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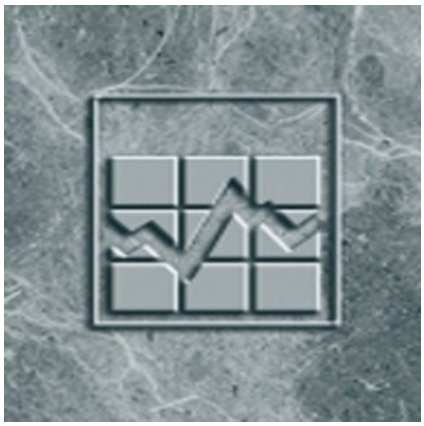
Low-paid employment and 'moving up'

1996-2001



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Executive Summary

Less than one-half of Canadian workers who had a low-paying job in 1996 had managed to climb out of it by 2001, according to a study profiling individuals who experienced upward mobility.

The study, which used data from the Survey of Labour and Income Dynamics (SLID), showed that in December 1996, nearly one-third of Canadian workers, or about 1.7 million, were in a low-paying job.

By 2001, 47% of these low-paid workers, around 800,000, had moved out of their low-paying jobs.

Individuals with weekly earnings of less than $410.70 at the end of 1996 were flagged as "low-paid workers". A low paid worker in 1996 was said to have "moved up" if weekly earnings by 2001 were at least $496.86 a week. This level is at least 10% greater than $451.69, the threshold for Statistics Canada's 2001 low-income cutoff for a family of two living in an urban area of at least half a million people.

Low-paid workers in 1996 tended to be young and female, with an education of high school or less. The incidence of low pay for those with high school or less was approximately three times higher than for someone with a university degree. In addition, low-paid workers often worked part-time in services occupations or in the consumer services industry. Their workplaces tended to be small and were not unionized, and they lived in the Atlantic Provinces or Manitoba or Saskatchewan.

The 1996 data showed that 41% of women were low paid, almost double the 22% incidence rate among men.

In small firms there was a 27 percentage point difference in the incidence of low paid work between men and women, compared to a 6 percentage point difference in large firms.

Individuals who moved up between 1996 and 2001 were more likely to be young, university-educated men, in professional occupations and industries. More often, they worked full-time in large unionized firms, and they lived in Ontario or Alberta.

Other factors contributed to upward mobility: moving from a non-unionized firm to one with a union, and moving from a small firm, one with fewer than 20 employees, to a large firm, one with more than 500. For those who remained in the same job, upward mobility was more likely for those who increased their work hours by five or more hours a week or who changed their duties.

Individuals with a university degree or working in large organizations were twice as likely to have moved up as those with only high school or less.

In addition, men were twice as likely to move up as women. Nevertheless, women greatly improved their odds of moving up if they obtained a university degree, worked in a large organization, in the public service, and/or in professional or science occupations and industries.

The 53% of workers, around 900,000, who remained "trapped" in low-paid work in 2001 tended to be older women and those who had high school or less. Such individuals were more likely to be working part-time for small, non-unionized organizations.

This study updates a similar Statistics Canada study titled "The upward mobility of low-paid Canadians, 1993 to 1995" by Drolet and Morissette (1998).

There are limitations to the comparability of the findings in this report and those in the previous study. The analyses in the two studies occurred at different periods and over different lengths of time: 1996 – 2001 (current study) vs. 1993 – 1995 (previous study). This difference suggests, for example, that we would expect workers in the current study to be more likely to move out of low paid work given the longer time frame.

In accordance with the methodology from the previous study, multivariate logistic regression models were run controlling for *personal characteristics* (age, education, sex, occupation and region), and *job characteristics* (industry, part-time status, firm size and union status). Controls for *transition variables* (job change, union-status change, and firm-size change) were also included in the model to predict who 'moves up'.

Although there were many similarities in the findings of the two studies, there were some notable differences. Men were more than twice as likely to have low weekly earnings in 1996 compared to 1993 (17% versus 7% respectively). Other groups of workers were more than twice as likely to have low weekly earnings in 1996 compared to 1993: those in professional occupations, workers who lived in Alberta or British Columbia, full-time workers, and unionized workers.

Although in 1996 the financial situation for women was still not as good as it was for men, there were some improvements in earnings compared to 1993. For example, women who worked in the consumer services industry in 1996 were 20 percentage points less likely to be low paid relative to 1993.

Comparing differences between the studies in terms of who moved up was also interesting. As expected, because of the longer study period, low-paid workers were more than 3 times as likely to move up by 2001 compared to 1995 (46 % versus 15% respectively).

Conversely, certain workers were less likely to move up. Those in the public service and those living in British Columbia were among the least likely to move up by 2001 even though they had been among the most likely to move up by 1995. Finally, although changing employers was a significant predictor of moving up in 1995, it was not in 2001.

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Of course, any remaining errors are my own.

Table of Contents

1. Introduction

Are certain groups of workers being left behind in our current labour market? Do people tend to remain stuck in low-paying jobs, or is such work simply a transition to higher-paying employment?

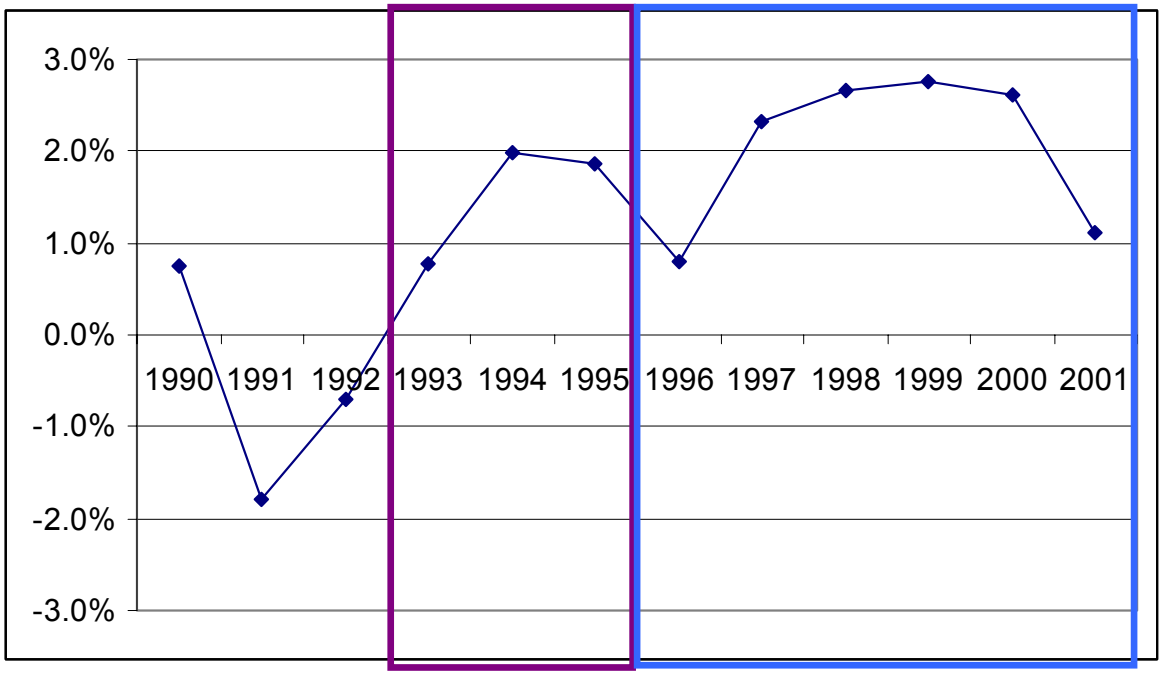
There is a general concern that the quality of jobs in the Canadian labour market may be declining. Technological advances favour more educated workers, while less educated workers may be more subject to unemployment. Other less favourable developments in the labour market are that minimum wage rates have changed very little since the 1980s and the rate of unionization has also decreased (Sargent 2000).

Not only have jobs changed, but shifts in the demographics of the workforce have also been noticeable. Younger workers continue to be more highly educated, and, as the baby boomers age, the workforce is becoming more experienced. Such changes in labour demands have had an impact on the relative pay of these different groups of workers (Heisz, Jackson & Picot 2002).

Another major change is the dramatic increase in women's participation in paid work. Between 1961 and 1996 women's involvement in the workforce has doubled (from 29% to 60%) (Gunderson 1998). Although the relative position of women has been improving in terms of the types of jobs they are obtaining, they continue to be paid less than men for the same work—women's average hourly rate is about 84% to 89% of the men's rate (Drolet 1999). Moreover, women still tend to be employed in "traditional" occupations (e.g., teaching, nursing and related health occupations, clerical and other administrative positions, sales and services) (Statistics Canada 2002). Do such conditions make women more vulnerable to long-term low-paid work relative to men?

This article uses data from the Survey of Labour and Income Dynamics (SLID) to provide a profile of those who have low weekly earnings in 1996 and observes whether these same individuals were still in low paying jobs in 2001. This study replicates and updates research done by Drolet and Morissette (1998), which focused on the years 1993 to 1995. Another study, similar to this one, is in progress which looks at only full-time workers. Since these two studies examined workers from 1993 to 1995, and 1996 to 2001, it is interesting to consider the relevant economic climate. The percent change in employment depicted in Figure 1 indicates that the periods of interest in the current study and the Drolet and Morissette study, both occurred during a period of increasing employment. Most of the latter period (1996 to 2001) was much stronger, however, as the job-growth rate increased considerably in 1997 for a sustained period of time until 2000. Given these findings, one would expect that the economic climate, combined with a longer time frame, would make it relatively easier for workers in the current study (1996 to 2001) to move out of low paid work as compared with those in the Drolet and Morissette study (1993 to 1995).

