary from region to region. The approach implemented here is thus to compute four different "alternative" wages that an individual could expect to receive. First, 15 distinct labour markets are defined that reflect both regional and occupational variation, using five standard geographic regions and three broad occupational categories. Then 15 separate wage equations and 15 separate employment probability equations are estimated — one for each of these distinct labour markets — where hourly wages and likelihood of employment are each regressed on a set of observable characteristics such as education, gender, age, and work experience. Additional flexibility is allowed for in wage and employment outcomes by including the relevant set of economic region indicator variables and their interactions with gender, experience, and education.

In the next stage, these equations are used to simulate a predicted wage and predicted probability of employment for each individual in the sample in each economic region of Canada. These predictions are used to define four alternative wages for each individual in the sample. These alternative wages are as follows: (1) the largest predicted wage across economic regions within the actual geographic region of residence, or "best alternative local wage"; (2) the largest predicted wage across economic regions outside of the actual geographic region of residence, or "best outside wage"; (3) the "best weighted local wage," where the weights are the corresponding predicted probability of employment associated for each economic region; and (4) the "best weighted outside wage." The weighted measures reflect the fact that while regions that offer higher wages will be more attractive than regions offering lower wages, obtaining the predicted wage might be uncertain. This adjustment effectively reduces the potential gains from migration if a high alternative wage is unlikely to be realized.

After considerable experimentation with various specifications including different combinations of wage gain measures, a single variable was established, one that is the best wage an individual could expect to receive if he or she relocated in any other part of the country (i.e. within or outside the region). The alternative of using the wage adjusted by the re-employment probability was not statistically significant.

Table A.1: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|--|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Labour market attachment | | | | |
| Strong | — | — | — | — |
| Moderate | 1.055*** | 5.37 | 1.053*** | 5.37 |
| Weak | 2.172*** | 5.99 | 2.175*** | 6.00 |
| No attachment | 0.185 | 0.82 | 0.185 | 0.82 |
| Receipt of transfers | | | | |
| EI benefits | -0.006 | -0.04 | -0.007 | -0.05 |
| Social assistance benefits | -0.284 | -1.57 | -0.285 | -1.58 |
| Expected wage gain from moving | | | | |
| | 0.391* | 1.87 | 0.390* | 1.86 |
| EI program parameters | | | | |
| Region-specific EI benefit generosity indicator | 0.001 | 0.04 | — | — |
| EI region unemployment rate | — | — | -0.053 | -0.75 |
| EI region unemployment rate and post-1996 reform indicator | — | — | 0.027 | 0.96 |
| Local labour market conditions | | | | |
| Employment rate | -0.018 | -0.36 | -0.039 | -0.66 |
| Employment growth rate | -0.302*** | -3.18 | -0.308*** | -3.24 |
| Gender | | | | |
| Female | -0.339*** | -3.12 | -0.338*** | -3.11 |
| Male | — | — | — | — |
| Marital status | | | | |
| Married | -0.682*** | -5.35 | -0.680*** | -5.33 |
| Sole parent | -0.220 | -1.11 | -0.219 | -1.10 |
| Other | — | — | — | — |
| Number of children | | | | |
| | -0.229*** | -4.04 | -0.229*** | -4.04 |
| Age | | | | |
| | -0.204*** | -4.39 | -0.204*** | -4.38 |
| Age squared | | | | |
| | 0.001** | 2.15 | 0.001** | 2.14 |
| Work experience | | | | |
| | -0.023 | -1.15 | -0.023 | -1.15 |
| Work experience squared | | | | |
| | 0.000 | 0.12 | 0.000 | 0.12 |
| Educational attainment | | | | |
| Less than high school | 0.045 | 0.25 | 0.044 | 0.25 |
| High school graduate | — | — | — | — |
| Some post-secondary | 0.514*** | 3.59 | 0.514*** | 3.59 |
| Undergraduate degree | 1.243*** | 5.86 | 1.247*** | 5.88 |
| Graduate degree | 2.909*** | 6.88 | 2.910*** | 6.88 |
| Educational attainment missing | 0.581* | 1.91 | 0.582* | 1.91 |
| Language | | | | |
| French speaker | 0.490* | 1.81 | 0.487* | 1.80 |
| French speaker in Quebec | -0.899*** | -2.98 | -0.892*** | -2.96 |
| English | — | — | — | — |
| Other than English or French | -0.876*** | -5.73 | -0.875*** | -5.73 |

