

The Effects of Social Assistance and Employment Insurance on Low Tenured Job Stability:
Evidence from Canada

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Abstract

This study explores the sources of change recently seen in Canadian low tenured job stability patterns. Using the Labour Force Survey master files (1977-2011), I find that changes in the structure of the Unemployment Insurance program can explain a significant part of the increasing job stability trends of low tenured jobs. The effect appears to work through layoffs. There is evidence that a decrease in EI/UI generosity leads to a decrease in the probability that a worker will be laid off. The results, however, are not as clear in respect to the impact of social assistance. An increase in the relative 'social assistance generosity rate' leads to an increase in the probability that a low tenured worker continues with the same employer. The findings could be capturing the child tax credits and supplements implemented during 1990s.

I Introduction

Job stability for Canadian workers has been a source of growing concern in the past 30 years as significant changes have occurred in the Canadian labour market, such as the increasing use of part-time and temporary workers. Due to the recent economic downturn, fears of decreasing job stability (and job security) have increased. Despite these concerns, there is no evidence of a secular decrease in job stability since the 1990s. Of particular interest, job stability for low tenured workers, i.e. workers with less than one year of tenure with their present employer, has increased over this period. Although the subject of job stability has been given much attention, there remains a gap in the literature as to why there has been an increase in job stability for these low tenured workers.

In Canada, Heisz (2005), and Brochu (2012) use the Labour Force Survey (LFS) to study changes in job stability over time. Heisz (2005) examines one-year retention rates and found that between the 1970s and early 2000s low tenured job stability increased. Brochu (2012) updates the evidence into the late 2000s, and finds that job stability for low tenured workers has increased dramatically since the early 1990s, reaching a historical high in 2007.¹

Brochu (2012) explores the sources of changing job stability in Canada, and finds that ageing and increasing educational attainment could explain the majority of changes in the aggregate patterns found since the early 1990s. However, these compositional changes could not account for much of the increase seen in low tenured job stability, where the only compositional change that mattered was education. Furthermore, technological change, changing industry structure – including shifts from seasonal to non-seasonal jobs, and the

¹ There is no such consensus in the U.S. in regards to low tenured job stability (e.g. Neumark et. al (1999), and Farber (2008)). The U.S. literature has primarily relied on the Current Population Survey (CPS) data, and although it is similar in content to the Canadian LFS, the tenure question is not a part of the regular survey. This data limitation makes it difficult to examine how low tenured job stability changed over time.

rise of non-standard work appears not to be the driving force behind the new trends in low tenured jobs.

Most interestingly, the steady increase in low tenured job stability coincided with major reforms to two of Canada's most important social programs, the provincial social assistance program, and the federal Unemployment Insurance (UI) program, now known as the Employment Insurance (EI) program. Thus the central purpose of this study is to examine whether the generosity levels of Canadian social programs can explain the increase in low tenured stability.

Identifying whether changes in the social programs is important for two main reasons. First, the objective of the social program reforms in the 1990s was to decrease dependency on the social assistance system and to encourage stronger labour market attachment. Thus, knowing whether these policies changes were successful could provide insight on future policy decision surrounding social programs. On the opposing side, if they were not found to have an effect, then it would be relevant to understand how those who rely on social assistance and employment insurance were impacted.

In order to examine the impact of social assistance and EI reforms, I take advantage of the consistent tenure data and rotating panel nature of the Canadian Labour Force Survey, which allows me to follow low tenured workers from one month to the next. The two-month mini panels allow me to account for variables that change over time, such as family type. Controlling for family type is important when measuring the impact of social programs, as generosity levels vary across different family types. I can also focus on quits and layoffs, which helps to better understand why job stability has changed for low tenured workers.

The main findings of my paper indicate that changes in generosity levels of social programs impact low tenured job stability. The effects of social programs vary across family groups, and the effect of social assistance is not as clear as the EI/UI effect.

With respect to social assistance, an increase in the relative ‘social assistance generosity rate’ is found to lead to an increase in the probability that dual income-earning parents continue to work with the same employer, however the effect is economically small.² Focusing on the probability of leaving employment shows that an increase in the relative ‘social assistance generosity rates’ leads to decreases in both the probability of quitting and the probability of being laid off. These results suggest that the social assistance cuts in the 1990s cannot explain the increase in low tenured job stability. But the positive effect of the relative ‘social assistance generosity rate’ could be capturing the child tax credits and supplements implemented in the mid-1990s, thus could help explain a part of why low tenured stability continued to increase in the 2000s.

The second main result of the study is that an increase in the EI/UI generosity level leads to a decrease in the probability that a low tenured worker continues with the same employer. The disincentive to work is being driven by a decrease in the probability of being laid off, suggesting that employers play an important role in changes to the EI/UI parameters. It is important to note that the EI/UI effect is not equal across all family types, where the effect is the greatest for lone parents, followed by dual income-earning parents. It is found not to have an impact on other family types.

An important factor to note is that a majority of the major reforms to the social programs occurred during a period of strong economic growth. Furthermore, after 2007, when the Canadian economy experienced a period of weak economic growth, the low

² I construct an annual relative social assistance rate that takes the annual social assistance generosity relative so average weekly earnings. I will expand on this measure in section three.

tenured retention rate slightly decreased. If economic growth continues to stagnate, it will be interesting to see if low tenured job stability continues to decrease. If this is the case, it will be of additional interest to observe whether or not the changes in the structure of the social programs will have a different impact on low tenured workers, who are generally more reliant on social program during periods of slower economic growth.

The paper proceeds in six sections, including the introduction. The second section provides a review of recent job stability literature, an overview of Canadian social programs, and a review of literature that examines the impact of social programs on labour market activity. The third section describes the data. In the fourth section the empirical strategy is provided. The fifth section provides the main results, and the sixth section concludes.

II Literature Review

There has been an array of literature that focuses on Canadian and U.S. job stability trends (e.g. Heisz (2005) and Farber (2008)), and how compositional changes in the labour force have led job stability to increase over time (e.g. Brochu (2012)). As well, there has been many studies that have focused on the interaction between social programs, such as social assistance and employment insurance, and how these programs may impact the duration of unemployment and employment (e.g. Green and Riddell (1997 b), and Whelan (2010)). This section will provide a review of Canadian and American job stability literature, and in particular it will focus on studies that have examined low tenured job stability. Additionally, it will provide an overview of Canadian social programs, and Canadian studies that have looked at how these programs impact labour market behaviour.

Canadian Job Stability Literature

In Canada there have been several studies that have used the Canadian Labour Force Survey (LFS) to examine job stability trends over time. Green and Riddell (1997 a) use the public use files to examine the distribution of in-progress jobs for the period between 1979-1991. They find that by the late 1980s there is a higher probability of individuals finding themselves in shorter tenured jobs, and this finding is particularly true for low-educated young individuals. A limitation in examining tenure distribution over time is that the distribution is sensitive to job inflows.³

Using the LFS master file, Heisz (2005) uses the retention rate approach to examine job stability over the period between 1977 and 2001. The retention rate is the probability that a job will continue for one more period. It is conditioned on the length of tenure, and therefore does not experience the job inflow bias that affects the distribution of in-progress jobs. In using a synthetic cohorts approach to construct the annual retention rate, Heisz (2005) finds job stability to be constant on the aggregate level between the late 1970s and the late 1990s. In terms of low-tenure workers, he finds that job stability fell in the 1980s but recovers in the 1990s. Similar findings were also reported for young workers and for workers with a high school education or less. Although Heisz (2005) establishes trends surrounding job stability, he associates job stability to be cyclical in nature, and does not assert evidence as to why stability for low-tenured workers recovered in the 1990s.

Brochu (2012) extends the initial findings of Heisz (2005) into the late 2000s, and by using the repeated cross-sections approach to construct annual retention rates, he finds that previous patterns in job stability that were formerly believed to be cyclical in nature in fact

³ For example, job inflow bias can arise if there are many new entrants in the labour force, as was the case when the baby boomers entered the labour market, which will lead more people on the left tail of the tenure distribution. This change in distribution would not be due to the fact that jobs are less stable, but due to the fact that there are more new entrants in the labour force.

represent a secular increase in job stability. More importantly for this study, Brochu (2012) finds that job stability for low tenured workers has increased dramatically since the early 1990s, and by 2007 rose to a historical high. Additionally, the study is the first to investigate the sources of the changes in job stability on the aggregate level.

Using a traditional decomposition approach it is found that two factors, ageing of the population and increased educational attainment, explain much of the changes in aggregate patterns found since the early 1990s. The explanatory powers of these two factors are found to be greater for men than women. Gender differences are explained by differences in cohorts, where the retention rate of the more recent cohorts of women and men behave more alike.

These sources of change are not found to have the same explanatory power over low tenured workers, where gender difference has little explanatory power over rising job stability. Similarly, ageing of the labour force does not affect the retention rate of low tenure workers, where older workers, relative to younger worker, are only slightly more likely to continue on with the same employer for an additional year. Rising educational levels is the only compositional change that is able to explain the rising job stability of low tenured workers. Further focus on changing job stability of low tenured workers indicates that technological change, changing industry structure – including shifts from seasonal to non-seasonal jobs – and the rise of non-standard work appears not be the driving force behind the new trends.

A related study by Chan et al. (2011) provides insight on to the cyclicity of low tenured job stability patterns. Chan et al. (2011) focus on the layoff rates from the previous three recessions in Canada. They focus on identifying the type of workers that were laid off during these recessions, and how the layoff rates differed over the three recessions. Using

the LFS master files, they establish that during the most recent recession, workers who are most likely to be laid off are males between the ages of 15-24 with two years or less of seniority with the firm, have no university degree, live in the Atlantic provinces, and are employed in primary industries and construction. In general, layoff rates for all compositional groups decreased in the most recent recession relative to the recessions in the early 1980s and early 1990s. Furthermore, it was found that the difference in the likelihood of being laid off between workers with more than five years of seniority and new hires has narrowed over time, and is being driven by a decrease in the layoff rates of new entrants. This result returns us to the original question, of what is causing the changes seen in low tenured workers labour market activity? An additional related study by Campolieti (2011) looks at the nature of flows into and out of unemployment in order to examine the cyclical nature of unemployment.

