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PERSPECTIVES

ON LABOUR AND INCOME

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- Earnings of women
- The recent labour market
- The family work week
- Employment among the disabled
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ON LABOUR AND INCOME

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Xuelin Zhang

A sizeable earnings gap exists between Canadian women with children and those without. Women with children earned, on average, 12% less than women without children, and the gap increased with the number of children. Lone mothers, mothers with long career interruptions, and mothers with at least some postsecondary education experienced greater losses than married mothers, mothers with no or short career interruptions, and mothers with no more than a high school education.

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Vincent Ferrao

Employment in Canada continued to grow for most of 2008, although at a slower pace than in 2007, with losses in the final quarter of the year. Employment in the United States, however, showed pronounced monthly declines throughout 2008. Other major labour market indicators in Canada such as the employment rate, the unemployment rate and the participation rate all outperformed their U.S. counterparts, with Canada's weakness surfacing in manufacturing employment.

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Katherine Marshall

Although the average work week has been declining, overall family work hours have increased. In 2008, dual-earners accounted for three-quarters of all couples with dependent children, compared with just over one-third in 1976. Over the period, the combined paid work hours of couples increased from an average of 58 per week to 65.

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- .. not available for a specific reference period
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- P preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

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In 2006, 37% of the employed Canadian population was covered by a registered pension plan. Defined benefit plans have historically covered the majority of plan participants. Defined contribution plans have recently become more prominent. This article examines the increased prevalence of such plans in Canada between 1991 and 2006 and the factors influencing this trend.

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Perspectives on Labour and Income

The quarterly for labour market and income information

Highlights

In this issue

■ Earnings of women with and without children ... p. 5

- The hourly earnings of Canadian mothers, controlled for age, were 12% less than those of childless women, and the gap widened with more children.
- About 70% of the observed motherhood earnings gap can be accounted for by factors such as career interruption, part-time employment, and other individual or job characteristics.
- Overall, the results suggest that employer practices may not be a major factor underlying the gap. But the earnings losses incurred by single mothers, mothers with a long career interruption and those with three or more children are significant.

■ The recent labour market in Canada and the United States ... p. 15

- The collapse of the United States housing market and subsequent problems in financial markets began to affect that country's labour market at the start of 2008. Employment losses occurred throughout 2008, with especially steep declines in the final quarter of the year. Losses continued at the start of 2009.²
- In Canada, employment grew over the first nine months of 2008, but declined in the last quarter of the year. And the losses worsened at the start of 2009. For all of 2008, however, Canada still managed a slight increase in employment.
- In 2008, all major labour market indicators (employment growth, unemployment rate, participation rate, employment rate) were more

encouraging in Canada than in the United States, despite the deterioration observed toward the end of the year.

- The labour market for young people (age 16 to 24) was especially affected in the United States as their employment declined by 5.0%. Core-age employment (25 to 54) fell by 2.9%. This contrasts with Canada where the employment decline among youth was much slower (-1.9%) and the number of core-age workers rose marginally (0.2%).
- Industries most affected by employment losses in the United States (construction, financial activities, and wholesale and retail trade) were not affected in Canada. In 2008, these industries managed to maintain their employment levels and even add workers. The number of factory workers, however, continued its downward trend in both countries.

■ The family work week ... p. 21

- Average weekly paid work hours of couples rose from 58 to 65 between 1976 and 2008, coinciding with the increase in families with two earners.
- Although dual-earner couples have become the dominant family form (7 out of 10 couples in 2008), their combined average work hours have remained stable at around 77 over the past 30 years.
- The average weekly hours of dual-earner husbands and wives have converged from a difference of 9 in 1997 (43 and 34, respectively) to 7 hours in 2008 (42 and 35), placing two-thirds of couples in an equal work-hours category (their hours being within 10% of each other).

- In 2008, hourly earnings of wives were 81% of husbands' earnings. With hours and earning power increasing for wives, their overall contribution to family weekly earnings increased steadily between 1997 and 2008, reaching 41% (\$740) in 2008.
- One-quarter of dual-earner men and one-third of women reported feeling severely time stressed in 2005, but, given the choice, the majority said they preferred their current work hours or even more hours.

■ Employment among the disabled

... p. 31

- Persons with a disability often work fewer hours compared with those with no disability. This gap widens with as the number of years of disability increases. During a 6-year period, the gap can amount to as much as 1.6 years of 'lost' work time.
- The effects of a disability last beyond the disability period for many affected persons. Their activity rate is lower not only during the declared years of disability, but also during years with no declared disability.
- Disability is often associated with lower earnings, and this is more so when the disability period is extended. Men and women with a disability for six years had earnings gaps of up to 20% compared with persons with no disability.
- The risk of low income is also higher for persons with a disability, especially during longer disability periods. Men affected for six years are eight times more likely to have low income than those without a disability, while women are four times more likely.

■ Shifting pensions

... p. 43

- Between 1991 and 2006, defined contribution (DC) plan membership almost doubled, increasing by 93%. During the same period, defined benefit (DB) plans lost 4% of their members.

- Membership fluctuations were greater in the private sector, where DB plans lost 279,000 members between 1991 and 2006 and DC plans gained 382,000. Changes were nearly nonexistent in the public sector.
- About 78% of the 192,000 members lost by DB plans were because of plan conversions, and the vast majority of which benefited hybrid or mixed plans. DC plan growth came mostly from an increase in active plan membership.
- Neither industrial structure changes nor factors used in a logistic regression could explain the considerable increase in DC plans. In fact, according to an Oaxaca decomposition, these factors should have stimulated DB plan growth.

■ What's new?

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Employer pension plans (trusteed pension funds)
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■ Upcoming events

Perspectives

Earnings of women with and without children

Xuelin Zhang

Raising children entails not only child care responsibilities, but also monetary costs. One cost is the so-called 'family gap,' also referred to as the 'child penalty' or 'motherhood earnings gap.' It measures how much the earnings of women with children fall below those of women without children, other factors being equal.

A significant earnings gap would place financial stress on young families and might discourage the labour force participation of new mothers, if, for example, the gap were sufficiently high to preclude the mother's earnings from adequately covering her work-related expenses, including child care. Withdrawal from the labour market can become attractive in such circumstances.

Financial concerns related to childbirth may affect the take-up of maternity leave allowances made available through provincial and federal legislation. A recent survey showed that more than 40% of new parents could not take maternity leave because their financial situation did not allow it, and among parents who took the leave and returned to work, 81% indicated that they would have stayed home longer if they could have afforded to do so (Beaupré and Cloutier 2007).

In addition, studying the earnings gap between women with and without children helps to better understand issues related to parents' decision about family size. As in other developed countries, the fertility rate in Canada has declined and stayed below the replacement level for many years. One reason for the low fertility rate may be the high costs associated with child rearing and child care.¹ The family gap concept captures, at least in part, the opportunity costs of having children.

It is not surprising that both economists and sociologists have studied the earnings gap between women with and without children. Indeed, family-gap studies

Data source and definitions

The Survey of Labour and Income Dynamics (SLID) is a longitudinal household survey conducted by Statistics Canada. It collects information on human capital investment, labour market experience, earnings and income for Canadians age 15 and over. It also records important life events like childbirth, allowing the examination of the relationship between childbirth and mothers' earnings through cross-sectional and longitudinal analyses.

SLID follows households for six years. Every three years, a new panel of respondents is introduced. Three completed panels were available (1993 to 1998, 1996 to 2001, and 1999 to 2004) for this study. Women between ages 18 and 44 were selected from the three panels and observed over a two- to six-year period. The pooled sample contained 9,239 women with children (among them, 3,429, or 37%, gave birth during the observation windows), and 6,393 women without children. The total number of observations was 69,819 (persons times years). The table below presents some descriptive statistics on a few characteristics of mothers and childless women (in their last year in sample).

Table Women age 18 to 44

	With children	Childless
Average age	35.1	28.1
Years of potential experience	16.2	7.9
Years of education	13.8	15.3
Years of work experience ¹	10.5	5.5
Marital status		%
Married or common-law	76.8	29.8
Separated	15.6	6.1
Never married	7.7	64.0
Number of children		
One	28.8	...
Two	43.4	...
Three	27.8	...
Education		
Less than high school	11.7	4.8
High school diploma	16.6	8.1
Some postsecondary	56.4	60.2
Bachelors or higher	15.1	26.8
Full-time job	68.0	77.0

1. Full-year full-time equivalent work experience.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

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by American and European researchers have proliferated in the past two decades. For instance, one study found the earnings of American and British mothers to be about 20% below those of their childless counterparts (Waldfoegel 1998a).

Several studies found that a sizeable portion, typically between 50% and 60%, of the observed gap can be explained by a number of socio-economic factors. Fewer years of work experience because of career interruptions due to childbirth is probably one of the most noticeable factors. As well, the presence of young children may limit the hours that mothers want to work, or may prompt them to choose jobs with more flexibility but lower pay. The unexplained portion of the earnings gap is typically attributed to unobserved individual characteristics like career motivation or to employer discrimination against mothers.²

In Canada, much less research has been done, and with mixed results. For example, one study of child penalties for seven OECD countries, found, in the raw data, no earnings gap between mothers and childless women. But, after controlling for a few factors such as age and education, gaps of 4%, 5%, and 13% were found for mothers with one, two and three or more children respectively (Harkness and Woldfoegel 1999). In another study, a significant penalty was found for mothers born between 1948 and 1960, while those born after 1960 enjoyed an earnings premium compared with their childless counterparts (Drolet 2002).

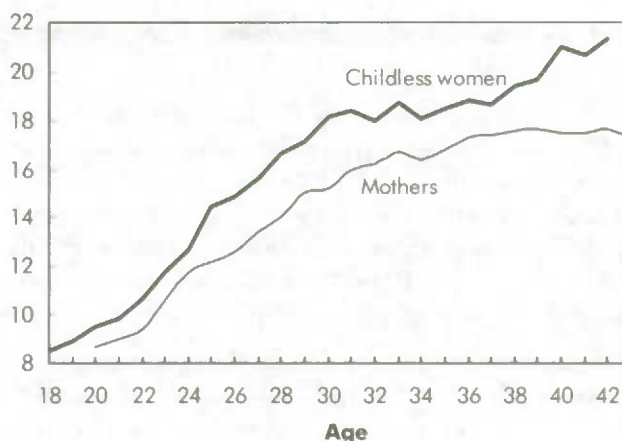
This study expands the Canadian literature in several different ways. In particular, it is the first to use three complete panels of earnings data from the Survey of Labour and Income Dynamics (see *Data source and definitions*), which allows controls for unobserved individual characteristics like career motivation that may be correlated with both earnings and childbirth.³ It attempts to answer several key questions: Is there indeed an earnings difference between women with and without children in Canada? How large is the difference? Do different groups of mothers experience the same gap? What factors may explain the gap?

Substantial earnings gap between women with and without children

Age-earnings profiles of Canadian mothers and women without children show that women without children systematically earned more than women with children (Chart A). At age 30, for example, the aver-

Chart A At any given age, mothers' hourly earnings were below childless women's...

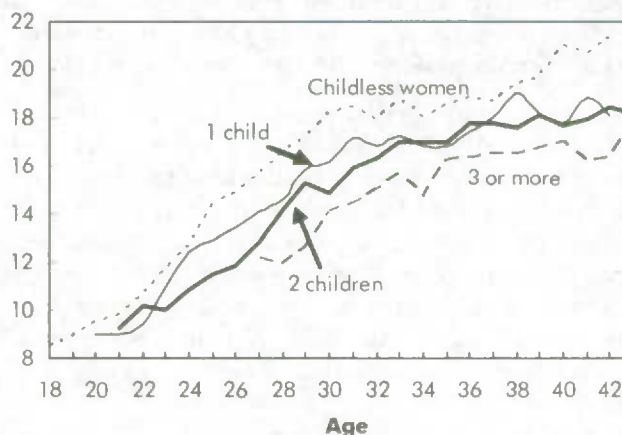
Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

Chart B ...and this gap generally widened as the number of children increased

Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

age hourly earnings of women with children were \$15.20 while those for women without children were \$18.10 (2004 dollars). Averaging the differences over all plausible ages showed that hourly earnings of mothers were about 12% lower than those of their childless counterparts.⁴

The gap widened with the number of children (Chart B). For mothers with one child, the average gap was about 9%. It increased to 12% and 20% respectively for mothers with two and three or more children. This indicates that, although the gap increased as the number of children increased, it did not do so proportionately. Nevertheless, the observed earnings gap grows with each successive child.⁵

At younger ages, the gap between women with and without children was quite small. For example, at age 20, earnings of women with one child and childless women were almost identical. This suggests that issues related to mothers' self-selection into childbirth were unlikely to be important.⁶ On the other hand, earnings of mothers did not grow as fast as those of childless women, so the earnings losses incurred by mothers might never be regained (Phipps et al. 2001).

