

Job Stability: Evidence from the Labour Market Activity Survey, 1988-1990

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Abstract

Using data collected from the 1988, 1989 and 1990 Labour Market Activity Survey (LMAS), this paper focuses on job stability patterns in Canada. I am trying to replicate the findings of Brochu (2009) with the LMAS using parametric and non-parametric approaches to do so. Both approaches give similar findings consistent with those of Brochu's study. Job stability patterns are indeed affected by initial tenure. Individuals with a higher initial level of tenure had higher job stability, as with tenure less than one year played an important role in explaining job stability for 1988 and 1989. Males had higher job stability than females for both 1988 and 1989. Furthermore, there was a positive relationship between job stability and age for 1988 and 1989. Finally, job stability increased as education levels increased.

Key words: job stability, retention rate, employment

1. Introduction

The employee-employer relation is one of the most fundamental relationships in our lives. According to Brochu (2009), employee-employer relationships can affect the design of retirement plans, e.g. RPPs. Francois and Roberts (2003) mentioned that a decrease in job stability can have a negative effect on productivity and economic growth. Using the Labour Force Survey (LFS), Heisz (2005) found that job stability declined throughout the 1980s while rising through the 1990s for workers with less than one year of tenure. Additionally, jobs were more stable in Canada than in the United States over the 1987-1995 time period. Using the same survey, Brochu (2009) found that job stability had actually increased between 1977 and 2004. I will investigate whether the findings of Brochu (2009) can be replicated using a different dataset, namely, the LMAS, using both parametric and non-parametric approaches.

I provide evidence on Canadian job stability patterns using data from the 1988-1990 LMAS, a panel dataset that provides yearly information on the respondent's labour market activities. The LMAS includes a wide array of relevant characteristics including age, region, educational attainment, number of employers in each calendar year, and beginning and end dates for each job, etc.

There are three main findings in my paper. First, my results are consistent with those of Brochu (2009). The findings are not sensitive to the choice of dataset (i.e. Heisz (2005) and Brochu (2009) used the LFS while I used the LMAS), and they are not sensitive to

the choice of parametric or non-parametric estimation approach. Second, the effects of initial tenure on job stability patterns are clear. Tenure less than one year plays an important role in explaining job stability, and job stability and initial tenure had a positive relationship for 1988 and 1989. Third, there was a positive relationship between job stability and age, as well as between job stability and education. Hence, age and education played important roles in explaining job stability patterns. Furthermore, gender also mattered. Males had higher job stability than females in both 1988 and 1989.

This paper is organized as follows. Section 2 reviews the literature on job stability, and also presents papers that focus on the LMAS. Section 3 describes the data. Section 4 outlines the empirical analysis and reports the findings. Section 5 concludes.

2. Literature Review

2.1 Job Stability

The literature review is divided into two parts. In the first part, I present papers that have looked at job stability both in Canada and the U.S. In the second part, I present papers that have successfully used the LMAS to examine labour market outcomes.

Heisz (2005) used the LFS from 1977 to 2001 to compare job stability patterns between Canada and the U.S. He updated the evidence on job stability in Canada until the end of

2001. There are two results in Heisz's study (2005): job stability declined across the 1980s and rose across the 1990s for those whose initial tenure was less than one year, and jobs were more stable in Canada than the U.S. over the 1987-1995 time period.

Brochu (2009) used the LFS from 1977 to 2004 to examine Canadian job stability patterns and their determinants. There were three key findings in his work. First, aggregate job stability increased to more than 80% in the early 1990s and stayed at a high level into the 2000s. Second, aggregate job stability was affected by compositional changes (i.e. age and gender) in the workforce. Third, the new job stability patterns for low-tenured workers were not driven by compositional changes.

Swinnerton and Wial (1995), based on the 1979-1991 Current Population Survey (CPS), examined the job stability patterns in the U.S. throughout the 1980s finding that job stability declined during that time period. Furthermore, the retention rate for low-seniority workers increased in the mid 1980s.

Neumark, Polsky and Hansen (1999) used the CPS from 1983 to 1995 to examine the evolution of job stability in the U.S. in the mid-1990s and concluded that job stability modestly declined in the first half of the 1990s. While the decline for workers with more than a few years of tenure was relatively small, the decline for workers with more tenure

was relatively large. They went on to find that the decline in job stability was larger for blacks than for whites, and larger for white men than for white women.

Gottschalk and Moffitt (1999) used data from the Survey of Income and Program Participation (SIPP) and the Panel Study of Income Dynamics (PSID), two monthly panel datasets, to examine job stability and job security throughout the 1980s and 1990s. They found no evidence of a decrease in job stability and security over that time period.

In the context of a symposium at the Federal Reserve Bank of New York in the fall of 1996, Neumark (2000) investigated whether the restructuring of American firms led to a decrease in job security and an increase in the job mobility rate for American workers. The work summarizes a number of papers written by researchers who attended this symposium focused on two dimensions -- job stability and job security. They used different data sets and different methodologies to examine the issues. Neumark (2000) concluded that the observed changes in the employment relationships are consistent with a weakened bond between workers and firms.

2.2 The LMAS

I now present papers that have relied on the LMAS. Although not as extensively used as other Canadian data sets, such as the LFS, the LMAS has been used to examine a broad range of labour market outcomes.

Using the LMAS, Jones and Riddell (1995) explored the nature of the data collected in the LMAS. They pointed out that the LMAS was the first dataset to provide information on labour force dynamics in Canada. The other potential advantage of the LMAS was that it provided three nonemployment states rather than just two states as in other existing longitudinal datasets. Furthermore, the LMAS provided the beginning and end dates for each nonemployment state.

Abbott and Beach (1994) used the 1986-1987 LMAS to examine how the wage rates of females in Canada changed when they changed jobs. There were two important findings. First, the wages of Canadian women who changed jobs in 1986 were 9.9% higher than those that did not change jobs. Second, women who quit for personal reasons did not realize higher wages in their next job. Finally, women who quit their jobs for non-personal reasons only realized short-run wage gains.

Friesen (1996) used the 1986-1987 LMAS to examine whether advance notice and severance pay laws affected wages. She found that the advance notice and severance pay laws mattered. The wages of incumbent workers who were protected by advance notice and severance pay laws were higher than the workers who were not protected by such laws. Furthermore, the wage effects varied depending on a workers' union status. The wages of union workers would be higher, and the starting wages for non-union workers appeared to have dropped. Finally, Friesen (2005) used the LMAS to explore the effects of Canadian advance notice and severance laws on permanent lay-offs. She found that

advance notice and severance laws reduced the lay-off hazard, especially for non-professional, non-union workers.