The goal of Campolieti's study is to understand the nature of the flows into and out of unemployment, and how they change over time. In other words, are unemployment rates being driven by the number of new unemployed workers – inflows – or by changes in the duration of unemployment spells – outflows? By disaggregating the LFS master files it is found that the number of new incidences of unemployment for new entrants cannot be accounted for by cyclical behaviour alone. In addition, by looking at the duration of unemployment of new workers, it is found that the probability of new workers leaving unemployment can only account for a minimal change in the unemployment rate. These two findings suggest that there are other factors leading to the changes seen in the unemployment rate of low tenured workers. However the indirect method used by Campolieti (2011) makes it impossible to understand the sources of change of the new entrant unemployment rates.

U.S. Job Stability Literature

There has been much debate in U.S. literature when examining the matter of low tenured job stability, in which many of the studies have focused on tenure data gathered from the Current Population Survey (CPS). The CPS collects data that is similar in content to the Canadian LFS, but it differs from the LFS in the method in which tenure data is collected. The tenure question is not part of the regular survey, and it is only asked in selected supplements, meaning that yearly retention rates cannot be constructed. For the 1980s and the first half of the 1990s, they could only construct 4-year retention rates, i.e. whether a job continued four years later. This implies that caution must be used when comparing job stability levels between the two countries. Using CPS data, Neumark et. al (1999) analyze the retention rate through the 1980s to the mid-1990s, and find that job stability for low-tenured workers increased over time. They cannot establish a long-term trend, as the results contradict the findings from the 1980s where job stability was found on the aggregate level to be stable.

Farber (2008) similarly examines the issue of U.S. job stability using CPS data over the periods between 1973 and 2006. Farbers' findings differ from those of Neumark et. al (1999), as he finds that over time there has been a consistently higher level of turnover for both females and males less than 30 years old. As males age it is found that they are less likely to settle into longer-term jobs. In contrast, females are more likely to stay in their job as they age. The contradicting results make it difficult to infer changes in low tenured job stability in the U.S., and this could be due to the case that Neumark et. al (1999) uses the

retention rate to analyze job stability, while Farber (2008) focuses on changes the distribution of job duration over time.

A recent U.S. survey, the Job Opening and Labor Turnover Survey (JOLTS) makes it possible to examine U.S. job stability from a different perspective than the CPS. Although JOLTS does not collect data on tenure, in December of 2000 it began collecting data on monthly separation rates. Hall (2006) provides a descriptive summary of the JOLTS separation rates. It is found that quits fell and layoffs increased during the 2001 U.S. recession, but that the magnitude of these changes are small, leading the overall separation rates to remain steady. While JOLTS is able to investigate the nature of separation rates, it is not able to break down these rates in terms of tenure, thus results from studies that use JOLTS cannot be compared to studies using the Canadian LFS when examining the sources of low tenured job stability trends.

Social programs in Canada

The Canadian literature on job stability strongly establishes that there are changes in the low tenured job stability trends, and that these changes cannot be fully accounted for by cyclical factors or compositional changes. More interestingly, job stability for low tenured workers in Canada began to steadily increase during the same time two of Canada's most important social programs, the provincial social assistance program, and the federal Unemployment Insurance (UI) program, experienced major reforms.

The social assistance program in Canada was established under the Canada Assistance Plan (CAP) of 1966, with the objective of providing universal financial assistance to individuals and families in need (Barrett et al. (1996)). CAP was a cost-sharing program, where the federal government would match provincial social assistance spending, but the provinces were fully responsible over the administration and delivery of the program. There

are many factors that vary across provinces that are important in determining the eligibility and benefit levels for social assistance, such as a household's level of financial distress, family status and size, and employability status. For example, Barrett et al. (1996) found the employability status of Alberta and British Columbia to be the most stringent, where in 1992 a person in British Columbia was classified as employable if they were not 65 years of age or older, unable to work due to medical reasons, a single parent with one dependent child under sixth months or two or more under the age of twelve, or finally a single parent with a disabled child at home. On the opposite side of the spectrum, Newfoundland treats a person as not employable if they receive social assistance benefits for any reason other than being unemployed. Social assistance benefits also vary across economic family type, where different benefit levels are set for households consisting of a single person, a person with a disability, a lone parent, or a couple with children (National Council of Welfare (2009)).

In 1990 when the Canadian economy fell into a recession, social assistance caseloads grew substantially. McIntosh and Boychuck (2000) show that the number of social assistance recipients nearly doubled between the period 1990 and 1994, particularly in Ontario, where the number of caseloads grew from 929,900 in 1991, to 1.4 million in 1994. In 1990, as provinces saw social assistance caseload increase, the federal government limited transfers to Alberta, British Columbia and Ontario to a 5 percent annual increase for the following two years, ending the 100 percent matching cost-sharing feature of CAP. In 1996 CAP was replaced by the Canada Health and Social Transfer program, leading to a 35 percent decrease in overall federal cash transfers to provinces. The federal government no longer wanted to fund the increasing social assistance budget of the provinces, and Human Resource Development Canada (1994) discussion paper states the objective of the reform was: "helping people get and keep jobs".

The National Council of Welfare (1997) states that the reform led provinces to impose stricter eligibility rules, and set disincentives to decrease dependence on the system. McIntosh and Boychuck (2000) describe various policy approaches taken by the provinces in order to decrease this dependency. One policy approach by the provinces included simply cutting social assistance through decreased benefits and stricter eligibility rules, and providing increased incentives to gain or maintain employment. Other provinces implemented policies that would provide positive work incentives, such as extending benefits to recipients who leave the program for work, or creating tax incentives for specific groups, such as couples with children.

For example, Ontario cut benefits and implemented a workfare program to discourage reliance on social assistance to those who would otherwise be able to work. Alberta increased work incentives by restructuring the social assistance provisions, such as restricting eligibility by denying assistance to first time applicants until they had proved that they had searched for employment, and reducing overall benefits. Finnie and Irvine (2008) state that in Alberta the largest drop in benefits took place immediately following the reform. The Alberta Department of Family and Social Services reported that quarterly inflows dropped from 37,000 in 1992 to 20,000 in 1996. This drop was associated with a decrease of benefits to first time entrants, although it is important to note that it was also associated with a period of strong economic growth. One common theme among all policy initiatives across all provinces was to increase the incentive for individuals to work, and to decrease dependency on the system. Reforms to the social assistance program coincided with the major overhaul of Canada's unemployment insurance program.

The UI program differs from other social programs in that it is under federal jurisdiction. The goal of the UI program was to provide labour market participants income

due to temporary unemployment spells. Rather than providing temporary income based on needs of recipients, benefits are based on previous earnings, and can differ depending on the length of tenure of the worker. Despite the fact that the UI system was not originally intended to provide universal coverage, the expansion of the program in 1971 led the program to cover 95 percent of all paid workers (Barrett et al. (1996)). The Human Resource Development Canada (1994) discussion paper on social security programs in Canada noted: “Today, almost 40 percent of regular UI claimants have used the program at least three time in the last five year. Many are on treadmills. They need help getting off.”

To help get workers off the “treadmill”, the federal government in 1993 began to cease all benefits to workers who quit without just cause and decreased the overall benefit rate. The UI regime was then replaced in 1996 with the Employment Insurance (EI) program that modified key parameters such as maximum insurable earnings and entrance requirements. McIntosh and Boychuk (2000) provide an overview of the reforms that occurred in the early-to-mid 1990s, and state the intent of the reforms was to move away from a passive program that provides simple income replacement towards a more active program encouraging employment and discouraging dependence on the system. Changes to the program included tighter eligibility rules, especially for new labour market entrants, with the rationale that stricter rules would discourage dependency on the system and would encourage workers to develop a stronger attachment to the labour force before collecting EI benefits. The impact of reform was dramatic and occurred soon after the reforms. McIntosh and Boychuk (2000) state that following the EI/UI reform there was a 14 percent drop in EI claims between 1995-96 and 1997-98. Claims for younger workers dropped by 27 percent, as they are more likely to be new entrants in the labour force, thus no longer qualifying for benefits. It is difficult to attribute the change in EI/UI claims to the reform only, as the

period following the 1990-92 recession was a period of prolonged economic growth.⁴ The following section provides an overview of how social programs, such as social assistance and employment insurance impact labour market behaviour.

Impact of Social Programs on Labour Market Behaviour

In Canada, a number of studies investigating the impact of unemployment insurance have centered on the longitudinal data obtained from the Canadian Labour Market Activity Survey (LMAS) over the 1986 and 1990 period. Green and Riddell (1997 b) examine the behavioural impact of UI program on employment duration using a natural experiment of when there was a temporary suspension of the variable entrance requirement, in which all workers would have to work 14 weeks before qualifying for UI.⁵ Prior to the suspension, the entrance requirement would vary across provinces, and relied on the regional unemployment rate, where the number of weeks before qualifying for UI ranged from 10 to 14 weeks. Using the LMAS, they analyze the hazard rate of out employment for the period between 1989 and 1990. They find strong evidence that the entrance requirements impacts employment duration. Individuals who work “just enough” to qualify for UI are found to be disproportionately low skilled, resource sector workers. More interestingly, they find that all

⁴Gray (2006) looks at whether the major reforms of the unemployment insurance reform instituted in the 1996 had begun to unravel due to many changes made to the EI program in subsequent years. It is found that modifications in the EI program since 2000 have increased generosity paid to seasonal workers, which could encourage more frequent use of the system. Furthermore he states that the modification may lead to an increase in short-term labour market attachments at the expense of long-term, year-round labour market attachments. As the study was conducted throughout a period of strong labour market activity, the full impact of the reforms cannot yet be asserted.

⁵ There is periodical renewal of the legislation overlooking the Variable Entrance Requirement. Due to a political dispute between the House of Commons and the Senate over other issues, in January of 1990 the entrance requirement was not renewed. The entrance required was then reverted to a flat 14 weeks in all regions, until the legislation passed in January of 1990. Baker and Rea (1998) similarly examine the effect of entrance requirements using the same temporary suspension and the same data set as Green and Riddell (1997 b). Using a similar methodological approach their results indicate an increase in employment hazard in the week in which individuals would qualify for UI benefits.

of the behavioural adjustments were due to layoffs and not quits, which suggests that employers play an important role in adjusting to the change in the eligibility requirements.