Figure 1: Percent Change in Employment[1]



Similar to the Drolet and Morissette (1998) study, logistic regression (see *Logistic Regression* in the *Methodology* section) was used to profile the job and worker characteristics of low-paid employment in 1996, to describe the people in low-paid jobs (i.e., their age, sex, and family composition), where they lived, and the types of jobs they had (e.g., occupation, industry, work status, firm size, union status). Using similar controls, logistic regression was also used to explore who moved out of low-paid work in 2001. The rationale behind the selection of the data source and variables used in this study was to maintain consistency with past research (Drolet & Morissette, 1998), thus allowing for a comparison of the findings. Thus, the focus of this paper will be to compare the current findings with the Drolet and Morissette findings. It will also explore whether low-paid work was a stepping stone, a transition to higher paying work; or, whether it was a millstone that held people back from obtaining a higher paying job.

2. Data Source and Sample

The **Survey of Labour and Income Dynamics (SLID)** was used to investigate the research questions posed in this article. This longitudinal household survey provides a relatively unique opportunity to explore earnings over a six-year time frame, including information on the transitions and durations of low-paid work. A major advantage of using a longitudinal survey such as SLID (as compared with a cross-sectional survey), is that we can gain a better understanding of the dynamics of who escapes low-paid work.

[1] Source: CANSIM II Table 282-0055 - Labour force survey estimates (LFS), by sex and detailed age group, annual (Persons x 1,000).

The first panel in SLID was introduced in January 1994 to collect information on the reference year 1993, and respondents were followed for six years. A second six-year panel of respondents was introduced in 1996 and these respondents were followed until 2001 (Statistics Canada, 2003). This survey was designed to explore changes in the economic well-being of individuals and families over time.

The target population for SLID is all Canadians except those in the Yukon, Nunavut or Northwest Territories, residents of institutions (unless under six months), persons living on Indian Reserves, and full-time members of the Canadian Armed Forces living in barracks. Each panel has a sample of approximately 15,000 households (approximately 31,000 adults age 16 and over).

Definition of target population in the current study:
Two groups were examined in this article. In both cases, only the person's annual **main job** was considered.

Group 1 (Workers):
First, a profile of workers was documented. The sample was restricted to include (see Appendix C for the impact of these restrictions on the sample size):

- longitudinal respondents (Panel 2), who replied to the survey in both 1996 and 2001,
- those who reported their major activity was working at a job or business in both 1996 and 2001 (i.e., this excludes retired people, and those who were going to school full time and/or whose main activity was flagged as being a student),
- respondents aged 16 to 50 years old in 1996 (21 to 55 years old in 2001),
- paid workers, excluding those who did not report wages and hours, in both 1996 and 2001, and those who were on leave the entire year, and
- excluding those who were in agriculture, fishing or trapping industries, or were self-employed in 1996 or 2001.

Both full- and part-time workers were included in the sample. One reason for using full- and part-time status was to maintain consistency with past research (Drolet & Morissette, 1998). Part-time workers were also included because they tend to differ in important ways from full-time workers. Part-time workers are less likely to obtain some of the non-monetary benefits of work such as insurance (e.g., extended medical, dental and/or life/disability insurance), and employer sponsored retirement plans (e.g., registered pension plans) (Marshall, 2003). Thus, it is important to include part-time workers in research so that we are better able to understand the situation of part time workers who feel disadvantaged. There are analytical considerations associated with including part-time employees. For example, there may be some whose hourly wage is quite high, but if they are not working very many hours in the week they could appear to be in low paid work. Thus, an upcoming study will look at full-time workers only.

The first restricted group resulted in 6,195 sampled persons (representing approximately 5,511,080 Canadians.). The response rate for longitudinal respondents in Panel 2 in 1996 was approximately 90% and in 2001 was approximately 80%[2].

Group 2 (Low Paid Workers):
Second, to examine the upward mobility of low-paid Canadians an additional selection criterion was added to those listed above. That is, respondents had to be defined as having low weekly earnings (see Appendix D: Definitions) in 1996 to be included in this sample. The resulting sample included 2,016 respondents (representing approximately 1,705,274 Canadians).

3. Methodology

3.1 Selected Definitions

There are two definitions that are key to understanding the following method and results. Please see Appendix D for other important definitions.

Low-paid work or low weekly earnings:[3] Is based on the before-tax Low Income Cutoff (LICO) for a family of two people living in an urban area of at least half a million people. To compute the "low paid work" threshold, the appropriate LICO, for example, 1996 = $21,414 was divided by 52.14 (weeks/year) = $410.70 dollars/week. Individuals with weekly earnings less than $410.70 at the end of 1996 were flagged as "low-paid workers."

Year	LICO (1992 base, before tax, family of two, in an urban area of 500,000+ population)	Low Weekly Earnings Cutoff (LICO / 52.14 weeks per year)
1996	$21,414	$410.70
2001	$23,551	$451.69

'**Moving Up'**: An individual was coded as moving up if they were approximately 10% above the LICO threshold for 2001; otherwise they were coded as not having moved up. In this case the individual had to be making more than $451.69 x 1.10 = $496.86 per week in 2001 to be flagged as having moved up. The 10% "buffer zone" was used to avoid including those who only made marginal transitions out of low-paid work. It is important to note that the LICOs were CPI updated and were based on the same 1992 base year which "standardizes" the thresholds, allowing them to be compared over time.

[2] Barbara Armstrong and Georgina House, "Data Quality in the 2001 Survey of Labour and Income Dynamics," Internal publication to be released June, 2004.
[3] This definition was selected to be consistent with past research (Drolet & Morissette 1998; Morissette & Bérubé 1996). The rationale for this was that Morissette and Bérubé (1996) found that in 1975, 20% of male workers aged 25-54 earned less than $21,073/year. This amount approximated the 1993 LICO for a family of two people living in an urban area of at least half a million people, $20,603. Thus, this LICO threshold was selected because it approximated what "low paid" (bottom 20%) men were actually earning.

3.2 Logistic regression

Logistic regression was the statistical method used in this research. It estimates the probability that a particular outcome will occur as a function of several explanatory variables. For example,

in the first regression, the dependent variable (outcome) is:
equal to 1 -> if person has low weekly earnings (1996), and
equal to 0 -> if person does not have low weekly earnings (1996).

In the second set of regression models the dependent variable is:
equal to 1 -> if person moves out of low-paid work (2001), and
equal to 0 -> if person remains in low-paid work (2001).

Although the probability of a particular outcome is a function of several predictor variables, we can compare the probability of a particular outcome between individuals who are identical in every way except one. A Wald chi-square statistics is computed for each explanatory variable to determine whether a change in the variable is associated with a significant increase or decrease in the probability of the outcome.

All regression models included controls for:

(i) **personal characteristics** measured in 1996, including: age, education, interaction term for family composition and sex, occupation, and region, and

(ii) **job characteristics** including: industry, part-time status, firm size and union status.[4]

The second set of regression models regarding who moves up included all the variables above, as well as controls for:

(iii) **transition variables** including: *job change*, *union-status change* (from non-unionized in 1996 to unionized by 2001), and *firm-size change*, from small (<20 workers) in 1996 to large (500+ workers) by 2001. The 1996 weekly earnings were also included since they control for the distance of the individual from the low weekly earning threshold (see Transition Variables in Appendix D).

Job change was defined three different ways[5] in the logit models for moving up:

[4] For more information regarding the *personal characteristic* and *job characteristic* variables see Appendix D: Definitions, and Statistics Canada (2003). "Survey of Labour and Income Dynamics – A survey overview," Catalogue No. 75F0011XIE. Internet: http:// dissemination.statcan.ca/ english/ IPS/ Data/ 75F0011XIE.htm.

[5] Job change was expected to be an important predictor of moving up. However, in the first model, job change was defined very generally and the results indicated that those who changed jobs or remained in the same job were equally likely to move up. Thus, the rationale for defining job change differently in the other models was to explore what it was about changing jobs or remaining in the same job that contributed to moving up. The three models that used different definitions of job change all included the same controls for personal characteristics, job characteristics and transition variables (Appendices B3, B4 and B5).

Model 1: **job change.** If an individual's main job in 1996 was different from their main job in 2001, they were flagged as having changed jobs (Appendix B3).

Model 2: **job change.** Those who remained with the same employer were divided into (1) duties changed and (2) duties stayed the same (Appendix B4).

Model 3: **job change.** Those who remained with the same employer were divided into (1) those who increased their work hours by 5 or more hours per week from 1996 to 2001, and (2) "others", those whose work hours did not increase by at least 5 hours per week (Appendix B5).

When 1000 bootstrap weights were used to take into account the complex design of the Survey of Labour and Income Dynamics SLID, all of the overall models significantly predicted low paid work or moving up ($p < .0001$).