Mothers with long career interruptions face larger earnings gap

The data suggest an almost six-year difference between actual and potential work experiences of women with children, while the difference for women without children was only slightly above one year.⁷ In other words, women with children experienced a much longer time out of work (or career interruptions) than their childless counterparts.

In order to see the effect of years of work experience on the motherhood earnings gap, mothers were grouped according to length of career interruption (years of potential work experience minus years of actual work experience).⁸

Clearly, long career interruptions had a negative impact on the earnings of mothers (Chart C). For example, the difference in average hourly earnings between childless women and mothers with more than three years of interruption was close to 30% at age 40. On the other hand, relatively short career interruptions made little difference—before age 33, average earnings of mothers with more than one year but less than three years of interruption were somewhat below the average of childless women, but after age 33, they were similar.

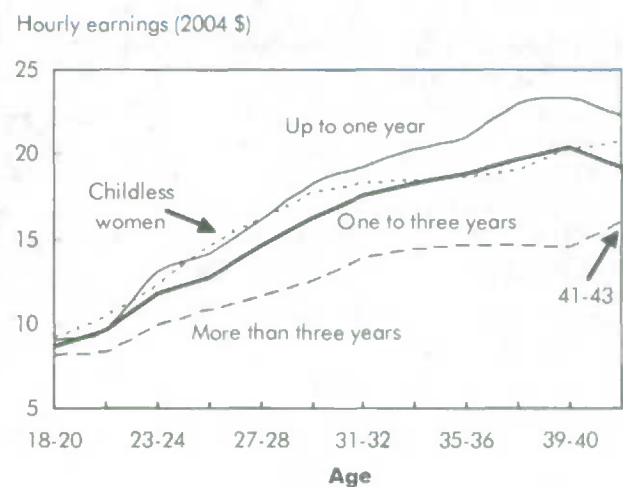
Earnings gap higher for lone mothers than for married mothers

Of particular interest are single mothers, who are more likely to face financial hardship. How do their earnings compare with those of single childless women? How do the earnings of married (or common-law) mothers compare with those of their childless counterparts? And how do these two gaps compare?

Earnings of married and single childless women were similar, suggesting that marital status might not affect the earnings of childless women. This observation casts some doubt on the marriage-earnings penalty hypothesis (Chart D).⁹ But the gap between single mothers and childless women appeared to be greater than that between married mothers and childless women. A comparison between single mothers and childless single women showed that the average earnings gap was close to 20%. But for married/common-law mothers versus childless women in couples, the gap was only about 10%.

In other words, the earnings gap between single mothers and single childless women was almost twice as large as that between married mothers and married childless women. The presence of a partner seems to

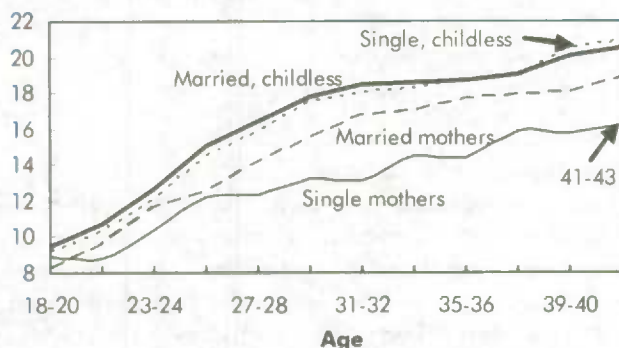
Chart C The longer the career interruption, the higher the earnings losses



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

Chart D Single mothers lost more earnings than married mothers

Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

reduce the negative effect of child-birth on a mother's earnings, making it necessary to take marital status into consideration when examining the earnings gap between women with and without children.

Earnings gap higher for highly educated mothers

The link between delayed motherhood and the declining fertility rate among highly educated mothers can be seen in many countries. Since education is positively correlated with earnings, an important question is whether mothers with higher education incur a greater earnings penalty than their counterparts with less education.¹⁰

Among women with less education, the earnings gap between those with and those without children was generally lower than that for their highly educated counterparts (Chart E). For less-educated mothers and childless women, the gap was confined to the 27 to 34

age range, and beyond that, the gaps were very small. But for highly educated mothers, the gap was observed at almost all ages.

Full- or part-time employment makes little difference

Since mothers are more likely to work part time than childless women and part-time workers usually earn less than full-timers, a seemingly plausible way to deal with the child penalty would be to help mothers get full-time jobs.

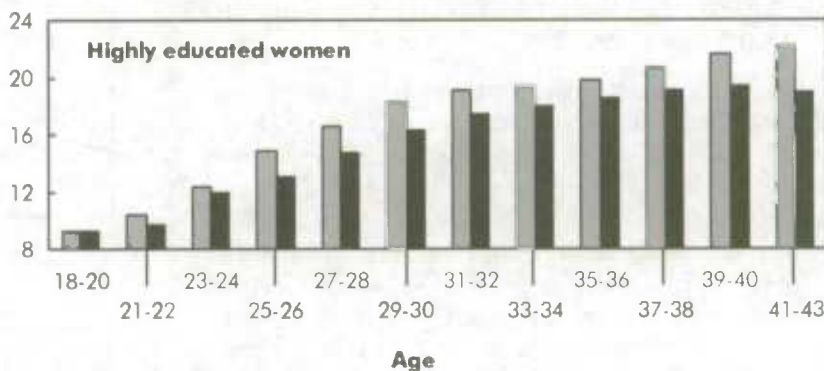
However, beyond age 34, very few childless women worked part time and the earnings difference between mothers and childless women was trivial (Chart F). On the other hand, young mothers who worked part time seemed to be somewhat disadvantaged relative to childless part-timers. But, overall, the hourly earnings of mothers who worked full time were only

Chart E Highly educated mothers earned less than childless women at almost all ages; for low-educated mothers, earnings losses were confined mostly to those age 27 to 34

Hourly earnings (2004 \$)



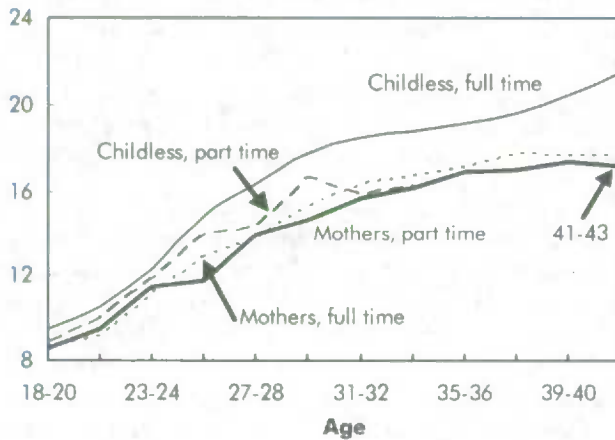
Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

Chart F Mothers working full time incurred somewhat more earnings losses than those working part time

Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

slightly higher than those of mothers who worked part time, suggesting that hours of work are unlikely to play any major role in the earnings gap.

Earnings premium associated with delayed childbirth may eventually disappear

The pursuit of higher education and careers appears to lead many women in industrialized countries to delay marriage and childbirth. Canada is no exception—those who delayed marriage or childbirth earned more (Drolet 2002). However, the direction of any causality between earnings and delayed childbirth is unclear.

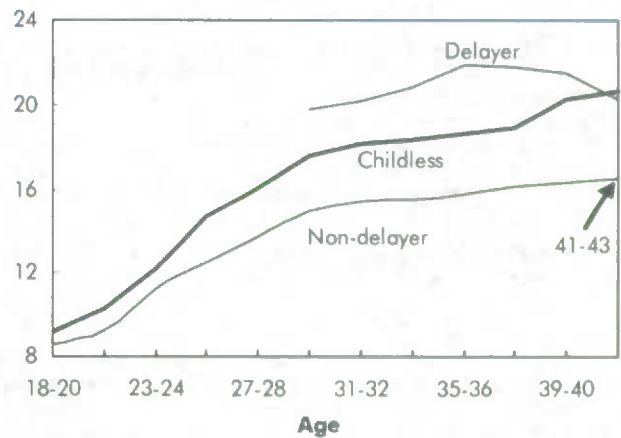
Conditional on age, the earnings of mothers who delayed childbirth (first child at age 30 or later) were higher than those of childless women by about 10% (Chart G).¹¹ But their earnings fell over time and dropped below the average of childless women after age 40.

Factors explaining the earnings gap

The observed earnings gaps, while being accounted for by age, do not necessarily represent the true disadvantage incurred by women with children because

Chart G Mothers delaying their first childbirth beyond age 30 earned more than childless women

Hourly earnings (2004 \$)



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004.

earnings are determined not only by age and the presence of children, but also by factors such as work experience, education, industry, occupation, union membership and unobserved individual characteristics like career motivation and ability. It may well be that women who became mothers had less education or fewer years of work experience, or chose to work for firms offering lower pay but more flexibility or other employment benefits.

In order to account for the effects of the above factors on the earnings of mothers and childless women, researchers typically estimate models that control for the presence of children (see *The earnings models*). The starting point in this study was an extended human capital model in which age, years of education, work experience, marital status, full- or part-time status, union membership, employer size, family income (earnings from spouse and other family members as well as non-employment income), industry, occupation and management responsibilities were included.¹²

The model simultaneously controlled for age, years of schooling and work experience. Since this is mathematically equivalent to controlling for the length of career interruptions—widely regarded as the most

The earnings models

According to human capital theory, earnings depend on education, work experience, occupation, firm size, union membership, and so on. Following other researchers, the following model was used first

$$Y_i = \alpha + \beta_1 K_{1i} + \beta_2 K_{2i} + \beta_3 K_{3i} + \theta X_i + \varepsilon_i \quad (1),$$

where Y_i represents earnings, K_{1i} , K_{2i} and K_{3i} are equal to 1 if a woman has one child, two children, or three or more children, respectively, and 0 if she has no children. X_i contains other variables affecting earnings, and the effects of these variables are captured by θ . The term ε_i represents random error. The coefficients β_1 , β_2 and β_3 measure the penalty for mothers with one, two, or three or more children.

With longitudinal data, the model can be modified to control for unobserved factors affecting earnings

$$Y_{it} = \alpha_i + \beta_1 K_{1it} + \beta_2 K_{2it} + \beta_3 K_{3it} + \theta X_{it} + \varepsilon_{it} \quad (2),$$

where i indexes a worker and t indexes time (year). The constant term α from equation (1) is now indexed by i , indicating that each worker now has a different intercept in her earnings profile. This person-specific intercept captures the joint effect of unmeasured factors such as motivation and ability affecting earnings.

The model given by equation (2) has two different specifications. If α_i is assumed to be correlated with X_{it} , the specification is referred to as a fixed-effects model, otherwise, it is referred to as a random-effects model.

important factor underlying the earnings gap between women with children and those without—it overcomes a shortcoming of SLID whose panels span only six years, which prevents accurate calculation of the length of career interruptions.¹³

Under the above model, mothers with one child, two children, and three or more children still experienced earnings gaps of 2%, 3% and 6% respectively, meaning that at least 70% of the gaps were explained by the included factors (Chart H). But the remaining gaps were still significantly different from zero.