(continued)

Table A.1: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999 (Cont'd)

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|---|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Occupation | | | | |
| Managerial and professional (Occ1) | 2.749 | 0.95 | 2.757 | 0.95 |
| Business, finance, and administrative (Occ2) | 1.287 | 0.52 | 1.292 | 0.52 |
| Natural and applied sciences (Occ3) | 12.082* | 1.81 | 11.997* | 1.80 |
| Health (Occ4) | 7.466 | 1.31 | 7.535 | 1.32 |
| Social sciences (Occ5) | 8.679* | 1.69 | 8.696* | 1.69 |
| Art, culture, and recreation (Occ6) | 6.580 | 0.81 | 6.662 | 0.82 |
| Sales and services (Occ7) | — | — | — | — |
| Trades and transport (Occ8) | 0.628 | 0.29 | 0.604 | 0.27 |
| Primary industries (Occ9) | -0.487 | -0.17 | -0.496 | -0.17 |
| Processing industries (Occ10) | -1.942 | -1.40 | -1.941 | -1.40 |
| Occupation missing | 1.383 | 0.78 | 1.370 | 0.78 |
| Occupation and employment growth rate interactions | | | | |
| Occ1*employment growth rate | 0.201 | 1.50 | 0.201 | 1.50 |
| Occ2*employment growth rate | 0.153 | 1.13 | 0.154 | 1.13 |
| Occ3*employment growth rate | 0.052 | 0.30 | 0.051 | 0.29 |
| Occ4*employment growth rate | 0.059 | 0.32 | 0.057 | 0.31 |
| Occ5*employment growth rate | 0.289* | 1.65 | 0.287 | 1.64 |
| Occ6*employment growth rate | -1.008*** | -3.76 | -1.005*** | -3.75 |
| Occ7*employment growth rate | — | — | — | — |
| Occ8*employment growth rate | 0.450*** | 3.40 | 0.450*** | 3.40 |
| Occ9*employment growth rate | 0.286 | 1.29 | 0.284 | 1.29 |
| Occ10*employment growth rate | 0.013 | 0.08 | 0.014 | 0.09 |
| Occupation missing*employment growth rate | 0.305*** | 2.85 | 0.303*** | 2.83 |
| Occupation and employment rate interactions | | | | |
| Occ1*employment rate | -0.019 | -0.55 | -0.019 | -0.55 |
| Occ2*employment rate | -0.020 | -0.59 | -0.020 | -0.59 |
| Occ3*employment rate | -0.088** | -1.96 | -0.088* | -1.95 |
| Occ4*employment rate | -0.060 | -1.28 | -0.061 | -1.29 |
| Occ5*employment rate | -0.080** | -1.99 | -0.081** | -1.99 |
| Occ6*employment rate | -0.043 | -0.63 | -0.044 | -0.64 |
| Occ7*employment rate | — | — | — | — |
| Occ8*employment rate | -0.019 | -0.58 | -0.019 | -0.57 |
| Occ9*employment rate | -0.009 | -0.17 | -0.009 | -0.16 |
| Occ10*employment rate | 0.056 | 1.27 | 0.056 | 1.27 |
| Occupation missing*employment rate | -0.021 | -0.79 | -0.021 | -0.79 |
| Year indicators | | | | |
| Year = 1994 | -0.172 | -0.68 | -0.082 | -0.39 |
| Year = 1995 | -0.668*** | -3.61 | -0.631*** | -3.68 |
| Year = 1996 | — | — | — | — |
| Year = 1997 | -0.486*** | -3.32 | -0.720** | -2.42 |
| Year = 1998 | -0.354** | -2.31 | -0.609** | -1.98 |
| Year = 1999 | -0.612*** | -3.38 | -0.832*** | -2.84 |