3. Data Description and Methodology

3.1 Raw Data and Sample Selection

The data analyzed in this paper was taken from the LMAS, which covers the 1988-1990 period. The LMAS, which has been designed as a replacement for the AWPS, was conducted by Statistics Canada and supported by Employment and Immigration Canada. The LMAS is a panel dataset that follows individuals over time making it ideally suited for researching job stability.¹ The LMAS provides information on the characteristics of paid jobs that are not available in the LFS. The LMAS includes a wide array of relevant characteristics including age, region, educational attainment, marital status, the number of jobs in each calendar year, the number of employers in each calendar year, the beginning and end date for each job and whether the worker kept the same job in the next calendar year.

The data was collected during yearly interviews conducted in either January, February or March. The LMAS sampled civilians between the ages of 16-69, who live in the 10 Canadian provinces. There were 57,244 households who responded to the questionnaire in 1988, 1989, and 1990. The questionnaires collected detailed information on up to five

¹ The LFS, on the other hand, follows dwellings (not individuals) and only for a six month period.

different jobs which the respondent held in each calendar year. If the respondent held more than five jobs in a calendar year, information was only collected for the first five jobs.

A job is one of the key constructs in the LMAS and in my model. A job is defined as the usual duties performed at a usual wage or salary. There are two cases that imply that a worker changed job. One is when the worker changed employer. The other one is when both the usual duties and usual salaries of the worker changed. Employers are another key construct in the LMAS and in my model. A change in job does not necessarily imply a change in employer. For example, if there is a big change in duty and salary, a worker is deemed to have changed jobs even if the worker did not change employer.

Following Brochu (2009), the sample is restricted to workers aged between 20 and 55 who held at least one job in 1988 or 1989. The workers who are self-employed or whose jobs are unpaid are excluded from my sample. I also exclude full time students. I only focus on the workers who were working as of January 1, 1988 when I estimate the retention rate for 1988. Similarly, I exclude individuals who were not working as of January 1, 1989 when I estimate the retention rate for 1989.

After imposing the restrictions, there were 23,934 observations left in my sample for 1988, and 25,183 observations for 1989. Individuals can have multiple jobs in one calendar year. As such, the number of observations is larger than the number of individuals; there were 23,036 individuals in my sample for 1988, and 20,325 for 1989.

Table 1 provides descriptive sample statistics for 1988 and 1989. The proportions and standard deviations are similar between these two observed years, except for those with the less than one year tenure and the university educated.² The proportion of observations with the initial tenure less than one year is 24.14% in 1988, but 31.80% in 1989. The job stability literature found that job stability decreased in the late 1980s, which can possibly explain this increase in the proportion of workers with less than one year of tenure. It is not clear to me, however, why the proportion of university educated observations jumped to 24.50% in 1989. The education question and the way it is recorded did not change from 1988 to 1989.

² The proportions across groups are also similar to those of other datasets like the LFS.

Table 1: Descriptive Statistics for 1988 and 1989

Variable	1988	1989
	Proportion (Standard Deviation in brackets)	Proportion (Standard Deviation in brackets)
Female	0.4639 (0.4987)	0.4717 (0.4992)
Age		
Age 20-24	0.1178 (0.3224)	0.1335 (0.3401)
Age 25-34	0.3727 (0.4835)	0.3674 (0.4821)
Age 35-44	0.3127 (0.4636)	0.3091 (0.4621)
Age 45-54	0.1968 (0.3976)	0.1900 (0.3923)
Education		
High School	0.6279 (0.4834)	0.5550 (0.4970)
Post Secondary	0.1965 (0.3973)	0.2000 (0.4000)
University	0.1756 (0.3805)	0.2450 (0.4301)
Region		
Atlantic	0.0738 (0.2615)	0.0753 (0.2639)
Quebec	0.2537 (0.4352)	0.2513 (0.4338)
Ontario	0.3948 (0.4888)	0.3901 (0.4878)
Prairies	0.1694 (0.3751)	0.1715 (0.3770)
British Columbia	0.1083 (0.3107)	0.1117 (0.3150)
Tenure		
Tenure <1 year	0.2414 (0.4280)	0.3180 (0.4657)
Observations	23,934	25,183

I constructed four age categories (i.e. binary variables), just as Brochu (2009) did, that were Age 20-24, Age 25-34, Age 35-44 and Age 45-54. I only consider workers who are between 20 and 54. I exclude workers who are below 20 because they and those that work may not be representative of all individuals in the 15-19 age group as most are presumably focused on their education.³ I also exclude workers whose ages are above 54 to abstract from retirement issues as is done in Brochu (2009). The Age 25-34 is the reference category.

For gender, I defined one dummy variable equal to one if the worker is a female, and 0 otherwise.

For education I focused on educational attainment. Following Brochu (2009), I define three education attainment categories: High School, Post Secondary, and University. The High School category includes less than grade eight or no schooling, some secondary education, graduated from high school and some post-secondary. The Post-Secondary category includes a post-secondary certificate or diploma. The University category includes a university degree, trades certificate or diploma. The High School category was chosen as the reference category.

Region is another important independent variable in my model. As there are large differences in regional economic structures, I expect there to be differences in retention rates across regions. Hence, five separate regional dummy variables are included in the

³ My sample also excluded full-time students, but kept workers that are part-time students.

model. They are Ontario, Quebec, Atlantic, Prairies and British Columbia. Following Brochu (2009), I define Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick as Atlantic. I also include Manitoba, Saskatchewan and Alberta in the Prairies category. Ontario is the reference category.

Following Brochu (2009), I considered five categories of initial tenure: less than one year (Tenure <1 year), more than one year but less than three years (Tenure 1-3 years), more than three years and less than seven years (Tenure 3-7 years), more than 7 years but less than 12 years (Tenure 7-12 years) and more than 12 years (Tenure >12 years). The Tenure 3-7 years is the reference category.

3.2 Job Stability Patterns and Methodology

3.2.1 Two Retention Rate Approaches

Job stability can be represented by a retention rate. I look at two types of retention rates in this paper: One is the job retention rate and the other is the employer retention rate. The definitions for these two types of retention rates are shown below.