The importance of unobserved factors

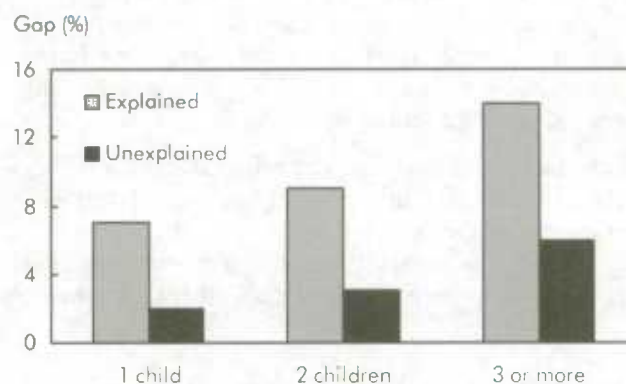
Unmeasured individual characteristics like motivation and innate ability may also affect earnings and, consequently, the gap between women with and without children. In particular, if unmeasured individual characteristics affect pay and fertility decisions at the same time, the estimated earnings gap can be spurious when unmeasured factors are not accounted for.

Two types of unmeasured factors can be postulated: those that affect earnings and fertility in the same direction, either increasing or decreasing them, and those that affect earnings and fertility in different directions. Innate ability is an example of the former, and it can be positively associated with both earnings and fertility. While career motivation is an example of the latter, it can be positively correlated with earnings but negatively correlated with fertility. Theoretically, the estimated earnings gap will have a downward bias when the former type is not accounted for, while the opposite would occur when the latter is not.

With longitudinal data, both types of unmeasured characteristics can be taken into consideration with a fixed-effects model.¹⁴ With this model, earnings gaps were 1%, 4% and almost 8% for women with one child, two children and three or more children respectively. Compared with the results from the first model in which only observable factors were controlled for, the estimated disadvantages for mothers with two and three or more children became slightly higher, while the penalty for mothers with one child dropped and became statistically insignificant.

To check the robustness of the fixed-effects model, a random-effects model was also estimated. This model suggests that the gaps were reduced to 1% (and statis-

Chart H About 70% of the motherhood earnings gap was accounted for by observable characteristics



Source: Statistics Canada, Survey of Labour and Income Dynamics, 1993 to 2004, author's calculation.

tical insignificance), 3% and 6%. Hence, for mothers with one child, the results based on random-effects and fixed-effects models were the same, while for mothers with two and three or more children, the former yielded results the same as under the cross-sectional model in which only observed individual characteristics were controlled for.

Overall, results based on longitudinal analysis are quite close to those based on cross-sectional analysis. They suggest that a significant portion of the observed earnings gap between women with children and those without can be explained by observable and unobserved individual characteristics. With longitudinal data, the earnings gap between women with one child and women without children was fully explained, and with either cross-sectional or longitudinal data, about 70% of the observed earnings gap was explained for mothers with two or more children. These results imply that employer practices are unlikely to play a major role in the motherhood earnings gap in Canada.

Earnings gaps for different groups of mothers under multivariate models

Having discussed the earnings gaps for different groups of mothers separately—by length of career interruption, marital status, education, full- or part-time employment, and delayed first childbirth—what remains is to control for various determinants of pay.

Regression results from cross-sectional and longitudinal analyses showed that the earnings gap between women with children who experienced a short career interruption (one year or less) and women without children was not statistically different from zero.¹⁵ Among mothers who interrupted their career for one to three years, a gap of 5% remained for those with three or more children. For those with one or two children, the gaps were not statistically significant. But for mothers who experienced more than three years of interruption, a significant gap of 6% to 8% persisted, regardless of the number of children.

When the effects of observable factors were controlled for, mothers who worked part time had no earnings disadvantage relative to their childless counterparts. On the other hand, although the gap for mothers with one child and working full time was not significantly different from zero, the gaps for mothers with two or more children who worked full time

persisted: for mothers with two children, the unexplained gap was about 3%; for mothers with three or more children, 6%.

The observed earnings gaps between married mothers with one or two children and their childless counterparts were fully explained by observable factors, while the gap between lone mothers and single women without children, and that between married mothers with three or more children and their childless counterparts, persisted. For married mothers with three or more children, the unexplained earnings gap was 4%, while for lone mothers with one child, it was about 3%, and for lone mothers with two or three or more children, the unexplained gaps were 6% and 9%, respectively.

Among less-educated women, the earnings gap between those with and those without children was fully explained by observable factors, regardless of the number of children. But for highly educated mothers, the gaps varied between 3% for those with one child and 6% for those with three or more children, and controlling for unobserved individual characteristics did not change the results in any significant way.

For mothers who had their first birth at age 30 or later, some of the observed earnings premium persisted in the multivariate model. But the estimated premiums for the delayers were not robust. When the same model was estimated under the fixed-effects specification, the premium for the delayers disappeared almost completely.¹⁶ Hence, while mothers who delayed childbirth might earn a certain premium, part of that premium is due to unobserved factors.

Summary

A sizeable earnings gap exists between Canadian women with and without children. On average, the earnings of women with children were 12% less than those of women without children, and this gap increased with the number of children: with one child, the gap was 9%; with two children, it was 12%; and with three or more children, 20%.

Pooled cross-sectional analyses show that about 70% of the observed earnings gap can be explained by age, education, experience, marital status, industry and occupation. Analyses taking advantage of the longitudinal nature of the SLID data suggest that, even though unobserved individual characteristics such as career motivation and innate ability may help explain the gap

between mothers with one child and women without children, they generally do not affect the gap in any significant way for mothers with two or more children.¹⁷

The analyses also show that different groups of mothers experienced different earnings disadvantages. In particular, lone mothers, mothers with long career interruptions, and mothers with more than a high school education incurred greater losses than married (or common-law) mothers, mothers with no or short career interruptions, and mothers with no more than a high school education, while the premium enjoyed by motherhood delayers was mostly due to unobserved characteristics.

Perspectives

■ Notes

- Measures that reduce the direct and indirect costs have a positive effect on the fertility of Canadian women, as suggested by Bélanger and Oikawa 1999.
- See Waldfogel 1998b for a survey of the international literature. A recent study regarding discrimination against women with children can be found in Correll et al. 2007.
- The effects of unobserved characteristics are inferred by the change in results between the cross-sectional and longitudinal models.
- Below age 20, fewer than 100 observations of women with children were available and hence their average earnings are not plotted in Chart A. Similarly, in Chart B, few women had three or more children before age 26, therefore their average earnings appear from age 27.
- The result was confirmed by a descriptive model in which the log hourly earnings were regressed on age, age squared, and three dummy variables representing one child, two children, and three or more children. The model was also tested by including variables on marital status, province of residence, year, immigration status, employer size, union status and family income.
- In Zhang 2008, the endogenous motherhood hypothesis was rejected.
- Potential experience is defined as age minus 5, minus years of schooling.
- In contrast with Chart A, here and later, individuals are grouped according to age in order to have a reasonable number of observations for each sub-group.
- See, for example, Loughran and Zissimopoulos 2007.
- Low-educated women are defined as those with a high school education or less. Those with more than a high school education (including some postsecondary education) are defined as highly educated.
- Increasing or decreasing this age by one to two years does not quantitatively change the observation.
- Immigration status, province and year dummies were also included. These variables did not affect the empirical results.
- Work interruption is measured as the difference between potential and actual years of experience where potential experience is defined as age minus 5, minus years of schooling. See Anderson et al. 2003 for a discussion on the equivalence between controlling for age, schooling and actual experience and controlling for the length of work interruption.
- There are two ways to estimate the fixed-effects model. One is to model the change of earnings over time. The other is to model the deviation from the average earnings for each person. Both approaches assume that the unmeasured factors are constant during the window of observation, and hence can be differentiated out. The two approaches produce identical results. The second approach was used.
- The earnings model for each group of mothers was estimated according to the length of career interruption (see footnote 13 for the calculation details). The reference group consists of women without children in each case.
- A few thresholds of delayed motherhood (ages 29, 31, 32, etc.) were tried, but the conclusions were essentially the same.
- In the sample used, 29% of mothers had one child, while 71% had two or more children.

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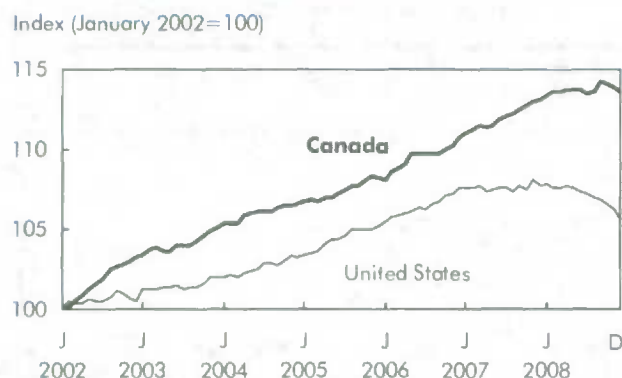
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The recent labour market in Canada and the United States

Vincent Ferrao

Canadians are well aware of the economic turmoil caused by the collapse of the housing market in the United States and the subsequent problems in financial markets. Not surprisingly, the labour market has been hit hard, with U.S. job losses numbering in the millions over the past year. Given the level of trade across our border, some impact was to be expected in Canada. Yet differences in the structure of the two economies will affect both the severity and the timing of the downturn. This article uses Canadian numbers adjusted to U.S. definitions to exam-

Chart A Employment growth in Canada surpassed the pace in the U.S. between 2002 and 2008



Note: Canadian data adjusted to United States definitions.

Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Canadian data, U.S. definitions

This article compares total employment and unemployment, employment and participation rates from the Labour Force Survey (LFS) in Canada and the Current Population Survey (CPS) in the United States. Both surveys follow similar questionnaire design and wording. The Canadian data have been adjusted to approximate definitions used by the CPS:

Adjustment for employment

- Remove 15-year-olds because they are not surveyed in the CPS.

Adjustments for unemployment

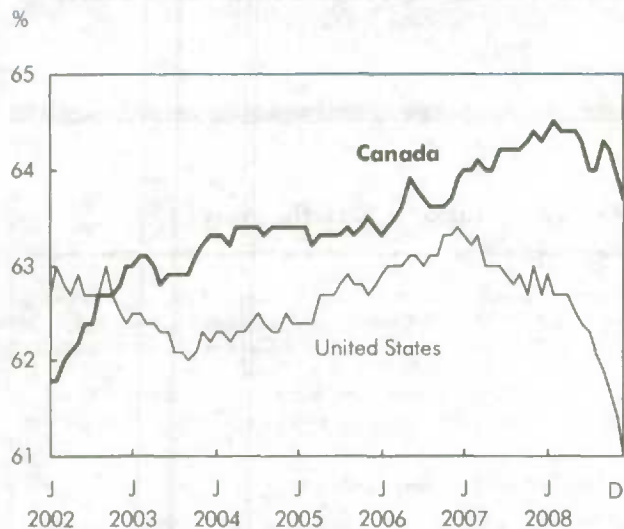
- Remove 15-year-olds.
- Remove people who looked for work only by using job ads. The U.S. does not include such 'passive job-searchers' among the unemployed.
- Remove people who did not look for work, but who had a job to start in the next four weeks. In Canada, these 'future starts' are counted as unemployed.
- Remove those unavailable to take a job because of personal or family responsibilities. In Canada, they are considered among the unemployed; in the U.S., no such exception is made.
- Add full-time students looking for full-time work. In Canada, they are not included among the unemployed; in the U.S., they are included.

In any given month, these adjustments normally shave almost one full percentage point from the Canadian unemployment rate.

The data for total employment, unemployment rate, employment rate and participation rate are monthly seasonally adjusted estimates.

For industry employment, 12-month overages are used to ensure robustness in the data, because the monthly CPS figures are not seasonally adjusted.

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Chart B Since 2003, Canada's employment rate has exceeded the U.S. rate

Note: Canadian data adjusted to United States definitions.
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

ine how labour markets in each country have responded to the recent economic events (see *Canadian data, U.S. definitions*).