4. Results I: Incidence and probability of low-paid work

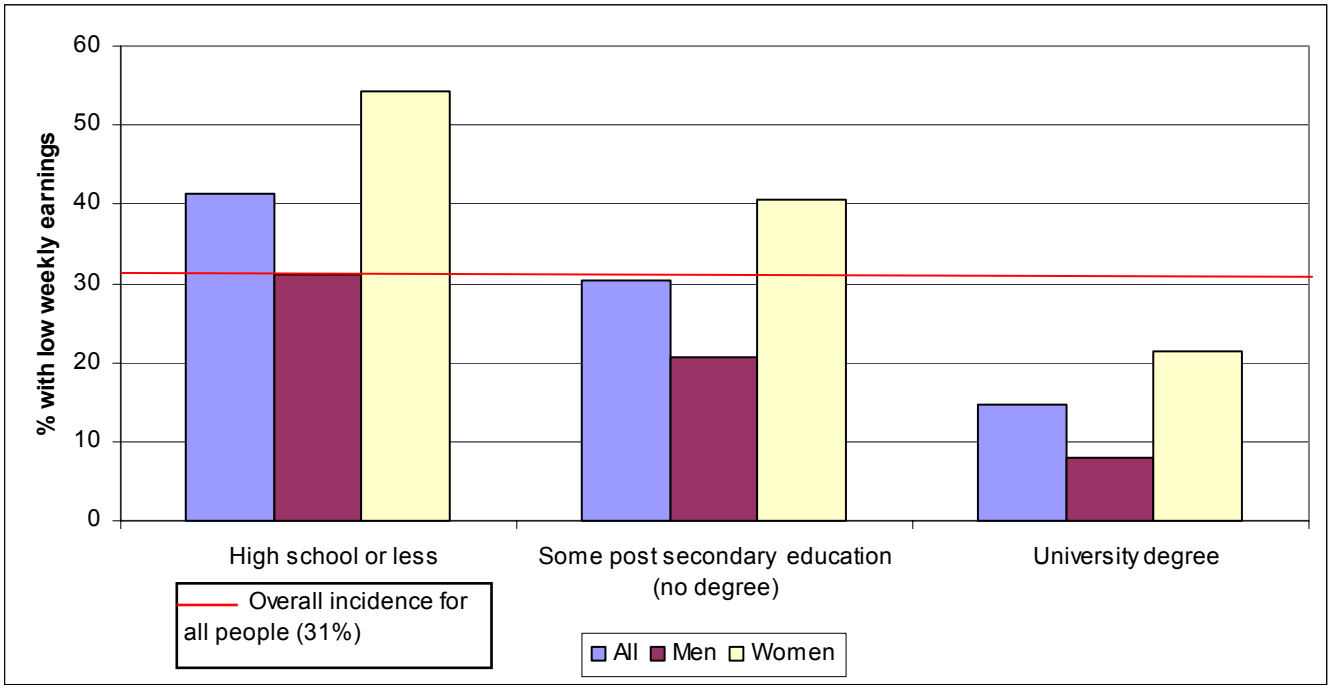
Approximately 31% of working Canadians were employed with low weekly earnings (i.e., below $410.70 per week) in December 1996 (Appendix A1). The average total personal income for these low paid workers was $13,454 per year, almost three times less than the average salary for those not considered "low paid" ($38,525). Who these people were, where they worked, and what they did, were all related to low-paid work (see the cross tabulations of the incidence of low weekly earnings and the probability of low weekly earnings as computed with a logistic regression in Appendices A1 and A2). The following section provides a profile of low earners, focusing on the incidence of low weekly earnings.

As expected, most all part-time workers (82%) had low weekly earnings. This is likely due to the fact that they had a shorter work week in their main job as compared with full time workers. On average, full-time employees worked twice as many hours (39.6 hours/week) relative to part-time workers (18.8 hours/week). If these part-time workers had full-time work, how many would still be in low paying jobs? By multiplying the part-time workers' wage rate by the average full-time hours per week (37.5), 44% of these workers would still be considered low paid (a 38% decrease).

4.1 Incidence of low weekly earnings and education.

Education appeared to be strongly related to the incidence of low pay (see Chart 1). Those with high school or less education were approximately 3 times more likely to have a low paying job than those with a university degree.

Chart 1. Incidence of low weekly earnings by education and sex, 1996.



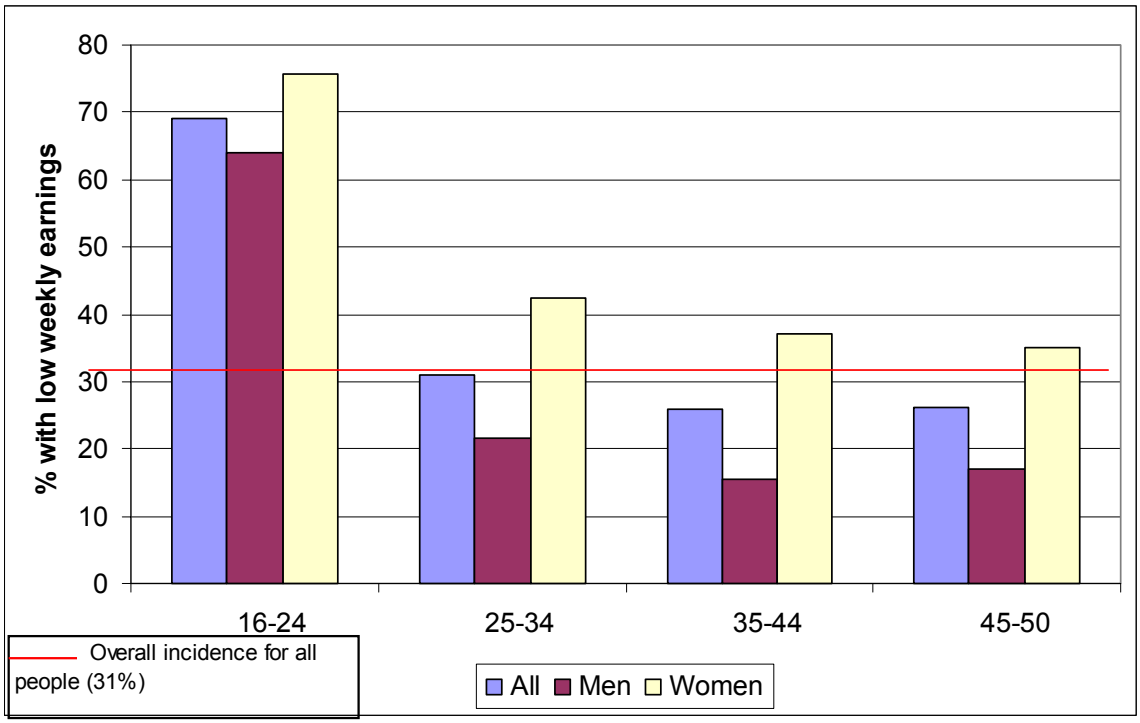
Overall, women were more likely to be low paid relative to men. Roughly two in five women versus one in five men were in low paid work (Appendix A1). The incidence of low pay for men was smaller than, or equal to, the overall incidence (31%) even for men with high school or less. For women, however, the only situation where they experienced a lower incidence of low paid work, relative to the overall incidence, was when they had a university degree. One-in-five women with a university degree had a low paid job, which is still higher than the one-in-thirteen incidence observed among men with similar education (Appendix A1).

4.2 Incidence of low pay decreases with age.

Chart 2 shows that older individuals were the least likely to be in low paid work. This is likely related to the fact that younger workers tend to have less experience and job seniority, but as they age they gain valuable work experience. The incidence of low pay for men in the 25-34 age group was three times smaller than those aged 16-24. Similarly, women aged 16-24 experienced low pay almost twice as often as those aged 25-34. Once men and women reached age 35 there was very little change in the incidence of low weekly earnings. In both of these older age brackets (35-44 and 45-50), the incidence of low weekly earnings for women were more than double the incidence for men the same age.

The lower salary in the youngest age group cannot be explained by the number of workers with full- or part-time status. That is, there were not more part-time workers in the youngest age group. Instead, there was approximately the same percent of part-time workers in every age group (18% in the 16-24 age group; 19% in both the 25-34 and 35-44 age group, and 17% in the 45-50 age group). Although the main reason workers provided for working part-time in all the age groups was the inability to find full-time work, the next most common reason, "did not want full-time work," was provided twice as often (23%) by the oldest age group as compared with the youngest (10%).

Chart 2. Incidence of low weekly earnings by age and sex, 1996.

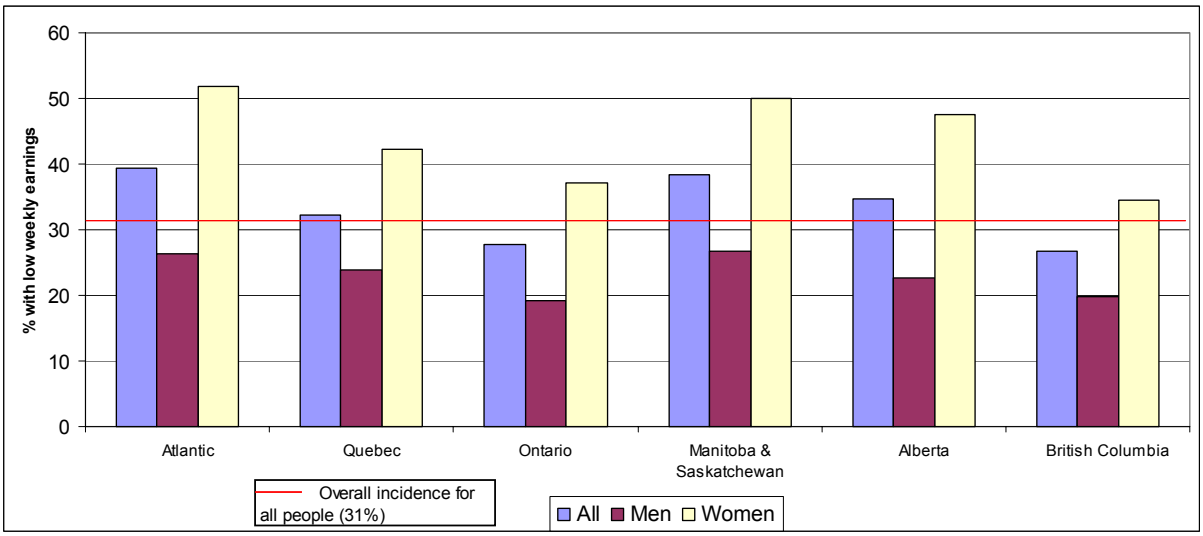


4.3 Incidence of low pay was higher in Manitoba/Saskatchewan and the Atlantic provinces.

Chart 3 (data in Appendix A1) indicates that workers in Manitoba/Saskatchewan (38%), and the Atlantic provinces (39%) had the highest incidence of low weekly earnings in Canada. Conversely, workers in Ontario (28%) and British Columbia (27%) had the lowest incidence of low weekly earnings. Although there were some parallels between the incidence of low-paid workers and the minimum wage rates in these regions, this does not completely explain the findings. For example, Ontario and British Columbia had

the highest minimum wage rates in 1996[6] and they had the lowest incidence of low weekly earnings. However, Alberta had the lowest minimum wage at $5.00, but it did not have the highest incidence of low paid work. Since the cutoff used in this study was approximately $11.00/hour, well above the minimum wage rates, differences in minimum wages across the country can not fully explain the findings.

Chart 3. Incidence of low weekly earnings by region and sex, 1996.