(continued)

Table A.1: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999 (Cont'd)

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|--|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Economic Region indicators | | | | |
| Avalon Peninsula, NL | -0.242 | -0.33 | -0.227 | -0.30 |
| South Coast-Burin Peninsula, NL | -0.452 | -0.29 | -0.330 | -0.20 |
| West Coast-Northern Peninsula-Labrador, NL | -0.187 | -0.17 | -0.197 | -0.18 |
| Notre Dame-Central Bonavista Bay, NL | -0.119 | -0.09 | -0.172 | -0.14 |
| Prince Edward Island | -0.151 | -0.19 | -0.034 | -0.04 |
| Cape Breton, NS | -0.286 | -0.26 | -0.250 | -0.22 |
| North Shore, NS | 0.931 | 0.91 | 0.811 | 0.81 |
| Annapolis Valley, NS | 0.983 | 0.95 | 0.858 | 0.84 |
| Southern, NS | 0.052 | 0.05 | -0.108 | -0.11 |
| Halifax, NS | 0.902* | 1.81 | 0.899* | 1.81 |
| Campbellton-Miramichi, NB | 0.435 | 0.41 | 0.377 | 0.36 |
| Moncton-Richibucto, NB | 0.706 | 1.01 | 0.691 | 0.99 |
| Saint John-St. Stephen, NB | 0.826 | 1.03 | 0.691 | 0.87 |
| Fredericton-Oromocto, NB | 2.551*** | 2.74 | 2.413*** | 2.62 |
| Edmundston-Woodstock, NB | 0.483 | 0.48 | 0.194 | 0.20 |
| Gaspésie-Iles-de-la-Madeleine, QC | 0.131 | 0.09 | 0.168 | 0.12 |
| Bas-Saint-Laurent, QC | -0.294 | -0.36 | -0.375 | -0.47 |
| Québec, QC | 1.804*** | 2.60 | 1.710** | 2.47 |
| Chaudière-Appalaches, QC | 0.688 | 1.20 | 0.503 | 0.85 |
| Estrie, QC | 0.953 | 1.28 | 0.772 | 1.04 |
| Centre-du-Québec, QC | 0.686 | 0.91 | 0.530 | 0.72 |
| Montréal, QC | 2.510*** | 5.20 | 2.477*** | 5.19 |
| Montréal, QC | 1.182* | 1.93 | 1.164* | 1.90 |
| Laval, QC | 4.465*** | 5.70 | 4.499*** | 5.73 |
| Lanaudière, QC | 2.739*** | 3.70 | 2.684*** | 3.65 |
| Laurentides, QC | 3.775*** | 5.22 | 3.828*** | 5.23 |
| Outaouais, QC | 2.612*** | 3.80 | 2.663*** | 3.82 |
| Abitibi-Témiscamingue, QC | 1.977** | 2.04 | 1.877** | 1.96 |
| Mauricie, QC | 2.790*** | 2.62 | 2.628** | 2.49 |
| Saguenay-Lac-Saint-Jean, QC | 0.523 | 0.59 | 0.426 | 0.49 |
| Côte-Nord and Nord-du-Québec, QC | 3.323*** | 2.80 | 3.253*** | 2.73 |
| Ottawa, ON | 0.334 | 1.03 | 0.276 | 0.85 |
| Kingston-Pembroke, ON | -0.159 | -0.27 | -0.247 | -0.43 |
| Muskoka-Kawartha, ON | 0.428 | 0.65 | 0.288 | 0.43 |
| Toronto, ON | — | — | — | — |
| Kitchener-Waterloo-Barrie, ON | 1.997*** | 4.78 | 2.010*** | 4.80 |
| Hamilton-Niagara Peninsula, ON | 0.841** | 2.35 | 0.734** | 1.96 |
| London, ON | 1.984*** | 4.33 | 1.942*** | 4.31 |
| Windsor-Sarnia, ON | -0.799* | -1.93 | -0.833** | -2.02 |
| Stratford-Bruce Peninsula, ON | 1.495** | 2.33 | 1.338** | 2.08 |
| Northeast, ON | 0.034 | 0.06 | -0.082 | -0.14 |
| Northwest, ON | 0.934 | 1.44 | 0.849 | 1.33 |

