Catalogue No. 98-09

INCREASES IN EMPLOYMENT EARNINGS
FROM 1993 TO 1994

Product Registration Number 75F0002M

July 1998

Gaétan Garneau, Household Surveys Division

EXECUTIVE SUMMARY

From year to year, many changes can occur, affecting the earnings of an individual. This is even more so after a recession such as the 1990-1992 recession. While many individuals are carried forward by the economic wave following a recession, others do not partake as much in this recovery. For those men and women who seemed to be propelled by that wave during the two years following the recession, it is interesting to identify the factors and characteristics that created an increase in employment earnings. It is also important to understand the significance of the self-employment phenomenon and to identify other factors related to this increase in employment earnings. Finally, it can be interesting to identify what are the occupations and industries where improvements seem to be consistent from year to year. These characteristics help targeting the key fields where progression takes place.

TABLE OF CONTENTS

1.   INTRODUCTION

From year to year, many changes can occur affecting the earnings of an individual. This is even more so after events such as the 1990-1992 recession. While many individuals are carried forward by the economic wave following a recession, others do not partake as much in this recovery. For those men and women who seemed to be propelled by that wave during the two years following the recession, it is interesting to identify the factors and characteristics that created an increase in employment earnings. It is also important to understand the significance of self-employment phenomenon and to identify other factors related to this increase in employment earnings. Furthermore, what happens to young men and women joining the workforce and, more generally, what are the ingredients for success for which so many contributors to the economic field are looking?

Income earnings formed by salaries, wages and net income from self-employment constitute three-quarters of the total income of individuals (76.4%)[1]. The men and women who improve their condition from year to year constitute an attractive population because their economic dependence on the government or society in general is lowered. Some cross over the low-income cut-off while others get closer to the top positions of higher income individuals. As we mentioned before, it is also exciting to discover the impact of the increase in self-employment. Indeed, the restructuring of the economy goes through a diversification of work types, and it is essential to know if self-employment can be associated with significant progress on the earnings scale. Finally, it is also important to identify what are the occupations and industries where improvements seem to be consistent from year to year. These characteristics help to target the key fields where progression takes place. Decision-

---

[1] Source: Survey of Consumer Finances – Catalog 13-207

makers, such as various government levels, analysts in labour economics, workers as such, as well as individuals looking for work, can use the answers to these questions.

2.   PREVIOUS RESEARCH

Few empirical studies have been made to compare changes in employment earnings for the same individuals, during two consecutive years. Some studies analyzed changes in the salary of individuals (excluding earnings from self-employment) while others focused on the changes in family income. Among the studies from the first group, it is worth mentioning the research document titled *Longitudinal Aspects of Earning Inequality in Canada* (Morissette and Bérubé, 1996). Using an administrative record (T4 slips issued by employers) for a sample of male workers, the authors compared salary mobility for various periods (1976-1984 and 1985-1992). They concluded that workers 35 years of age and younger had a lower probability of getting out of the lower categories on the salary scale during the second period than during the first period. At least two other studies have been carried out with Statistics Canada's longitudinal administrative database (LAD)[2]. In *The Earnings Mobility of Canadians 1982-92* (Finnie, 1997), the author observes that from the men and women who were in the lowest quintile in 1982, 28% remained in the same quintile in 1992, while 21 % climbed to the two highest quintiles. Finally, he notes that it was young people who were the most mobile. In the second study, *The Dynamics of the Earnings Distribution in Canada* (Finnie and Gray, 1998), the authors used logistical regressions to model upwards and downwards changes in earnings from 1982 to 1994. The event being analyzed is a change in salary quintile. Finnie and Gray observed that women were less likely than men to climb on the scale, even after monitoring the other variables. As well, the longer a person remains in the

---

[2] Based on individuals income tax statements, this administrative database follows up in time (from 1982 to 1994) about 10% of the Canadian population.

same salary category, the less he or she has an opportunity to change levels. Married women with children are less likely to increase their earnings than single women. However, generally, women's upwards mobility has been less affected after the latest recession than men's. Finally, among the studies analyzing changes in family earnings, we will mention another research document titled *Crossing the Low Income Line* (Noreau et al., 1997). The authors used the database from SLID for the years 1993 and 1994. This analysis focuses on family income mobility and more specifically on the crossing of the low-income cut-off. The authors have demonstrated that a significant number of individuals[3] crossed this cut-off from 1993 to 1994. More precisely, 1.2 million fell below the cut-off from 1993 to 1994, while 846,000 individuals rose above it. Among those men and women who rose above the low-income cut-off, the mean increase of their earnings was $6,239 (in constant dollars). This significant increase seems to indicate some major event. They have also noted that, for men as for women, there was a great mobility between earnings categories. Indeed, 9.5 million individuals moved into a different quintile from year to year. It is among young people aged 16 to 24 that this situation is most critical, since 24% of these fell below the cut-off during at least one of the two years. It appears that an increased activity on the labour market remains one of the best ways to escape from this precarious situation.

This study is different from former analyses on salary earnings because earnings from self-employment are included in employment earnings. Another difference is the number of variables used in various regressions. The main difference between our analysis and the one performed by Noreau et al. is that we used logistical regressions to better control the various characteristics of individuals.

---

[3] Estimates refer to persons from all ages, including those living alone and those who are part of a houshold. It is to be noted that each individual is categorized according to the position of his or her family towards the low income cut-off.

3.   THE ECONOMY IN THE EARLY 1990'S

The economic condition of individuals goes through different stages during a lifetime. The latest recession, from 1990 to 1992, is now over, but its effects did not disappear overnight. In 1994, in Canada, the unemployment rate was still high at 10.4%[4]. In 1989, the year before the recession, unemployment was at 7.5%. Young adults aged 15 to 24 were the most hardly hit by the last recession. The youth unemployment rate, which was 11.2%[5] in 1989, jumped to 17.8% in 1992, to slightly come down to 16.5% in 1994. This situation still has not improved. Still, in 1997, the unemployment rate was very high at 16.7%. We believe that it is of the utmost importance to study this segment of the population that constitutes our future.

Nevertheless, the year 1994 was a turning year that set the tone for the economic recovery that we are still experiencing today. One of the first signs of that recovery was the first increase of the actual earnings of families since 1989[6]. Still in 1994, we observed a gain of 2.0%[7] in the employment earnings of individuals. Moreover, around this period, a significant number of individuals decided to start their own business as a means to create their own employment. From this, the proportion of earnings from self-employment in the total earnings of individuals went from 5.1%[8], in 1992, to 5.7%, in 1994. Finally, the restructuring of the economy, together with the trend towards market globalization, were certainly major events which created some turmoil at the coming out of the recession.

---

[4] CANSIM, matrix 3472 (D984954)
[5] CANSIM, matrix 3472 (D984955)
[6] Source: according to the Source: Survey of Consumer Finances, (Catalog 13-207), from 1993 to 1994, the average family income increased for the first time since 1989, from $53,157 to $54,153.
[7] Source: Source: Survey of Consumer Finances – Catalog 13-207
[8] Source: Source: Survey of Consumer Finances – Catalog 13-207

4.   TARGET POPULATION

To better define the target population, we selected individuals with non-zero employment earnings in 1993. Moreover, for the purpose of keeping a homogenous population during the two years of the study, and to exclude individuals working part-time while studying full-time, we did not include full-time students in our analysis. Since we are examining individuals who have improved their position in the earnings scale, the base population does not include individuals who have employment earnings above the seventh decile[9]. It is to be noted that only individuals who have had earnings changes of more than 20 centiles[10] are considered as having experienced a substantial increase (JUMP=1) between the two base years. All other changes, whether they are positive (insufficient) or negative are given the value zero (JUMP=0). This choice is due to the fact that we want to study more specifically significant changes in earnings. It should be noted that 20 centiles also represent one quintile and that this category measurement has already been used extensively in existing literature (Finnie, Finnie and Gray, Noreau et al.). However, a jump of 20 centiles represents a change superior or equal to a jump from one quintile to another[11].