Christofides and McKenna (1995; 1996) estimate the impact of unemployment insurance parameters on job duration in Canada. Using the LMAS over the period between 1986 and 1989 they look at whether the frequency distribution of job duration can be associated with the entrance requirement. The objective of the study is to see if individuals would remain employed for a minimum length of time in order to qualify for UI benefits. They find that changes in the entrance requirement are associated with corresponding changes in employment duration, where individuals will stay at their job longer in order to qualify for employment insurance. An important fact to note in regards to Christofides and McKenna (1995; 1996) study, and the other studies that examine the impact of UI on job duration from the LMAS, is that they covered the period before UI was replaced with the EI regime, thus meaning that individuals throughout this time frame could still receive unemployment insurance when they voluntarily left a job.

A study that investigates the impact of social assistance on labour market behaviour in Canada is by Lemieux and Milligan (2004). They examine the effects of government transfer programs by exploiting an unusual policy found in Quebec. Prior to 1989, individuals residing in Quebec, without children who had not yet attained the age of 30, received benefits much lower than recipients older than 30. Following the policy change, where the social assistance generosity increased for individuals under the age of 30, employment probabilities were found to decrease for less-educated men without dependent children.⁶ They also find that higher benefits reduce the employment rate of all men, and find that the use of social assistance increases when benefits rise. The findings are limited, as

⁶ They restricted their sample to men without children, in order to avoid endogeneity issues, such as fertility decisions, and fixed costs of working in presence of young children.

the effects are identified only for men of the age 29 to 30, and may not be consistent for men of other ages. However it is shown that eligibility requirements of social assistance do impact employment behaviour, and that these behavioural changes are associated with social assistance reform and changes in eligibility requirement.

Two additional studies in Canada that have looked more specifically at the determinants of social assistance rates have been conducted by Finnie and Irvine (2008) and Arneau et al. (2005) with the former study focusing on the impact of social assistance reform on these rates.

Finnie and Irvine (2008) focus on finding the major determinants of social assistance usage. Relevant determinants of welfare outcomes that vary by family type include social assistance benefit levels, and the generosity of the employment insurance system. Their findings suggest that improvements in economic conditions played the largest single role in explaining the downward trends in social assistance rates over time. Additionally the decrease in funding of the social assistance benefits in the mid-1990s was found to decrease social assistance usage. More interestingly, the decline in entry rates – the number of people entering the program – was found to play a substantial role in explaining the fall in social assistance use. With the exception of single parents, the results also suggest that social assistance and EI are found to be complements, not substitutes. Therefore a less generous EI system appears to decrease social assistance rates. This finding stems from the fact that a less generous EI system could reduce dependency on the social assistance, as individuals are more likely to stay in their jobs or search for a job instead of seeking EI and then progressing to social assistance. For single parents, EI and social assistance are found to be substitutes, where a less generous EI systems leads to a greater participation of the social assistance program. Overall, it cannot be established whether reforms to social assistance

had a positive or negative impact on individuals, however what is clear is that they had a distinct impact on the social assistance participation rates.

Arneau et al. (2005) similarly look at how unemployment rates, unemployment insurance parameters, and social assistance benefit levels impact social assistance participation. Using provincial macro panel data for the period between 1976-2001, they find that changes in the average benefit level of social assistance have a strong impact on the social assistance usage. One important implication from Arneau et al. (2005), is that social assistance and unemployment insurance are highly interactive, where a change in the EI/UI wage subsidy has a large impact on the social assistance usage.⁷ They report that when applied to the entire 1997 Canadian population, the UI amendments of 1990, 1994 and 1996 would lead to a 27 percent increase in the assisted population.

Whelan (2010) further examine the interaction between unemployment insurance and social assistance. The purpose of Whelan's (2010) is to understand how the two social programs interact, and whether individuals base their behaviour on all available social programs. Using data gathered from the 1997 Canadian Out of Employment Panel, and by estimating a set of duration models, he finds that the previous held belief of the EI/UI and social assistance programs being simple substitutes of one and another is incorrect. More specifically, it is found that the impact of a change in one program on the use of another program depends on which program is varied and how it is varied. These interactions are attributed to a number of behavioural and administrative mechanisms. On the behavioural

⁷ To measure EI/UI generosity, Arneau et al. (2005) use what is known as the Fortin measure, which is the percentage of the labour force insured, multiplied by the replacement rate, and the maximum benefit duration for minimally qualified individuals (D) to minimum entrance requirement (M) ratio (% of LF insured*r*D/M). The Fortin measure has been used often in Canadian literature (e.g. Fortin et al. (1995)) to measure the behavioural impacts of the EI/UI system. However, a criticism of the measure, as stated by Sargent (1995), is that it is a partial equilibrium model, capturing the impact of EI/UI benefits for only one segment of the labour force. The EI/UI generosity measure will be elaborated on in section three.

side, an unemployed individual may receive social assistance if they have exhausted their EI/UI benefits. On the administrative side, variation in one program may alter the usage of the other program, or individuals may shift into social assistance while waiting for EI/UI claims to be processed. A non-stationary job search model is used to demonstrate how the interface between the two programs can influence behaviour. In the model, social assistance represents the final state after EI/UI benefits are exhausted, and when social assistance generosity levels are reduced, individuals may be less likely to exhaust their EI/UI benefits to claim social assistance as the value of the final state as declined.

III Data

This section contains a description of the main data source, the Labour Force Survey of Canada (LFS), and provides an overview of how the social measures were constructed. The two social program measures include the social assistance generosity rates and employment insurance generosity rates.

LFS

The primary source of data used for this study is gathered from the LFS master files for the period between 1977-2011. The LFS is a rotating panel survey in which approximately 54,000 households a month are interviewed for six consecutive months with the objective of gaining information on Canadian labour market activities. The LFS provides consistent tenure data that has been gathered on a regular basis over an extended period of time. What distinguishes the LFS from other Canadian data sets is that the same tenure related question has been asked on a monthly basis since 1976.

Individuals are interviewed over six month periods, with one sixth of the sample being replaced each month, this allows me to follow an individual over a month-to-month

period in order to estimate the separation, or continuation, probabilities over time. Following the approach by Brochu and Green (2011), I create mini panels to identify if an individual in period 1 of the sample continues to work for the same employer in period 2 of the mini panel. Additionally, the LFS allows me to break the sample down for reason of separation, permitting me to differentiate between voluntary and involuntary separations. In separating the sample for reason of separation, I am able to identify whether the increase in low tenured job stability is being driven by changes in layoffs, quits, or a combination of the two variables.

The focus of the study is on low tenured job stability, thus the sample will consist of all individuals between the ages of 20 to 54, except for full-time students, the self-employed and those in the military. It is further restricted to individuals in the incoming rotation group with tenure less than or equal to 11 months. Due to the panel nature of the survey, I restrict the sample to include individuals that are employed in period 1 of the mini panel, and further restrict the sample to incoming March data. In restricting the sample to March data I ensure that individuals only enter the sample once, allowing for a random sampling of the population. The lower age limit of 20 is set as teenagers account for a small fraction of the workforce with the majority of group still in school. The age upper limit of 54 is set in order to avoid the impact that voluntary retirement has on the separation rates. These restrictions are identical to the restrictions set by Brochu (2012), with the exception that Brochu (2012) uses both incoming September and incoming March data.

Social Program Measure – Social Assistance

The primary social assistance measure is obtained from the National Council of Welfare (NCW) annual publication of Welfare Incomes. The measure includes generosity levels for social assistance plus child benefits and tax credits for different types of households. The

NCW provides annual measures for welfare generosity for specific types of families for each province. The three types of families used for the purpose of this study are unattached individuals, lone parents and couples with two children. Finnie and Irvine (2008) take advantage of the same data set, and note that the measure of welfare generosity for couples with two children can be applied to families of slightly different type, such as families with 3 children, as benefit rates for couples with children have moved closely together over time. Therefore I will be using the measure of welfare generosity for couples with two children as an overall measure for couples with children.

Using the social assistance generosity levels provided by the NCW, I follow a method similar to Sargent (1998), and construct a social assistance variable that varies across family groups as follows:

$$SA_{f,p,t} = \frac{(Annual\ Social\ Assistance\ Generosity_{p,y})/12}{(Average\ Weekly\ Earnings_{p,t}) * 4}, \quad (1)$$

where $SA_{f,p,t}$ represents the monthly social assistance rate for four different economic family groups, f , for province p time and year t .⁸ Taking the ratio of current social assistance levels to the current average weekly earnings allows me to examine the relative generosity, rather than the overall benefit level of the program. The average weekly earnings in current dollars are obtained from the Canadian socioeconomic database (CANSIM).⁹ One limitation in the NCW annual welfare income is that the data only covers the periods between 1986 and

⁸ Finnie and Irvine (2008) similarly use the social assistance generosity of single employable for couples without dependents.

⁹ Average weekly earnings data for 1993-1991 was obtained from Table 281-0002, and data for 1991-2010 was obtained from Table 281-00283. As the methodological approach of Statistics Canada for gathering average weekly earnings has changed over time, I splice the 1983-1991 data with the most recently available data, using the retropolation method.

2010, and there is a gap in data for the period between 1988-1989. Despite the limitations, as the major reforms to social assistance occurred in the 1990s, I believe that the measure is adequate at capturing the impact of social assistance generosity on low tenured job stability.

Social Program Measure – Employment Insurance/Unemployment Insurance

The measure for the generosity of the employment insurance program is an index of Employment Insurance disincentive developed by Sargent (1995) and obtained from the Department of Finance Canada. The index is provided annually for the periods between 1970 and 2010, and is normalized to equal 100 in 1970. The index is not constrained between 0 and 100, for example the national index was found to equal 245 in 1977, where a level of zero corresponds to no EI/UI disincentive. The advantage of index is that it varies across provinces, as EI/UI rates are set accordingly to the regional unemployment rates, therefore the index is partially related to the unemployment rate.¹⁰ The index also incorporates parameters that vary across time, such as number of weeks of work required to qualify for the benefits, the number of weeks for which benefits can be received, and benefit levels.

Low Tenured Job Stability Patterns

To provide a clear picture of how low tenured job stability has evolved in Canada over time, I follow Brochu (2012) and calculate the one-year retention rates for low tenured workers between the period 1977 and 2010. The one-year retention rate is defined as the probability that a person on a job in year t is still on that job in year $t+1$, and is expressed as the weighted average of retention rates of all subgroups. It can therefore be broken in terms of initial tenure, allowing the one-year retention rate for workers with less than one year of tenure to be computed. In order to construct the rates, I do not use the panel feature of the

¹⁰ There exists a cyclical adjusted EI/UI Index, however it is only available on the national level, and therefore would not capture the variation of generosity between provinces.