A notable feature of the labour markets in Canada and the United States in 2008 was the contrasting trends for several key indicators. In Canada, employment continued to grow until the third quarter of the year, before declining sharply in the final quarter (Chart A). Still, Canada managed a slight increase of 75,000 (0.4%) for the entire year, down sharply from 355,000 in 2007 (2.1%). In contrast, employment in the United States experienced steep losses throughout 2008, for a total drop of 2,956,000 (-2.0%), after showing little change the previous year. Furthermore, the employment rate in Canada attained a record high of 64.5% in early 2008, but by year end it had settled at 63.7% (Chart B). In the United States, the rate displayed a steady and pronounced decline since the end of 2007, closing out 2008 at 61.0%, down nearly two full percentage points since December 2007.

Adjusted to U.S. definitions, the unemployment rate in Canada stood at 5.2% in December 2007 before touching a three-decade low of 5.1% at the start of

2008, but ended the year at 5.8% (Chart C). Most of this increase was the result of employment losses in the final quarter of 2008. In the United States, the rate increased by more than two full points since the end of 2007, rising from 4.9% to reach 7.2% in December 2008, its highest level since 1993. In fact, the pronounced employment losses in the United States pushed their unemployment rate in 2008 above the Canadian rate for the first time since the recession of the early 1980s. Moreover, proportionately more Canadians than Americans have been participating in the labour force since January 2002 (Chart D).

The age difference

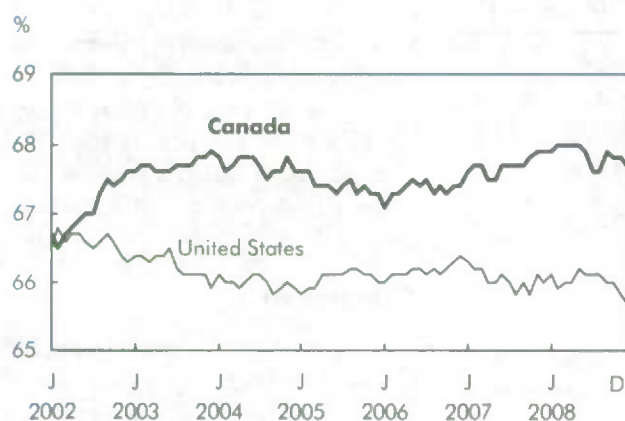
Employment losses in the United States in 2008 were especially pronounced among youth (age 16 to 24), down 985,000 (-5.0%), while in Canada the rate of decline was much less, with employment falling by 47,000 (-1.9%).

Another big difference was the situation for core-age workers (25 to 54). In Canada, this group managed to hold on to the employment increases in recent years

Chart C In 2008, the U.S. unemployment rate jumped above Canada's

Note: Canadian data adjusted to United States definitions.
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

Chart D Since 2003, Canada's participation rate maintained at least a one-point edge over the U.S. rate



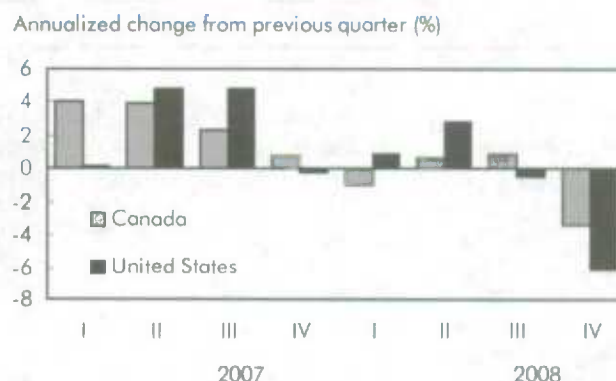
Note: Canadian data adjusted to United States definitions.
Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

and even managed to nudge up by 22,000 (0.2%) in 2008. This contrasts with the situation in the United States, where the number of core-age workers fell by 2.9% in 2008 (-2,868,000).

The number of older workers (age 55 and over) continued to grow in both countries in 2008, up 101,000 (3.9%) in Canada and 878,000 (3.3%) in the United States. While the population is aging in both countries, the increase in employment is much faster than the population increase for the age group, reflecting their increased participation in both labour markets.

The Canadian labour market was not as adversely affected in 2008 as the American labour market. The two economies experienced some marked differences in performance at different times of the year. In Canada, economic activity declined by an annualized rate of 0.9% in the first quarter, but subsequently rose by 0.6% in the second and by 0.9% in the third quarter (Chart E). In the fourth quarter, however, gross domestic product (GDP) contracted at an annualized rate of 3.4%. In the United States, on the other hand, eco-

Chart E Real GDP quarterly growth rates contracted steeply in both countries toward the end of 2008



Sources: Statistics Canada, Canadian Economic Accounts, chained 2002 dollars; U.S. Bureau of Economic Accounts, chained 2000 dollars.

nomic activity increased by 0.9% and 2.8% in the first and second quarters, but fell 0.5% in the third, and preliminary GDP estimates indicate that the U.S. economy contracted by 6.2% in the final quarter. In fact, toward the end of 2008 the National Bureau of Economic Research announced that peak economic activity in the United States had been reached in December 2007 and that the economy had subsequently fallen into recession at the start of 2008, just when employment began its steep decline.

Strength in western Canada, woes in U.S. housing and financial sectors

The labour market in Canada, especially in the western provinces, has experienced the effects of a natural resources boom for several years, with rising commodity, oil and natural gas prices. Labour shortages have been especially acute in the West, where pay rates have risen the fastest in the country. In the latter half of 2008, however, commodity prices, including world oil prices, began to tumble.

Table Change in employment, selected industries, 12-month averages

	United States			Canada		
	2007	2008	Change	2007	2008	Change
	'000		%	'000		%
Construction	11,860	10,970	-7.4	1,130	1,230	8.6
Financial activities	10,490	10,230	-2.5	1,060	1,070	1.3
Manufacturing	16,300	15,900	-2.4	2,040	1,970	-3.7
Wholesale and retail trade	20,940	20,590	-1.7	2,660	2,650	-0.1
Education and health care services	30,660	31,400	2.4	3,030	3,090	2.2
Public administration	6,750	6,760	0.3	860	930	7.1
Mining, oil and gas extraction	740	820	11.3	250	260	3.7

Sources: Statistics Canada, Labour Force Survey; U.S. Bureau of Labor Statistics, Current Population Survey.

The United States, amid the turmoil in its mortgage market and financial sector, experienced pronounced employment losses, first in construction and financial activities, then with declines spreading to several other sectors, including retail (Table). In fact, few industries in the United States added employment recently, the exceptions being education, health care services, and mining, oil and gas extraction.

A sour note in both countries was employment losses in manufacturing that began earlier in the decade. Canada and the United States, as well as other higher-cost countries, have been affected by global competition from countries with low production costs. Until recently, the soaring value of the Canadian dollar against its American counterpart posed an additional challenge to Canadian manufacturers. Employment losses have been pronounced in the manufacturing heartland of Quebec and Ontario.

In addition to manufacturing, the Canadian forestry sector has also trimmed its payrolls in recent years. This sector has had to endure several challenges, including trade disputes with the United States, an appreciating currency and the recent collapse of the U.S. house-building market (Chart F). These have been counterbalanced somewhat by strength in the domestic market, with construction activity in Canada soaring in recent years from the boost provided

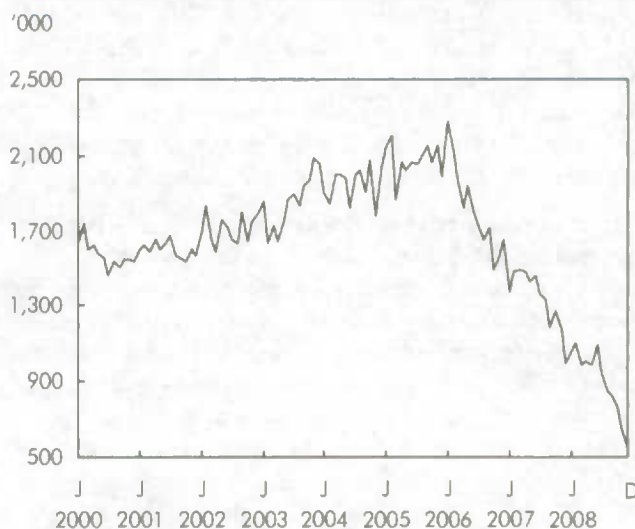
by low interest rates. However, residential construction in Canada began to drop off at the end of 2008 (Chart G).

Non-residential construction has been spurred by mega-projects such as the tar sands in Alberta and preparations for the 2010 Olympic Games in British Columbia. Population growth in Alberta has also been a major contributor to the employment increase in construction.

Conclusion

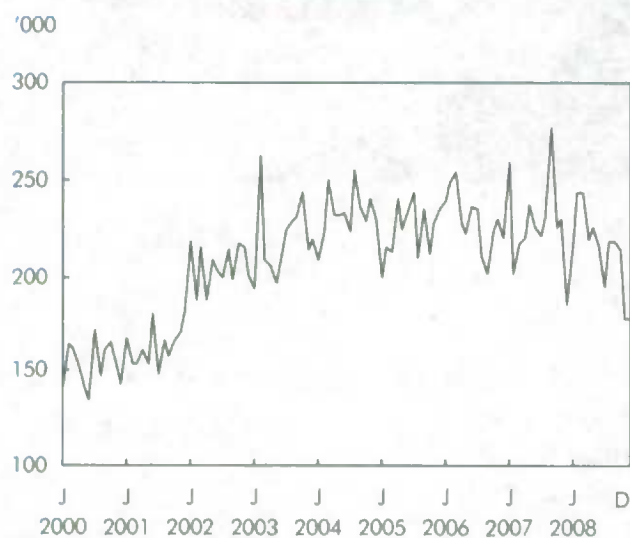
For most of 2008, employment in Canada continued to grow, albeit at a slower pace than the previous year. However, losses were evident in the final quarter of the year. In the United States, employment showed pronounced monthly declines throughout 2008. In fact,

Chart F U.S. housing starts dropped by two-thirds between 2006 and 2008



Source: U.S. Census Bureau, seasonally adjusted at annual rates.

Chart G In 2008, Canadian housing starts remained above their 2000 level, despite declines late in the year



Source: Canada Mortgage and Housing Corporation, housing starts, all areas, seasonally adjusted at annual rates.

other major labour market indicators such as the employment rate, the unemployment rate and the participation rate in Canada have all outperformed their American counterparts. In Canada, construction employment increased steadily in 2008, with the exception of a substantial decline at the end of the year, while finance did not experience the turmoil seen south of the border. Continued weakness was evident, however, in manufacturing employment.

Overall, in 2008 the Canadian labour market weathered the economic storm much better than the American one. All eyes are now on the 2009 labour market, on both sides of the border. Early signs at the start of 2009 were not very encouraging for either country as both experienced substantial employment losses, with the unemployment rate in Canada, adjusted to U.S. definitions, jumping to 6.7% in February 2009 from 5.8% in December 2008, while in the United States, it increased by 0.9 percentage points to 8.1%.

Perspectives

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The family work week

Katherine Marshall

The paid work week has recently shown a steady decrease in Canada and in most other Organisation for Economic Co-operation and Development (OECD) countries (Usalcas 2008). While a drop in the average time spent at the job may suggest more personal time at the individual level, disposable family time is contingent on the combined paid work schedules of family members. In fact, overall family work hours have increased because the number of contributors has increased. In 2008, dual-earners accounted for three-quarters of all couples with dependent children—up from just over one-third in 1976. Although individual paid hours are well documented, less is known about employment hours and earnings *within* families.

More families with two earners means less time available for unpaid work and leisure activities. One potential concern might be that parents are spending less time with their children. However, this may not necessarily be true since people make choices about how to spend their time. Indeed, research has shown that, at the expense of other activities, both mothers and fathers in dual-earner families have increased the time they spend on child care (Bianchi 2000 and Marshall 2006).