---

[9] Generally, one decile represents 10% of the base population with employment earnings different from zero. This classification system is carried out by listing (from the least to the most) all employment earnings of individuals. The employment earnings associated with each portion of 10% of the population is selected. These employment earnings are used to identify the decile in which an individual belongs. (For example, the lower limit of the fifth decile is $25,000 while the upper limit is $30,000. Therefore, a person with $27,000 earnings will be considered in the fifth decile.)

[10] One centile represents 1% of individuals classified according to their employment earnings.

[11] Here is an example of how we can determine the difference between the two criteria : one person located in the first quintile (17th centile) during the first year, increasing his or her earnings to the second quintile (25th centile) during the second year, is not making a sufficient jump to be categorized as JUMP=0, contrary to other studies.

5.   SOURCES OF DATA

Two databases were used to measure potential changes between the two years. First, the longitudinal administrative database is used to obtain the limiting values of centiles[12]. Second, the longitudinal database obtained from the Survey of Labour and Income Dynamics (SLID) is used to measure changes between the two years. This latest database comprises two surveys (one on labour, the other on earnings) as well as the income tax returns T1 (for the individuals who agreed to do so). The combination of these three elements constitutes the main database. This way, 31,000 adults from 16 years of age and over are followed up from year to year. For the time being, the available years are 1993 and 1994. Many variables useful for studying changes in employment earnings are available, for example: employment income, employment status (paid worker or self-employed), number of hours worked, indicator of employment change, type of industry and occupation, work experience, level of education, province of residence, marital status, existence and number of children, immigration status, and language spoken. The great wealth of available variables justifies the decision to use this database.

6.   METHODOLOGY

There are two main methods to study the phenomenon of increasing earnings. First, cross-frequency tables give an overview of yearly variations. This way, tables illustrating the proportion of individuals who increased their employment earnings

---

[12] LAD constitutes a very large sample of the Canadian population, with at least two million individuals in 1993 and 1994. The same variables for employment earnings were used to compute the limiting values of centiles. It is to be noted that since it is difficult to correctly identify full-time students in this database, these individuals were not eliminated. Because of this, for these two years, limiting values are lower. This under-estimation of limiting values because of the non-exclusion of full-time students explains the fact that the distribution of individuals in deciles and quintiles is not consistent.

from one year to the other, according to their starting position in the earnings scale, as well as a cross-table demonstrating the flow of changes in employment types are used in the first sections. Second, logistical regressions[13] help identify the impact of variables on the phenomenon. Moreover, we prepared several tables according to these estimates, such as marginal probability tables. This type of table allows us to study a typical individual. Thus, it is possible to observe a change in marginal characteristics (i.e. one characteristic at a time) to find out the probability of making a *jump* from 1993 to 1994.

Finally, the greatest limitation is the short time period on which our study is based. Indeed, the two available years are probably not sufficient to determine the effects of some transitions. An event with a transitional nature, such as a change of employment, could require at least another year of data before we can accurately identify its impact. Thus, we are probably missing phenomena that will be identifiable only at the third year of follow-up. On the other hand, it will be interesting to observe these same individuals when the data from the third year will be available (1995 data). However, the two-year base period is still a "sound" starting point for future analysis.

---

[13] A logistical regression is based on the formula: $P(Jump) = \dfrac{1}{(1 + \exp{-(\beta_0 + \beta_{id1}X_{id1})})}$

7.   RESULTS

Cross-tabulation analysis

Distribution of the target population

To better understand the individuals composing our target population, this section contains some cross-tables that will help to differentiate between male and female, various age groups and various employment types.

One of the first observations we can make from Table 1, is the clear difference between the number of men and women. In this sample of individuals who had non-zero[14] employment earnings in 1993, we observe a greater number of men (5,912,000) than women (5,154,000). Moreover, males are more often in the upper deciles than females.

Table 1: Distribution of deciles according to gender				
	1993		1994	
	Male	Female	Male	Female
Decile 1	218,000	451,000	392,000	601,000
(row. dist.)	32.5	67.5	39.5	60.6
(col. dist.)	3.7	8.8	6.6	11.7
Decile 2	274,000	438,000	218,000	415,000
	38.5	61.5	34.5	65.6
	4.6	8.5	3.7	8.0
Decile 3	375,000	523,000	334,000	462,000
	41.8	58.2	42.0	58.0
	6.3	10.1	5.7	9.0
Decile 4	508,000	563,000	417,000	529,000
	47.4	52.6	44.1	55.9
	8.6	10.9	7.1	10.3
Decile 5	505,000	664,000	492,000	665,000
	43.2	56.8	42.5	57.5
	8.6	12.9	8.3	12.9
Decile 6	550,000	747,000	538,000	694,000
	42.4	57.6	43.7	56.3
	9.3	14.5	9.1	13.5
Decile 7	690,000	602,000	663,000	643,000
	53.4	46.6	50.8	49.2
	11.7	11.7	11.2	12.5
Decile 8	808,000	553,000	873,000	537,000
	59.4	40.6	61.9	38.1
	13.7	10.7	14.8	10.4
Decile 9	999,000	386,000	997,000	389,000
	72.1	27.9	71.9	28.1
	16.9	7.5	16.9	7.6
Decile 10	986,000	227,000	988,000	221,000
	81.3	18.7	81.8	18.3
	16.7	4.4	16.7	4.3
Total	5,912,000	5,154,000	5,912,000	5,154,000
	53.4	46.6	53.4	46.6

Source: Statistics Canada, SLID, compiled by the author

---

[14] A small number of people cumulated a negative employment income in 1993. Those are self-employed workers who had more expenses than revenues (negative net income).

Indeed, 47.3% of men are in the upper three deciles comparatively to only 22.6% of women. Because of this significant presence in the three upper deciles, a lesser number of candidates making a jump between these upper earnings categories will be studied.

Among men and women having employment earnings in 1993, some became unemployed in 1994. This event explains the significant increase in the number of individuals in the first decile for 1994. As for the previous year, males are again in the upper deciles, while females are mainly in the lower earnings categories.

Position of young people in earnings categories

A significant portion of the sample is comprised of young people aged 16 to 24. From this group of newcomers on the labour market, some individuals have a degree while others don't. However, these young adults are mainly located at the bottom of the scale.