The job retention rate is defined as the probability that an individual is in the same job on January 1st of year $t+1$, as he/she was on January 1st of year t . The job retention rate is calculated in a forward manner. For example, when I estimate the job retention rate for 1988, I focus on the probability of an individual holding the same job on January 1, 1989. Each worker can report up to five jobs in each calendar year, and the observations for this job retention rate are calculated for all the jobs reported. Using the 1988-1990 data from

the LMAS, I can construct two observations for job retention rate: one for 1988 and one for 1989.

The employer retention rate is defined as the probability that an individual is working for the same employer on January 1st of year $t+1$, as he/she was working for on January 1st of year t . For example, to estimate the employer retention rate for 1989, I will estimate the probability of an individual working for the same employer on January 1, 1990, as he/she was working for on January 1, 1989. The employer retention rate is also calculated in a forward manner, but unlike for the job retention rate, it is calculated for the main job instead of for all the jobs.

3.2.2 Two Approaches for Estimating Retention Rates

I will use two approaches to estimate both the job retention rate and the employer retention rate. One is a non-parametric approach that estimates both retention rates by groups (i.e. by gender, age, level of education, region and different initial tenures). The other one is a parametric approach that estimates both retention rates using a Linear Probability Model (LPM) and Probit model separately. As previously discussed, the regression results can follow the same jobs or the same employers for both the LPM and Probit model. More information about the two models in the parametric approach follows.

First, I will discuss the LPM. I predict that job stability should mainly depend on age, gender, level of education and region. The LPM takes the form:

$$\begin{aligned}
P(\text{CON}_{it+1} = 1 \mid \text{GEN}_{it}, \text{EDUC}_{it}, \text{PROV}_{it}, \text{AGE}_{it}) \\
= \beta_0 + \beta_1 \text{GEN}_{it} + \beta_2 \text{EDUC}_{it} + \beta_3 \text{PROV}_{it} + \beta_4 \text{AGE}_{it} + \beta_5 \text{Z}_{it}, \quad (1)
\end{aligned}$$

where CON_{it+1} is a binary variable for individual i in period $t+1$, which is equal to 1 if the individual i is in the same job or with the same employer in the year $t+1$ as he/she was at time t , and 0 otherwise. The GEN_{it} variable represents gender and equals 1 if the individual i is a female, and zero otherwise. The EDUC_{it} variable represents educational attainment as described in the data section. The PROV_{it} variable represents the region where the individual i resides in the year t . The AGE_{it} variable represents the age of a worker as measured by four age categories, also described in the data section. Finally, the variable Z_{it} represents other factors that can affect the probability of retaining a job.

For this paper, I focus on the marginal effects, i.e. how the probability of staying in the same job or with the same employer in the following year changes when the independent variable are increased by 1 unit. In the LPM model, the marginal effect for each variable is constant.

Second, I will give more information about Probit model. The model is:

$$\begin{aligned}
P(\text{CON}_{it+1} = 1 \mid \text{GEN}_{it}, \text{EDUC}_{it}, \text{PROV}_{it}, \text{AGE}_{it}) \\
= F(\beta_0 + \beta_1 \text{GEN}_{it} + \beta_2 \text{EDUC}_{it} + \beta_3 \text{PROV}_{it} + \beta_4 \text{AGE}_{it} + \beta_5 \text{Z}_{it}), \quad (2)
\end{aligned}$$

where $F(\cdot)$ is the cumulative normal distribution function. This model is similar to model

(1), but the F(.) function ensures that the probability is bounded by 0 and 1. The explanatory variables are the same as in the LPM. I also focus on the marginal effects in the Probit model.

4. Empirical Analysis

In this section, I will analyze the results for the parametric and non-parametric approaches. First, I will describe the results of the non-parametric approach for job retention rates and employer retention rates separately by gender, age, level of education, region and different initial tenures. Second, I will discuss the results of the LPM and Probit model.

4.1 Results Using the Non-Parametric Approach

4.1.1 Results for the Job Retention Rates

To correct for the fact that some regions are over sampled (e.g. PEI), and others under sampled (e.g. Ontario), I weight the observations using the inverse of the probability of being selected.

Table 2 compares job retention rates with and without weights for 1988 and 1989. Column (1) gives the job retention rates without weights for 1988, while Column (2) uses weights. Columns (3) and (4) show the job retention rates for 1989. The decision to weight the data does not materially alter the findings. For example, in 1988, the weighted overall job retention rate is slightly lower than the un-weighted overall job retention rate: 0.7826 compared with 0.7905. For all subsequent estimations, I follow a weighted

approach as is commonly used in the literature.

Table 2: Comparison between "No Weights" and "With Weights"

Specification	R ₁₉₈₈	R ₁₉₈₈	R ₁₉₈₉	R ₁₉₈₉
	(no weights)	(with weights)	(no weights)	(with weights)
	(1)	(2)	(3)	(4)
Overall	0.7905 (0.0026)	0.7826 (0.0027)	0.7615 (0.0027)	0.7560 (0.0027)
Male	0.8036 (0.0035)	0.7968 (0.0036)	0.7717 (0.0037)	0.7638 (0.0037)
Female	0.7757 (0.0039)	0.7661 (0.0040)	0.7503 (0.0040)	0.7472 (0.0040)
Tenure <1 year	0.5858 (0.0066)	0.5860 (0.0066)	0.5944 (0.0055)	0.5922 (0.0055)

Note: Standard errors are in brackets.

Table 3 represents the job retention rates by gender, age, region, education and different initial tenures for 1988 and 1989, using the non-parametric approach. The results of Brochu's study (2009) are also shown in Table 3 for comparison. I will check if my results are consistent with those of Brochu (2009).

Table 3: Job Retention Rates for 1988 and 1989

Specification	R ₁₉₈₈	R ₁₉₈₈ (Brochu)	R ₁₉₈₉	R ₁₉₈₉ (Brochu)
	(1)	(2)	(3)	(4)
Overall	0.7826 (0.0027)	- -	0.7560 (0.0027)	- -
Gender				
Female	0.7661 (0.0040)	0.7658 (0.0053)	0.7472 (0.0040)	0.7720 (0.0052)
Male	0.7968 (0.0036)	0.7880 (0.0048)	0.7638 (0.0037)	0.7801 (0.0047)
Age				
Age 20-24	0.6220 (0.0096)	- -	0.6176 (0.0090)	- -
Age 25-34	0.7357 (0.0047)	- -	0.7317 (0.0046)	- -
Age 35-44	0.8405 (0.0041)	- -	0.8000 (0.0044)	- -
Age 45-54	0.8755 (0.0048)	- -	0.8285 (0.0054)	- -
Education				
High School	0.7787 (0.0033)	0.7600 -	0.7505 (0.0036)	0.7600 -
Post Secondary	0.7731 (0.0061)	0.8250 -	0.7548 (0.0062)	0.8100 -
University	0.8073 (0.0065)	0.8000 -	0.7692 (0.0055)	0.8100 -
Region				
Atlantic	0.7839 (0.0056)	0.7500 -	0.7069 (0.0060)	0.7500 -
Quebec	0.8001 (0.0064)	0.7800 -	0.7902 (0.0064)	0.7900 -
Ontario	0.7779 (0.0058)	0.7800 -	0.7379 (0.0060)	0.7800 -
Prairies	0.7715 (0.0050)	0.7800 -	0.7793 (0.0048)	0.7500 -
British Columbia	0.7751 (0.0086)	- -	0.7393 (0.0087)	0.7800 -