LFS, as households only remain in the sample for 6-month intervals. Therefore the construction of the retention rates relies on a synthetic cohort approach, and only requires the use of repeated cross section.¹¹

Figure 1 provides a depiction of the national one-year retention rates for workers with less than one-year of tenure relative to EI/UI index. As EI/UI Index is partially linked to the unemployment rate, it is interesting to look at how the index relates to the retention rate throughout cyclical peaks and troughs of the business cycle. The index was found to be procyclical with the retention rate during the 1980-83, where the generosity was seen to increase during the recession, and then preceded to slowly fall until 1992, when it experienced a sharp increase. During 1990-93 recession, the retention rate is shown to be countercyclical with the index and this counter-cyclicality continues until 2010. Additionally, between 1993 and 2007, a period of strong economic growth, the EI/UI index fell to a historically low level. At the same time, low tenured retention rates are seen to reach an historical high level. In general, it is not surprising to see the low tenured rate to be countercyclical with the EI/UI index, however, it is interesting to see that the change in the relationship between the two variables following the major EI/UI reforms of the 1990s. As previously stated, the index is partially related to the unemployment rate, for this reason, Figure 2 depicts the one-year retention rate with the cyclically adjusted EI/UI index. Although the patterns are not as pronounced as they are with the unadjusted index, they remain accurate.

The relationship between low tenured retention rates and the relative social assistance generosity rates (SA rates) are not as clear as the relationship with the EI/UI

¹¹ Although I calculate the one-year retention rates of low tenured workers, my main methodological approach consists of taking advantage of the panel data to estimate marginal effects of the probability of continuing with the same employer. The retention rates are used only to show trends in the low tenured job stability patterns, and how social programs relate to them.

index. Figures 3 to 5 respectively portray the relationship between the SA rates of the 4 largest provinces for couples with children, lone parents, and single employable individuals with the national one-year retention rate of workers with less than a year of tenure. Figure 3 shows that couples with children have the highest generosity rates in all four provinces, and the rates are considerably lower for single employable individuals across all provinces.

For the period between 1989 and 2010, Ontario experienced the largest drop in SA rates for all three economic family groups, however its levels were initially much higher compared to the other provinces. Over the same time period, Quebec SA rates increased, and appear to be positively correlated with low tenured retention rate, particularly for lone parents and couples with children post-1992. On a lesser degree, British Columbia appears to follow the same pattern as Quebec, and similarly, post-1992 Ontario's SA rates are shown to be generally procyclical with the retention rate. Alberta's has the lowest SA rates, and there seems to be no clear picture of how the rates are associated with low tenured retention rates. Furthermore, there seems to be no relationship between the retention rate and SA rates for single employable individuals, as the SA rate for this group has remained relatively flat since the initial decrease in generosity rates in the early 1990s.

IV Methodological Approach

The main focus of my empirical work is on the transition of low tenured workers in and out of employment. By taking advantage of the panel nature of the LFS previously described I estimate the following linear probability model (LPM):

$$P(y_{i,p,t} = 1 | Z) = \beta_0 + \beta_1 SA_{f,p,t-1} + \beta_2 EI_{p,t-1} + \beta_3 Fam_{i,p,t} + \beta_4 SA_{f,p,t-1} * Fam_{i,p,t} + \beta_5 EI_{p,t-1} * Fam_{i,p,t} + X_{i,p,t} \rho + E_{p,t} + \delta_p, \quad (2)$$

where $y_{i,p,t}$ is a binary variable for individual i in province p and year t .¹² I focus on four binary dependent variables: continuation, quit1, quit2 and layoff. Continuation is equal to 1 if the period 1 worker continued with the same employer in period 2 of the mini-panel. Quit1 is equal to 1 if the worker is no longer working in the second period due to voluntary departure. Quit2 is required to capture those in the first definition and anyone who was employed in period 1, but with a new employer in period 2. Layoff is equal to 1 if the worker is not working in the second period due to involuntary departure.

$SA_{f,p,t-1}$ is the lagged social assistance rate (SA rate) for economic family type f in province p and year $t-1$. The social assistance variable is lagged due to potential endogeneity problems. The SA rate may be endogenous due to the fact that generosity levels and average weekly earnings can be tied to macroeconomic conditions, leading to reverse causality issues between the dependent variable and the relative social assistance variable.

$EI_{p,t-1}$ represents the employment/unemployment insurance generosity index for province p and time $t-1$ and economic family group f . Following Sargent (1998), the employment insurance index is lagged as there exists a potential endogeneity issue as the index is partly a function of the current employment rate. In lagging the index, I can ensure that issue of reverse causality does not occur when measuring job stability with a measure that includes economic condition.

$Fam_{i,p,t}$ is the family dummy variable for economic family type, in which there are 5 categories: single employable individual, couples with no children, dual income-earning couple, single income-earning couple, and lone parent family. $SA_{f,p,t-1} * Fam_{i,p,t}$ and

¹² The probability conditions on a vector of explanatory variables represented by the vector Z .

$EID_{p,t-1} * Fam_{i,p,t}$ represent the interaction between economic family type and the lagged welfare generosity variables.

The vector $X_{i,p,t}$ controls for individual specific characteristics such as gender, age, age-squared, education.¹³ $E_{p,t}$ is a proxy for Canadian economic conditions, and the fixed-effect, δ_p , controls for time-invariant provincial characteristics.¹⁴

I use numerous sets of estimations when estimating equation (2) in order to link the study to previous job stability literature, and to gain perspective of the effect of social programs on low tenured job stability. I first estimate the correlation between the unemployment rate and continuation. I then restrict this estimate to include the time period and sample restrictions. The time period of the analysis is restricted to when the social assistance data is available, 1986-2010, and when there exists gaps in the data between 1987-1989. The sample restriction is included, as my main estimates will only include incoming March data, while previous literature (e.g. Brochu (2012)) used both incoming September and incoming March data. My final estimation to link my study with previous literature is to include a set of family dummy variables. For this estimation, I include both sample and period restrictions.

To see how social programs impact the continuation binary dependent variable, I include into the estimation the SA rate and EI/UI index. For this estimation I do not include the unemployment rate, rather I use time fixed effects as the proxy for economic conditions. I then include interaction terms between the social programs and family type into the estimation.

¹³ There are three mutually exclusive categories for the education dummies. The first category is individuals with high school or less, which also includes individuals with some post-secondary education but did not finish their degree or receive a diploma. The second category is individuals that have received a post-secondary certificate or diploma, and the third is individuals with a university degree or more.

¹⁴ There are two proxies used for Canadian economic conditions. The first is the provincial unemployment rate that varies across provinces and time. The second is a time fixed effect that only varies across time.

My final sets of estimations consist of analyzing the impact of the social programs on each family group.¹⁵ I therefore restrict the analysis by economic family type. Additionally, by economic family type, I break down the probability of continuing with the same employer by reason of separation, and estimate the impact of social programs on four binary dependent variables: continuation, quit1, quit2 and layoff. All equation (2) estimates are performed using weighted least squared where the observations are normalized to sum up to 1 in each sample period. Weights are used in each year to account for the fact that smaller provinces, such as Prince Edward Island, are over sampled relative to larger provinces, such as Ontario. Additionally, the weights are normalized to ensure that each year in the regression is treated equally, thus controlling for population growth over time.

V Results

In estimating equation (2), Table 1 provides the base results, showing the relationship between the probability of a low tenured worker continuing with the same employer and the unemployment rate.¹⁶ Column (1) replicates the results of Brochu (2012) with educational, gender, age and age-squared controls. Brochu (2012) sample is restricted to individuals between the ages of 20 to 54, except full-time students, the self-employed, and those in the military. It is further restricted to incoming March and incoming September data.¹⁷ The results are found to be identical to the results provided by Brochu (2012), where the national unemployment rate is highly procyclical with the probability of remaining at a job, implying that job stability decreases during a recession and increases during period of positive

¹⁵ There are 5 sets of family groups: Couple: Children, two earners, Couple: Children, one earner, Lone Parent, Single Employable, and Couple: No Children.

¹⁶ Given that I am estimating a linear probability model, all the reported coefficients are interpreted as marginal effects.

¹⁷ Restricting the sample to incoming March and incoming September data continues to ensure that individuals only enter the sample once, as households only remain in the sample for six consecutive months.

economic growth. More specifically, the coefficient of the national unemployment rate is equal to -0.369, suggesting that a five-percentage point increase in the unemployment rate leads to a 1.85 percentage point decrease in the continuation probability.¹⁸ Looking at the mean continuation rate, which is equal to approximately 0.95, a 5-percentage point increase in the unemployment rate would lead the mean continuation rate to decrease to 0.93, an economically small change. This result is consistent with Brochu (2012) that does not find a clear relationship between the retention rate and the unemployment rate.

Table 1 additionally shows that age has a positive and concave relationship with job stability, however the marginal effects provide little explanatory power over low tenured job stability. An increase in age by 10 years leads to a 4.4 percent point increase in the probability of continuing with the same employer, and past the age of 36.7, the probability of continuation decreases with age. Education is shown to have an effect on the probability of continuing with a job. Higher educated individuals, those with a bachelor degree or more, have a 4.2 percentage point greater probability of continuing their job relative to individuals with a high school education. Lower education individuals, those with high school education or less, have a 5.7 percentage point lower probability of continuing their job relative to individuals with a high school education. These results are consistent with Brochu (2012) that finds that education is the only compositional factor that has explanatory power over low tenured job stability patterns. As other factors, such as age and gender differences, are not able to provide an explanation over rising low tenured job stability patterns, the economic magnitude of education is small, as it cannot explain all of the increase in low tenured job stability. Therefore there are other factors that are leading to the increase in low tenured job stability patterns.

¹⁸ Following Oreopoulos et al. (2008), I assume that during a recession, the unemployment rate increases by 5 percentage points. All data for rates (unemployment rates and SA rates) are between 0 and 1.