Chart 1: Position in quintiles, 1993
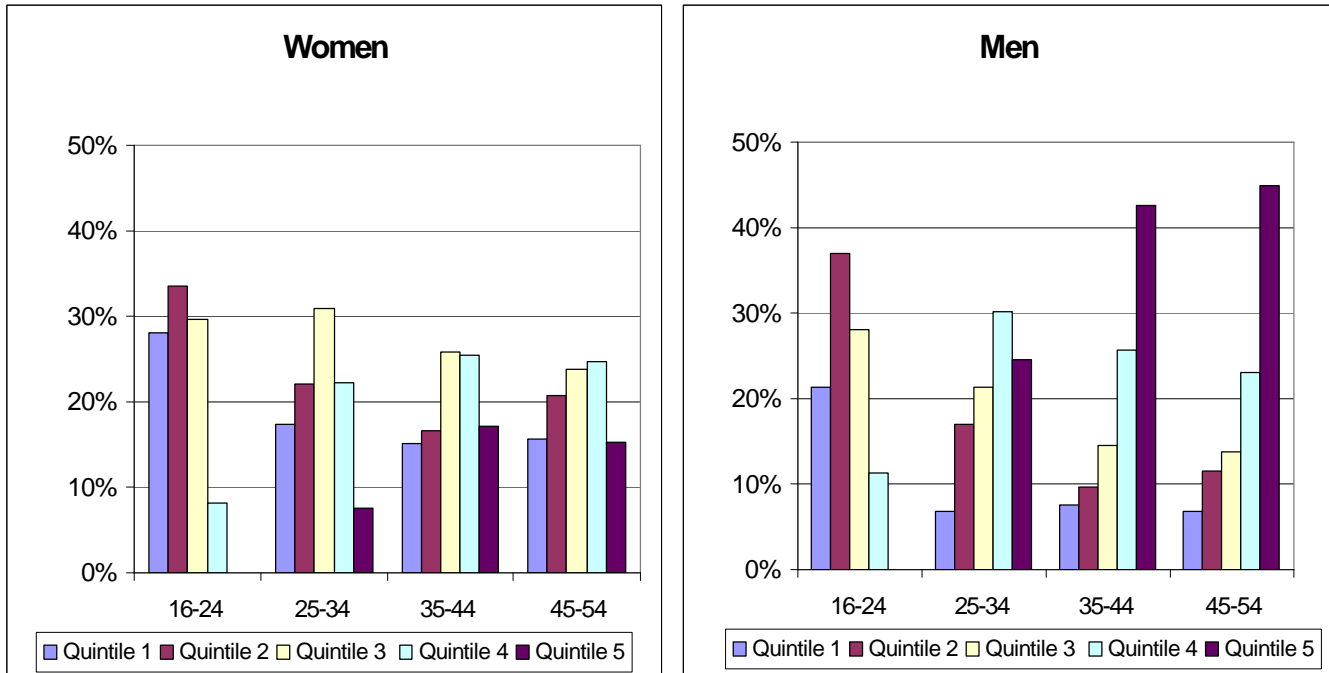
Source: Statistics Canada, SLID, compiled by the author

Indeed, more than 58% of men and 62% of women are in the lower two quintiles of earnings. This observation is significant, especially when compared to the older age groups, such as males aged 35 to 44. In this category, only 17% of individuals are in the first two quintiles. Therefore, we can acknowledge the weak economic condition of young adults. Will they also be able to take advantage of the economic recovery to increase their position in the earnings categories? We will attempt to answer this question with the logistical regressions displayed in the last section of this paper. Finally, we must stress that our study is based on a limited number of years. Because of this, it is possible to isolate characteristics of men and women who moved to the upper positions for the two base years. However,

in many cases, it will take a few years before these young adults can become integrated in the workforce.

Self-employment

From our target population, it is possible to identify different categories of employment (paid worker, mixed (paid worker and self-employment) and self-employed). First, we note that a significant proportion of self-employed individuals is in the lower deciles (Table 2). Indeed, more than 59% of self-employed individuals receive a net income from their work which confines them in the four lower deciles of employment earnings, compared to 39% of salaried individuals in the same position. These self-employed workers seem to be in a rather uncomfortable position compared to individuals receiving a salary. However, what are the main characteristics of self-employed individuals?

Table 2: Employment type and position in deciles, All (1993)										
	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10	Total
Salary	476,000	582,000	730,000	883,000	1,016,000	1,162,000	1,161,000	1,252,000	1,273,000	1,033,000	10,120,000
(row. dist.)	5.0	6.1	7.6	9.2	10.6	12.2	12.1	13.1	13.3	10.8	
(col. dist.)	71.1	81.7	81.3	82.5	86.9	89.6	89.8	92.0	91.9	85.2	86.3
Mixed	40,000	35,000	51,000	62,000	72,000	74,000	71,000	86,000	81,000	97,000	719,000
	6.0	5.2	7.7	9.3	10.7	11.1	10.6	12.9	12.1	14.5	
	6.0	4.9	5.7	5.8	6.1	5.7	5.5	6.3	5.9	8.0	6.1
Self-employed	153,000	95,000	116,000	126,000	82,000	61,000	60,000	23,000	31,000	83,000	895,000
	18.4	11.5	14.1	15.2	9.9	7.3	7.3	2.8	3.7	10.0	
	22.8	13.4	13.0	11.8	7.0	4.7	4.7	1.7	2.2	6.8	7.6
Total	669,000	712,000	897,000	1,071,000	1,170,000	1,297,000	1,292,000	1,361,000	1,385,000	1,213,000	11,734,000
	5.7	6.1	7.6	9.1	10.0	11.1	11.0	11.6	11.8	10.3	

Source: Statistics Canada, SLID, compiled by the author

Types of workers and distribution by age

Generally, self-employed individuals are older than salaried workers. Effectively, 70% of self-employed individuals are in the 35 to 54 age groups, comparatively to 56% of salaried individuals.

Table 3: Type of employment by age group (1993)			
	Salary	Mixed	Self-employed	Total
16-24	989,000.00	-	-	1,040,000.00
(row. dist.)	95.04	-	-	
(col. dist.)	10.33	-	-	9.40
25-34	3,239,000.00	232,000.00	209,000.00	3,681,000.00
	88.01	6.31	5.69	
	33.86	34.64	25.24	33.26
35-44	3,148,000.00	251,000.00	328,000.00	3,728,000.00
	84.45	6.74	8.81	
	32.91	37.49	39.61	33.69
45-54	2,191,000.00	164,000.00	263,000.00	2,617,000.00
	83.70	6.26	10.04	
	22.90	24.45	31.69	23.65
Total	9,567,000.00	647,000.00	800,000.00	11,066,000.00
	86.45	5.85	7.23	

Source: Statistics Canada, SLID, compiled by the author

On the other hand, only 5% of individuals aged 16 to 24 have self-employment earnings. Overall, it seems that self-employed individuals are older than salaried individuals.

Finally, not too much attention should be given to the cross-section tables of our longitudinal sample. This type of table is only an overview of the studied

sample. It is with the help of transition tables that the flow between various
earnings categories will become truly visible.

Movement of the target population

To obtain a better
perspective of the migratory
movements between the
various earnings categories,
we used a classification
system based on earnings
quintiles (Table 4). In our
target population, 86% of
individuals in the upper
quintile remained in the
same position the following
year. This stability of
individuals in the upper
quintile confirms the results
obtained in Finnie's first
study. Indeed, he observed
that 87% of individuals in
the fifth quintile, in 1991,
remained in the same
quintile in 1992. In the
lower categories, men are
more likely to move upwards. Indeed, 44% of men moved up between 1993 to
1994. For women, the percentage of increase is only 27%.