4.4 Incidence of low pay was higher in small non-unionized companies, in service related jobs, in the consumer services industry.

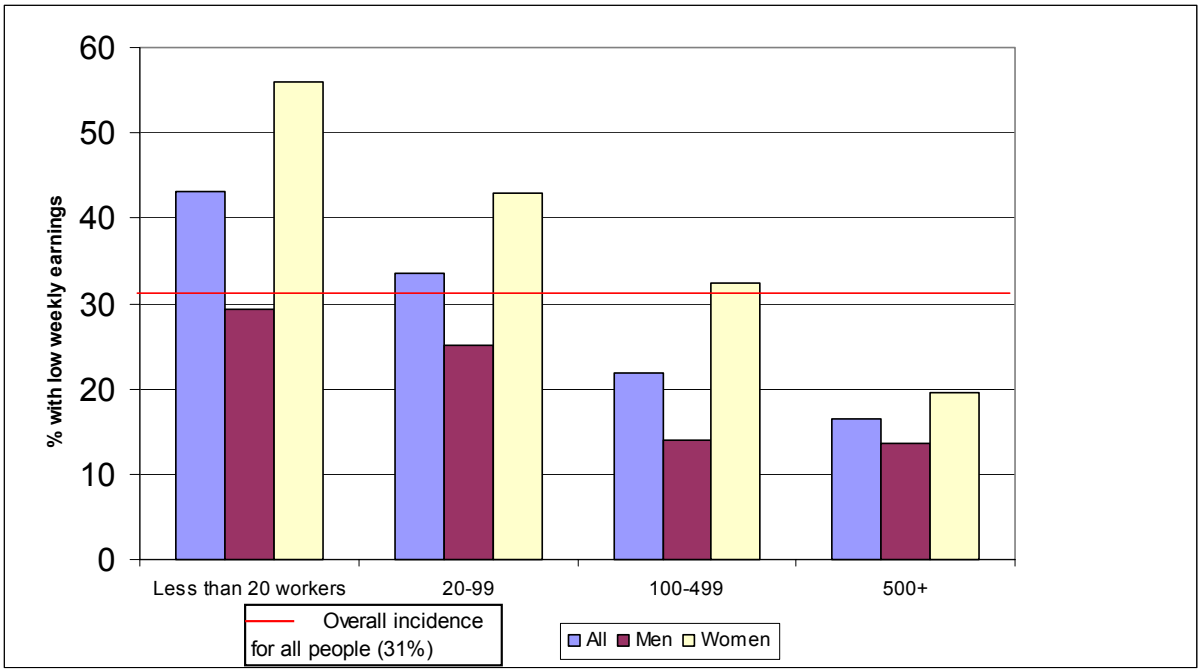
Employer characteristics such as union status, industry, firm size and occupation were also important in explaining the incidence of low pay (see Appendix D: Definitions for more details regarding these variables). Only 20% of unionized workers (those covered by a collective agreement) were low-paid relative to 38% of those who were not unionized (Appendix A2). The incidence of low pay was highest in the consumer services (61%) relative to those in other industries.

The incidence of low pay for those in small firms (less than 20 employees) was 43%, almost 3 times higher than the incidence in large firms (500+ employees) (16%) (see Chart 4). Firm size seemed to be especially important for women in terms of low pay. In small organizations, almost 3 out of 5 women were in low pay, relative to only 1 in 5 women in large firms. There was also a considerable sex difference in pay by firm size. This was notable in small organizations where there was a 27 percentage point difference

[6] In 1996 the minimum wage rate was $6.85 in Ontario and $7.00 in British Columbia. The next highest was in Quebec at $6.70. The average rate for Manitoba and Saskatchewan was $5.50, and the average for the Atlantic Provinces was $5.25. Alberta had the lowest minimum wage at $5.00 (SLID data).

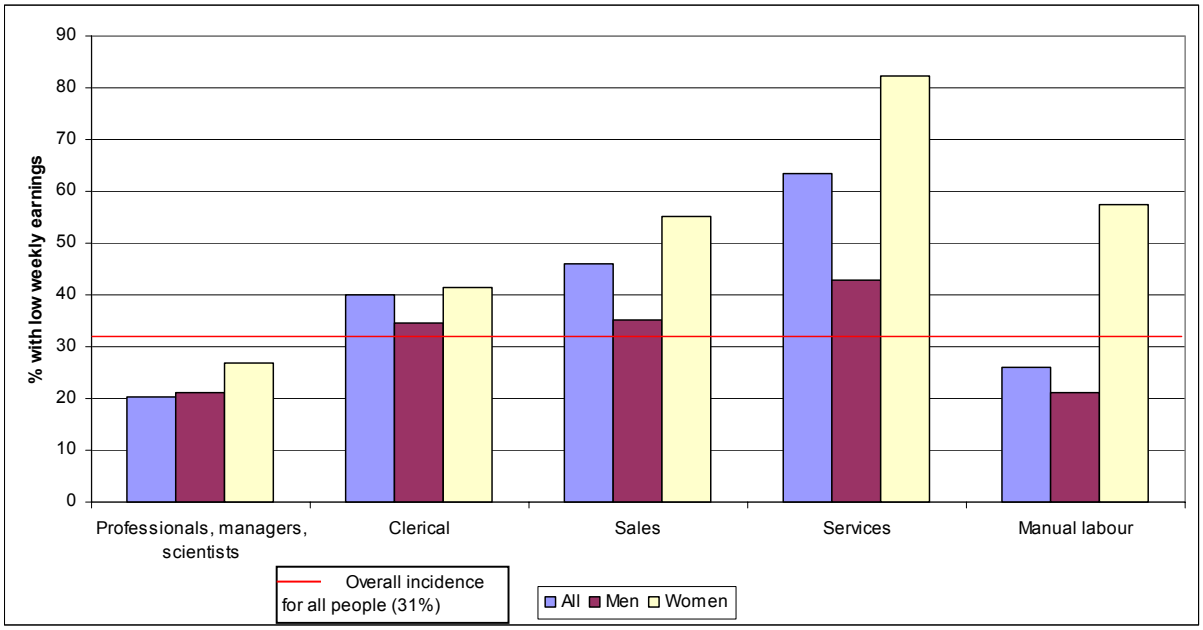
between men and women, relative to only a 6 percentage point difference between them in large companies.

Chart 4. Incidence of low weekly earnings by firm size and sex, 1996.



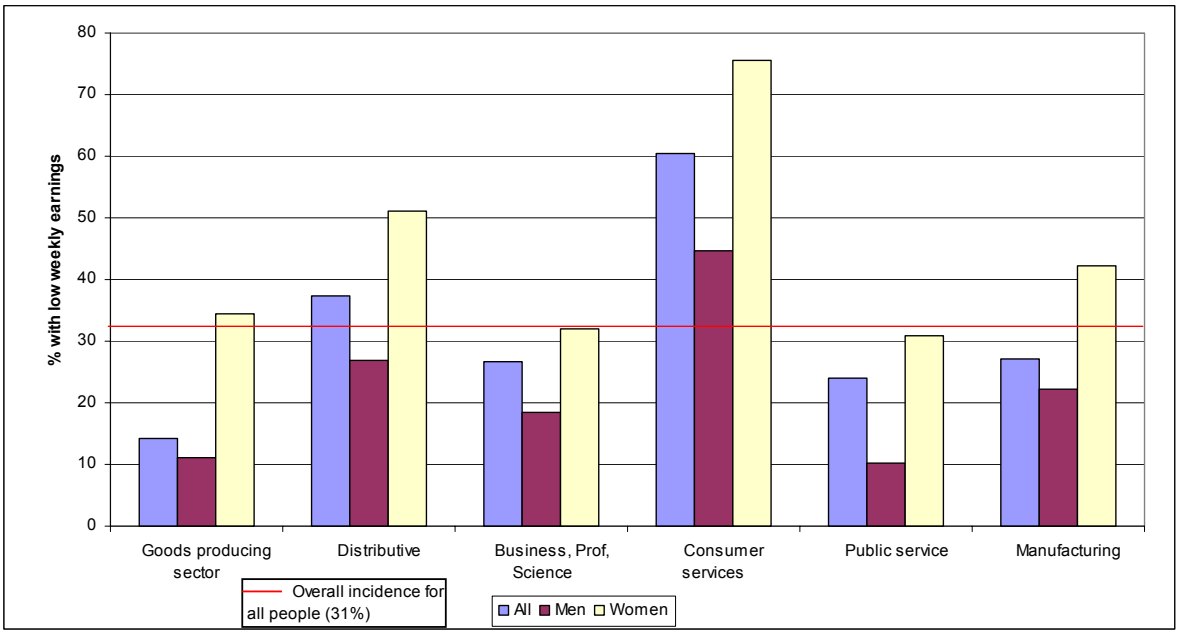
The incidence of low-paid work was higher in services, sales, and clerical occupations. However, it was lowest for manual labourers (26%) and those in professional occupations (20%) (Chart 5 and Appendix A1). Women in manual labour positions have a high incidence of low paid work (57%), more than twice as high as men (21%). Future research is needed to explore and understand these differences.

Chart 5. Incidence of low weekly earnings by occupation and sex.



Workers employed in the consumer services industry had the highest rates of low paid work (61%), and it is the only industry where men had higher rates of low pay than the overall rate (see Chart 6). For women, the lowest incidences of low paid work were noticeable in the public services and business/professional/science occupations, where the incidence was approximately the same as the overall incidence for all people (31%). These findings cannot be explained by the incidence of part-time work by industry because the majority of part-time workers were found both in the consumer services industries (21%) and in the public services (19%).

Chart 6. Incidence of low weekly earnings by industry and sex, 1996.



4.5 Probability of low weekly earnings: Comparing 1993 and 1996

Since it was expected that the previously described factors would jointly contribute to the probability of being a low-paid earner in 1996, a multivariate logistic regression was computed to evaluate the significance of these factors while controlling for several important variables. For comparison purposes, the results of the current study are summarized in Appendices A1 and A2 along with the 1993 findings from the Drolet and Morissette (1998) study.