Given that unemployment rates vary across provinces, Column (2) replaces the national rates with the provincial rates, and shows that the results do not vary substantially. In Column (3) I repeat the estimation as seen in Brochu (2012), with the exception that I restrict the sample to the incoming March data only, and use the provincial unemployment rates as the proxy for economic conditions.¹⁹ I further restrict the sample to the periods between 1986 and 2010, with gaps between 1988 and 1989. The period restriction is set in order to compare Brochu's (2012) results with a sample that incorporates the time period that will be used when social assistance data is included in the estimates. With the sample and period restrictions, the provincial unemployment rate is now shown to have an approximately 10-percentage points greater marginal effect on the probability of continuing on a job relative to the unrestricted sample. However education and age are similar in magnitude and statistically significant as the unrestricted sample.

Column (4) of Table 1 includes the family dummies, in which the only coefficient that is found to be statistically significant is that of lone parents. The inclusion of the dummy variables does not substantially change the results of the model.²⁰ These results demonstrate that the following specifications that incorporate the provincial unemployment rates, economic family group dummy variables, and time and sample restrictions can be comparable to the results provided in Brochu (2012), who first explored the sources of changes in low tenured job stability.

Table 2 sequentially includes the lagged relative social assistance generosity rate (SA rate), the lagged EI/UI index (EI/100), and controls to the estimation.²¹ In column (6), when estimating the impact of social programs on the continuation probability of low

¹⁹ I restrict my sample to incoming March data only, as my social program variables are annual measures.

²⁰ Estimating the model with no other controls, other than family dummy variables, did not substantially change the results.

²¹ Table 2 shows the EI index as EI/100, where the base rate in 1970 is 100/100=1.

tenured workers, time-fixed effects are used as the proxy for economic conditions. Time dummies, rather than unemployment rate, are used as the proxy for economic conditions for three reasons. First, the motivation of this study is to look at how changes in the social programs have affected low tenured job stability over time, thus the time dummies will capture any time invariant shocks that have occurred over the same period, allowing the impact of changing generosity levels to be captured. Secondly, the EI/UI index is partially tied to regional unemployment rates, and is thus able to account for changes in labour market tightness. Finally, there exists a simultaneity problem when the unemployment rate is used as a proxy for economic conditions, where an increase in the unemployment rate can lead to a decrease in the probability of continuing with the same employer, or vice versa. The time-fixed effects avoid the endogeneity problem and also controls for the business cycle effect on the probability of continuing with the same employer.

The first two columns of Table 2 show the individual marginal effects of the social programs on the probability of a low tenured worker continuing with an employer. The SA rate has a positive and statistically significant effect, where the coefficient is shown to be equal to 0.022. The economic impact of the SA rate is very small, where a five-percentage point increase in the SA rate leads to a 0.11 percentage point increase in the probability of continuing with the same employer. EI/100 is found to be negative, highly statistically significant, and equal to -0.042. When the two variables are estimated together in the model, the SA rate decreases in magnitude and become insignificant, however the effect of EI/100 remains the same. Although, the SA rate increases in magnitude and is statistically significant when family dummies are incorporated into the model, it is statistically insignificant when additional controls, such as time and province fixed effects, are included. The same cannot

be said for the EI/100, which remains statistically significant and equal to -0.038 when all controls are included in the model.

In order to provide some preliminary insight on the effect of the EI/UI index, the results must be put into perspective. As the EI/UI index is not restricted between 0 and 100, the initial small coefficient does not imply it is economically insignificant. For example, between 1993 and 1994, the national EI/UI index fell by 29 points, suggesting that the probability of low tenured workers to continue working with their current employer increased by 1.1 percentage points. Furthermore, between 1986 and 2007, 2007 being the year that the low tenured rate reached its highest historical level, the index fell by 108 percentage points. The results imply that, that over the same period, the probability that a low tenured worker would continue the same employer increased by 4.1 percentage points. This initial result suggests that changes in the unemployment incentives can explain a part of the increase in low tenured job stability throughout the 1990s, and 2000s, whereas social assistance does not have any explanatory power.²²

Table 3 includes the interaction terms between family dummies and social programs.²³ The interaction terms are included in order to gain perspective on how the main variables of interest differ between family types. Focusing first on the SA rate, without controls, column (1) shows that as before the SA rate is positive, but that including the SA interaction terms has magnified the marginal effect, where a five-percentage point increase in SA rate leads to a 1.28 percentage point increase in the continuation probability. Turning the attention to the SA interaction term, the large marginal effect is essentially eliminated for

²² Including controls for number of children in a family and industry made no difference to the outcomes of the model, and for this reason I left them out of my estimates.

²³ I estimated the same specification with a probit model and received similar results. Additionally, I estimated the model with robust standard errors in order to check for presence of heteroskedasticity, and the results do not differ from the results of the main regressions.

single income-earning parents, by the opposing sign on the interaction term. Similarly the interaction term for dual income-earning parents is highly significant, and negative, thus leading the overall effect to be diminished, but still positive and equal to 0.064.²⁴ The remaining interaction terms are not found to be of statistical importance. Column (2) re-estimates the model by only including the interaction terms for the EI/UI index, and although the SA coefficient has decreased in magnitude, it remains positive and statistically significant. The EI/100 remains negative, equal to -.024, and the marginal effects are found to be statistically greater for single and dual income-earning parents.

In column (3) of Table 3 I reintroduce the SA interaction terms into the model, resulting the model estimates to change significantly. Although the marginal effects of EI/100 do not substantially change, the SA rate increases in magnitude. In this case, the only SA interaction term that is found to be statistically significant is the interaction term for single income-earning families. It is found to be negative, thus decreasing the overall marginal effect of the SA rate on single income-earning families to be equal to 0.023.

In columns (4) and (5) of Table 3, when sequentially including all other controls, the marginal effect of the SA term significantly decreases in magnitude, and is no longer significant. Similarly, the SA interaction terms are all statistically insignificant, which is consistent with the previous results in Table 2, when no interaction terms were included. What is not consistent with previous results, is that as all controls are included, the EI/100 coefficient loses economic and statistical significance. The EI/100 coefficient is now equal to -0.024, and only significant at the 10 percent level. It is interesting to note that even as the EI/100 coefficient loses explanatory power, the interaction terms between the EI/100 and dual and single income-earning parents do not. The interaction term between EI and dual

²⁴ The reference category for the estimate that include family dummies is single employable individuals, thus the results of the interaction terms are relative to single employable individuals.

income-earning parents is equal to -0.030, and for single income-earnings parents it is equal to -.028. Both terms are highly statistically significant, suggesting that differently family groups react different to changes in the generosity of the EI/UI program.

The results from Table 3 show that when controls are included, the interaction terms for the social assistance variables are not statistically meaningful, but the EI/100 interaction terms with dual and single income parents are.²⁵ This result is interesting, as one would expect that if there were an interaction between family groups and one of the social programs that the interaction would be found between the SA rate and family groups. The reason for this is due to the fact that different family groups can differ in the type of substitution effect associated with the generosity of the program. In this case, the substitution effect refers to the opportunity cost of not working, or leaving a job, to receive welfare income. When employment is available, the opportunity cost of not working and relying on welfare benefits for income is the net wage that is sacrificed. The structure of the welfare program can impact the opportunity cost of not working, and if the structure of the program differs among household types, different family groups will face different opportunity costs.

In Canada, different groups face different opportunity costs of not working due to tax incentives and supplements that vary across family groups, therefore changes in generosity levels between groups can lead to different employment outcomes. For example, in 1998 the National Child Benefit program was introduced as a component of the Canada Child Tax Benefit plan, a federally provided refundable tax credit that replaced the Family Allowance and Working Income supplement in 1993. Five of the ten provinces responded

²⁵ I used an F-Test to test the weather the interaction terms are significant when all controls are included in the model (column (5) of Table 3). The F-test for the EI/100 interaction terms are found to be significant, where $F(3,131006)=4.76$, suggesting the effect of EI/100 is different across family groups. However the SA interaction terms are not found to be different from one and another, where $F(3,131006)=1.64$.

to the tax program by decreasing social assistance payments to households with children by an amount equal to their savings generated by the tax credit.²⁶ The objective of the tax credits are to provide greater incentives for parents on welfare to return to work, thus it is specifically targeted towards lower-income families with children, and even more specifically towards the working poor. Similar types of tax benefits were not provided to single employable individuals or couples without children, despite all groups experiencing cuts in overall welfare spending. The tax incentive, and other child supplements, could lead families with children to respond differently to changes in social assistance generosity levels than other economic family groups. Additionally, Finnie and Irvine (2008), Arneau et al. (2005), and Whelan (2010) have also discussed the importance of how the programs interact, and therefore changes in the social assistance program can lead different family groups to react differently to changes in the generosity of EI/UI program.

To further examine how the impact of social programs varies across family groups, I break down the sample by economic family type, which allows the effect of the control variables, and the effect of the social program variables, to differ across family types. Restricting the sample by economic family type is similar to the methodological approach used by Finnie and Irvine (2008). Similarly, other studies examining welfare program effects, such as Milligan and Stabile (2007), focus on family groups.

Table 4 provides the main results of the study by showing the marginal effect of social programs on the probability of continuing, quitting or being laid off a job across

²⁶ Prince Edward Island, Nova Scotia, Ontario, Manitoba and Alberta, were the five provinces that responded to the government initiative by decreasing social assistance payments, with the understanding that the savings would be invested in other programs benefiting children. Milligan and Stabile (2007) investigates the impact of the tax credit on labour market participation and social assistance trends. I will expand on the findings of this study further on.

various family groups.²⁷ I begin my analysis by focusing on the marginal effects of the SA rate across various family groups.

Relative Social Assistance Rate

Table 4 breaks down the results by family group, and shows the results with and without controls. When no controls are included, column (1) shows that the SA rate is found to be positive and statistically significant for dual income-earning parents, lone parents, and couples with no children. When all controls are included, column (5) shows the SA effect to only remain positive and significant for dual income-earning parents. For this group, it is found the SA rate coefficient is found to equal 0.095. This result is interesting as the effect is only present for dual income-earning parents.²⁸ Furthermore, in Ontario between 1996 and 1997 the SA rate dropped by 13 percentage points, thus according to the results, this should have led to a 1.24 percentage point decrease in the continuation probability. Therefore, the cuts in the social assistance programs during the 1990s cannot explain the large increase in job stability seen in the early-to-mid 1990s. The question now becomes, what marginal effect is the analysis capturing in respect to dual income-earning parents? In order to gain further understanding of where these changes are coming from for dual income-earning parents, I now focus on the probability of leaving employment and by reason.