Table 4: Changes in quintiles, All (1993-1994)

1994 1993	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Quintile 1	66.9	23.5	6.6	2.3	-	100%
Quintile 2	21.3	53.7	19.8	4.3	-	100%
Quintile 3	6.6	10.8	63.6	17.6	1.5	100%
Quintile 4	2.8	2.8	10.2	73.0	11.2	100%
Quintile 5	1.7	-	2.7	8.8	85.9	100%

Table 4a: Changes in quintiles, Men (1993-1994)

1994 1993	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Quintile 1	55.9	29.5	8.8	-	-	100%
Quintile 2	20.3	48.9	22.1	7.0	-	100%
Quintile 3	8.0	11.3	57.5	21.2	1.9	100%
Quintile 4	2.4	2.8	8.9	71.4	14.6	100%
Quintile 5	1.8	-	2.6	8.0	86.9	100%

Table 4b: Changes in quintiles, Women (1993-1994)

1994 1993	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
Quintile 1	73.0	20.1	5.4	-	-	100%
Quintile 2	22.1	57.6	17.9	2.2	-	100%
Quintile 3	5.6	10.3	68.1	14.9	-	100%
Quintile 4	3.3	2.9	11.9	75.0	6.9	100%
Quintile 5	-	-	-	11.4	82.5	100%

Source: Statistics Canada, SLID, compiled by the author

Transition in employment type and presence of employment earnings

First of all, the population having no employment earnings in 1994 fell by

8.2% (Table 5), from 2,189,000 to 2,009,000. However, it is individuals having solely salary earnings who registered the highest increase in absolute employment earnings between 1993 and 1994. Indeed, their number went from 9,567,000 to 9,738,000 (a 1.8%

Table 5: Changes in type of employment (1993-1994)					
1994 1993	No emp. earnings	Salary	Mixed	Self-emp.	Total
No employment earnings	1,523,000	577,000	-	76,000	2,189,000
(row. dist.)	69.6	26.4	-	3.5	
(col. dist.)	75.5	5.9	-	9.7	16.5
Salary	452,000	8,870,000	203,000	42,000	9,567,000
	4.7	92.7	2.1	0.4	
	22.4	91.1	28.1	5.4	72.2
Mixed	-	160,000	427,000	75,000	670,000
	-	24.0	63.8	11.2	
	-	1.7	59.2	9.6	5.1
Self-employed	34,000	131,000	78,000	587,000	829,000
	0.3	1.0	0.6	4.4	
	4.1	15.8	9.4	70.7	6.3
Total	2,009,000	9,738,000	708,000	780,000	13,255,000
	15.2	73.5	5.3	5.9	

Source: Statistics Canada, compiled by the author

gain). For mixed workers, their number also strongly increased, from 670,000 to 708,000 (+4.2%). This increase is due primarily to individuals who received only salary earnings in 1993 and who, in 1994, received earnings from self-employment as well (+203,000). On the other hand, a great number of self-employed workers became solely salary workers (+131,000) comparatively to salaried individuals who became exclusively self-employed (+42,000). In short, the great mobility between the different employment types is due to self-employed individuals who go back to salary employment and to individuals with mixed earnings who are experiencing increasing earnings mostly due to salaried workers now receiving earnings from self-employment.

Significant changes in earnings

As we discussed before, studying upwards mobility requires eliminating individuals who cannot improve their position because they are already at the limit of their category. Thus, by analyzing changes of at least 20 centiles for men and women who are below the 70th centile, we can analyze characteristics for those who experienced a significant increase from 1993 to 1994.

Chart 2: Jump of 20 centiles and over

Source: Statistics Canada, SLID, compiled by the author
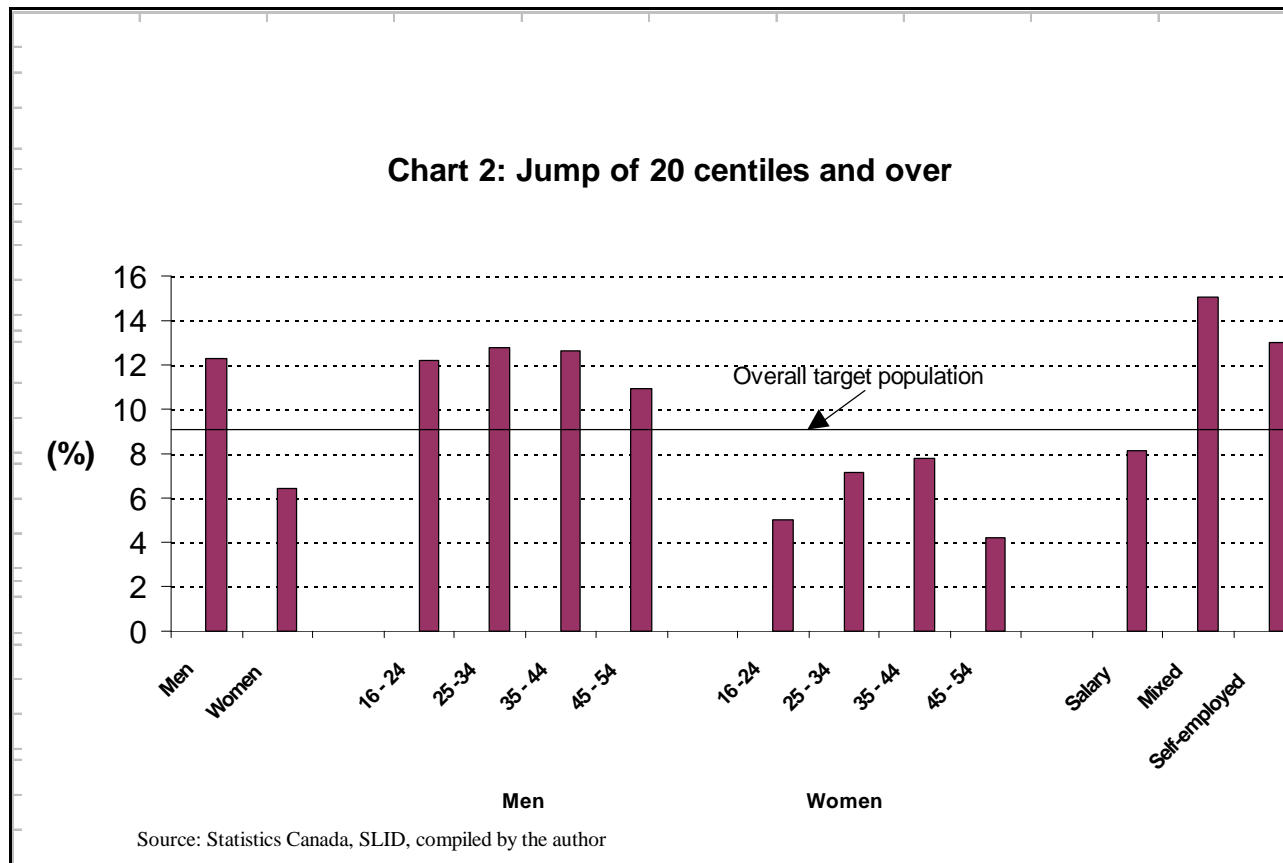
Because we eliminated the upper three deciles in 1993, our sample has now more women (3,988,000) than men (3,120,000). Among these men, we note that

12% made a *jump*[15], compared to 6.4% for women. In general, in the total population, this rate is 9.0% (Chart 1). Therefore, according to these preliminary observations, women are not as successful as men in terms of percentage of *jumps*.

It is with men aged 25 to 34 (13%) that the *jump* percentage is highest, while the lowest rate is observed with women aged 45 to 54 (4.2%).

For young adults, men aged 16 to 24 have a *jump* percentage similar to the average for men (12%), while young women have a *jump* percentage lower than 5%. This difference is probably due to the different position occupied by the two groups.

In general, there does not seem to be a large variation between age groups either for men and women. Rates for men are between 11% and 13% while, for women, they are located between 4% to 8%.