It is important to note that three of the variables in the current study were not operationally defined the same way as they were in the Drolet and Morissette study. Specifically, Drolet and Morissette computed an interaction variable between family type and sex. In this study, a similar interaction was computed for these logistic regression models, but since it was not significant it was not included in the final model. Second, there were minor changes in the way the industry variable was categorized in the current study. There were 4 groups in the Drolet and Morissette study: (1)goods producing, (2) distributive and business, (3) consumer services and (4) public services; but there were 6 groups in the current study. Both provide a meaningful classification of the variables. Third, in the current study, the ages 51-60 were not included so that people who were retired, or close to retirement, were not inadvertently integrated into the study. Thus, some caution must be used when comparing these three variables in the two studies. Additionally, the findings in the two studies are not completely comparable because of the different lengths of time being compared (i.e., a five-year time frame in the current study, versus two years in the Drolet and Morissette study).

The findings from the logistic regressions in these two studies indicated that significant predictors of low-paid work included: age, education, sex, part-time work, union status, firm size, region of Canada, industry and occupation.

When considering *all* people, the patterns in the findings from these two studies were equivalent. It is notable, however, that those in professional/manager/scientist occupations, those living in Alberta and British Columbia, and full-time and unionized workers, were approximately twice as likely to have low weekly earnings in 1996 as in 1993 (see Appendices A1 and A2).

While the findings for the women were similar in both 1996 (the current study) and in 1993 (the Drolet and Morissette study), some of the findings were more extreme when considering the men. Overall, men were more than twice as likely to have low weekly earnings in 1996 as compared with 1993 (17% versus 7% respectively). This same finding (i.e., that men were more than twice as likely to be low paid in 1996 versus 1993) held for every level of education, every age group (except for the youngest), every occupation (except for those in services), and every region (except Manitoba/Saskatchewan) (Appendix A1).

Where there were exceptions, the men in 1996 still had a higher probability of reporting low paid earnings than those in 1993, however, the difference was not more than twice as large. In 1996, even though the probability of being in low weekly earnings was lower for men who worked in unionized organizations, the public service, and in firms with 100-499 or 500 or more people, these probabilities considerably increased between 1993 and 1996. In 1996, these men were twice as likely to be in low paid work as compared with similar men in 1993 (see Appendix A2).

In contrast, men were less likely to be in low paid work in 1996 if they worked part time (see Appendix A2). Thus, while the probability of being in low paid work has generally become much higher for men in 1996, financial conditions appear to have improved for male part-time workers.

Although conditions for women were still not as good as they were for the men, there were some notable improvements in earnings in 1996. For example, women who worked in the consumer services industry saw a 20 percentage-point decrease in the probability of being in a low-paid job in 1996 (45%) as compared with 1993 (65%).

The next section of the paper considers how these factors influenced the likelihood of moving out of low-paid work in 2001. Comparisons will also be made with findings regarding who moved up in 1995 in the Drolet and Morissette (1998) study.

5. Results II: Who moved out of low paying jobs?

Forty-seven percent of the workers (approximately 800,000 people) with low weekly earnings in 1996 moved above the low weekly earnings cutoff of $496.86 per week by 2001 (see Appendix B1). This compares with Drolet and Morissette (1998) had followed

similar workers for a period of only two years and during that time frame about 20% moved up.

Appendices B1, B2 and B3, suggest that the *incidence* of moving up in 2001 varied depending on demographic, occupation and job transition characteristics. Those with the largest incidence of escaping low paid work were young males with the highest levels of education. They worked in professional and science occupations in Ontario and Alberta. Such individuals had a higher likelihood of moving up if they experienced a change in union status (from non-unionized to unionized), or if they moved from a small to a large organization (see Transition Variables in Appendix D).

In order to capture how these factors jointly contributed to moving up, a discussion of the key findings from the multivariate regression analysis of the *probability* of moving out of low-paid work follows (see section 3.1 Logistic Regression and the findings in Appendices B1, B2 and B3).

5.1 Men were more likely to move out of low paying jobs than women.

The one factor that produced the highest probability of moving out of low paid work was being male (72%). Male workers were more than twice as likely to move up relative to female workers (32%), all other things being equal. That is, a difference remained after holding several important variables such as age, educational attainment, occupation, full-time/ part-time status, and industry constant. This suggests that, everything being equal, men were more likely to escape low-paid earnings after a period of 5 years than women.

5.2 Personal characteristics and job characteristics influenced the probability of moving up.

Several personal characteristics were related to the probability of moving up. While the findings in the Drolet and Morissette (1998) study suggested that age did not significantly impact the probability of moving up, in the current study, the youngest workers were more likely to move up (59% probability) between 1996 and 2001, relative to the other age groups. This may be due to the relatively short time frame used in the Drolet and Morissette study. For example, after two years, a young worker would still be a young worker. Education was also significant in explaining who moved up. Those with a university degree were almost twice as likely to move up (69%) as those with high school or less (38%) (see Appendix B1).

Where the workers lived in Canada also influenced their likelihood of moving out of low paid work (see Appendix B1). Approximately 6 out of 10 workers in Ontario and Alberta moved up which was significantly more likely than workers in Atlantic Canada where approximately 4 out of 10 workers moved up. Ontarians and Albertans may be more likely to move up because of their relatively strong economies which may offer more options for work and higher salaries to those in low paid positions. For example, between

1996 to 2001 employment rose by almost 16% in Alberta and 15% in Ontario, far above the national average increase of just under 12%[7].

The upward mobility of Canadians was also influenced by the type of occupation (Appendix B1) and industry (Appendix B2) of the workers. Compared to 1995, there was a considerable improvement in the probability of moving up in 2001 within all *occupations* and *industries*. Those who worked in professional/manager/scientist occupations had the highest probability of moving up (69%). In fact, professionals were more than twice as likely to move up as those in sales (32%) and services (34%). Those employed in clerical occupations also had a relatively high probability of moving up (50%). Those employed in business/professional/science services *industries* (66%) and manufacturing *industries* (52%) were significantly more likely to move up than workers in consumer services industries.

Those in large organizations (500+ people) were almost twice as likely (60%) to experience upward mobility than those in small (less than 20 workers) companies (38%). Full time (52%) and unionized workers (62%) were also significantly more likely to move up than their part-time (35%) and non-unionized (41%) counterparts (see Appendix B2).

5.3 Part-time workers

Part-time workers may be a particular group of concern to social and labour policy-makers, because they are more likely to receive a low wage and less likely to obtain non-monetary benefits of work such as insurance (e.g., extended medical, dental and/or life/disability insurance) (Marshall, 2003). Policy would differ for those workers who receive a low wage because they choose to work part-time versus those who are involuntarily relegated to part-time status. Thus, it would be helpful to know: (1) who are the part-time workers, and (2) why are they working part-time.

Considering all part-time workers in 1996, 87% were female (even though 78% of women worked full-time). The highest percentage of part-time workers was in consumer services (21%), in small (38%), service occupations (23%). Most families of part-time workers consisted of *married couples* either: with children (65%), with no children (11%), or with other relatives (9%). Of the part-time workers, approximately the same percentage of families had pre-school children (15%) as those without (12%).

Of those who worked part-time in 1996, almost half (45%) continued to work part-time in 2001, while 55% obtained full-time work in 2001. Most part-time workers in 1996 (83%) and 2001 (80%) did not have another job.

Considering the same part-time workers in 1996 and 2001, how did their reasons for working part-time change (see Table 1)? Low paid part-time workers in this study faced

[7] Source: CANSIM II Table 282-0055 - Labour force survey estimates (LFS) estimates by economic region; Alberta, Ontario and Canada; Employment (Persons x 1,000).

particularly difficult times when it came to pay and moving up. Of note, is the fact that in 1996, 60% of people in low-paid part-time jobs wanted a full-time job but were unable to find one. This decreased to 33% in 2001, but inability to find a full-time job still remained the most important reason for working part-time in both years. This group provides cause for concern because they worked part-time involuntarily and suffered low wages as a result. Moreover, they remained trapped in part-time work 5 years later even though they wanted to work full-time. Part-time work is not problematic for all workers. Low-paid individuals also worked part-time in 1996 and 2001 because they did not want full-time work (17% and 20%), or they wanted to care for family members (i.e., children or other relatives - approximately 7% in both 1996 and 2001). Of note is the considerable increase in people working part-time to respond to family responsibilities (4% and 17%).

Table 1. How did the reasons for working part-time in 1996 change in 2001?

	Year	
Reasons	**1996**	**2001**
Unable to find full-time work	59.6%	32.8%
Did not want full-time work	17.3%	19.6%
Other family responsibilities	4.4%	17.0%
Caring for family members	6.6%	7.2%
Did work full-time (but it was less than 30 hrs/week)	11.7%	21.6%
Own illness/disability	0.4%	1.9%
Total	**100%** **431,727**	**100%** **53,361**

5.4 Is it better to keep the same job or get a new one?

Several transition variables were also explored for their contribution to the upward mobility of low paid workers. Again, to replicate the Drolet and Morissette (1998) study, three logistic regression models were computed to predict the probability of moving up. In each model a different measure of job change was used. In the first model (Appendix B3), if an individual's main job in 1996 was different from his main job in 2001, the individual was flagged as having changed jobs. This is a dichotomous (yes/no) variable. The results indicated that in Model 1, workers who changed jobs or remained in the same job were just as likely to move up (47% and 46% respectively).

For those workers who changed union status from being non-unionized in 1996 to unionized in 2001, they had a 64% probability of moving up (Model 1, Appendix B3). This finding applies to a relatively small number of low paid workers because only 16% changed union status in this way.

Similarly, the low paid workers who were working in a small firm (less than 20) in 1996 and a large firm (500+ workers) in 2001, had a 60% probability of moving up (Model 1, Appendix B3). This finding applies to 40% of the workers who experienced such a change in firm size.