The remaining columns of Table 4 provide the marginal effects on the probability of leaving employment, and by reason. Focusing on dual income-earning parents, and also on the conservative definition of quits, quit1, columns (2) and (6) show that an increase in the SA rate leads to a decrease in the probability of a worker quitting. In Column (6), when controls are included, the statistical significance does not change, and the magnitude of the

²⁷ For brevity, I do not include the marginal effects of the control variables in Table 4.

²⁸ When I restricted to couples with children, including both single income-earning and dual income-earning parents, my results of the SA coefficient were positive and significant. The magnitude did decrease but remained meaningful.

marginal effect is seen to increase. With controls included in the estimate, the results suggest a five-percentage point in the SA rate leads to a 0.21 percentage point decrease in the probability that an individual would quit their job, thus causing continuation probability to increase. The results show that the first definition of quit, that does not include direct job-to-job transitions, explains one part of the positive continuation coefficient for dual income-earning parents.

Columns (3) and (7) of Table 4 expand the definition of quits in order to include the fact that individuals may leave a job in month t , then move directly into a new job in month $t+1$. When allowing for direct job-to-job transitions, the quit coefficient, `quit2`, is found to be statistically significant with no controls, yet insignificant with controls. Therefore `quit2` cannot explain the positive continuation coefficient. Focusing on layoffs, columns (4) and (8) show that with controls, decreases in layoffs are explaining the other part of the positive marginal effect of the SA rate on the probability of continuing a job.²⁹ A five-percentage point increase in SA rate leads to a .32 percentage point drop in the probability of a worker being laid off. Therefore the positive SA coefficient binary variable, `continuation`, is being led by both the conservative definition of quits, and layoffs. Changes in the structure of the social assistance program in the 1990s may provide some insight on why an increase in the SA rate leads the probability of a low tenured worker to continue with an employer to increase.

As previously discussed, tax incentives and various child benefit programs were introduced in the mid-1990s to encourage families with children on social assistance to

²⁹ Without controls, when the dependent binary variable is `Layoff`, the SA coefficient is found to be statistically insignificant.

participate in the labour force.³⁰ The SA rate used in this study incorporates both the child tax benefit and other tax credits, into the generosity levels. As Figures 4 and 5 show, in the latter half of the analysis, the SA rate appears to be positively correlated with the low tenured retention rate for both couples with children (dual and single income-earning), and lone parents. The positive SA rate may be capturing the tax credits that are available to low-income families post-1998 reform.³¹ The tax benefit and child supplements can explain why dual working parents are less likely to quit as SA rates increase – as their wage increase, benefits increase due to the tax credit, thus leading to greater incentives to continue working and not returning to social assistance income. It is less clear why increase in the SA rates lead to a decrease in layoffs, a topic I will further elaborate on following my analysis of the EI/UI index effect.

Employment Insurance Index

Focusing on the EI/UI index in Table 4 shows that EI/UI generosity levels impact groups differently. For dual income-earning parents, the results are similar to previous outcomes, where the EI/100, with controls, is found to equal -0.040. For lone parents, the magnitude is found to increase, and is now equal to -0.122. For all other family groups, the EI/100 coefficient is found to be statistically insignificant when controls are introduced to the estimate. This result is surprising, because in Table 3, column (5), the EI interaction term for single income-earning parents was found to be significant, but for lone parents it was found

³⁰ Examples of programs include the implementation of Ontario the Child Care Supplement for Working Parents, Alberta's Child Health Benefit, and increased daycare subsidies in PEI (McIntosh and Boychuk (2000)).

³¹ Milligan and Stabile (2007) examined the marginal effect of the changes in the child tax credit on labour market behaviours, and found that there is a strong labour market effects from the integration of child benefits with welfare for single mothers. Therefore it is interesting to see that the relative SA rate does not impact lone parents, however their study focuses on single women only, which could be why there is a difference in results.

to be insignificant. Therefore, allowing the control variables to differ among family groups has significantly changed the results.

To bring perspective to the results, I return to my previous example of when the EI/UI index fell by 29 points between 1993 and 1994. The results now suggest that over this period, the probability of lone parents continuing with their current employer increased by 3.5 percentage points. For the period between 1986 and 2007, when the EI/UI index fell by a total of 108 points, the results imply that lone parents would have experienced a 13.18 percentage point increase in the probability of continuing a job.

Examining the outcomes for reason of separation for dual income-earnings parents and lone parents shows that the disincentive to work when the EI/UI index increases is being driven by increase in layoffs. Column (8) shows that when controls are included in the estimates, a unit increase in the EI/UI index respectively leads to a 0.064 and 0.097 increase in the probability of low tenured worker being laid off.³² This result may initially seem surprising, as one would expect the fact that increased generosity rates would encourage workers to quit their jobs. However this result can be explained by the fact that the EI/UI system experienced two distinct policy shifts in the 1990s that changed the generosity levels of workers who quit without just cause, and were dismissed for cause.

Prior to 1990, a worker who quit, or was dismissed without cause could receive benefits after waiting for a 6-week period. In addition, no penalty would be imposed on the benefits received. A modification in 1990 to the UI regime increased the waiting period to between seven and twelve weeks, and reduced the generosity of benefits to workers who quit or were dismissed for cause. In 1993, benefits to these two groups were completely

³² Even though the EI/UI coefficient is statistically insignificant for couples with no children when the dependent variable is the continuation binary variable, it is found to be significant at the 5 percent level when the dependent variable is the layoff binary variable.

eliminated. The timing of the reform matches with the timing of when job stability of low tenured workers began to rise. This study cannot assess the direct impact of this particular reform on low-tenured job stability, but it can explain why changes in the generosity levels of the EI/UI program are seen in changes in the probability of being laid off.³³

The positive layoff coefficient of EI/100 found in column (8) of Table 4 is consistent with the research on temporary layoffs and recall expectations. Betcherman and Leckie (1995) discuss how ex-ante expectations of EI/UI benefits would impact layoffs in a positive manner, implying that attrition of laid off workers to other jobs decreases as generosity of EI/UI benefits increase. Lower attrition reduces the employers expected rehiring costs during recovery periods, and as a result creates incentives for employers to adjust their workforce through temporary layoffs. The incentive encourages firms to rely on temporary layoffs, and encourages workers to work for short-term periods.

In Canada, incentives for firms to rely on temporary layoffs are high, as the EI program does not incorporate an “Experience Rating” provision that would require firms to pay taxes according to the amount of EI/UI benefits they are responsible for.³⁴ Corak (1996) further examines these incentives faced by firms in their hiring and layoff decisions, and interaction between workers and firms. He finds that expected temporary layoffs represent a large portion of all laid off UI claimants, and a large fraction of UI claimants do expect to be recalled by their former employer, even though it is not guaranteed that they would be. It is

³³ A study by Kuhn and Sweetman (1998) examined the impact of these reforms. For the 1990 reform, little evidence supported the fact that the frequency of quits decreased, however the reform did make it more difficult for voluntary quitters to receive benefits. In response to the 1993 reform, it was found that quit rates did change, but that there are substantial difference in the response by sex and age. The policy change had the greatest effect on younger workers and women, where young women’s quit rate dropped by 18 percent in the short-run. Little effect was seen on prime-aged men.

³⁴ The 1996 UI/EI reform did implement an experience rating provision, known as the “Intensity Rule”, however it was rescinded in 2000. Gray (2006) discusses that the “Intensity Rule” was rescinded due to the fact that it was found to be ineffective and had the unintended consequences of being punitive, particularly for seasonal workers.



further found that temporary layoffs play an important part in explaining the repeat use of UI programs. The literature on how EI/UI impacts quits and layoffs supports my findings that increased generosity in the EI/UI can explain a part of why low tenured job stability has increased over time.

My results also support Chan et al. (2011) that find layoff rate of low tenured workers from the recent recession decreased. It further supports the findings of Green and Riddell (1997 b) that find behavioural adjustments towards entrance requirement are due to layoffs and not quits.

Interaction between Social Assistance and Employment Insurance

Discussing the effects of social assistance and employment insurance separately can provide meaningful understanding of the impact of social program on low tenured job stability. It is also important to assess results together, due to the interaction between the two programs. One puzzling result found above, is that increased SA rates lead to a decrease in the probability that dual income-earning parents would be laid off. I examine this outcome by focusing on a non-stationary search model, as described by Whelan (2010), where social assistance represents the terminal state after the exhaustion of EI benefits. It is described that as social assistance benefits increase, individuals are more likely to exhaust their EI benefits and enter into social assistance, as the value of the terminal state has increased. Similarly as EI generosity levels decrease, individuals may be less likely to leave the social assistance state, as the value of employment, which includes EI entitlement benefits, is lower.

For the purpose of my study, as the SA rate incorporates social assistance, child benefits and tax credits, a different relationship between EI and social assistance could be present. In my case, the value of social assistance (or welfare) decreases even more as

individuals choose not to enter the work force, as individuals would lose out on the tax credit and child benefits gained from working.³⁵ Therefore individuals are more likely to enter and stay in the workforce, to take advantage of child supplements available to the working poor, and the tax credit on their earned income – explaining again why quits decrease as SA rates increase. However, at the same time as basic social assistance levels decrease and child supplements and tax credits increase, EI benefits can decrease. As the previous section showed, decreases in EI/UI generosity decrease the probability of being laid off. Low tenured workers are now being influenced on two sides. They can't quit their jobs, as they would lose out on benefits that are geared towards the working poor, and are less likely to be laid off, as firms are less likely to rely on temporary layoffs when EI benefits decrease.