Finally, when we observe the percentage of *jumps* by type of employment, we note that this percentage is quite higher for workers with self-employed earnings. This rate, nearing 15%, is clearly higher than the rate for workers with only salary employment (8.1%). What is the explanation for such high rates? It is obvious that a large proportion of individuals having earnings from self-employment are male (62%). Are there, however, other characteristics that could clarify this? The following sections will address these questions.

---

[15] As we mentioned earlier, the word *jump* means a positive move on the earnings scale of at least 20 centiles.

Logistical regressions

Logistical regressions are used to complement the frequency analysis previously carried out. In this next section, the first so-called "simple" regressions create a link between frequency tables already drawn and so-called "comprehensive" regressions. In the second section, we added a large number of control variables in "comprehensive" regressions to identify relationships between various characteristics of individuals and the phenomenon being observed, i.e. a jump of at least 20 centiles from 1993 to 1994.

"Simple" regressions

First of all, the "simple" regressions (regressions 1a to 1d: Appendix 1) demonstrate changes in probability after adding socio-demographic variables. In the first regression, we used a single dichotomous variable. Thus, with the variable *female* the probability of making a *jump* is 6.4%, compared to 12% for men.

> Typical individual :
>
> The person hiding behind a regression. The probability associated with the *constant* represents the probability to make a *jumb* for this individual. For example, in regression 1b (appendix 1), the typical individual is a man aged 35 to 44. The marginal probability associated with the dichotomous variable *female* indicates that, if this individual were a woman in the same age group, she would have a probability of making a jumb of only 7.1%, compared to 13.6% for a man. As more variables are being added, the characteristics of the typical individual become more precise.

In the second regression, the addition of dummy variables to identify age groups indicated that it is in age group 45 to 54 that there is the lowest probability of making

a *jump* for a typical individual. Therefore, a man aged 45 to 54 has 9.7% more chances to make a *jump*, compared to 14% for a man aged 34 to 45.

The third regression involves the addition of two variables indicating the type of employment. From now on, the typical individual is also a salaried individual. By adding these variables, it seems clear that having received earnings from self-employment in 1993 is associated with a great probability (mixed: 19% and self-employment: 17%) of making a *jump* between 1993 to 1994. This confirms our observations in the previous frequency tables.

Finally, in the last regression, we added two dichotomous variable groups associated to marital status and the existence of young children in 1993. Thus, our typical individual is now single, without children (as well as sharing the previous characteristics). Being married or single does not seem to affect probability significantly. One important result however, is a greater probability of making a *jump* in the upper earnings categories for individuals who have children younger than four. This is only a partial conclusion, because we do not know if this probability is different for men and women. Moreover, the presence of young children may be associated with an event for which we have not added variables in the regressions. Therefore, the addition of variables in the following sections will help refine and clarify the levels of explanations for existing variables.

"Comprehensive" regressions

Many variables were added to try to better monitor the various characteristics of individuals. A likelihood ratio test[16] demonstrated that it is preferable to differentiate between men and women in regressions. Probabilities associated with similar characteristics were sufficiently different between the two genders to force a separation of the two groups. This separation is even more interesting since it simplifies the analysis of the various probabilities for the two genders. This way, the reader will be able to better identify the different programs required with these two segments of the population.

By adding a large number of variables, it is now possible in Regression 2 (Appendix 1) to observe that the *jump* probability between the two genders has become closer for both typical individuals. The flow of this difference was even reversed from 5.9 percentage points in favor of men to 1.4

> **Typical individual (regression2):**
> Aged 35 to 44, salaried, single, no children younger than 4, no work limitation, English-speaking, not from a visible minority, undergraduate degree, parents' education less than undergraduate, Ontario, urban area of at least 500,000 people, has a job, women work 1,550 hours, men work 1,990 hours, 11 years experience for women, 15 years experience for men, occupation in service sector and employer in the same sector, presence in fifth decile in 1993.

point in favor of women. This reversal is probably associated with the different characteristics between men and women. These results confirm the need to add a great number of explanatory variables in the model, and to separate men and women.

---

[16] Likelihood ratio test : $-e2(\log C - \log nc)$ ö $?^2(59,5\%)$
In this case, $3118,915 - (1341,622 + 1640,501) = 136,732 > 79,08$. Due to this result, it is preferable to consider men and women separatly because the restricted model (every body) is significativly different from the non-restricted model (men and women separatly).

In general, there does not seem to be a great difference between age groups for men and women. Clearly, none of the dichotomous variable coefficients for age groups are significant in studying raw regressions (Appendix 2). This indicates that even if they do not start at the same position, young men and young women do not find it more difficult to make a jump than older individuals in the same positions.

Concerning employment type, it is a completely different story from what we have seen previously. Indeed, for men having mixed earnings, there is a higher *jump* probability (7.6%) than for those who only receive a salary (4.5%). But, for men who have only earnings from self-employment, the *jump* probability is quite low at 2.9%. These results contradict the high rates observed before in the cross-tables and the "simple" logistical regressions. In this case, even if self-employed workers are found in great numbers in the lower quintiles, they do not experience better success than salaried workers in the same position. This comes from the introduction of starting variables in deciles.

Concerning women, the fact of having self-employment earnings or mixed earnings lowers slightly their chances to progress the following year, contrarily to women having solely salary earnings.

The probabilities associated with marital status are very similar for men and women. In both cases, there are no significant differences between whether they are married, separated, divorced or single.

On the other hand, the presence of young children in 1993 is once more associated to a rather significant probability of *jump* for women (12%). This is likely due to an increasing number of women coming back to the workforce after the birth

of a child. It is interesting to note that, unexpectedly, the presence of young children is not always associated with a drop of income.

Employment limitation and the probability of making a *jump* in the earnings scale do not go together. Indeed, especially for men, it is associated with a 1% probability of making a *jump* from 1993 to 1994. This can be explained by the great relationship between this characteristic and work as such. Moreover, the permanent nature of many of these limitations does not vary much from year to year.

In the socio-demographic variables category, we find characteristics such as mother tongue, visible minority and immigration status. Unlike women, men have different *jump* probability characteristics. Speaking a language other than French and English is associated with a 2.3% probability of making a jump, while being part of a visible minority is associated with a 0.9% rate. On the other hand, having immigrant status may increase the chances to make a *jump* by 7.4%.

As we could predict, higher education helps to attain higher salaries. Thus, women with graduate degrees have an 11% probability of increasing their earnings by 20 centiles the following year, compared to 5.9% for the typical individual with an undergraduate diploma. The deviation for women is even more significant due to the fact that *jump* probabilities are very weak (around 1.5%) for an education level less than undergraduate studies.

Residing in British Columbia and Yukon (13%), for women, and in Alberta, for men (7.7%), increases notably the chances to make a *jump*. On the other hand, living in a province such as New Brunswick does not improve the chances to change position in the employment earnings scale (2.9% for women and 1.6% for men).

In 1993, working less than 1,000 hours, compared to the average number of hours (1,550 hours) for women, is associated with a significant increase in chances to improve their condition (11%). Therefore for many women, the increase in work hours the following year is associated with higher earnings. In many cases, this will allow them to improve their living conditions.

Chances to make a *jump* also increase with years of experience. However, the increase in probability of making a *jump* from one year to the other is quite insignificant and diminishes with higher experience.

Regarding occupations where probability levels are higher for the typical individual (services), we note, for women, any occupation except those in the primary sector. Probabilities are still quite high (around 15%). This demonstrates that women in the primary sector and service sector did not have many advancement opportunities from 1993 to 1994. On the other hand, for men, only occupations associated with construction had a good level of success (compared to services), with 11.8% of chances to make a *jump*.