(continued)

Table A.1: Impact of Labour Market Attachment, the EI Program, and Other Determinants on Geographic Mobility, 1994–1999 (Cont'd)

| | Probit Model With EI Benefit Generosity Indicator | | Probit Model With Post-1996 Reform Indicators | |
|--|---|-------------|---|-------------|
| | Marginal Effect | t-statistic | Marginal Effect | t-statistic |
| Southeast, MB | 2.276** | 2.00 | 2.030* | 1.81 |
| South Central, MB | -0.847 | -0.60 | -0.994 | -0.73 |
| Southwest, MB | -0.527 | -0.63 | -0.644 | -0.78 |
| North Central, MB | 1.990 | 1.27 | 1.689 | 1.10 |
| Winnipeg, MB | 1.668*** | 3.88 | 1.634*** | 3.80 |
| Interlake, MB | 4.668*** | 3.57 | 4.417*** | 3.42 |
| Parklands and North, MB | 2.765** | 2.52 | 2.257** | 2.06 |
| Regina-Moose Mountain, SK | 2.057*** | 3.23 | 1.928*** | 3.03 |
| Swift Current-Moose Jaw, SK | 3.432*** | 2.82 | 3.062** | 2.52 |
| Saskatoon-Biggar, SK | 1.459** | 2.41 | 1.346** | 2.21 |
| Yorkton-Melville, SK | 3.217** | 2.42 | 2.663** | 1.97 |
| Prince Albert and Northern, SK | 0.848 | 1.29 | 0.651 | 0.98 |
| Lethbridge-Medicine Hat, AB | 3.864*** | 4.71 | 3.757*** | 4.59 |
| Camrose-Drumheller, AB | 5.924*** | 5.92 | 5.615*** | 5.53 |
| Calgary, AB | 1.964*** | 3.63 | 2.078*** | 3.72 |
| Banff-Jasper-Rocky Mountain House, AB | 6.743*** | 4.35 | 6.995*** | 4.41 |
| Red Deer, AB | 4.962*** | 4.61 | 5.086*** | 4.66 |
| Edmonton, AB | 1.242*** | 2.91 | 1.320*** | 3.00 |
| Athabasca-Grande Prairie-Peace River, AB | 1.699* | 1.92 | 1.701* | 1.93 |
| Wood Buffalo-Cold Lake, AB | 4.582*** | 3.24 | 4.864*** | 3.33 |
| Vancouver Island and Coast, BC | 0.866** | 1.99 | 0.760* | 1.72 |
| Lower Mainland-Southwest, BC | -0.426* | -1.82 | -0.459* | -1.94 |
| Thompson-Okanagan, BC | 1.683*** | 3.12 | 1.533*** | 2.79 |
| Kootenay, BC | 0.668 | 0.82 | 0.541 | 0.67 |
| Cariboo, BC | 1.461* | 1.86 | 1.557* | 1.94 |
| North Coast and Nechako, BC | 4.645*** | 4.32 | 4.692*** | 4.40 |
| Northeast, BC | 0.764 | 0.65 | 0.706 | 0.62 |
| Sample Size | 79,145 | | 79,145 | |
| Pseudo R squared | 0.083 | | 0.083 | |
| Log likelihood | -8,957.2 | | -8,956.6 | |

Note: Household heads with “strong” labour market attachment refers to individuals who worked at least 50 weeks during the year. Household heads with “moderate” labour market attachment refers to individuals who worked 20 to 49 weeks during the year. Household heads with “weak” labour market attachment refers to individuals who worked 1 to 19 weeks during the year. Household heads with “no attachment” to the labour market refers to individuals who did not work at all during the year. One asterisk indicates statistical significance at the 10 per cent level, two asterisks at the 5 per cent level, and three asterisks at the 1 per cent level. The “pseudo R squared” statistics indicate that the models can explain approximately 8.3 per cent of the variability in the dependent variable.

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