Table 3: Job Retention Rates for 1988 and 1989

Specification	R ₁₉₈₈	R ₁₉₈₈ (Brochu)	R ₁₉₈₉	R ₁₉₈₉ (Brochu)
Tenure <1 year	0.5860 (0.0066)	0.4518 (0.0056)	0.5922 (0.0055)	0.4615 (0.0057)
Tenure 1- 3 years	0.7285 (0.0066)	-	0.7064 (0.0068)	0.8115 -
Tenure 3-7 years	0.8325 (0.0055)	0.8460 -	0.7927 (0.0064)	0.8376 -
Tenure 7-12 years	0.8730 (0.0051)	0.9374 -	0.8358 (0.0061)	0.9207 -
Tenure >12 years	0.9440 (0.0033)	0.9675 -	0.8835 (0.0045)	0.9296 -

Note: Standard errors are in brackets.

Gender

Table 3 shows the retention rates and standard errors (in brackets) by gender. For both 1988 and 1989, males had higher job retention rates than females. The difference was 3.07 percentage points for 1988 and 2.22 percentage points for 1989. The two positive gaps are also statistically significant at the 5% level.⁴ The above findings are similar to Brochu's findings (2009): males had higher job retention rates than females for both 1988 and 1989. The difference between my results and Brochu's (2009) is small, i.e. it was 0.0030 for females for 1988 and 0.0016 for males for 1989 (non-statistically different from zero).

⁴ The null hypothesis is that job retention rates for males and females are the same in each calendar year, and the alternative hypothesis is that the gaps between male and female job retention rates are positive for each calendar year. This is a one tail t-test. The t-stat value is 5.731 for 1988 and 3.066 for 1989.

Age

Table 3 shows job retention rates by age. In both years, they ranged from 0.6220 to 0.8755. The job retention rates for the youngest category (20-24) are the lowest. The difference in job retention rates between Age 25-34 and Age 45-54 is 13.98 percentage points for 1988, and 9.68 percentage points for 1989, which is also statistically significant at the 5% level.⁵ Therefore, job retention rates increased as age increased for 1988, and it was similar in 1989. Younger workers have less work experience and skills than older workers so they have less of an opportunity to hold good jobs. Younger workers tend to look for jobs with higher salaries or benefits to improve their careers and lives. On the other hand, older workers have a different story. Older workers have more fear of possible job loss because they have more pressure including supporting a stable family, paying mortgages for homes and loans for the car. Furthermore, the older workers with more work experience and skills usually have better jobs than younger workers as most are not looking for a big shock in their career lives. Consequently, job stability increases with age, but at a decreasing rate.

These findings are similar to Brochu's findings (2009). The average job retention rates in Brochu (2009) were 0.6750 for age category 20-29, 0.8100 for age category 30-39 and 0.8400 for age category 40-54 for 1989. The average job retention rate of Age 20-24 and Age 25-34 is 0.6750 in my sample for 1988, which is roughly the same as the average job

⁵ The null hypothesis is that job retention rates for Age 45-54 and Age 25-34 are the same in each calendar year, and the alternative hypothesis is that the gaps between Age 45-54 and Age 25-34 job retention rates are positive in each calendar year. This is a one tail t-test, and the t-stat value is 20.845 for 1988 and 13.583 for 1989.

retention rate of age category 20-29 for Brochu (2009), although the age intervals are not exactly comparable. The average job retention rate of Age 45-54 and Age 35-44 in my sample is 0.8580 for 1988, which is also roughly the same as the average job retention rate of the age category 40-54 in Brochu (2009) for 1988. Hence, older workers consistently have higher job stability than younger workers. Ageing of the workforce may play an important role in explaining job stability.

Education

Education plays an important role in today's economy. Higher education leads to a more favourable outcome. More educated workers are expected to have more productive and more stable jobs meaning I expect a positive relationship between education level and job stability.

Table 3 shows job retention rates by education level. In both 1988 and 1989, the job retention rates for the University category were the highest. The gaps of the job retention rates between High School and University are positive in both years, and are both statistically significant at the 5% level.⁶ There is very little difference between Post Secondary and High School. The gap between High School and Post Secondary was positive for 1988 then negative for 1989, but was not statistically significant.

⁶ The null hypothesis is that the retention rates for High School and University are the same in each calendar year, and the alternative hypothesis is that the gaps between High School and University job retention rates are positive in each calendar year. This is a one tail t-test, and the t-stat value is 3.903 for 1988 and 2.843 for 1989.

My results are somewhat consistent with those of Brochu (2009). University educated workers had the highest job stability in 1988 and 1989. However, I find no difference between job retention rates for post secondary educated individuals and high school educated individuals, unlike Brochu (2009).

Region

Table 3 presents the estimated job retention rates and associated standard errors by region. For both 1988 and 1989, Quebec had the highest job retention rates. The Atlantic region had the second highest job retention rate for 1988, but the fifth highest for 1989. The job retention rates of Atlantic were systematically lower than Quebec in both years, and the job retention rates of Quebec and the Prairies were roughly the same. The results are consistent with those in Brochu (2009). The differences of magnitude between my estimates of the region effect and those of Brochu (2009) is small, except for the Atlantic region and British Columbia for 1989, i.e. the difference for Atlantic region was 4.31 percentage points and the difference for British Columbia was 4.07 percentage points. Consequently, the large difference in regional economic structures indeed leads to different levels of job stability.