Concerning successful types of activity, it is interesting to note that women working in the farming sector industry in 1993 have a higher probability of increasing their earnings by 30%. This result is surprising when compared to the very weak probability level obtained by women in fields related to the primary sector (3.3%). However, it should be noted that it is not all women in the farming sector that have farming as an occupation. Thus, women with an occupation associated with services (typical individual occupation) in the farming industry have great opportunities to make a *jump* in the earnings scale. For men, the activity sector where chances to make a *jump* are higher is any industry in the primary sector other than farming, with 13%.

Finally, the lower an individual starts in the scale, the more he or she has chances to increase his or her position from 1993 to 1994. Effectively, to be in the lower three deciles for women, comparatively to the fifth decile (typical individual) translates into better chances to make a *jump* of 20 centiles. Men in the first (13%) and second decile (21%) have better probabilities. At this point, we would like to add that the significance of the monitoring role of starting points in deciles should not be underestimated.

8.   CONCLUSION

The main purpose of this study was to identify traits and characteristics for individuals who experience an increase in the earnings scale. Mobility in the earnings scale has been defined as a jump of at least 20 centiles from 1993 to 1994.

Frequency tables illustrated that workers with self-employment earnings and young adults (particularly women) were located in greater numbers in the lower earnings categories. We studied two categories of self-employed workers: those who receive earnings from a salary (mixed workers) and those who receive earnings solely from self-employment. In these two categories, we identified a trend towards a greater number of mixed workers from 1993 to 1994.

In reviewing the frequency tables on the proportion of men and women having made a jump in 1994, we found out that the percentage of men (12%) who made a *jump* is twice the percentage of women (6.4%). For young adults, women have a lower *jump* percentage, at 5.0%, than men, at 12%. Therefore, young adults are not much different from the established average for their respective gender. Concerning self-employed workers, mixed workers have a greater percentage of *jump* at 15%. Self-employed workers are following closely at 13%. Since we do not know the

starting decile for these individuals in previously compiled tables, it is not proper to draw a conclusion at this time. Because they take into account starting deciles, logistical regressions may correct this lack of control in the future.

The first "simple" logistical regressions have a limited number of variables and confirm the results obtained with the frequency tables. It is through the addition of a large number of variables that we can understand all the dimensions and the benefits of using logistical regressions rather than frequency tables. Thus, with the use of about sixty variables and by making a difference between men and women, it is possible to obtain a better representation of successful characteristics.

What we can conclude from these "comprehensive" regressions, is that where a large number of variables are being monitored, including starting points in deciles, women have more probabilities than men to obtain an increase of 20 centiles and more. Effectively, for the typical individual, the jump probability is 5.9% for women, compared to 4.5% for men.

We can make a few observations based on these "comprehensive" logistical regressions about the characteristics fostering an increase of at least 20 centiles in the earnings scale. Let's not forget that these particularities rely on the first year (1993) and that they should be interpreted one at a time. This is even more important since these characteristics may change in 1994 after a change of employment. However, they can make a useful starting point.

For men, to have mixed earnings, to live in Alberta, to have no work limitation, to have immigrant status, working in the construction industry, to have a higher number of years of experience, to work in the primary sector but not in

farming, and to have a university degree, are the traits of those who have had an increase of at least 20 centiles.

For women, to have young children, to live in British Columbia or Yukon, to have a higher number of years of experience, to have a university degree, to work a number of hours less than average, and to have an occupation other than in the primary sector or the service sector, to work in the farming industry, are characteristics that will allow higher earnings levels for the following year.

In conclusion, this analysis constitutes a sound starting point for other research. Adding another year to the SLID database will probably allow this study to be extended. Indeed, this addition will permit to carry out a transition analysis for a longer period (3 years). Finally, other methods of analysis combined with logistical regressions might be used, such as fixed effect models. Moreover, an analysis of family income while using all abovementioned methods might complement this study.

BIBLIOGRAPHY

Finnie, R.

The Earnings Mobility of Canadians 1982-92, Research documents series, Human Resources Development Canada, Ottawa, to be published.

Finnie, R. et Gray, D.

The Dynamics of the Earnings Distribution in Canada : *An Econometric Analysis*, Research documents series, Human Resources Development Canada, Ottawa, to be published.

Morissette, R. et Bérubé,C.

Longitudinal Aspects of Earning Inequality in Canada, no. 11F0019MPF Issue 94, Statistics Canada, Ottawa,1998.

Noreau, N., Webber, M., Giles, P. et Hale, A.

Crossing the Low Income Line, no. 75F0002M Issue 97-11, Statistics Canada, Ottawa,1997.

APPENDIX 1

Appendix 1 : Logistic Regressions (marginal probabilities)

Regressions 1a to 1d : <<Simple>> Logistic Regressions

Variables	Prob.	Variables	Prob.	Variables	Prob.	Variables	Prob.
Regression 1a		**Regression 1b**		**Regression 1c**		**Regression 1d**	
Constant	12.3%	Constant	13.6%	Constant	11.9%	Constant	10.7%
Female (male)	6.4%	Female (male)	7.1%	Female (male)	6.6%	Female (male)	5.7%
		16 - 24 yrs	11.3%	16 - 24 yrs	10.7%	16 - 24 yrs	10.1%
		25 - 34 yrs	13.1%	25 - 34 yrs	12.0%	25 - 34 yrs	9.9%
		45 - 54 yrs	9.7%	45 - 54 yrs	8.4%	45 - 54 yrs	8.1%
		(35 - 44 yrs)		(35 - 44 yrs)		(35 - 44 yrs)	
				Combined	19.2%	Combined	17.3%
				Self-employed	17.2%	Self-employed	15.1%
				(paid)		(paid)	
						Married	11.0%
						Separate or divorced	12.3%
						(single)	
						Pres.of children <4yrs	16.4%
						(not present)	

Source: Statistic Canada, SLID, realized by the author

Regression 2 : <<Full>> Logistic Regressions

Variables	Female Probability	Male Probability
Constant	5.9%	4.5%
Age Group (35 - 44 yrs)		
16 - 24 yrs	5.1%	4.6%
25 - 34 yrs	5.0%	4.6%
45 - 54 yrs	5.0%	4.5%
Employment Type (paid)		
Combined	3.2%	7.6%
Self-employed	3.4%	2.9%
Marital Status (single)		
Married	5.8%	5.8%
Separate or divorced	6.4%	6.9%
Pres. of Children <4yrs (no)		
Pres. of children <4yrs	11.6%	6.8%
Work Limitation (no)		
Work Limitation	4.0%	1.0%
Mother Tongue (english)		
French	5.3%	6.9%
Other Language	5.2%	2.3%
Visible Minority (no)		
Visible Minority	4.1%	0.9%
Immigrant (no)		
Immigrant	4.5%	7.4%
Education (bachelor)		
Elementary and Less	1.2%	4.2%
Secondary	1.5%	6.0%
College or Univ. Certificate	1.9%	5.0%
Master or PHD	10.7%	7.7%
Parent's Education (less than a Bachelor)		
Bachelor and More	3.9%	5.9%
Do not know	2.8%	7.8%
Province (Ontario)		
Newfoundland	4.0%	4.0%
Prince Edward Island	5.5%	1.5%
Nova Scotia	4.3%	2.8%
New Brunswick	2.9%	1.6%
Quebec	9.2%	3.1%
Manitoba and NWT	4.9%	3.8%
Saskatchewan	6.8%	5.8%
Alberta	8.6%	7.7%
British Columbia and Yukon	13.0%	5.0%

(Regression 2...)