A possible problem with the measure of job change in Model 1 was that it was too general to reflect detailed information regarding moving up. That is, one would expect that the *reasons* why a person leaves a job would have an impact on their future salary. For example, those who have been fired may face more difficulty experiencing upward mobility, while people who leave an organization voluntarily may be more likely to experience upward mobility. Likewise for a person who continues to work for the same employer, what happens at their job may influence moving up. For example, one would expect that those who continue at the same job but change duties (e.g., a promotion), would be more likely to experience upward mobility than someone who continues doing the same job and has the same duties. Models 2 and 3 (Appendices B4 and B5) used different measures of "job change" to further explore the impact of this variable on upward mobility.

In the second model (Appendix B4), the same controls were included for *personal characteristics*, *job attributes* and *transitions* (i.e., job change, moving from a non-unionized to a unionized organization, and moving from a small firm to a large firm), as in the previous logistic regression (see Appendices B1 and B2). However, for those who kept the same job, they were divided into (1) duties changed and (2) duties stayed the same. The findings suggested that employees were most likely to experience the benefits of upward mobility if they were performing new duties within the same job (56% probability of moving up). They may have taken on new responsibilities or experienced a promotion, for example. Such individuals experienced a 1.4 times higher probability of moving up than those who kept the same job and same duties, and a 1.2 times higher probability than those who changed employers (47%).

In the third model (Appendix B5), once again the same controls were included but those who kept the same job were divided into (1) those who increased their work hours by 5 or more hours per week between 1996 to 2001, and (2) "others", those whose work hours did not increase by at least 5 hours per week. The findings suggested that those who kept the same employer but increased their work hours by at least 5 hours per week were the most likely to move out of low paid work (59%). They were also 1.5 times more likely to move up than those who did not increase their work hours.

In sum, the findings regarding job change in these three models (Appendices B3, B4 and B5) generally suggest that the upward mobility of Canadians is just as likely whether an individual keeps his/her job or changes jobs. However, individuals are more likely to move up if they experience a move to a large (500+ people), and/or unionized organization. Individuals who remained in the same job were likely to experience upward mobility if they reported a change in duties and/or worked at least 5 or more additional hours per week.

5.5 Comparing the 'Moving Up' findings of 1995 and 2001[8]

Drolet and Morissette (1998) researched workers who moved up after a period of 2 years (panel 1 of SLID - 1993 to 1995), and this study followed workers after a period of 5 years (panel 2 of SLID - 1996 to 2001). Thus, a comparison of the movement out of low paid work can be made for the years 1995 and 2001. Both 1995 and 2001 were periods of economic growth. Given the longer time period of the current study, and the relatively lower unemployment rate, it was expected that workers would be more likely to move up in 2001 as compared with those in 1995. In fact, workers in the current study were more than 3 times as likely to move up overall (46%) as compared with those in 1995 (15%) (Appendix B1). The other predictor variables outlined in Appendices B1, B2, B3, B4 and B5, indicated that, depending on the characteristics, workers were also 2 to 5 times more likely to move up in 2001 than they were in 1995.

In the Drolet and Morissette (1998) study, age did not impact the probability of moving up, however, in the current study, the youngest workers were more likely to move up (59% probability) between 1996 and 2001, relative to the other age groups. Considering education, those with a university degree were most likely to move out of low paid work in both 1995 and 2001. However, having some post secondary education was more beneficial for escaping low paid work in 2001 than it was in 1995, where the outcome did not significantly differ from those with high school or less (Appendix B1). In the current study, women, regardless of family composition, were among those who experienced the most difficulty moving up. However, in the Drolet and Morissette (1998) study, it was female lone-parents.

Bearing in mind the workers' occupation, those in sales and services were most likely to experience difficulties moving up, while those in professional/manager/scientist occupations were most likely to move up in both 1995 and 2001 (Appendix B1). The industry variables were somewhat difficult to compare because the definitions of the industries could not be identically replicated. Although industry comparisons should be interpreted with caution, it is notable that those in the public services were among the most likely to move out of low paid work in 1995, but in 2001 they were among those who were least likely to move up (Appendix B2). Workers in large firms, with full-time, unionized positions were the most likely to move up in both 1995 and 2001 (Appendix B2)

Those living in Ontario were among the workers most likely to move up in both 1995 and 2001 (along with Alberta in 2001) (Appendix B1). While low paid workers in British

[8] It is important to note that some of the comparisons between variables in the current study and the Drolet and Morissette study should be interpreted cautiously because of differences in operational definitions. This includes the three variables previously mentioned in Section 4.6: Probability of low weekly earning comparing 1993 and 1995 (i.e., family type/sex, industry, and the deletion of age group 55-60). It also includes one of the "job change" transition variables (see Appendix B4, Model 2). In the Drolet and Morissette study, "job change" was separated into: (1) lay-off/dismissal, (2) quit, and (3) other; and two types of "no job change" included: (1) change in duties, and (2) no change in duties. Since the definitions provided in the Drolet and Morissette article were not specific enough to enable an accurate replication, a decision was made to simply examine three categories in the current study: (1) "employer change"; and two categories for the "same employer" (1) same employer - different duties, and (2) same employer - same duties.

Columbia were among the most likely to move up in 1995, in 2001 those from British Columbia were among the least likely to move up (along with Quebec, Manitoba/Saskatchewan, and the Atlantic provinces). In British Columbia this may be explained by the fact that during the 1993-1995 period employment growth was very strong (i.e., average of 3.4% change per year). Conversely, during 1996-2001, growth was relatively weak (average 1.4% change per year), perhaps as a result of forestry problems and the collapse of the Asian economy[9].

Most of the findings regarding the transition variables were similar in both the current study and the Drolet and Morissette (1998) study. However, one difference in the transition variable findings was that although there was a significant difference between those who changed jobs by 1995 and those who did not, in 2001, whether a person changed jobs or remained in the same job did not differentially impact moving up.

6. Summary & Conclusion

It is fairly well-known that young people who are less educated, work part time, in services occupations, in small, non-unionized firms, are more likely to have low weekly earnings. We know much less, however, about who moves up and who tends to remain trapped in low-paid work. One goal of this study was to address that question.

Approximately 46% of the low paid workers in the current study experienced upward mobility. These people were more likely to be young (16-24), males, in professional occupations in business/science-related industries, in large unionized firms, residing in Ontario or Alberta. On the surface it appeared as though workers who changed jobs or remained in the same job were equally likely to move up. However, a closer examination of *job change* was more revealing. That is, it was beneficial to change jobs when workers moved to a large (500+ workers) and/or unionized organization in 2001. Remaining in the same job did not preclude upward mobility if the worker changed their duties and/or worked 5 or more extra hours per week.

Half (53%, or approximately 897,400) of low-paid Canadian workers in 1996 remained in low-paid employment 5 years later. Most often, these workers were older, less educated women who worked part-time in sales. The firms where these employees worked were less likely to be unionized and more likely to be small (less than 20 people).

Sex differences were identified in this study, even when a number of important variables were held constant (e.g., age, education, occupation, and part-time status). That is, women were much more likely to receive low pay, and were much less likely to move up relative to men. Nevertheless, there were some circumstances that were more favourable for women. For example, women were less likely to be in low paid work relative to the overall incidence (31%) when they obtained a university degree, and/or worked in a large organization (500+ workers). It also appeared as though the best jobs for women in terms

[9] Source: CANSIM II Table 282-0055 - Labour force survey estimates (LFS) estimates by economic region; British Columbia; Employment (Persons x 1,000).

of financial gain were in professional/science occupations, in the public service, and in professional/science industries.

The results regarding the low paid workers in the Drolet and Morissette (1998) study were similar to those of the current study. In general, the probability of being in low paid work has generally become much higher for men in 1996 (current study) than it was in 1993 (Drolet & Morissette study). However, financial conditions appeared to improve for male part-time workers who had an 86% probability of being low paid in 1993 and a 69% probability in 1996. Contrary to the men, conditions for the women generally seemed to have improved. For example, in the consumer services industry women saw a 20 percentage-point decrease in the probability of being low-paid in 1996 (45%) relative to 1993 (65%).

When comparing upward mobility in 1995 with 2001, workers in the current study were more than 3 times as likely to move up, overall (46%), as compared with those in 1995 (15%). Most of the findings were similar except that workers in the public services industry were among the most likely to move up in 1995, but in 2001 they were among the least likely to move up. Regional differences were also noticeable. That is, low paid workers in British Columbia were among the most likely to move up in 1995, but among the least likely to move up in 2001. The increased upward mobility in British Columbia in 1995 may have possibly been due to an economy that was stronger that the national average, while the difficulty moving up in 2001 may have been related to forestry issues and the economic decline in Asia. Finally, although job change was a significant predictor of moving up in 1995, in 2001, those who changed jobs were not significantly more likely to move up than those who remained in the same job.

It is important to note that "low weekly wages" was defined a particular way in this study, and how this variable was defined may lead to different conclusions regarding the number of people who were identified as receiving "low pay". One limitation of this study was the sole use of wage information because it does not reflect the non-dollar benefits of employment, such as extended health insurance. Moreover, wages only signify one part of a person's income. For example, we have not considered investment income, government transfer, or income from other family members. Although it is likely that the low paid workers in this study were financially strained, we cannot necessarily make that assumption. What if the person's spouse or other family members had a high paying job? An exploration of the economic family[10] income of the low-paid workers in 1996 indicated that 80% fell below Statistics Canada's Low Income Cutoffs. Thus, these low paid workers generally lived in low income families.

Another limitation of the current study is that the workers were compared at two distinct points in time. The focus was not on changes that may have occurred between these points in time. For comparison purposes, future research may benefit from exploring changes in low-paid work throughout the entire time period.

[10] An *economic family* refers to a group of two or more people who live together and are related to each other by blood, marriage, common-law or adoption (2001 Census Dictionary – Internet Version. Statistics Canada Catalogue No. 92-378).