Tenure

Table 3 shows job retention rates for 1988 and 1989 by initial tenure. The job retention rate increases as initial tenure increases. The differences were particularly large between Tenure <1 year and Tenure 1-3 years for both 1988 and 1989. These two gaps are

statistically significant at the 5% level.⁷ My results are different from Brochu's study (2009) in terms of magnitude. For example, job retention rate of the Tenure 1-3 years in my sample was 5.80 percentage points higher than the ones for Brochu (2009) for 1988. But I share similar patterns with Brochu (2009). Job retention rates increased as the initial tenure increased for both 1988 and 1989, and the Tenure <1 year played an important role.

In the LMAS, the respondent is asked to report, at most, five jobs in each calendar year. In order to define the employer retention rate, I defined the main job in my model as the job with the identifier job id=01. In order to test whether the results after including the main job control was similar to before the inclusion, I test the job retention rates with and without the main job control. The results of this test are illustrated in table 4.

After controlling for main job (i.e. Columns (1) and (3) of Table 4), all principal job retention rates are systematically higher than before (i.e. Columns (2) and (4) of Table 4). For 1988, the principal job retention rates and the job retention rates are very similar and are not statistically different. The differences between these two cases are all less than 1 percentage points. The results are also similar for 1989 except for the regional effects. In particular, this shows that in the Prairies, the main job is much more stable than other jobs. Overall, controlling for a main job does not change the story. The difference

⁷ The null hypothesis is that the retention rates for Tenure <1 year and Tenure 1-3 years are the same in each calendar year, and the alternative hypothesis is that the gaps between Tenure <1 year and Tenure 1-3 years job retention rates are positive in each calendar year. This is a one tail t-test, and the t-stat value is 15.219 for 1988 and 13.064 for 1989.

between the two cases for the Prairies in 1989 is 4.90 percentage points --the largest difference in 1989.

Table 4: Principal Job Retention Rates for 1988 and 1989

Specification	R ₁₉₈₈	R ₁₉₈₈	R ₁₉₈₉	R ₁₉₈₉
	Principal job		Principal job	
	(1)	(2)	(3)	(4)
Overall	0.7886 (0.0027)	0.7826 (0.0027)	0.7855 (0.0029)	0.7560 (0.0027)
Gender				
Female	0.7716 (0.0040)	0.7661 (0.0040)	0.7727 (0.0043)	0.7472 (0.0040)
Male	0.8033 (0.0036)	0.7968 (0.0036)	0.7967 (0.0039)	0.7638 (0.0037)
Age				
Age 20-24	0.6338 (0.0097)	0.6220 (0.0096)	0.6447 (0.0110)	0.6176 (0.0090)
Age 25-34	0.7416 (0.0048)	0.7357 (0.0047)	0.7574 (0.0051)	0.7317 (0.0046)
Age 35-44	0.8457 (0.0042)	0.8405 (0.0041)	0.8232 (0.0046)	0.8000 (0.0044)
Age 45-54	0.8790 (0.0048)	0.8755 (0.0048)	0.8456 (0.0055)	0.8285 (0.0054)
Education				
High School	0.7837 (0.0034)	0.7787 (0.0033)	0.7788 (0.0038)	0.7505 (0.0036)
Post Secondary	0.7802 (0.0062)	0.7731 (0.0061)	0.7862 (0.0066)	0.7548 (0.0062)
University	0.8159 (0.0066)	0.8073 (0.0065)	0.8005 (0.0058)	0.7692 (0.0055)
Region				
Atlantic	0.7877 (0.0056)	0.7839 (0.0056)	0.7360 (0.0064)	0.7069 (0.0060)
Quebec	0.8093 (0.0064)	0.8001 (0.0064)	0.8187 (0.0066)	0.7902 (0.0064)
Ontario	0.7816 (0.0059)	0.7779 (0.0058)	0.7615 (0.0065)	0.7379 (0.0060)
Prairies	0.7783 (0.0051)	0.7715 (0.0050)	0.8283 (0.0049)	0.7793 (0.0048)
British Columbia	0.7820 (0.0086)	0.7751 (0.0086)	0.7628 (0.0095)	0.7393 (0.0087)

Note: Standard errors are in brackets.

4.1.2 Results for the Employer Retention Rates

Table 5 shows the employer retention rates for 1988 and 1989. The employer retention rates are systematically higher than the job retention rates. This should come as no surprise since changing employer implies changing job but not vice-versa. The main conclusion does not change when I focus on employer. Males had higher job stability than females for 1988 and 1989. Furthermore, there was a positive relationship between job stability and age. Finally, job stability increased as the education level increased for both 1988 and 1989.

Table 5: Employer Retention Rates for 1988 and 1989

Specification	R ₁₉₈₈	R ₁₉₈₈	R ₁₉₈₉	R ₁₉₈₉
	(1)	(2)	(3)	(4)
	Employer retention rates	Job retention rates	Employer retention rates	Job retention rates
Overall	0.8323 (0.0025)	0.7826 (0.0027)	0.8001 (0.0028)	0.7560 (0.0027)
Gender				
Female	0.8164 (0.0037)	0.7661 (0.0040)	0.7877 (0.0042)	0.7472 (0.0040)
Male	0.8460 (0.0033)	0.7968 (0.0036)	0.8110 (0.0038)	0.7638 (0.0037)
Age				
Age 20-24	0.6980 (0.0093)	0.6220 (0.0096)	0.6404 (0.0110)	0.6176 (0.0090)
Age 25-34	0.8001 (0.0044)	0.7357 (0.0047)	0.7749 (0.0050)	0.7317 (0.0046)
Age 35-44	0.8796 (0.0037)	0.8405 (0.0041)	0.8445 (0.0043)	0.8000 (0.0044)
Age 45-54	0.8978 (0.0045)	0.8755 (0.0048)	0.8550 (0.0054)	0.8285 (0.0054)
Education				
High School	0.8259 (0.0031)	0.7787 (0.0033)	0.7921 (0.0037)	0.7505 (0.0036)
Post Secondary	0.8274 (0.0056)	0.7731 (0.0061)	0.7901 (0.0066)	0.7548 (0.0062)
University	0.8609 (0.0059)	0.8073 (0.0065)	0.8267 (0.0055)	0.7692 (0.0055)
Region				
Atlantic	0.8334 (0.0051)	0.7839 (0.0056)	0.8053 (0.0057)	0.7069 (0.0060)
Quebec	0.8452 (0.0059)	0.8001 (0.0064)	0.7979 (0.0069)	0.7902 (0.0064)
Ontario	0.8288 (0.0054)	0.7779 (0.0058)	0.7948 (0.0062)	0.7379 (0.0060)
Prairies	0.8247 (0.0046)	0.7715 (0.0050)	0.8318 (0.0049)	0.7793 (0.0048)
British Columbia	0.8251 (0.0080)	0.7751 (0.0086)	0.7745 (0.0094)	0.7393 (0.0087)

Note: Standard errors are in brackets.