(...Regression 2)

Area Size (500,000 and more)

Urb.: 100 000 to 499 999	4.6%	5.8%
Urb.: 30 000 to 99 999	4.7%	7.8%
Urb.: 0 to 29 999	3.5%	4.9%
Rural	3.5%	4.8%

Number of jobs (one job)

Two Jobs	4.3%	4.5%
Three Jobs and More	5.8%	3.3%

Worked Hours (Female: 1,553 hours and Male: 1,991 hours)

Hours(+1,000 hours)	3.1%	2.5%
Hours(-1,000 hours)	11.0%	7.9%

Yrs Work Experience (Female: 11.16 yrs and Male: 14.68 yrs)

Yrs Exp.(+1 yr)	6.3%	4.9%
Yrs Exp.(-1 yr)	5.6%	4.1%

Occupation (service)

Dir., admin. and rel. occ.	17.1%	4.3%
Professional	17.8%	5.1%
Clerical	13.1%	3.9%
Sale	20.3%	5.4%
Primary Sector	3.3%	3.4%
Transformation, fac. & manuf.	17.9%	6.5%
Constuction	14.7%	11.8%
Transport Exploitation		7.8%
Manufactoring and Others	28.8%	4.6%

Industry (service)

Agriculture	29.5%	4.5%
Other Primary Ind.		12.9%
Manufacturing	3.9%	3.4%
Construction	7.3%	2.2%
Transport com. and serv.	14.9%	4.3%
Trade	5.4%	3.8%
Finance Insurance and Real Estate	10.4%	5.3%
Public Administration	10.1%	3.7%

Initial Decile 1993 (fifth decile)

Decile 1	17.3%	13.2%
Decile 2	16.7%	21.3%
Decile 3	12.0%	8.4%
Decile 4	5.4%	7.3%
Decile 6	1.4%	2.8%
Decile 7	0.7%	1.9%

Source: Statistic Canada, SLID, realized by the author

APPENDIX 2

Appendix 2 : Logistic Regressions (Raw Version)

<<Simple>> Logistic Regressions 1a

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-1.9630	0.0478	1683.9392	0.0001	.
Female	-0.7176	0.0742	93.4721	0.0001	0.49
N. Obs.:	9,221				
Weighted Num.:	7,108,000				
-2*Log. Likelihood Ratio	5,484.7540				

<<Simple>> Logistic Regressions 1b

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-1.8494	0.0731	640.7759	0.0001	.
Female	-0.7149	0.0744	92.3253	0.0001	0.49
16 - 24 yrs	-0.2131	0.1198	3.1643	0.0753	0.81
25 - 34 yrs	-0.0426	0.0877	0.2354	0.6275	0.96
45 - 54 yrs	-0.3811	0.1118	11.6089	0.0007	0.68
N. Obs.:	9,221				
Weighted Num.:	7,108,000				
-2*Log. Likelihood Ratio	5,470.0170				

<<Simple>> Logistic Regressions 1c

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-1.9973	0.0796	629.8901	0.0001	.
Female	-0.6538	0.0755	74.9715	0.0001	0.52
16 - 24 yrs	-0.1213	0.1215	0.9971	0.3180	0.89
25 - 34 yrs	0.0015	0.0884	0.0003	0.9864	1.00
45 - 54 yrs	-0.3868	0.1123	11.8638	0.0006	0.68
Combined	0.5573	0.1311	18.0559	0.0001	1.75
Self-employed	0.4283	0.1109	14.9233	0.0001	1.54
N. Obs.:	9,221				
Weighted Num.:	7,108,000				
-2*Log. Likelihood Ratio	5,443.0390				

<<Simple>> Logistic Regressions 1d

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-2.1238	0.1150	340.8422	0.0001	.
Female	-0.6875	0.0765	80.8489	0.0001	0.50
16 - 24 yrs	-0.0673	0.1355	0.2466	0.6195	0.94
25 - 34 yrs	-0.0897	0.0930	0.9301	0.3348	0.91
45 - 54 yrs	-0.3078	0.1145	7.2269	0.0072	0.74
Combined	0.5612	0.1316	18.1712	0.0001	1.75
Self-employed	0.3933	0.1112	12.5030	0.0004	1.48
Married	0.0343	0.1080	0.1012	0.7504	1.04
Separate or divorced	0.1567	0.1635	0.9184	0.3379	1.17
Pres.of children <4yrs	0.4960	0.0930	28.4566	0.0001	1.64
N. Obs.:	9,216				
Weighted Num.:	7,098,000				
-2*Log. Likelihood Ratio	5,412.3070				

Source: Statistic Canada, SLID, realized by the author

<<Full>> Logistic Regressions 2: Female

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-2.5176	0.6135	16.8376	0.0001	.
16 - 24 yrs	-0.1595	0.3587	0.1977	0.6566	0.85
25 - 34 yrs	-0.1763	0.2156	0.6687	0.4135	0.84
45 - 54 yrs	-0.1779	0.2494	0.5091	0.4755	0.84
Combined	-0.6424	0.4205	2.3342	0.1266	0.53
Self-employed	-0.5712	0.3191	3.2040	0.0735	0.57
Married	-0.0195	0.2757	0.0050	0.9437	0.98
Separate or divorced	0.0931	0.3614	0.0664	0.7967	1.10
Pres.of children <4yrs	0.7360	0.1945	14.3185	0.0002	2.09
Work limitation	-0.4020	0.4916	0.6686	0.4135	0.67
French	-0.1200	0.3036	0.1563	0.6926	0.89
Other language	-0.1326	0.3368	0.1550	0.6938	0.88
Visible Minority	-0.3910	0.4360	0.8041	0.3699	0.68
Immigrant	-0.2779	0.3307	0.7061	0.4007	0.76
Elementary and less	-1.6256	0.3506	21.4998	0.0001	0.20
Secondary	-1.4497	0.2852	25.8391	0.0001	0.24
College or Univ. Cert.	-1.1734	0.2573	20.7936	0.0001	0.31
Master or PHD	0.6440	0.3722	2.9944	0.0836	1.90
Parent: Bac. and more	-0.4305	0.2682	2.5758	0.1085	0.65
Parent: DKN	-0.7601	0.5986	1.6127	0.2041	0.47
Newfoundland	-0.4161	0.6539	0.4049	0.5246	0.66
Prince Edward Island	-0.0726	1.0073	0.0052	0.9426	0.93
Nova Scotia	-0.3355	0.5521	0.3693	0.5434	0.72
New Brunswick	-0.7572	0.6919	1.1975	0.2738	0.47
Quebec	0.4761	0.3194	2.2217	0.1361	1.61
Manitoba and NWT	-0.1980	0.4201	0.2221	0.6375	0.82
Saskatchewan	0.1543	0.4296	0.1290	0.7194	1.17
Alberta	0.4066	0.2721	2.2326	0.1351	1.50
British Columbia and Yukon	0.8650	0.2454	12.4296	0.0004	2.38
Urb.: 100 000 to 499 999	-0.2553	0.2756	0.8585	0.3542	0.78
Urb.: 30 000 to 99 999	-0.2358	0.2568	0.8430	0.3585	0.79
Urb.: 0 to 29 999	-0.5369	0.2267	5.6080	0.0179	0.59
Rural	-0.5448	0.2516	4.6891	0.0304	0.58
Two jobs	-0.3316	0.2238	2.1943	0.1385	0.72
Three jobs and more	-0.0137	0.4943	0.0008	0.9779	0.99
Hours 93	-9.20E-04	0.0003	9.9420	0.0016	1.00
Hours 93 (square)	2.42E-07	0.0000	8.6413	0.0033	1.00
Yrs Exp.	0.0637	0.0349	3.3246	0.0683	1.07
Yrs Exp. (square)	-0.0010	0.0011	0.7304	0.3927	1.00
Dir., admin. and rel. occ.	1.1899	0.3601	10.9200	0.0010	3.29
Professional	1.2426	0.3138	15.6801	0.0001	3.47
Clerical	0.8805	0.3169	7.7212	0.0055	2.41
Sale	1.4005	0.3731	14.0941	0.0002	4.06
Primary Sector	-0.6211	0.8228	0.5697	0.4504	0.54
Transformation, fac. & manuf.	1.2479	0.5173	5.8198	0.0158	3.48
Constuction	1.0102	1.1680	0.7480	0.3871	2.75
Manufactoring and Others	1.8637	0.5940	9.8454	0.0017	6.45
Agriculture	1.8968	0.6777	7.8331	0.0051	6.67
Manufacturing	-0.4478	0.3959	1.2799	0.2579	0.64
Construction	0.2317	0.4598	0.2539	0.6144	1.26
Transport com. and serv.	1.0285	0.4093	6.3145	0.0120	2.80
Trade	-0.1018	0.2660	0.1465	0.7019	0.90
Finance Insurance and Real Est.	0.6190	0.2837	4.7620	0.0291	1.86
Public Administration	0.5856	0.3509	2.7847	0.0952	1.80
Decile 1	1.2028	0.3079	15.2577	0.0001	3.33
Decile 2	1.1641	0.2768	17.6857	0.0001	3.20
Decile 3	0.7747	0.2657	8.5004	0.0036	2.17
Decile 4	-0.1024	0.2893	0.1253	0.7234	0.90
Decile 6	-1.4504	0.3228	20.1847	0.0001	0.23
Decile 7	-2.1485	0.4482	22.9822	0.0001	0.12