Interaction between the programs could also explain why there is a difference in outcomes across various family groups in terms of the SA rate effect. As previously discussed, Finnie and Irvine (2008) find that EI/UI and social assistance for single parents tend to be substitutes, while for other family groups they were found to be complements. Therefore, when EI/UI generosity decreases, as was the case in the 1990s and 2000s, single parents would be more likely to use social assistance, and an increase in SA generosity levels would not impact the probability of these individuals continuing with the same employer. This reasoning cannot justify why the SA rates have no explanatory power over single

³⁵ The supplement provided the federal government Child Benefit program focused particularly on providing income to working-poor families with children, although middle-income families are eligible for basic child benefits. Each low-income family with children is eligible for working income supplements of up to \$500 a family. Families would not qualify for supplements if they received any other type of welfare income during the year, such as employment insurance. The supplements begin as soon as a family earns over \$3,750 a year. Families with net incomes above \$25,921 are not eligible for the supplement. Furthermore, the child tax benefit is reduced by 5 percent to 2.5 percent of any additional income, depending on the number of children in the family. In 2009, the NCW showed that couples with children could receive a total of \$22,339 in total welfare transfers. Basic social assistance transfers accounted for only \$12,999 of the total welfare income, while the remainder consisted of federal and provincial child benefits, and tax credits.

income-earning families. However, in this case, it may be an issue of data quality. The National Welfare of Canada generosity levels are set for couples with two children, and it does not differentiate between single income-earning families and dual income-earning families, who or are entitled to different generosity levels. This could lead the effects of social assistance generosity to not be captured for this group.³⁶ In the case of single employable individuals, and couples without children, it is not surprising that they would not be impacted by the SA rate, as they are not generally as reliant on social assistance as other family groups.

Inferring why the EI/UI index does not have explanatory power over the probability that single individuals or couples with no children continuing with the same employer is not as clear as it is with the SA rate. The effect of a decrease in the EI/UI index leads to a decrease in the probability that a low tenured worker would be laid off, thus implying the firms are playing a role in low tenured job stability trends. It could therefore be the case that when measuring the effect of social assistance, it is more informative to restrict the analysis by group, in order to capture the interaction between the two programs and family groups, but that the analysis of the overall EI/UI effect should be addressed in a single aggregate estimate. Further analysis of this issue would be required to provide additional insight on how to estimate the impacts of social assistance and employment insurance on low tenured job stability patterns.

VI Conclusion

This study explores the sources of change recently seen in Canadian low tenured job stability pattern. The goal of the study is to fill a gap in job stability literature of explaining

³⁶ For example, in 1997 Ontario reinstated the “spouse-in-the-house rule” that restricted benefits to a person living in a common-law relationship (NCW (1997)).

the sources of increasing job stability of low tenured workers. To do so I take advantage of the consistent tenure data and rotating panel nature of the Canadian Labour Force survey (LFS). The LFS allows me follow low tenured workers from one month to the next to estimate the probabilities that a worker would continue with the same employer. I further focus on quits and layoffs to better understand why job stability has changed for low tenured workers. I further use a relative social assistance rate (SA rate) and an index of Employment Insurance disincentives (EI/UI index) to investigate whether changes in the generosity levels of social program, particularly the cuts in the 1990s, can explain the increase in low tenured job stability observed in the 1990s and 2000s.

The main findings of my paper support the fact that changes in generosity levels of social programs impact low tenured job stability. The impact of the SA rate is not as clear as the EI/UI effect, and the results differ across family groups for both social program measures.

An increase in the relative social assistance rate is found to lead to an increase in the probability that dual income-earning parents continue with the same employer, however the impact is economically small. Further focus on the probability of leaving employment, and by reason, shows that increases in SA rates lead to decreases in both the probability of quitting and the probability of being laid off. These results suggest that the social assistance cuts in the 1990s cannot explain the increase in low tenured job stability. But the positive effect of the SA rate could be capturing the child tax credits and supplements implemented in the mid-1990s, thus could be part of the explanation of why job stability continued to increase in the 2000s.

The second main result of the study is that increases in the EI/UI generosity levels lead to decreases in the probability that a low tenured worker continues with the same

employer. This disincentive to work is being driven by decreases in the probability of being laid off. This result suggests that employers play an important role in changes to the EI/UI parameters. The EI/UI effect is not equal across all family groups, where the greatest effect is found on lone parents, followed by dual income-earning parents, but is found not to have an impact on other family types.

It is important to note, that many of the social program reforms that have led to changes in generosity levels during the 1990s occurred during a period of strong economic growth. Following 2007, economic growth slowed, and the one-year retention rate of low tenured workers has now decreased from its historical high point. Therefore, it will be interesting to see, if economic growth continues to stagnate, whether or not the changes in the structure of the social programs will have a different impact on low tenured workers. Especially as this group is generally more likely to include the working poor, and is thus more reliant on social programs during periods of slower economic growth.

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Figure 1: Employment Insurance Index
Canada, 1977-2010



Figure 2: Cyclically Adjusted Employment Insurance Index
Canada, 1977-2010

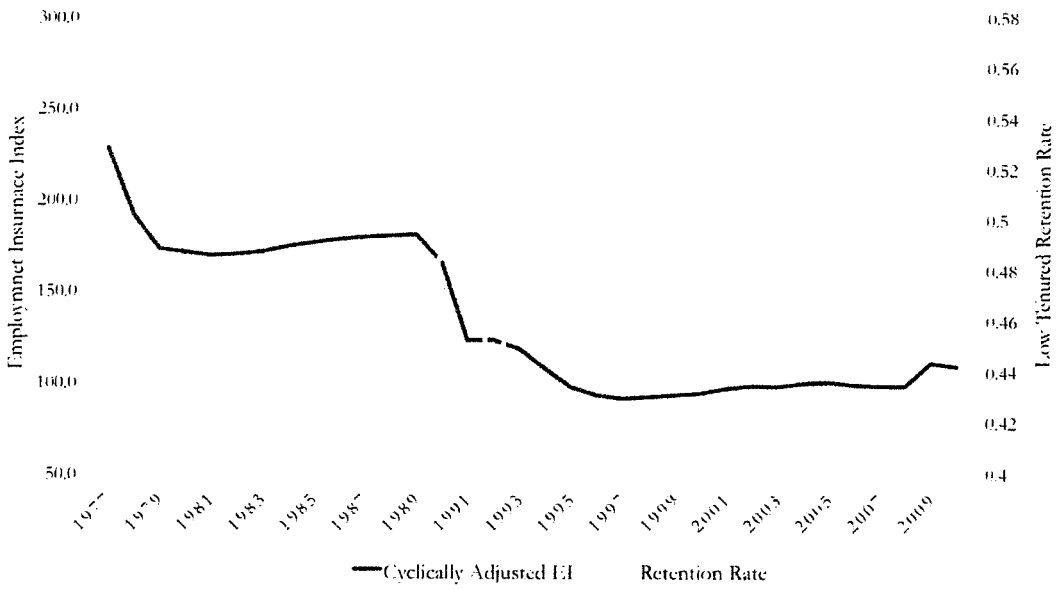


Figure 3: Relative Social Assistance Rate for Couples with Children
by Largest Province, 1989-2010



Figure 4: Relative Social Assistance for Lone Parents
by Largest Province, 1989-2010

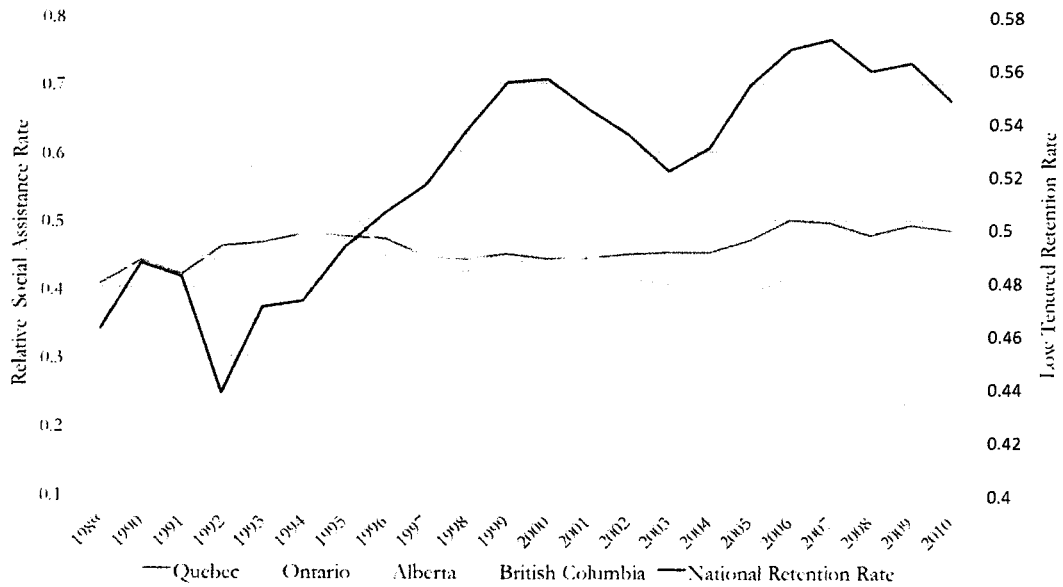


Figure 5: Relative Social Assistance for Single Employable
by Largest Province, 1989-2010

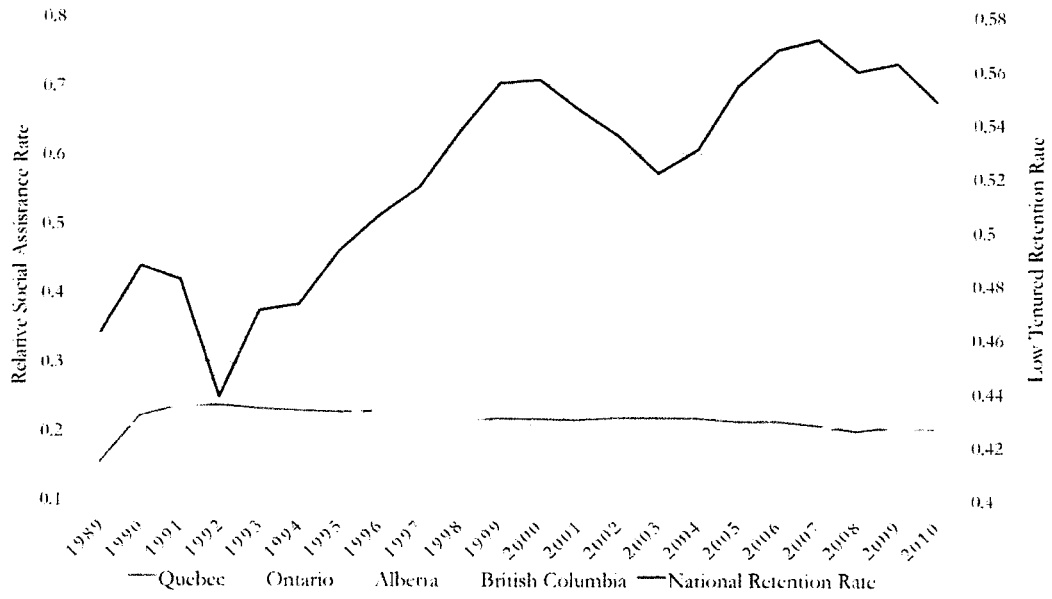


Table 1: Linear Probability Model: Continuation - Unemployment Rate Effect

Continuation				
	(1)	(2)	(3)	(4)
Unemployment Rate	-0.369*** (-0.031)	-	-	-
Provincial Unemployment Rate	-	-0.333*** (0.026)	-0.448*** (0.051)	-0.446*** (0.051)
Couple: No Children	-	-	-	0.001 (0.003)
Couple: Children, Two Earners	-	-	-	-0.003 (0.003)
Couple: Children, One Earner	-	-	-	-0.007* (0.004)
Lone Parent	-	-	-	-0.019*** (0.005)
Low Education	-0.057*** (0.002)	-0.057*** (0.003)	-0.059*** (0.004)	-0.058*** (0.004)
High Education	0.042*** (0.001)	0.042*** (0.001)	0.040*** (0.002)	0.039*** (0.002)
Female	0.011*** (0.005)	0.011*** (0.001)	0.017*** (0.002)	0.019*** (0.002)
Age/10	0.044*** (0.001)	0.043*** (0.005)	0.052*** (0.001)	0.051*** (0.001)
Age Squared/100	-0.006*** (0.001)	-0.006*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)
Province Fixed Effect	Yes	Yes	Yes	Yes
Time Fixed Effect	No	No	No	No
Observations	448,508	448,508	131,058	131,058