4.2 Results Using the Parametric Approach

In this section I estimate Probit model and the LPM. The theoretical reason for using a Probit model, rather than a LPM model, is that the probability in the Probit model is bounded between 0 and 1 while the probability in the LPM can be less than 0 or greater than 1. The results for both the LPM and Probit model are reported in Tables 6 and 7. The estimated effects generally have the same signs and very similar magnitudes, which is not surprising because other researchers have produced similar results.

4.2.1 Estimating the Determinants of Job Retention Rates Using the LPM

Column (1) of Table 6 shows the marginal effects associated with the LPM for 1988, i.e. Equation (1). Column (1) of Table 7 shows the marginal effects of the LPM for 1989. In this section, I focus on job retention rates.

Overall, the results are very similar to those of the non-parametric approach. In 1988, the coefficient of female is -0.0276, meaning that the marginal effect in the probability of staying in the same job in the following year for females is 2.76 percentage points lower than males. The difference between the parametric and non-parametric findings is only 0.31 percentage points. Concerning the marginal effects of the age variables, the marginal effect for Age 20-24 is 11.16 percentage points lower than Age 25-34 for 1988. In the non-parametric approach, the difference in job retention rates between Age 20-24 and Age 25-34 is 11.37 percentage points for 1988, which is very similar with the 11.16 percentage points in the estimated parametric approach. The difference between the marginal effects of Age 45-54 and Age 25-34 is 13.94 percentage points, which is only 0.04 percentage

points lower than the results in the non-parametric approach. Therefore, Age is statistically and economically significant in the parametric approach for 1988. Additionally, it is consistent with the results of the non-parametric approach.

University education has the highest marginal effect of the three education categories; 1.25 percentage points higher than a High School education. In the non-parametric approach, High School was higher than Post Secondary for 1988, but High School was lower than Post Secondary in the parametric approach for 1988. This does not impact the results because the magnitudes of difference between High School and Post Secondary in each approach was very small, i.e. the differences were less than 0.56 percentage points in both approaches for 1988. Therefore, the education findings were not statistically significant at the 5% level, but they showed the same patterns as with the non-parametric approach for 1988.

Quebec has the highest marginal effect in the probability of staying in the same job in the following year; 2.26 percentage points higher than in Ontario for 1988. The differences between the parametric and non-parametric approaches for region ranges from 0.04 percentage points to 0.49 percentage points, which is small. The signs of the coefficients are also the same in both approaches for 1988. Apart from Post Secondary, University, Atlantic, Prairies and British Columbia, the coefficients for all the other variables are statistically significant at the 5% level for 1988.

Column (1) of Table 7 shows the marginal effects for the 1989 sample. The results are

consistent with those of 1988. The marginal effect for females is 1.57 percentage points lower than males for 1989. The difference between the parametric and non-parametric approaches for females is 0.09 percentage points. In this case, the marginal effects for workers in the Age category 45-54 are the highest in the four age categories, which is 0.0989 percentage points higher than the workers in the Age category 25-34. In contrast, workers in the Age 20-24 have the lowest marginal effects in the probability of staying in the same job (holding all other factors equal). Thus, there was a positive relationship between job stability and age for 1989.

Regarding the effects of education levels for 1989, a worker with a University degree has a 0.0131 higher marginal effect than a worker in the High School category. The difference of marginal effects between University and Post Secondary in the parametric approach is 0.026 percentage points, which is not very large. Similar to the results for 1988, the difference between the parametric and non-parametric approaches ranges from 0.007 to 0.42 percentage points. The magnitudes in both approaches are very similar and the signs in both approaches are the same, although the results in the non-parametric approach are not statistically significant for 1989. Excluding Post Secondary, University, and British Columbia, the coefficients of all the other variables are statistically significant at the 5% level for 1989.

In conclusion, the results in the parametric approach were consistent with results in the non-parametric approach for 1988 and 1989. Males had higher job stability than females. There was a positive relationship between job stability and age. Moreover, there was a

positive relationship between job stability and education, albeit not statistically significant. Finally, there was no relationship between job stability and region.

Table 6: Comparison of Marginal Effects between the LPM and Probit Model for 1988

Dependent variable: CON_{it+1}				
Independent variable	LPM	Probit	LPM	Probit
	Job retention	Job retention	Employer retention	Employer retention
	(1)	(2)	(3)	(4)
Gender				
Female	-0.0276 (0.0078)	-0.0284 (0.0079)	-0.0273 (0.0072)	-0.0277 (0.0072)
Age				
Age 20-24	-0.1116 (0.0153)	-0.0978 (0.0142)	-0.0987 (0.0145)	-0.0842 (0.0132)
Age 35-44	0.1047 (0.0093)	0.0993 (0.0084)	0.0793 (0.0085)	0.0757 (0.0077)
Age 45-54	0.1394 (0.0098)	0.1301 (0.0084)	0.0979 (0.0092)	0.0912 (0.0079)
Education				
Post Secondary	0.0029 (0.0104)	0.0023 (0.0102)	0.0080 (0.0096)	0.0068 (0.0092)
University	0.0125 (0.0107)	0.0143 (0.0111)	0.0213 (0.0098)	0.0229 (0.0100)
Region				
Atlantic	0.0089 (0.0096)	0.0088 (0.0094)	0.0066 (0.0088)	0.0071 (0.0086)
Quebec	0.0226 (0.0107)	0.0231 (0.0107)	0.0165 (0.0098)	0.0169 (0.0097)
Prairies	0.0015 (0.0094)	0.0019 (0.0092)	0.0018 (0.0087)	0.0028 (0.0085)
British Columbia	-0.0063 (0.0137)	-0.0070 (0.0138)	-0.0065 (0.0127)	-0.0071 (0.0127)
Constant	0.7397 (0.0101)	- -	0.8029 (0.0093)	- -
Pseudo R- Squared	0.0407	0.0384	0.0312	0.0334
Percent Correctly Predicted (at x-bar)	-	0.7915	-	0.8401
Observations	23,934	23,934	23,036	23,036

Note: Standard errors are in brackets.