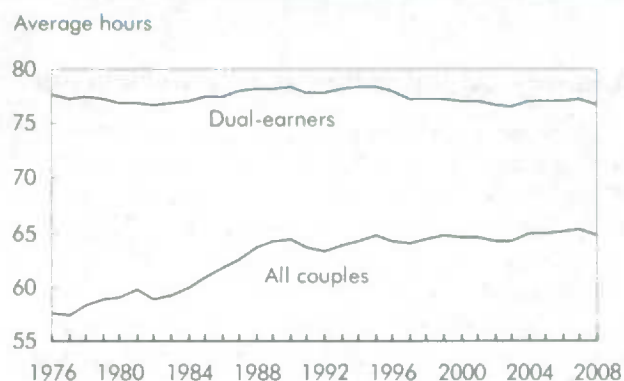
A second concern is the pressure and stress parents experience when attempting to manage work and family responsibilities. The issue of juggling paid and unpaid work has helped spur the creation of many workplace programs and policies such as dependent care initiatives, work-life stress management, workplace flexibility, and leave and benefits (HRSDC 2007). Understanding the labour market dynamics within families helps with the ongoing development of such practices.

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The third major area of interest is family role specialization. Research has shown that although couples are increasingly sharing economic and domestic responsibilities within families, a gender division of labour is still evident (Marshall 2006). Within many dual-earner couples, women continue to spend relatively more time on domestic work and men more time on economic work. The increase in dual-earners has slowed, so perhaps the evolution of breadwinning patterns within couples has as well.

Using the Labour Force Survey (LFS), this study examines trends in the total hours worked by employed couples (those with at least one spouse employed), the distribution of single- and dual-earning families, and the proportion of hours and earnings contributed by dual-earner spouses¹ over the past decade. Finally, the General Social Survey is used to investigate work-hour preferences and perceptions of work-life balance (WLB) and personal stress among dual-earners (see *Data sources and definitions*).

Chart A Increase in family work hours due to more dual-earners, but dual-earners' hours stable



Source: Statistics Canada, Labour Force Survey.

Data sources and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that collects information on labour market activity over a one-week period from all persons 15 years and over, including questions about the usual and actual weekly hours at a main, and any other, job. This paper examines usual hours worked, which better reflects the regular or average week-to-week work schedules of families.

The **General Social Survey (GSS)** is an annual household survey that collects information on a wide range of social trends and policy issues. Data are collected monthly from one household member age 15 and over. Two of the cycles on time use, 1998 and 2005, collected information on both 'time crunch' (see definition below) and work-hour preference among those employed full time.

The target population includes all married and common-law couples with at least one spouse employed at the time of the survey. **Single-earner** couples are those with one spouse employed and the other either unemployed or not in the labour force. **Dual-earner** couples are those with both spouses employed during the survey reference week. Dual-earners can also be defined as both husband and wife reporting some employment income during the past year. A dual-earner rate based on current labour market participation will be lower than one calculated using the incidence of annual employment income. The LFS collects labour market activity information at the individual level. For this study, total individual weighted counts have been divided in half to reflect a count for couples. For example, in 2008, the 12,188,000 husbands and wives from the same households equates to 6,094,000 couples.

Actual hours worked during the reference week includes any paid or unpaid overtime. This measure reflects temporary increases and decreases in weekly work hours due to illness, vacation, overtime and irregular work schedules.

Usual hours worked excludes overtime. For the self-employed, it refers to the number of hours usually worked at the business in a typical week, regardless of whether they were paid. The definition of usual hours has remained unchanged for the self-employed since 1976. However, prior to 1997 employees were to include overtime hours in their

estimate if they were typical to their schedule. Although the change is likely to result in a slight downward shift in the estimates of usual hours, this is not deemed problematic for this study since the main focus is the changing dynamics within families. In other words, any downward shift in estimates would equally affect husband and wife hours.

Secondary, equal and primary breadwinner categories are based on the contribution made by each spouse to the couple's overall time spent in paid work per week and their hourly and weekly earnings. Partners are defined as having the same or equal hours or earnings if they contribute between 45% and 55% of the total, secondary if less than 45%, and primary if greater than 55%. Several studies have used the 10% range to represent 'equal,' while others have used a wider range of 20% (Warren 2004).

Collection of **earnings** information began in 1997 from all employees for their main job. Respondents are asked to report their hourly rate of pay or their regular salary (weekly, bi-weekly, etc.) before taxes and other deductions, and including tips, commissions or bonuses. **Hourly and weekly earnings** are calculated in conjunction with usual paid work hours per week.

Time crunch stress is determined by the number of positive responses to 10 statements:

- I plan to slow down in the coming year;
- I consider myself a workaholic;
- When I need more time, I tend to cut back on my sleep;
- At the end of the day, I often feel that I have not accomplished what I had set out to do;
- I worry that I don't spend enough time with my family or friends;
- I feel that I am constantly under stress trying to accomplish more than I can handle;
- I feel trapped in a daily routine;
- I feel that I just don't have time for fun any more;
- I often feel under stress when I don't have enough time; and
- I would like to spend more time alone.

Seven or more *yes* responses is considered severely time crunched (Frederick 1993).

One day added to the family work week

Total weekly employment hours of couples increased from an average of 57.6 in 1976 to 64.8 in 2008 (Chart A)—a 13% increase and the equivalent of just under one full day of paid work per week (7.2 hours). However, this trend masks a change in the type of earning family (single versus dual), even though the average hours for each type have not changed. In other words, more families have two concurrent earners,² but the time that two-earner families spend on employment has remained remarkably stable. In 1976, the combined hours of dual-earner husbands and

wives averaged 77.6, whereas in 2008 the figure was 76.7. The slightly higher rate in 1976 may be due to the inclusion of usual overtime hours among employees prior to 1997 (see *Data sources and definitions*). As with total family hours, 2008 was the first time in five years that dual-earner hours changed significantly, down by 0.5 from 2007, likely reflecting the global economic downturn.

The proportion of couples with both spouses employed rose steadily from 4 in 10 in the mid-1970s to around 7 in 10 in the late 1990s, when it began to level off (68% in 2008). The slower growth rate of

dual-earners in the last 10 years is reflected in the flattening of total family hours. While single-earner families have declined, the role of earner within these families has changed. Between 1976 and 2008, the proportion of families with a single-earner husband dropped from 53% to 21%, while those with a single-earner wife increased from 4% to 10%. These trends are further accentuated among families with dependent children at home. For example, the proportion of dual-earner families with preschool children at home (under age 6) rose from 31% to 67% over the past 30 years, while the rate among those with older children (youngest between 6 and 15) climbed from 45% to 77% (Chart B). The remainder of this paper focuses on the employment dynamics within dual-earner families from 1997 (when the Labour Force Survey began collection of earnings data) to 2008. Since 1997, usual hours have included only hours worked for regular pay.

Work week becoming more standard

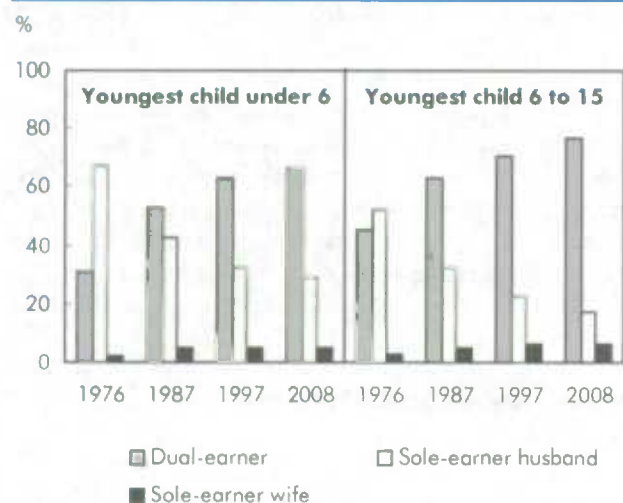
Although the combined average work hours of dual-earner couples have remained around 77 since 1997, the distribution around this average has changed in recent years. In 2008, 59% of dual-earner couples worked between 65 and 80 combined hours per week—up from 54% in 1997 (Table 1). The growth

in 'standard' hours is due mainly to small decreases in the proportions of families working short and long hours. Furthermore, even though roughly one in four dual-earner families worked more than 80 hours per week in all years considered, the average for these long-work week couples dropped from 99 hours in 1997 to 96 in 2008. Studies show that couples working more than 100 combined hours per week are particularly pressed for time and are more likely to report increased levels of personal stress (Jacobs and Gerson 2001, and Larochelle-Côté and Dionne, forthcoming).

However, the real story behind the standardization of hours for dual-earner couples is the change in the overall contribution by each spouse. Although the length of the family work week has stayed the same, the average hours of wives have steadily increased while husbands' hours have been decreasing (Chart C). The distribution of individual spousal hours has moved towards a standard work week, particularly for wives. With wives working longer hours, the proportion of dual-earners who both work full time increased from 70% to 74% between 1997 and 2008.

In 2005, the majority of full-time dual-earners reported their current hours as the preferred arrangement, but 13% of husbands and 16% of wives preferred to work fewer hours for less pay. Also, women in dual-earner couples report higher levels of 'time crunch' and dissatisfaction with work-life balance than men—particularly with preschool children present (see *Perceptions and preferences of dual-earners*).

Chart B Today the vast majority of couples with children are dual-earners



Source: Statistics Canada, Labour Force Survey.

Table 1 Family and spousal hours in dual-earner couples

	Average	Under 65	65 to 80	Over 80
Family hours	hours		%	
1997	77.2	19	54	26
2008	76.7	17	59	24
	Average	Under 30	30 to 40	Over 40
Wives	hours		%	
1997	33.8	26	63	11
2008	34.7	21	68	10
Husbands				
1997	43.3	4	64	32
2008	42.0	5	68	27

Note: All differences between 1997 and 2008 are statistically significant at the 0.05 level.

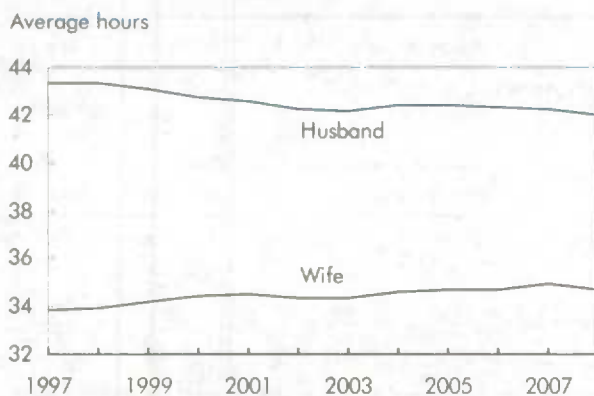
Source: Statistics Canada, Labour Force Survey.

Hours converge within couples with children

The convergence of paid work hours within dual-earner couples has led to an increase in wives' contribution to total family employment hours, up from 43.8% in 1997 to 45.3% in 2008 (Table 2). In other words, the net difference in weekly work hours has dropped from an average of 9 to 7, and, viewed annually, this represents an increase of more than one week of full-time work for women and a drop of two weeks for men. Other research has shown a similar convergence in both paid and unpaid work hours within dual-earner couples.³ These trends suggest that the dual-earner model may be further evolving into what has been termed "marriages of equally dependent spouses" (Nock 2001).

Many factors can influence the convergence of paid work hours for spouses, including change in the industrial and occupational structure, educational attainment and labour market opportunities, and individual and family preference and choice. Recent research has shown that long hours have been declining because of an employment increase in the service sector, a decline in self-employment and self-employment hours, and a shift toward standard hours among those with higher educational attainment (Usalcas 2008). These trends are more likely to affect men's average hours since they have traditionally been more likely to work long hours.

Chart C Steady narrowing of dual-earner hours since the late 1990s



Source: Statistics Canada, Labour Force Survey.

Indeed, spousal hours in self-employed couples are much more similar now than in the past. For example, dual-self-employed couples averaged the longest work week in 1997 (88 combined hours) and in 2008 (84 hours)—but while wives' average hours were similar in both years, husbands' hours dropped from 53 to 48.

Although higher educational attainment may have a dampening effect on long hours, it has also opened up labour market opportunities and enhanced women's labour market attachment. The proportion of women age 25 and over with a university degree in Canada rose from 14% in 1997 to 22% in 2008 (for men, from 18% to 23%). Furthermore, younger women now have higher levels of educational attainment than men—in 2008, 32% of women 25 to 44 had a university degree compared with 26% of men—and consequently dual-earner couples with a university-educated wife have increased substantially. Wives' higher educational investment increases their chances of strong labour market attachment since a university education is associated with higher labour force participation rates, higher-quality job opportunities and higher earnings. In both 1997 and 2008, wives' hours were, on average, longer, and family hours more similar when the wife had a university education.