A third limitation is that this study explores full-time and part-time workers together. There are analytical considerations associated with including part-time employees. For example, there may be some whose hourly wage is quite high, but if they are not working very many hours in the week they could appear to be in low paid work. Furthermore, this study found that there has been an important decrease in the probability of workers who worked part-time because they could not find a full-time job (Table 1). This suggests that there may be fewer part-time workers who feel trapped in part-time work. To address these limitations, an upcoming study explores full-time workers only.

The findings suggest several other important avenues for future research. For example, since remaining in the same job did not preclude upward mobility, exploring the impact of other changes within one's job, such as gaining work experience and seniority, would be important to investigate. To provide further insight regarding the observed sex differences, it would be interesting to explore the impact that having a family has on upward mobility. Since the current study was unable to explain whether there were differences between workers in terms of how long it takes them to move out of low paid work, future research could investigate whether those who are fired take longer to experience upward mobility relative to those who are laid off or quit their jobs, for example.

Several other important factors related to low pay and upward mobility remained unexamined due to sample size issues, including: visible minority status, health, family income, and physical abilities. By combining different panels of SLID respondents, the contribution of such variables could be explored in future research.

References

Drolet, M. 1999. *The Persistent Gap: New Evidence on the Canadian Gender Wage Gap*. Analytical Studies Branch Research Paper Series. Statistics Canada Catalogue no. 11F0019MIE, no.157.

Drolet, M. and R. Morissette, R. 1998. *The Upward Mobility of Low Paid Canadians: 1993–1995*. Income Research Paper Series. Statistics Canada Catalogue no. 75F0002MIE1998007.

Gunderson, M. 1998. *Women and the Canadian Labour Market: Transitions Towards the Future*. 1991 Census Monograph Series. Statistics Canada Catalogue no. 96-321-MPE, no.2.

Heisz, A., A. Jackson, and G. Picot. 2002. *Winners and losers in the labour market of the 1990s*. Analytical Studies Branch Research Paper Series. Statistics Canada Catalogue no. 11F0019MIE2002184.

Marshall, K. 2003. "Benefits of the job." *Perspectives on Labour and Income*. 15, 2. Statistics Canada Catalogue no. 75-001- XPE20030026515.

Sargent, T. C. 2000. "Structural unemployment and technological change in Canada, 1990–1999." *Canadian Public Policy*. 26: S1069–23.

Statistics Canada. 2002. *Women in Canada: Work Chapter Updates*. Housing Family and Social Statistics Division. Statistics Canada Catalogue no. 89F0133XIE. April.

Statistics Canada. 2003. Survey of Labour and Income Dynamics: A Survey Overview. Income Statistics Division. Statistics Canada Catalogue no. 75F0011XIE.

Appendix A1: Worker characteristics and low weekly earnings

Worker Characteristics in 1996	Incidence of low earnings, 1996			Probability of low earnings[11]					
	All	Men	Women	All		Men		Women	
				1996	1993[12]	1996	1993	1996	1993
Total Overall	30.9	21.8	41.1	25.7	16	17.0	7	39.4	36
Age									
16-24	69.1	64.0	75.6	60.2	55	47.4	38	74.0	71
25-34	31.0	21.6	42.4	27.3	19	17.8	9	42.4	41
35-44	25.8	15.6	37.0	21.0	13	13.1	5	33.3	32
45-50	26.1	16.9	35.1	22.7	19	15.8	6	34.9	NA
Education									
High school or less	41.4	31.0	54.3	36.0	23	24.2	11	52.2	46
Some post secondary (no degree)	30.3	20.6	40.6	25.3	16	16.4	7	39.8	37
University degree	14.6	7.9	21.3	13.5	8	8.8	3	21.5	20
Sex									
Men	21.8	21.8	NA	19.4	NA	17.0	NA	--	NA
Women	41.1	NA	41.1	34.3	NA	--	NA	39.4	NA
Occupation									
Professionals, scientists	20.3	21.1	26.9	18.6	9	13.0	5	27.4	21
Clerical	39.9	34.6	41.3	25.8	19	22.9	10	36.5	41
Sales	45.9	35.2	55.2	28.3 n.s	24	20.2	10	41.8	54
Services	63.4	42.9	82.3	56.2	41	36.4	22	78.2	65
Manual labour	25.9	21.2	57.4	27.0 n.s	19	15.7	6	66.5	60
Region									
Atlantic	39.3	26.4	51.9	36.3	31	22.4	11	55.7	62
Quebec	32.2	23.9	42.2	29.4	20	19.8 n.s.	9	43.5	39
Ontario	27.7	19.2	37.1	22.0	13	14.6	5	34.0	30
Manitoba & Saskatchewan	38.4	26.8	50.0	33.0 n.s	31	20.2 n.s	12	53.8 n.s	57
Alberta	34.6	22.6	47.5	28.9	13	18.1 n.s.	5	45.2 n.s	39
British Columbia	26.8	19.8	34.5	19.7	10	14.5	5	27.0	24
Weighted Sample	**5,511,080**	**2,907,762**	**2,603,318**	**5,511,080**	NA	**2,907,762**	NA	**2,603,318**	NA
Unweighted Sample	**6195**	**3133**	**3062**	**6195**	**7305**	**3133**	**3800**	**3062**	**3505**

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[11] A logit model was used to estimate the probability of having low weekly earnings in 1996. Controls were included for personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status. The probability of having low weekly earnings in 1996 was calculated conditional on the mean values of the explanatory variables and coefficients.

[12] The 1993 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix A2: Job Characteristics and low earnings

Job Characteristics in 1996	Incidence of Low Earnings, 1996			Probability of low earnings[13]					
				All		Men		Women	
	All	Men	Women	1996	1993[14]	1996	1993	1996	1993
Total Low Earners	30.9	21.8	41.1	25. 7	16	17.0	7	39.4	36
Industry									
Goods producing	14.2	11.1	34.4	11.7	15	7.5	5	27.5	30
Distributive services	37.3	27.0	51.2	32.9[n.s]	NA	22.4[n.s]	NA	48.7[ns]	NA
Business/Prof/ Science	26.6	18.5	32.1	20.9	NA	16.9[n.s]	NA	31.3	NA
Consumer services	60.5	44.7	75.5	30.6	35	19.6	16	45.1	65
Public services	24.1	10.3	30.9	19.0	12	9.5	5	36.2	30
Manufacturing	27.2	22.2	42.2	35.1[n.s]	NA	23.7[n.s]	NA	36.4 [n.s]	NA
Firm size									
Less than 20 workers	43.2	29.3	55.9	33.1	24	21.0	12	51.0	48
20-99	33.5	25.1	43.0	28.0	24	19.1[n.s]	12	41.3	48
100-499	21.9	13.9	32.4	20.4	17	13.1	6	32.1	39
500+	16.4	13.7	19.5	17.9	12	13.9	5	24.0	28
Status									
Full-time job	24.1	20.3	29.4	19.4	10	16.1	6	23.8	19
Part-time job	81.5	71.9	83.0	84.1	86	68.6	86	89.9	91
Union Status									
Unionized	20.1	14.0	27.4	18.7	9	12.9	3	28.0	25
Non-unionized	38.3	27.2	50.2	31.5	24	20.5	12	47.6	46
Weighted Sample Size	5,511,080	2,907,762	2,603,318	5,511,080	NA	2,907,762	NA	2,603,318	NA
Unweighted Sample Size	**6195**	**3133**	**3062**	**6195**	**7305**	**3133**	**3800**	**3062**	**3505**

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[13] A logit model was used to estimate the probability of having low weekly earnings in 1996. Controls were included for personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status. The probability of having low weekly earnings in 1996 was calculated conditional on the mean values of the explanatory variables and coefficients.

[14] The 1993 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix B1: Worker characteristics and moving out of low earnings

Personal Characteristics in 1996	Incidence 2001	Probability[15] 2001	Probability[15] 1995[16]
Total Moved Up	47.4	46.4	15
Age			
16-24	58.0	58.7	16
25-34	48.6	45.4	16
35-44	43.0	43.5	16
45-50	42.7	41.3	NA
Highest level of education			
High school or less	39.2	37.7	15
Some post secondary education	51.0	50.2	15
University degree	69.7	69.3	21
Sex			
Men	68.2	71.6	NA
Women	35.0	31.5	NA
Occupation			
Professionals/managers,/ scientists	64.6	69.4	24
Clerical	40.3	50.1	17
Sales	32.6	31.7	11
Services	30.6	33.7	11
Manual labour	55.5	35.4	14
Region			
Atlantic	41.4	40.5	8
Quebec	41.4	34.3 n.s.	15
Ontario	52.6	56.5	20
Manitoba & Saskatchewan	43.6	40.8 n.s.	8
Alberta	51.1	56.0	15
British Columbia	50.3	46.3 n.s.	20
Weighted Sample Size	1,705,274	1,705,274	NA
Unweighted Sample Size	**2,016**	**2,016**	2188

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[15] A logit model was used to estimate the probability of moving out of low weekly earnings from 1996 to 2001. Controls for personal characteristics personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status, transition variables job change, move from a small firm <20 workers to a large firm 500+ workers, and move from a non-unionized to a unionized job. The probability of moving out of low weekly earnings in 2001 was calculated conditional on the mean values of the explanatory variables and coefficients.

[16] The 1995 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix B2: Job Characteristics and moving out of low earnings

Job Characteristics in 1996	Incidence 2001	Probability[17] 2001	Probability[17] 1995[18]
Total Moved Up	47.4	46.4	15
Industry			
Goods producing sector	62.3	55.3 n.s.	19
Distributive services	43.3	43.2 n.s.	NA
Business, Professional, Science services	58.5	66.0	NA
Consumer services	30.7	39.9	11
Public services	51.8	44.6 n.s.	19
Manufacturing	56.9	52.4	NA
Firm size			
Less than 20 workers	37.7	38.3	16
20-99	48.5	49.5	12
100-499	55.1	54.2	16
500+	70.3	60.0	16
Status			
Full-time job	53.2	51.8	NA
Part-time job	34.7	35.1	NA
Union Status			
Unionized	60.8	62.2	23
Non-unionized	42.1	40.7	13
Weighted Sample Size	1,705,274	1,705,274	NA
Unweighted Sample Size	**2,016**	**2,016**	2188

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[17] A logit model was used to estimate the probability of moving out of low weekly earnings from 1996 to 2001. Controls for personal characteristics personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status, transition variables job change, move from a small firm <20 workers to a large firm 500+ workers, and move from a non-unionized to a unionized job. The probability of moving out of low weekly earnings in 2001 was calculated conditional on the mean values of the explanatory variables and coefficients.