Table 7: Comparison of Marginal Effects between the LPM and Probit Model for 1989

Dependent variable: CON_{it+1}				
Independent variable	LPM	Probit	LPM	Probit
	Job retention	Job retention	Employer retention	Employer retention
	(1)	(2)	(3)	(4)
Gender				
Female	-0.0151 (0.0079)	-0.0157 (0.0080)	-0.0215 (0.0083)	-0.0222 (0.0083)
Age				
Age 20-24	-0.1133 (0.0145)	-0.1055 (0.0140)	-0.1311 (0.0178)	-0.1181 (0.0169)
Age 35-44	0.0698 (0.0094)	0.0691 (0.0091)	0.0702 (0.0098)	0.0691 (0.0093)
Age 45-54	0.0989 (0.0104)	0.0973 (0.0097)	0.0817 (0.0108)	0.0788 (0.0098)
Education				
Post Secondary	0.0154 (0.0105)	0.0157 (0.0103)	0.0070 (0.0112)	0.0075 (0.0108)
University	0.0117 (0.0095)	0.0131 (0.0097)	0.0253 (0.0098)	0.0273 (0.0099)
Region				
Atlantic	-0.0284 (0.0104)	-0.0280 (0.0102)	0.0118 (0.0103)	0.0107 (0.0101)
Quebec	0.0548 (0.0109)	0.0545 (0.0106)	0.0053 (0.0116)	0.0041 (0.0114)
Prairies	0.0461 (0.0095)	0.0456 (0.0090)	0.0399 (0.0097)	0.0399 (0.0094)
British Columbia	0.0001 (0.0139)	0.0007 (0.0135)	-0.0205 (0.0146)	-0.0196 (0.0145)
Constant	0.7124 (0.0108)	- -	0.7701 (0.0112)	- -
Pseudo R- Squared	0.0285	0.0252	0.0299	0.0282
Percent Correctly Predicted (at x-bar)	-	0.7614	-	0.8063
Observations	25,183	25,183	20,325	20,325

Note: Standard errors are in brackets.

4.2.2 Estimating Job Retention Rates Using the Probit Model

Column (2) of Table 6 shows the marginal effects of the Probit model for 1988, i.e. Equation (2). Column (2) of Table 7 shows the marginal effects of the Probit model for 1989. In this section, I focus on job retention rates.

For both 1988 and 1989, the Probit model findings are similar to the ones of the LPM. The signs of the marginal effect in both models are the same. The magnitudes of marginal effects in both models are very similar while the differences between the two models range from 0.01 percentage points to 1.38 percentage points. The statistical significance in both models is also the same.

4.2.3 Estimating Employer Retention Rates Using the LPM

Column (3) of Table 6 shows the marginal effects of the LPM for 1988, i.e. Equation (1). Column (3) of Table 7 shows the marginal effects of the LPM for 1989. In this section, I focus on employer retention rates. Overall, the results are very similar to those of the non-parametric approach for both 1988 and 1989.

Table 6 shows that the marginal effect for females in 1988 is 2.73 percentage points lower than for males, and 0.23 percentage points lower than the results in the non-parametric approach. The marginal effect for workers between 45-54 is 9.79 percentage points higher than the reference Age category 25-34. The probability of staying with the same employers in the following year increases as the age of worker increases. The magnitudes in both approaches are very similar; it ranges from 0.04 percentage points to

0.21 percentage points for 1988. As with the non-parametric approach, University is also statistically significantly higher than High School. The magnitudes for education for both approaches are very similar and the signs in both approaches are the same. Excluding the Prairies, the other regions have the same relative ranking as with the non-parametric approach, and the differences of magnitude between the two approaches range from 0.01 percentage points to 0.28 percentage points, which is small. Apart from Post Secondary, Atlantic, Quebec, Prairies and British Columbia, the coefficients of all the other variables are statistically significant at the 5% level for 1988.

The 1989 results are consistent with results from 1988. Female job stability is 2.72 percentage points lower than for males. The marginal effect increases as age increases. The parametric and non-parametric approaches give similar results for age, and the largest difference between the two approaches is only 0.34 percentage points. The marginal effect for University is statistically greater than High School. The signs for education between the two approaches are the same, although the Post Secondary is not statistically significant. Regarding regions, the magnitude between the two approaches are very similar, ranging from 0.34 percentage points to 1.38 percentage points. The signs of regional variables are also the same as the results in the non-parametric approach. Excluding Post Secondary, Atlantic, Quebec and British Columbia, the coefficients of all the other variables are statistically significant at the 5% level.

In conclusion, the results for the parametric and non-parametric approaches are consistent with each other. Males had higher employer stability than females. The relationship

between age and employer stability was positive. University graduates had the highest employer stability for 1988 and 1989. Finally, there was no relationship between employer stability and region.

4.2.4 Estimating Employer Retention Rates Using the Probit Model

Column (4) of Table 6 shows the marginal effects of the Probit model for 1988, i.e. Equation (2). Column (4) of Table 7 shows the marginal effects of Probit model for 1989. In this section, I focus on employer retention rates.

For both 1988 and 1989, the Probit model findings match those of the LPM. The magnitudes of marginal effects in both models are very similar. The differences of magnitude between both models range from 0.016 percentage points to 1.45 percentage points. The statistical significance is the same in both models.

4.2.5 Robustness Checks

In this section, I check the sensitivity of the gender and education findings by adding controls sequentially.

Table 8 focuses on the gender findings. I use the LPM and focus only on 1988.⁸ Column (1) gives the marginal effect without any control, which are also the results of the non-parametric approach. Column (2) adds region controls. Column (3) gives the marginal effects with region and education controls. Finally, Column (4) gives the marginal effects

⁸ The conclusions were the same where I used the Probit model or when I focused on 1989.

with all the controls, which are also the results of the parametric approach previously discussed.

The gender findings are essentially unchanged when I add the controls sequentially. The differences of magnitude between each step range from 0.03 percentage points to 0.20 percentage points, which is very small. This is not surprising, given that the marginal effects in the non-parametric approach (i.e. Column (1)) were almost the same as in the parametric approach (i.e. Column (4)) and that the education and region effects were not statistically significant.