Another noteworthy change in spousal hours is seen when dependent children are at home. Average paid work hours have converged considerably among those with children under 6 at home, with wives' hours increasing from 32 to 34 since 1997, and husbands' hours decreasing from 44 to 42. Not only are hours now higher for mothers with young children, but their labour force participation has also increased, from 37% in 1976 to 72% in 1997 and to 74% in 2008—further indication that parenthood does not alter women's employment patterns to the same extent as in the past. As well, men's increasing involvement in family responsibilities, such as more time spent on housework and child care, and taking parental leave may be part of the reason for their decreasing paid work hours. As the family earnings model has evolved over time, so too have the role expectations of spouses (Beaujot 2006).

Wives now contribute more to family earnings

In 2008, dual-earners with paid jobs (70% of all couples) earned an average of \$1,770 per week before taxes—a real increase of about 10% since 1997

Table 2 Average hours worked by spouses in dual-earner couples

	1997				2008			
	'000	Husband	Wife	Wife's portion	'000	Husband	Wife	Wife's portion*
		hours	hours	%		hours	hours	%
Dual-earner couples	3,437	43	34	43.8	4,173	42	35	45.3
University degree								
Both	426	42	34	44.8	703	41	35	46.2
Wife only	259	43	35	45.2	496	42	36	46.0
Husband only	318	42	33	43.4	386	41	33	44.8
Neither	2,434	44	34	43.6	2,589	42	35	45.0
Children at home								
Youngest under 6	796	44	32	42.3	851	42	34	44.3
Youngest 6 to 15	949	44	33	43.0	1,041	43	34	44.6
None under 16	1,692	43	35	45.0	2,282	42	35	45.9
Wife's age								
Less than 35	1,122	43	34	44.2	1,114	42	35	45.8
35 to 49	1,775	44	34	43.8	1,984	43	35	45.1
50 or older	540	43	33	43.1	1,075	41	34	45.0
Class of work								
Both with paid jobs	2,321	41	34	45.4	2,915	40	35	46.4
Wife paid, husband self-employed	563	49	33	40.4	668	46	34	42.2
Wife self-employed, husband paid	248	43	34	44.2	288	41	34	45.5
Both self-employed	304	53	35	39.7	302	48	36	42.3

* All increases from 1997 are statistically significant at the 0.05 level or less.

Source: Statistics Canada, Labour Force Survey.

(Table 3). Almost the entire earnings increase was due to higher hourly earnings (up 9.2%) rather than an increase in hours worked (0.8%).⁴ The well-documented male–female earnings gap is evident in the average hourly rates of dual-earner spouses, with wives earning 81% as much as husbands in 2008 (\$21.10 vs. \$26.20) (Drolet, forthcoming). However, the difference has narrowed since 1997, when wives earned 77% of what their husbands earned. Since both hours and earning power have increased for wives, their overall contribution to family weekly earnings increased to \$740 in 2008, representing over 41% of the total (Chart D). Although the change in wives' contribution to family hours and earnings has been relatively small since 1997, the trend showed steady and often significant annual increases over the past decade.

Spousal hours more equal than earnings

Primary breadwinning is often defined as one partner bringing in most of the family's income, but it can also be based on the contribution of time in the labour

Table 3 Average hours and before-tax earnings of dual-earner couples with paid jobs

	Total	Husband	Wife
		hours	
Weekly hours			
1997	74.7	40.8	33.9
2008	75.3	40.4	34.9
Change (%)	0.8	-1.0	2.9
Hourly earnings		2008 \$	
1997	21.60	24.40	18.80
2008	23.60	26.20	21.10
Change (%)	9.2	7.5	12.2
Weekly earnings		2008 \$	
1997	1,610	970	640
2008	1,770	1,040	740
Change (%)	10.1	6.7	15.4

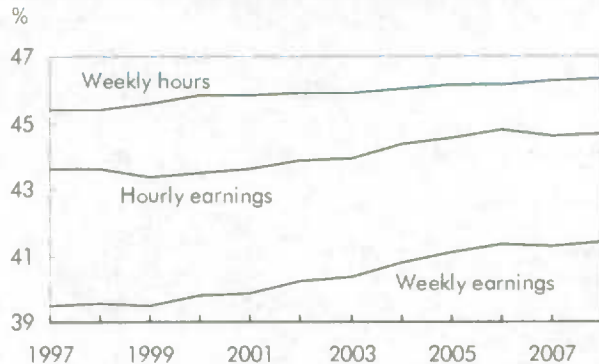
Note: All differences between 1997 and 2008 are statistically significant at the 0.05 level.

Source: Statistics Canada, Labour Force Survey.

market. Time is an important factor in the notion of role specialization, and focusing on only the financial aspect of breadwinning “could be disguising interesting time dimensions to gendered breadwinning work roles” (Warren 2004). Using a common categorization of primary, equal and secondary breadwinning, 65% of wives were considered equal workers in terms of weekly paid hours in 2008, up from 60% in 1997 (Table 6). In other words, almost two-thirds of couples had weekly work hours within 10% of each other, which means each spouse contributed between 45% and 55% of the total weekly hours. For example, if a couple had a combined work week of 80 hours, the contribution by the wife would have been within the range of 36 to 44 hours.

Due to both their lower hourly earnings and their relatively shorter work weeks, most wives contributed less than 45% of total family earnings, making the majority

Chart D Dual-earner wives’ contribution to family hours and earnings increasing



Note: Both spouses have paid jobs.
Source: Statistics Canada, Labour Force Survey.

Perceptions and preferences of dual-earners

Time becomes a more precious commodity when there is less of it, and, arguably, families with two full-time jobs and preschool children at home have relatively high demands on their time. Not only is the level of care more intense with young children, but parents can also be “affected by the tension generated by day-care difficulties” (Barrette 2009). Indeed, 24% of men and 38% of women in such families report severe time-crunch stress (Table 4). Someone feels severe time stress if they have responded *yes* to at least 7 out of 10 statements including: “At the end of the day, I often feel that I have not accomplished what I had set out to do” or “I feel that I just don’t have time for fun any more” (see *Data sources and definitions* for more details). Age and stage of life play a role as both men and women without dependent children at home report significantly lower rates of time stress.

As found elsewhere, regardless of the presence and/or age of children at home, employed women tend to report higher rates of time stress than employed men. Some possible explanations for the difference include time availability, social norms on what represents a successful parent, and the quality of personal leisure time (Marshall 2006, and Nomaguchi et al. 2005). The 2005 time stress rates are very similar to those found among dual-earner parents in both 1992 and 1998. Although the degree of time stress may not be rising among dual-earners, the number of people affected is likely higher because of the increase in the number of dual-earner families.

Not surprisingly, as the level of time stress increases, the degree of satisfaction with work-life balance decreases. For example, over 90% of both dual-earner men and women with

low time stress express being satisfied with their work-life balance, whereas only half of those with high time stress report such satisfaction (Chart E). Excessive time stress is related to a diminished sense of well-being for mothers and fathers (Nomaguchi et al. 2005). Furthermore, long-term exposure to work-family conflict can also lead to negative physical health (e.g. hypertension, cardiovascular disorders, migraines) and psychological health (e.g. depression, anxiety, irritability) consequences (Frone 2000 and Barrette 2009).

Asked about preferred hours of work, an equal proportion (60%) of full-time, dual-earner men and women opted for the same hours and same pay (Table 5). Just over 1 in 10 would prefer more hours for more pay, while 13% of men and 16% of women would prefer fewer hours for less pay. While no differences were seen in reported work-hour preferences among dual-earner men and women without children, the desire for fewer hours increased to 20% for women with dependent children at home, and, conversely, the desire for more hours increased for men with preschool children (19%). Even among those reporting high levels of time stress or dissatisfaction with their work-life balance, only about 1 in 4 men and women reported a preference to reduce their work hours, and 1 in 10 would prefer to work even more hours, while half are content to keep their current hours. The reality may be that even though people may feel too busy, they may also feel that they cannot financially afford a reduction in their paid work hours.

Perceptions and preferences of dual-earners (concluded)

Table 4 Time stress among dual-earner couples employed full time

	Time-crunch score ¹		
	0 to 3 ²	4 to 6	7 to 10 ²
Total			%
Men	46	35	19
Women	33	36	30
Youngest child under 6			
Men	39*	36	24*
Women	22*	41	38*
Youngest child 6 to 15			
Men	39*	42	19
Women	27*	40	34*
No children under 16			
Men	50	32	18
Women	39	34	27

* Significant difference from those with no children under 16.

1. See *Data sources and definitions* for details.

2. All differences between men and women are statistically significant at the 0.05 level.

Source: Statistics Canada, General Social Survey, 2005.

Chart E Among dual-earners employed full time, satisfaction with work-life balance decreases as time stress increases

Note: See *Data sources and definitions* for details on time stress.
Source: Statistics Canada, General Social Survey, 2005.

Table 5 Work-hour preferences among dual-earner couples employed full time

	Fewer hours, less pay	More hours, more pay	No change
Dual-earner couples			%
Men	13*	14	60
Women	16	12	60
Children at home			
Youngest under 6			
Men	12*	19*	59
Women	20	11	57
Youngest 6 to 15			
Men	13*	11	63
Women	19	10	61
None under 16			
Men	13	14	60
Women	14	14	61
Time stress			
High (score 7 to 10)			
Men	22	14	53
Women	23	13	51
Low (score 0 to 3)			
Men	10	11	66
Women	11	12	67
Work-life balance			
Dissatisfied			
Men	26	13	46
Women	30	10	47
Satisfied			
Men	9	15	64
Women	11	13	66

* Significant difference between men and women at the 0.05 level.

Note: "None of the above" category not shown.

Source: Statistics Canada, General Social Survey, 2005.

of them the secondary earner in both years. However, between 1997 and 2008 the proportion of wives as equal or primary earners increased from 37% to 42%. The gradual convergence of hours and hourly earnings of husbands and wives in dual-earner couples

suggests that the economic roles within families are continuing to change and that "equal breadwinning is on the rise" (Raley et al. 2006). Changing breadwinning roles—such as when a wife becomes the primary breadwinner, or when one spouse contributes equally

Table 6 Dual-earner wives' contributions to paid hours and earnings

	Secondary ¹	Equal ²	Primary ³
		%	
1997			
Weekly hours	35	60	5
Hourly earnings	53	33	14
Weekly earnings	63	26	11
2008			
Weekly hours	30	65	5
Hourly earnings	49	33 ⁴	18
Weekly earnings	57	27	15

1. Less than 45% of family total.

2. 45% to 55% of family total.

3. More than 55% of family total.

4. Only category not statistically significant from 1997 at the 0.05 level.

Note: Both spouses with paid jobs.

Source: Statistics Canada, Labour Force Survey.

or more in terms of hours but remains the secondary earner—can lead to social and psychological changes within families. The “implications of new earning arrangements for couples’ marital happiness and well-being” are worth further investigation (Raley et al. 2006).

Conclusion

The combined paid work hours of couples increased from an average of 58 per week in 1976 to 65 in 2008. However, this statistic hides two underlying trends—changes in the type of earning family and the earning dynamics between spouses. The number of dual-earner couples rose from 1.9 million (43% of couples) to 4.2 million (68% of couples). However, the average combined hours of dual-earner couples remained constant at around 77 per week.

The increasing number of full-time, dual-earner families continues to make work–life balance an important issue. Fewer families have a parent at home, either full-time or part-time, to help manage the household, to provide child care, and, increasingly, to provide elder care. Fewer one-earner families suggests that “a decline in support at home rather than an increase in the working time of individuals underlies the growing sense that families are squeezed for time and that work and family life are in conflict” (Jacobs and Gerson 2001). Around one in four men in dual-earner families with young children at home, and more than one in three women, reported feeling severely time stressed—

a state associated with significantly lower rates of WLB satisfaction. Not surprisingly, women also expressed more dissatisfaction with work–life balance than did their male counterparts. Interestingly, the majority of both men and women who expressed severe time stress and WLB dissatisfaction reported a preference for their current work hours or for even more hours, suggesting perhaps that in some cases family economic security is seen as more important than personal welfare. There is increasing documentation on the need for a more family-supportive workplace, including guides to help employers, managers and policy makers make such accommodations (see, for example, Barrette 2009 and Lero et al. 2009).