Notes. The dependent binary variable, continuation, is equal to 1 if the period 1 worker continues with the same employer in period 2. The reference categories for each set of dummy variables are as follows: Single Employable Individuals, Medium Education, and Male. Weighted standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 2: Linear Probability Model: Continuation - Social Program Effects

Continuation						
	(1)	(2)	(3)	(4)	(5)	(6)
SA	0.022*** (0.005)	-	-0.009 (0.006)	0.079*** (0.019)	0.001 (0.022)	0.025 (0.025)
EI/100	-	-0.042*** (0.003)	-0.042*** (0.003)	-0.045*** (0.003)	-0.023*** (0.003)	-0.038*** (0.011)
Couple: No Children	-	-	-	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
Couple: Children, Two Earners	-	-	-	-0.031*** (0.008)	-0.003 (0.009)	-0.012 (0.010)
Couple: Children, One Earner	-	-	-	-0.043*** (0.008)	-0.007 (0.009)	-0.016 (0.010)
Lone Parent	-	-	-	-0.040*** (0.007)	-0.020*** (0.007)	-0.025*** (0.008)
Low Education	-	-	-	-	-0.057*** (0.004)	-0.057*** (0.004)
High Education	-	-	-	-	0.039*** (0.003)	0.039*** (0.002)
Female	-	-	-	-	0.019*** (0.002)	0.019*** (0.002)
Age/10	-	-	-	-	0.050*** (0.010)	0.051*** (0.010)
Age Squared/100	-	-	-	-	-0.007*** (0.001)	-0.007*** (0.001)
Province Fixed Effect	No	No	No	No	Yes	Yes
Time Fixed Effect	No	No	No	No	No	Yes
Observations	131,058	131,058	131,058	131,058	131,058	131,058

Notes. The dependent binary variable, continuation, is equal to 1 if period 1 worker continues with the same employer in period 2. All SA and EI variables are lagged by one period. The reference categories for each set of dummy variables are as follows: Single Employable Individuals, Medium Education, and Male. Weighted standard errors are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Linear Probability Model: Continuation - Social Program Effects, Family Type Interaction

Continuation					
	(1)	(2)	(3)	(4)	(5)
SA	0.255*** (0.057)	0.089*** (0.019)	0.181*** (0.062)	0.016 (0.066)	0.034 (0.068)
EI/100	-0.047*** (0.003)	-0.024*** (0.006)	-0.027*** (0.007)	-0.009 (0.007)	-0.024* (0.013)
Couple: No Children	0.024 (0.016)	0.018* (0.011)	0.027* (0.016)	0.021 (0.016)	0.022 (0.016)
Couple: Children, Two Earners	0.017 (0.019)	0.008 (0.012)	0.027 (0.019)	0.017 (0.019)	0.003 (0.020)
Couple: Children, One Earner	0.041 (0.026)	0.007 (0.014)	0.058** (0.026)	0.050* (0.027)	0.038 (0.027)
Lone Parent	-0.087** (0.036)	-0.041** (0.016)	-0.075** (0.036)	-0.079** (0.036)	-0.075** (0.036)
(SA)*(Couple: No Children)	-0.108 (0.075)	-	-0.060 (0.081)	-0.062 (0.080)	-0.064 (0.080)
(SA)*(Couple: Children, Two Earners)	-0.196*** (0.061)	-	-0.100 (0.067)	0.017 (0.069)	0.032 (0.069)
(SA)*(Couple: Children, One Earner)	-0.257*** (0.06833)	-	-0.158** (0.074)	-0.048 (0.075)	-0.036 (0.076)
(SA)*(Lone parent)	0.012 (0.094)	-	0.039 (0.107)	0.139 (0.107)	0.119 (0.107)
(EI/100)*(Couple: No Children)	-	-0.013 (0.008)	-0.011 (0.009)	-0.006 (0.009)	-0.006 (0.009)
(EI/100)*(Couple: Children, Two Earners)	-	-0.035*** (0.008)	-0.031*** (0.009)	-0.029*** (0.008)	-0.030*** (0.008)
(EI/100)*(Couple: Children, One Earner)	-	-0.042*** (0.009)	-0.036*** (0.009)	-0.027*** (0.009)	-0.028*** (0.009)
(EI/100)*(Lone parent)	-	-0.001 (0.012)	-0.006 (0.014)	-0.005 (0.014)	-0.004 (0.014)
Low Education	-	-	-	-0.057*** (0.004)	-0.057*** (0.004)
High Education	-	-	-	0.039*** (0.003)	0.038*** (0.003)
Female	-	-	-	0.019*** (0.002)	0.019*** (0.002)
Age/10	-	-	-	0.051*** (0.010)	0.052*** (0.010)
Age Squared/100	-	-	-	-0.007*** (0.001)	-0.007*** (0.001)
Province Fixed Effects	No	No	No	Yes	Yes
Time Fixed Effects	No	No	No	No	Yes
Observations	131,058	131,058	131,058	131,058	131,058

Notes. The dependent binary variable, continuation, is equal to 1 if period 1 worker continues with the same employer in period 2. All SA and EI variables are lagged by one period. The reference categories for each set of dummy variables are as follows: Single Employable Individuals, (SA)*(Single Employable Individuals), (EI)*(Single Employable Individuals), Medium Education, and Male. Weighted standard errors are in parentheses. *p<0.1, **p<0.05, ***p<0.01.

Table 4: Linear Probability Model: Continuation, Quits and Layoff - Social Program Effects

	No Controls				With Controls			
	Continuation	Quit1	Quit2	Layoff	Continuation	Quit1	Quit2	Layoff
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Couple: Children, Two Earners</i>								
SA	0.081*** (0.026)	-0.032*** (0.011)	-0.033** (0.017)	-0.024 (0.020)	0.095** (0.040)	-0.042*** (0.015)	-0.034 (0.025)	-0.064** (0.030)
EI/100	-0.058*** (0.005)	0.004* (0.002)	0.011*** (0.003)	0.054*** (0.004)	-0.040** (0.020)	0.004 (0.003)	-0.023 (0.015)	0.066*** (0.013)
Observations	46,463	46,463	46,463	46,463	46,463	46,463	46,463	46,463
<i>Couple: Children, One Earner</i>								
SA	0.021 (0.040)	0.007 (0.017)	0.026 (0.025)	-0.028 (0.032)	0.008 (0.058)	0.034 (0.024)	0.020 (0.036)	-0.043 (0.045)
EI/100	-0.063*** (0.006)	0.000 (0.002)	0.011*** (0.004)	0.061*** (0.005)	-0.044 (0.028)	-0.00876 (0.01413)	0.008 (0.020)	0.034 (0.021)
Observations	21,383	21,383	21,383	21,383	21,383	21,383	21,383	21,383
<i>Lone Parent</i>								
SA	0.192** (0.0879)	-0.010 (0.041)	-0.068 (0.060)	-0.103 (0.066)	0.049 (0.127)	-0.061 (0.056)	-0.006 (0.083)	-0.003 (0.098)
EI/100	-0.032*** (0.012)	-0.005 (0.006)	-0.000 (0.008)	0.044*** (0.009)	-0.122*** (0.038)	-0.004 (0.016)	0.031 (0.023)	0.097*** (0.031)
Observations	10,077	10,077	10,077	10,077	10,077	10,077	10,077	10,077
<i>Single Employable</i>								
SA	0.187*** (0.062)	-0.051** (0.025)	-0.096** (0.042)	-0.055 (0.046)	-0.011 (0.108)	-0.062 (0.043)	-0.057 (0.071)	0.053 (0.083)
EI/100	-0.027*** (0.007)	-0.001 (0.003)	0.004 (0.005)	0.030*** (0.005)	-0.033 (0.026)	-0.005 (0.011)	-0.004 (0.018)	0.034* (0.019)
Observations	21,527	21,527	21,527	21,527	21,527	21,527	21,527	21,527
<i>Couple: No Children</i>								
SA	0.115** (0.052)	0.009 (0.021)	-0.057* (0.033)	-0.046 (0.041)	-0.024 (0.079)	-0.013 (0.033)	-0.007 (0.050)	0.023 (0.063)
EI/100	-0.038*** (0.005)	-0.001 (0.002)	0.004 (0.004)	0.042*** (0.004)	-0.025 (0.021)	-0.005 (0.009)	-0.012 (0.015)	0.033** (0.015)
Observations	31,607	31,607	31,607	31,607	31,607	31,607	31,607	31,607

Notes. The dependent binary variable, continuation, is equal to 1 if period 1 worker continues with the same employer in period 2. All SA and EI variables are lagged by one period. Dependent binary variables in other columns equal 1 if period 1 worker is no longer working in period 2. The regressions in Columns (5) to (8) include controls for education, gender, age, age squared, province fixed effects, and time fixed effects. Weighted standards errors are parentheses. * p<0.1, ** p<0.05, *** p<0.01.