Table 8: Results for Robustness Checks - Gender Difference for 1988

Dependent variable: CON_{it+1}				
Independent variable	LPM	LPM	LPM	LPM
	(1)	(2)	(3)	(4)
Gender				
Female	-0.0307 (0.0053)	-0.0304 (0.0053)	-0.0296 (0.0054)	-0.0276 (0.0053)
Region				
Atlantic	-	0.0056 (0.0107)	0.0067 (0.0107)	0.0089 (0.0105)
Quebec	-	0.0216 (0.0068)	0.0228 (0.0068)	0.0226 (0.0067)
Prairies	-	-0.0059 (0.0077)	-0.0057 (0.0077)	0.0015 (0.0076)
British Columbia	-	-0.0036 (0.0091)	-0.0032 (0.0091)	-0.0063 (0.0090)
Education				
Post Secondary	-	-	-0.0026 (0.0069)	0.0029 (0.0068)
University	-	-	0.0295 (0.0072)	0.0125 (0.0071)
Age				
Age 20-24	-	-	-	-0.1116 (0.0088)
Age 35-44	-	-	-	0.1047 (0.0063)
Age 45-54	-	-	-	0.1394 (0.0073)
Constant	0.7968 (0.0036)	0.7922 (0.0049)	0.7867 (0.0054)	0.7397 (0.0063)
R-Squared	0.0014	0.0020	0.0028	0.0407
Observations	23,934	23,934	23,934	23,934

Note: Standard errors are in brackets.

Table 9 focuses on education. It shows marginal effects when I add the controls sequentially. I once again use the LPM, focusing on 1988. Column (1) gives the marginal effects without any control, which is the same as in the non-parametric approach. Column (2) gives the marginal effects with the female control. Column (3) gives the marginal effects with female and region controls. Finally, Column (4) gives the marginal effects with all of the controls, which are also the results of the parametric approach previously discussed.

Through Columns (1) to (4), the marginal effect for Post Secondary changes very little when I add controls sequentially, i.e. the changes are less than 0.25 percentage points. The changes for the University effect are also very small, except when adding the age controls (i.e. moving from Column (3) to Column (4)). It changes by 1.70 percentage points when I add age controls. One can conclude that differences between the parametric and non-parametric approaches are mostly due to age. Age played an important role in explaining job stability in both 1988 and 1989. As explained in the non-parametric section, the older workers have higher job stability than younger workers. The marginal effects for the non-parametric approach (i.e. Column (1)) are roughly the same as the marginal effects for the parametric approach (i.e. the Column (4)). The differences between Columns (1) and (4) are 1.61 percentage points for the University category, and 0.27 percentage points for the Post Secondary category, which is small. I repeated the exercise for 1989, and the results were consistent with those of 1988. Therefore, the results using the parametric and non-parametric approaches are consistent with each other, and both matched Brochu (2009).

Table 9: Results for Robustness Checks - Education Difference for 1988

Dependent variable: CON_{it+1}				
Independent variable	LPM	LPM	LPM	LPM
	(1)	(2)	(3)	(4)
Education				
Post Secondary	-0.0056 (0.0069)	-0.0031 (0.0069)	-0.0026 (0.0069)	0.0029 (0.0068)
University	0.0286 (0.0072)	0.0282 (0.0072)	0.0295 (0.0072)	0.0125 (0.0071)
Gender				
Female	- -	-0.0300 (0.0054)	-0.0296 (0.0054)	-0.0276 (0.0053)
Region				
Atlantic	- -	- -	0.0067 (0.0107)	0.0089 (0.0105)
Quebec	- -	- -	0.0228 (0.0068)	0.0226 (0.0067)
Prairies	- -	- -	-0.0057 (0.0077)	0.0015 (0.0076)
British Columbia	- -	- -	-0.0032 (0.0091)	-0.0063 (0.0090)
Age				
Age 20-24	- -	- -	- -	-0.1116 (0.0088)
Age 35-44	- -	- -	- -	0.1047 (0.0063)
Age 45-54	- -	- -	- -	0.1394 (0.0073)
Constant	0.7787 (0.0034)	0.7922 (0.0041)	0.7867 (0.0054)	0.7397 (0.0063)
R-Squared	0.0008	0.0021	0.0028	0.0407
Observations	23,934	23,934	23,934	23,934

Note: Standard errors are in brackets.

4.2.6 Controlling for Tenure

Table 10 shows the marginal effects when different initial tenures are added as independent variables in the LPM (i.e. Equation (1)). I focus on the job retention rate for 1988 only. Although the magnitudes of marginal effect for the non tenure variables are somewhat different from before, the signs and patterns remain essentially the same, except for the Prairies and British Columbia variables. The Prairies and British Columbia now become statistically insignificant. The marginal effect of Tenure <1 year is very large. It is 23.49 percentage points lower than Tenure 3-7 years. Hence, Tenure <1 year played a very important role in explaining job stability for 1988. There is a positive relationship between the initial tenure and the marginal effect, meaning that the marginal effect increases as initial tenure increases. These results are consistent with the non-parametric approach. The results in 1989 are similar to 1988.

Table 10: Controlling for Tenure for 1988

Dependent variable: CON_{it+1}	
Independent variable	LPM
Gender	
Female	-0.0046 (0.0051)
Age	
Age 20-24	-0.0423 (0.0087)
Age 35-44	0.0586 (0.0064)
Age 45-54	0.0734 (0.0075)
Education	
Post Secondary	0.0031 (0.0066)
University	0.0164 (0.0069)
Region	
Atlantic	0.0065 (0.0101)
Quebec	0.0170 (0.0064)
Prairies	-0.0006 (0.0073)
British Columbia	0.0015 (0.0087)
Tenure	
Tenure <1 year	-0.2349 (0.0078)
Tenure 1- 3 years	-0.0892 (0.0082)
Tenure 7-12 years	0.0301 (0.0083)
Tenure >12 years	0.0743 (0.0085)
Constant	0.8031 (0.0079)
R-Squared	0.1080
Observations	23,787

Note: Standard errors are in brackets.

5. Conclusion

This paper replicated the findings of Brochu (2009) using the LMAS (1988-1990) panel dataset. I used both parametric and non-parametric approaches. The empirical analysis is based on the 1988-1990 LMAS, and is restricted to workers aged 20-54 who are not self-employed, have paying jobs and are not full-time students.

First, the findings for both parametric and non-parametric approaches are similar and consistent with those of Brochu (2009). The findings are not sensitive to the choice of dataset (i.e. LFS or LMAS) or approach (i.e. non-parametric approach or parametric approach). Second, job stability patterns are affected by initial tenure, especially with an initial tenure of less than one year. Job stability increased as initial tenure increased in both 1988 and 1989. Finally, males had higher job stability than females for both years. Furthermore, age and education also played important roles. There is a positive relationship between job stability and age. Similarly, job stability increased as education increased, although in some cases it was not statistically significant.

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