Earning patterns within dual-earner families have also changed. The average weekly hours of husbands and wives have converged from a difference of more than 9 in 1997 (43.3 and 33.8 respectively) to just over 7 in 2008 (42.0 and 34.7), placing two-thirds of couples in an equal work-hours category (their hours being within 10% of each other’s). However, the combination of relatively shorter hours and lower hourly earnings placed more than half of wives (57%) as secondary earners in 2008 since they contributed less than 45% of total family earnings. On average, couples earned \$1,770 per week before taxes—\$1,040 by husbands and \$740 by wives.

Women’s increasing educational attainment and earning power offers them further opportunity to contribute equally or more to family revenue, but counter-influencing factors include the male–female earnings gap, social expectations about the primary breadwinner role, and personal and family choices about paid and unpaid work arrangements (Raley et al. 2006). However, younger women and men tend to have more neutral views on family roles since most have grown up in dual-earner households. As these younger cohorts continue to enter the labour force, even further changes in employment and earnings patterns within families may emerge.

Perspectives

Notes

1. For case of description, the men and women in all couples, married and common-law, are referred to as husbands and wives.
2. Dual-earners can also be defined as both spouses having been employed at some time during the past year. See *Data sources and definitions* for more details.

3. The convergence in time spent on housework results from wives doing fewer hours per week (down from 17 to 15 between 1992 and 2005) and husbands doing more (up from 9 to 10) (Marshall 2006). Time use data from the General Social Survey show paid work hours of dual-earners to be increasing, while the LFS shows the hours as stable. Some of the variation may be due to different collection methods and definitions between the two surveys.
4. Even though single-earner wife-employed families saw the largest relative growth in weekly earnings (13%), the average amount in 2008 (\$670) was still substantially less than for families with only the husband employed (\$1,025) or dual-earner families. The total average weekly earnings of all couples with paid jobs (\$1,590) in 2008 hides the fact that one in five families have only one source of employment income and that their earnings are about half of this average.

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Employment among the disabled

Diane Galarneau and Marian Radulescu

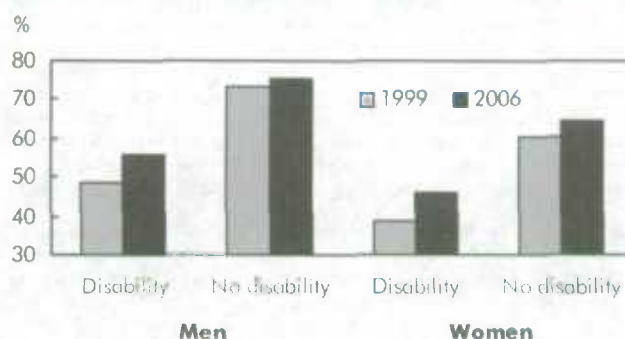
When considering persons with a disability, the assumption often is that they are affected by their disability throughout their life. And yet, among those reporting a disability at some point between 1999 and 2004, only 13% were affected all six years. Thus, a sizeable proportion appear to have a temporary limitation. Disability may also be experienced in phases or episodes, with movement in and out of states of disability of varying severity over time. These phases or episodes likely have major effects on the ability of such persons to participate continuously in the labour market and their ability to meet their needs and those of their family.

Persons with disabilities face different barriers to participation in the labour force, even though maintaining an attachment is often crucial for them. Doing so enables them to meet everyday needs and build self-esteem, and gives a sense of belonging to the community. These days, with an aging population and a possible labour shortage, society can ill afford to forgo any contributions. Furthermore, the *Canadian Charter of Rights and Freedoms* and the *Canadian Human Rights Act* protect and ensure access to the labour market for persons with activity limitations by guaranteeing equality and by prohibiting discrimination based on physical or mental disability (Human Resources and Social Development Canada 2006).

Most surveys that deal with disability provide little information on the dynamics of affected persons' participation in the labour market. The Survey of Labour and Income Dynamics (SLID) fills this gap with its longitudinal component and, since 1999, the question on disability addressing functional and societal limitations, in line with surveys that usually deal with this phenomenon (see *Data source and definitions*).

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Chart A Persons with disabilities appear to have benefited from recent employment growth



Note: The employment rate increase from 1999 to 2006 was significant at 0.05 threshold or better for persons with and without a disability.

Source: Statistics Canada, Survey of Labour and Income Dynamics.

This article compares the labour market participation of people with and without a disability using SLID. With its six-year observation period, SLID provides the years people report limitations and how their participation in the labour force is affected as the number increases. It is also possible to examine labour force participation during the years of disability as well as during the years without disability. Because persons with a disability are more likely to have low employment income (Chung 2004), their earnings and social benefits are also examined.

Participating less in the labour market because of disability

In 2006, persons age 20 to 64 with a disability were on average older and less educated, and more likely to have fair or poor health and live alone. Women with a

Data source and definitions

This study is based on longitudinal and cross-sectional data from the **Survey of Labour and Income Dynamics (SLID)**. The longitudinal component used the panel covering the years 1999 to 2004, because it was the first panel to include the new question on disability, and it focused on core working-age persons from 20 to 59 in 1999 or from 25 to 64 in 2004. The cross-sectional part focused on persons age 20 to 64 in 2006.

In the Participation and Activity Limitation Survey (PALS)—as in most Statistics Canada surveys on the subject, including the census, the Canadian Community Health Survey (CCHS) and SLID since 1999—the definition of disability uses the bio-psychosocial framework from the World Health Organization (WHO) in which disability is defined in a broad sense and covers all limitations. Disability is “the result of complex interactions between a health problem or functional limitation and the social, political, cultural, economic, and physical environment. These, in combination with personal factors such as age, gender, and level of education, can result in a disadvantage—that is, a disability. Disability is [therefore] not defined merely as being the direct result of a health problem or any physical or mental limitation” (Human Resources and Social Development Canada 2006).

Starting with the 1999 reference year, SLID uses the filter questions on disability from the 2001 and 2006 Censuses to identify people with a disability. These questions ask about any difficulty in hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing similar activities, or a physical condition, mental condition or health problem that reduces the amount or kind of activity that the person can do at home, in leisure activities, at work, or at school. In this article, the disability rate includes all these reasons. Although ‘persons with a disability,’ ‘persons with an activity limitation’ and ‘handicapped persons’ may reflect different realities, the three are used interchangeably in the text.

A major limitation of SLID is the lack of information on the type, duration and severity of a disability. Sizeable differences are observed in the participation rates of persons with one or more disabilities, depending on the type of disability and its severity (Williams 2006 and Statistics Canada 2007) (Table 1).

Thus, for some of the 1.5 million persons with a single year of disability between 1999 and 2004, this might be the result of a minor accident that disabled them for a few weeks, with no lasting consequence other than an unpleasant memory. Alternatively, it might be one episode in a recurring sequence that affects them to varying degrees, depending on the year.

The severity of a disability has more impact on labour market participation than does the type of disability (Hum and Simpson 1996). Despite the lack of information about severity, the number of years of observed disability provides certain indications. As the disability period lengthens, the profile of the affected persons shifts farther from those with no disabilities and their participation in the labour market tends to be lower. Thus, duration seems to *partially* reflect the degree of disability. This is a partial measure of severity since people can have a permanent disability and be only

slightly affected in their labour market participation. Disability duration, as measured from its onset, was also explored as a possible proxy for severity. However, this variable has a relatively high number of missing values—approximately one-fifth—in an already relatively small sample and it behaves similarly to the observed duration. The advantage of observed duration is that it permits the inclusion of the entire sample. Health status can also capture the degree of disability. However, when it is added to the regressions, it removes the explanatory power of the disability variables because health status tends to deteriorate with increasing years of disability. Hence, the number of years of observed disability was used.

The episodic nature of disability has attracted increasing attention because of its many possible effects on labour market participation and earnings (Cranswick 1999, and Holland, Whitehead, Clayton and Drever 2008). Capturing this dimension by distinguishing continuous periods of disability during the six-year period from non-continuous periods was therefore also tried. However this distinction is possible only for periods of disability lasting two to five years given that six-year periods are by definition continuous, and one-year periods are non-continuous. Yet, this distinction was incomplete because SLID does not capture entries and exits within any single year. In addition, very little difference was observed in participation rate, hours worked, low-income rate or health status whether the periods were continuous or not. Thus the continuous/non-continuous nature of the disability period was not used.

Table 1 Activity rate by severity and type of disability

	Disability			
	Total	Mild	Mod- erate	Severe or very severe
	%			
Type of disability	56.2	70.1	59.6	41.8
Agility	49.5	63.3	58.8	40.4
Learning	46.0	64.2	55.9	38.8
Other	73.9	74.4	68.2 ^E	0.0
Communication	34.9	55.2	47.0	31.4
Developmental disability	30.9	37.9 ^E	35.6 ^E	28.9
Pain	55.7	71.9	62.0	43.6
Memory	37.6	57.8 ^E	64.4	33.1
Mobility	49.3	62.8	57.5	40.6
Hearing	57.5	74.6	71.3	38.8
Emotional or psychological problems	42.9	60.7	58.6	36.8
Vision	47.6	66.5	59.7	39.8

Source: Statistics Canada, Participation and Activity Limitation Survey, 2006.

disability were also slightly more likely than other women to be their household's main income recipient (Table 2).

Persons with a disability also have a weaker attachment to the labour force, since they are, of course, not all able to work. According to the 2006 Participation and Activity Limitation Survey, 42% of persons between 15 and 64 years of age reporting a disability were unable to work. Despite that weaker attachment, they appeared to benefit from the employment growth of recent years (Chart A). From 1999 to 2006, the proportion of men with a disability employed throughout the year grew more (from 48% to 56%) than the proportion of men without a disability (73% to 75%). For women with a disability, the increase (39% to 46%) was slightly more than for women not reporting a disability (61% to 65%).¹

Men with a disability worked fewer annual hours in 2006 than those who reported no disability (Table 3). The difference was equivalent to 15 weeks of work (in full-time equivalents, and including those who did not work). The smaller number of hours might be attributable to personal characteristics, often associated with a weaker attachment to the labour force, such as more advanced age, lower education level and often having fair or poor health. After controlling for personal characteristics (see *Methodology*), the difference in hours remained substantial—equivalent to 13 weeks full time. For women, the difference was 12 weeks before controls and 11 weeks after. Hence, much of the weaker attachment of these persons to the labour force can be attributed to activity limitation.

Table 2 Characteristics of persons having declared one or several activity limitations

	Men		Women	
	No disability	Disability	No disability	Disability
Total	6,346	1,880	6,334	2,127
			'000	
			%	
Age				
20 to 24 years	11	6*	11	5*
25 to 34 years	24	14*	24	12*
35 to 44 years	26	20*	26	21*
45 to 54 years	24	30*	24	31*
55 to 64 years	15	30*	16	30*
Family type				
Single	18	25*	12	20*
Married, no children	21	25*	24	25
Married, with children	49	37*	49	34*
Single parent	2	1	6	8*
Other	10	12*	9	14*
Education				
No high school diploma	12	21*	10	19*
High school diploma	13	14	15	17
Postsecondary education	49	46	49	45
University degree	23	14*	23	14*
Urban region	82	77*	81	81
Rural region	18	23*	19	19
Atlantic provinces	7	9*	8	8
Quebec	26	22*	26	22*
Ontario	37	41*	37	44*
Manitoba	3	4	3	3
Saskatchewan	3	3	3	3
Alberta	11	9	11	8*
British Columbia	13	12	13	12
Recent immigrant	10	7*	12	8*
Not a recent immigrant	90	93*	89	92*
Aboriginal	3	5*	4	6*
Non-Aboriginal	97	95*	96	94*
Visible minority	85	88*	84	87*
Not a visible minority	15	12*	16	13*
Good to excellent health	97	65*	97	60*
Fair or bad health	3	35*	3	40*
Major income recipient	58	57*	32	39*
Not the major income recipient	42	43*	68	61*

* Significant difference for persons with no disability at 0.05 threshold or better
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2006.