[18] The 1995 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix B3: Job Changes and moving out of low earnings (Model 1)

Transition Variables[19]	Incidence	Probability[20]	
	2001	2001	1995[21]
Total Moved Up	47.4	46. 4	15
Job Change?			
Yes	46.9	46.8	19
No	48.1	45.9 n.s.	13
Union Status Change			
Non-unionized in 1996 and unionized in 2001	59.8	63.6	27
Other	45.8	44.2	15
Firm Size Change			
Worked in a small firm 1996, and a large firm 2001	51.7	59.7	15
Other	46.6	43.8	15
Weighted Sample Size	1,705,274	1,705,274	NA
Unweighted Sample Size	**2,016**	**2,016**	2188

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[19] For definitions of these transition variables see Appendix D.

[20] A logit model was used to estimate the probability of moving out of low weekly earnings from 1996 to 2001. Controls for personal characteristics personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status, transition variables job change, move from a small firm <20 workers to a large firm 500+ workers, and move from a non-unionized to a unionized job. The probability of moving out of low weekly earnings in 2001 was calculated conditional on the mean values of the explanatory variables and coefficients.

Since Models 1, 2, and 3 produced similar results for the personal characteristic, job characteristic and transition variables, Appendices B3, B4 and B5 only present the incidence and probability rates related to the different job change (and same job) variables.

[21] The 1995 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix B4: Job change/ changes in duties and moving out of low earnings (Model 2)

Transition Variables	Incidence 2001	Probability[22]	
		2001	1995[23]
Total Moved Up	47.4	46.4	15
Type of job change			
Changed employers	46.9	46.9 n.s.	NA
Same employer – Duties changed	57.3	56.1	23
Same employer – Duties remained the same	44.5	41.5	14
Weighted Sample Size	1,705,274	1,705,274	NA
Unweighted Sample Size	**2,016**	**2,016**	2188

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[22] A logit model was used to estimate the probability of moving out of low weekly earnings from 1996 to 2001. Controls for personal characteristics personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status, transition variables job change, move from a small firm <20 workers to a large firm 500+ workers, and move from a non-unionized to a unionized job. The probability of moving out of low weekly earnings in 2001 was calculated conditional on the mean values of the explanatory variables and coefficients.

[23] The 1995 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix B5: Job change /change hours and moving out of low earnings (Model 3)

Transition Variables	Incidence 2001	Probability[24]	
		2001	1995[25]
Total Moved Up	47.4	46.4	15
Change number of work hours?			
Changed employers	46.9	46.7	19
Same employer			
Same employer – increase hours 5+ hours/week	50.0	59.1	30
Same employer – "other" work hours did not increase by at least 5	47.2	40.3	9
Weighted Sample Size	1,705,274	1,705,274	NA
Unweighted Sample Size	**2,016**	**2,016**	2188

Indicates the reference group for the logistic regression

n.s. refers to the *b*'s (explanatory variables) in the logistic model that did not significantly differ from the highlighted reference group with $\alpha = 0.05$.

NA Not Applicable or Not Available—either the data is not applicable for comparison (e.g., in a regression of only men the data for women is not applicable), or it is not comparable because the variables in the current study differ from those in the Drolet & Morissette (1998) study.

[24] A logit model was used to estimate the probability of moving out of low weekly earnings from 1996 to 2001. Controls for personal characteristics personal characteristics age, education, sex, occupation, and region, and job attributes industry, part-time status, firm size and union status, transition variables job change, move from a small firm <20 workers to a large firm 500+ workers, moving from a non-unionized to a unionized job, and weekly earnings in 1996. In this model, workers with low weekly earnings in 1996 who did not change jobs were categorized as either: 1 those who increased their work hours by 5 or more hours per week from 1996 to 2001, or 2 "others", those whose work hours did not increase by at least 5 hours per week.

The probability of moving out of low weekly earnings in 2001 was calculated conditional on the mean values of the explanatory variables and coefficients.

[25] The 1995 data are from a logistic regression computed by Drolet and Morissette (1998).

Appendix C: Change in Sample Size

Group 1: Workers

Sample Selection Criteria	Resulting Sample Size
Sample in 1996 (person-jobs, which means every person and all the jobs for each person)	55,753
Longitudinal respondents surveyed in both 1996 & 2001	33,946
Labour force status -employed in both Dec. 1996 & Dec. 2001 -main activity is full-time or part-time employee	20,846
Select only the main job for each person in 1996 & 2001 (gets rid of multiple jobs)	11,075
Age 16-50 in 1996	9,836
Not enrolled in school full-time	8,811
Exclude those who are: -self-employed -employed in agriculture, fishing, hunting, or trapping in 1996 & 2001	8,308
Include only those who reported hours of work and wage data for both 1996 & 2001	6,195

Group 2: Low Paid Workers

Sample Selection Criteria	Resulting Sample Size
Begin with Sample 1 (above)	6,195
Included only those who were low paid in 1996	2,016

Appendix D: Definitions

The main rationale for the selection of the following variables was to maintain consistency with past research (Drolet & Morissette, 1998), thus allowing for a comparison of the findings.

Industries: The industry codes in SLID are of the employer and are based on the North American Industry Classification System (NAICS) (this was the variable *nai3g10*), it corresponds to the grouping also known as NAICS (20). This variable had 16 industry codes which were further grouped into 6 industries for the purposes of this study:

Goods producing[26]—includes agriculture, fishing, trapping, forestry, mining, oil and gas, and construction,

Distributive services[27]—transportation and storage, communication, other utilities industries, trade, information, culture and recreation,

Business, Professional & Science services[28]—finance, insurance, real estate, business service industries, professional (e.g., lawyers, accountants), scientific and technical services (e.g., computer systems design),

Consumer services[29]—management, administration, and other support, retail trade, accommodation, food and beverage services, and *other* service industries,

Public services[30]—government, education, health, social services, and public administration, and

Manufacturing[31]—manufacturing industries (e.g., food, clothing and other manufactured products).

Job Status: Did the individual work full- or part-time? One reason for including both full- and part-time workers was to maintain consistency with past research (Drolet & Morissette, 1998). Part-time workers were also included because they tend to differ in important ways from full-time workers. They are less likely to obtain some of the non-monetary benefits of work such as insurance (e.g., extended medical, dental and/or life/disability insurance), and employer sponsored retirement plans (e.g., registered pension plans) (Marshall, 2003). Thus, it is important to include part-time workers in research so that we are better able to understand the situation of this type of disadvantaged worker.

[26] Goods-producing—NAICs codes: 1100-1129, 1151-1152, 1131-1142, 1153, 2100-2131, 2311-2329.
[27] Distributive services—NAICs codes: 2211-2213, 4111-4543, 4811-4931, 5111-5142, 7111-7139.
[28] Business, Professional & Science-- NAICs codes: 5211-5331, 5411-5419.
[29] Consumer services— NAICs codes: 5511-5629, 7211-7224, 8111-8141.
[30] Public services— NAICs codes: 6111-6117, 6211-6244, 9110-9191.
[31] Manufacturing— NAICs codes: 3111-3399.

Occupations:[32] The occupation grouping was based on the respondent's job at the end of the reference year (the major groups were defined in Standard Occupational Classification based on 1980 classification).If the job ended during the year, it refers to the occupation group at the end of the employment spell.
Five occupations were used in this study:

Professionals, managers, scientists – include managerial, administrative and related occupations; occupations in: natural sciences, engineering and mathematics; social sciences and related fields; religion; teaching and related occupations; medicine and health; and artistic, literary, recreational and related occupations.

Clerical-- Clerical and related occupations (e.g., clerks, stenographers, bookkeeping, data processing and material recording, reception, information, mail other clerical operations).

Sales--Sales occupations.

Services-- Service occupations (e.g., food and beverage related, occupations in lodging and other accommodation, apparel and furnishing service occupations.

Manual labour—includes horticultural and animal husbandry occupations; forestry and logging; mining and quarrying; processing; machining and related occupations; product fabricating; assembling and repairing occupations; construction trades occupations; transport equipment operating occupations; material handling and related occupations; and other crafts and equipment operating occupations.

Transition Variables:

Job Change--was defined three different ways in the logit models for moving up:

Model 1: Person had a different main job in 2001 than in 1996.

Model 2: Those who remained with the same employer were divided into (1) duties changed and (2) duties stayed the same.

Model 3: Those who remained with the same employer were divided into (1) those who increased their work hours by 5 or more hours per week from 1996 to 2001, and (2) "others", those whose work hours did not increase by at least 5 hours per week (Appendix B5).

Union Status Change—identifies workers who were not covered by a collective agreement, nor were they employed in a unionized organization in 1996, but by 2001 they were either covered by a collective agreement or they moved to a unionized organization.

Firm Size Change—identifies workers who were in a small firm (less than 20 people)

[32] Since the number of occupations included within each of these categories is too numerous to mention, the interested reader is encouraged to refer to Statistics Canada (2003). "Survey of Labour and Income Dynamics – A survey overview," Catalogue No. 75F0011XIE.

in 1996, but by 2001 either they moved to a large firm (500 or more people), or their organization grew to have 500 or more workers.

Unionized Workers—workers who were covered by a collective agreement regardless of whether they were a union member or not.

Wage: is the hourly wage for this paid worker's job at the end of the reference year or end of the job if it ended during the reference year. The amount includes tips, bonuses and commissions. Paid worker jobs with zero paid hours were assigned the value "not applicable". This rate is multiplied by the average usual hours the respondent worked per week in December to obtain a weekly wage.