N. Obs.:	3,660
Weighted Num.:	2,585,000
-2*Log. Likelihood Ratio	1,341.6820

Source: Statistic Canada, SLID, realized by the author

<<Full>> Logistic Regressions 2: Male

Variable	Par. Est.	Stand. Error	Chi-square	P>Chi-square	*Odds Ratio*
Constant	-2.9105	0.6122	22.6029	0.0001	.
16 - 24 yrs	0.0192	0.3469	0.0031	0.9559	1.02
25 - 34 yrs	0.0255	0.2050	0.0154	0.9011	1.03
45 - 54 yrs	0.0006	0.2631	0.0000	0.9983	1.00
Combined	0.5541	0.2323	5.6883	0.0171	1.74
Self-employed	-0.4465	0.2181	4.1927	0.0406	0.64
Married	0.2773	0.2109	1.7290	0.1885	1.32
Separate or divorced	0.4549	0.3004	2.2926	0.1300	1.58
Pres.of children <4yrs	0.4428	0.1786	6.1449	0.0132	1.56
Work limitation	-1.5405	0.4296	12.8580	0.0003	0.21
French	0.4612	0.2962	2.4239	0.1195	1.59
Other language	-0.6806	0.3190	4.5536	0.0329	0.51
Visible Minority	-1.6666	0.5253	10.0679	0.0015	0.19
Immigrant	0.5301	0.2776	3.6471	0.0562	1.70
Elementary and less	-0.0594	0.4048	0.0216	0.8833	0.94
Secondary	0.2997	0.3901	0.5905	0.4422	1.35
College or Univ. Cert.	0.1138	0.3812	0.0891	0.7653	1.12
Master or PHD	0.5785	0.5070	1.3018	0.2539	1.78
Parent: Bac. and more	0.2902	0.2566	1.2789	0.2581	1.34
Parent: DKN	0.5882	0.2445	5.7866	0.0161	1.80
Newfoundland	-0.1137	0.4042	0.0791	0.7785	0.89
Prince Edward Island	-1.0998	0.9013	1.4890	0.2224	0.33
Nova Scotia	-0.4711	0.4225	1.2430	0.2649	0.62
New Brunswick	-1.0463	0.5059	4.2778	0.0386	0.35
Quebec	-0.3887	0.3148	1.5241	0.2170	0.68
Manitoba and NWT	-0.1865	0.3757	0.2464	0.6197	0.83
Saskatchewan	0.2703	0.3235	0.6979	0.4035	1.31
Alberta	0.5673	0.2330	5.9301	0.0149	1.76
British Columbia and Yukon	0.1048	0.2490	0.1773	0.6737	1.11
Urb.: 100 000 to 499 999	0.2679	0.2469	1.1776	0.2778	1.31
Urb.: 30 000 to 99 999	0.5927	0.2401	6.0926	0.0136	1.81
Urb.: 0 to 29 999	0.0889	0.2019	0.1941	0.6595	1.09
Rural	0.0681	0.2053	0.1099	0.7402	1.07
Two jobs	0.0061	0.1716	0.0012	0.9718	1.01
Three jobs and more	-0.3104	0.4010	0.5991	0.4389	0.73
Hours 93	-7.00E-04	0.0002	14.5717	0.0001	1.00
Hours 93 (square)	9.29E-08	0.0000	6.6122	0.0101	1.00
Yrs Exp.	0.0953	0.0346	7.6005	0.0058	1.10
Yrs Exp. (square)	-0.0024	0.0009	6.9053	0.0086	1.00
Dir., admin. and rel. occ.	-0.0422	0.3812	0.0123	0.9118	0.96
Professional	0.1360	0.3261	0.1739	0.6767	1.15
Clerical	-0.1414	0.4138	0.1168	0.7325	0.87
Sale	0.1974	0.3473	0.3231	0.5698	1.22
Primary Sector	-0.2923	0.4730	0.3819	0.5366	0.75
Transformation, fac. & manuf.	0.3849	0.3128	1.5138	0.2186	1.47
Constuction	1.0511	0.4005	6.8883	0.0087	2.86
Transport Exploitation	0.5941	0.3580	2.7536	0.0970	1.81
Manufactoring and Others	0.0197	0.4417	0.0020	0.9645	1.02
Agriculture	-0.0006	0.5057	0.0000	0.9991	1.00
Other Primary Ind.	1.1453	0.4587	6.2338	0.0125	3.14
Manufacturing	-0.2743	0.2813	0.9511	0.3295	0.76
Construction	-0.7430	0.3763	3.8989	0.0483	0.48
Transport com. and serv.	-0.0388	0.3232	0.0144	0.9045	0.96
Trade	-0.1658	0.2625	0.3992	0.5275	0.85
Finance Insurance and Real Est.	0.1834	0.4683	0.1533	0.6954	1.20
Public Administration	-0.1883	0.3832	0.2414	0.6232	0.83
Decile 1	1.1772	0.3009	15.3091	0.0001	3.25
Decile 2	1.7498	0.2453	50.8692	0.0001	5.75
Decile 3	0.6676	0.2524	6.9945	0.0082	1.95
Decile 4	0.5157	0.2357	4.7856	0.0287	1.68
Decile 6	-0.4898	0.2683	3.3325	0.0679	0.61
Decile 7	-0.8617	0.2678	10.3510	0.0013	0.42

N. Obs.:	2,950
Weighted Num.:	2,127,000
-2*Log. Likelihood Ratio	1,640.5010

Source: Statistic Canada, SLID, realized by the author