Table 3 Annual average hours gap between persons with and without a disability

	Men		Women	
	Gross hours	Adjusted hours ¹	Gross hours	Adjusted hours ¹
No disability	1,808.7	1,284.1	1,206.1	993.3
Disability	1,203.3*	750.2*	733.7*	556.1*
Gap in annual hours	-605.4	-533.9	-472.4	-437.2
Gap in weekly full-time equivalent	-14.8	-13.1	-11.6	-10.7

* Significant difference for persons with no disability at 0.05 threshold or better

1. Adjusted gap calculated using a Tobit model on 2006 annual hours.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2006.

The prolongation of the disability period accentuates profile differences

Among individuals between 20 and 59 years of age in 1999, 41% reported having a disability at some point between 1999 and 2004. In fact, 15% of the total reported a disability during a single year, whereas only 5% reported a disability in all six years. The remaining 21% reported between two and five years of disability. Even though SLID provides little information as to whether the disability is permanent or temporary or on the degree of disability, an examination of the characteristics of the persons affected by disability brings out clear differences between persons affected for short periods and those affected for longer periods (see *Data source and definitions*).

Persons affected for a single year exhibited slight differences compared with persons reporting no limitation: they were a little older and a little less educated, and their health more often ranged between

fair and poor (15% compared with 2% of persons without disabilities) (Table 4).

These differences tended to be exacerbated as the number of years of disability increased. Thus, compared with persons without disabilities, those with a disability all six years were more likely to be female, be between 55 and 64 years of age (40% versus only 15% of persons without a disability), not have a high school diploma (31% versus 11%), not be married or in a common-law union (46% versus 22%), not have children (65% versus 41%), and be in fair or poor health (63% versus 2%). Also, visible minorities were slightly less likely to report a disability. Some differences are seen by region of residence; for example, persons with a disability are more likely to reside in the Atlantic provinces.²

Effects felt beyond disability period

The participation rate is useful when looking at disability because of obstacles that disabled persons

may encounter. Participation rates include not only employed persons, but also those available for work (Statistics Canada 2007). Persons with one or more disabilities generally have a weaker attachment to the labour force. This is even more so when the disability period is longer. During disability years, the annual average participation rate (see *Methodology*) of affected men age 20 to 59 in 1999 varied between 88% and 44%, depending on whether they reported one or six years of disability. These rates compared with 90% for those with no disability during the six years. For women, rates varied between 73% and 35% depending on the years of disability, compared with 76% for those reporting no disability (Chart B).

The participation rates of persons reporting a disability may also be lower for year with no reported disability. For example, when men had four years of disability, their average participation rate during the other two years was 75%, which is significantly lower than for men without a disability (90%). A similar gap was observed for men reporting five years of disability; their participation rate during their one year without a disability was 73%. Large gaps were also observed for women, starting at three years of disability. For them, the participation rate during years of disability differed very little from that observed during years without a disability—66% and 68% when they reported three years of disability, and 54% and 55% when they reported five. However, these rates were significantly different from those of women who reported no limitation (76%).

Table 4 Personal characteristics by number of disability years¹

	Years with disability				
	0	1	2 or 3	4 or 5	6
Total	6,107	1,529	1,322	836	567
			'000 %		
Sex					
Men	50	48	48	50	44*
Women	50	52	52	50	56*
Age					
25 to 34 years	22	16*	13*	10*	7* ^E
35 to 44 years	34	30*	25*	21*	17*
45 to 54 years	28	33*	33*	33	36*
55 to 64 years	15	21*	29*	36*	40*
Health status					
Excellent	35	16*	10*	6*	3*
Very good	43	37*	29*	22*	10*
Good	20	32*	38*	36*	24*
Fair	2	11*	18*	26*	33*
Poor	0	3*	6*	10*	30*
Education					
No high school diploma	11	15*	17*	23*	31*
High school diploma	17	16	19*	18	19
Postsecondary education	47	49	49	44	40*
University degree	25	19*	14*	13*	8* ^E
Family type					
Single	12	10	14	17*	27*
Married, no children	34	36	40*	44*	39
Married, with children	44	41	32*	22*	15*
Single parent	3	5 ^E	5 ^E	5 ^E	5 ^E
Other	7	9	9	12*	14*
Children					
None	41	39	49*	55*	65*
1	20	20	22	19	15*
2	27	26	20*	17*	11*
3	9	12*	7	7 ^E	6* ^E
4 or more	3	3 ^E	2 ^E	2 ^E	F
Atlantic provinces	9	9	7	10	12*
Quebec	27	25	24	24	22
Ontario	35	33	35	34	35
Manitoba and Saskatchewan	7	8	7	7	8
Alberta	10	12*	10	11	13
British Columbia	13	13	18*	13	10 ^E
Urban region	78	77	81	77	78
Rural region	22	23	19	23	22
Visible minority	9	9	8	6* ^E	4* ^E
Not a visible minority	91	91	92	94*	96*
Recent immigrant	16	16	16	15	14
Not a recent immigrant	84	84	84	85	87
Aboriginal	2	3 ^E	3 ^E	3 ^E	4* ^E
Non-Aboriginal	97	96	95	96	95*

* Significant difference for persons with no disability at 0.05 threshold or better

1. Reference year is 2004 for most variables. Health status is an average for years with a disability. For persons without a disability, average health status for the six observation years was used.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

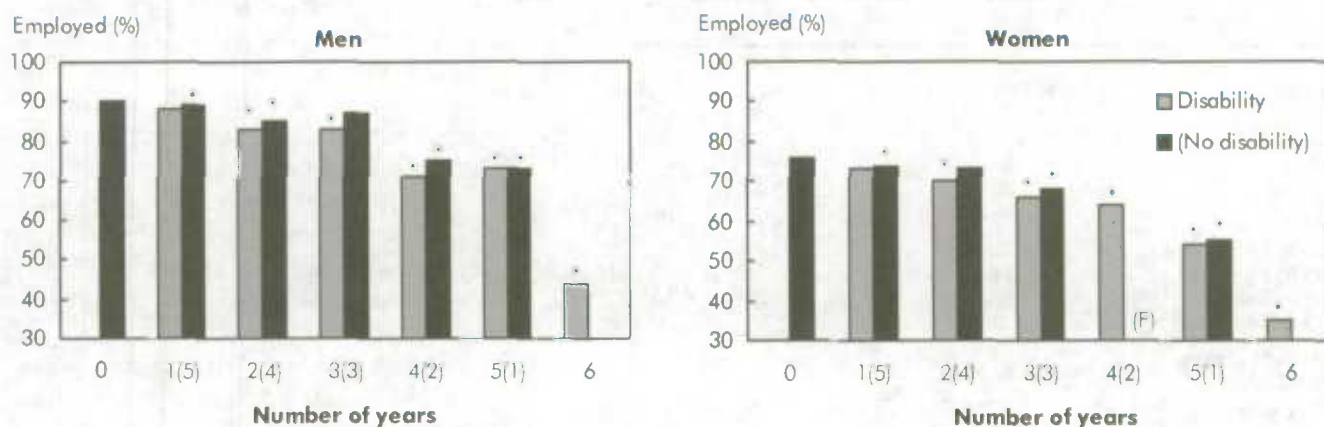
People employed during periods of disability (i.e. those with a positive number of hours—see *Methodology*) often work fewer hours per year. The more years of disability, the wider the gap in relation to the population without disability. Approximately 55% of men and 39% of women without a disability worked the equivalent of a full-time schedule all year, compared with 21% and 14% of those with 6 years of disability (Chart C). This lesser propensity of persons with disabilities to have a full-year, full-time schedule was also generally observed during years with no reported disability.

Gap in hours non-existent for shorter disability periods

Using longitudinal data, it is possible to examine whether the gap in work hours persists regardless of years of disability.

The hours worked during the six years of observation by persons with or without disabilities (including zero hours) were cumulated and adjusted to control for the different characteristics of persons reporting zero to six years of disability (see *Methodology*). Even before adjustments, the difference between persons reporting a disability during only one year and those reporting no disability was not significant. However, the post-adjustment gap remained significant starting at two to three years of disability (Table 5). For persons affected for the six years, the adjusted gap in hours was appreciable, amounting to 1.6 years. The distinction between short and longer periods of disability reveals gaps in hours worked that had been masked in the cross-sectional data.

Chart B Activity rate for people reporting a disability is also lower during years without a disability

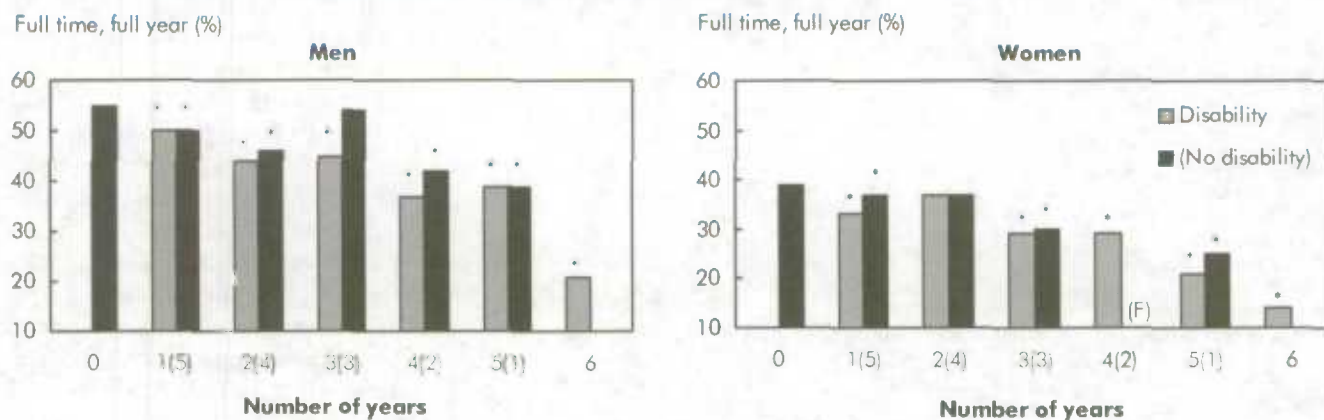


* Significant difference for 0 disability years at the 0.05 threshold or better
Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

These adjusted gaps do not take differences in labour market characteristics into account, since persons with no hours have no employment characteristics. Limiting the analysis to persons having positive hours

between 1999 and 2004 provides very similar results. Controlling for employment characteristics reduces this gap to 0.9 years, and the difference remains significant.

Chart C The proportion of people with a disability and working full time, all year is also smaller during years without a disability



* Significant difference for 0 disability years at the 0.05 threshold or better
Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

Table 5 Difference in hours accumulated over six years between persons with and those without a disability

	Zero hours included				Zero hours excluded			
	Gross difference		Adjusted difference ¹		Gross difference		Adjusted difference ²	
	hours	years ³	hours	years ³	hours	years ³	hours	years ³
Men								
Years of disability								
1	74	0.0	-58	0.0	75	0.0	64	0.0
2 or 3	-992	-0.5*	-865	-0.4*	-993	-0.5*	-482	-0.2*
4 or 5	-1,595	-0.8*	-1,338	-0.7*	-1,598	-0.8*	-869	-0.4*
6	-3,293	-1.7*	-3,168	-1.6*	-3,305	-1.7*	-1,758	-0.9*
Women								
Years of disability								
1	-193	-0.1	-267	-0.1	-192	-0.1	-20	0.0
2 or 3	-679	-0.3*	-855	-0.4*	-689	-0.4*	-377	-0.2*
4 or 5	-1,184	-0.6*	-1,510	-0.8*	-1,190	-0.6*	-868	-0.4*
6	-2,751	-1.4*	-3,233	-1.6*	-2,839	-1.4*	-1,751	-0.9*

* Significant difference for persons with no disability at 0.05 threshold or better

1. Calculated using a Tobit model on hours accumulated over the six-year observation period.

2. Calculated using a linear regression model on cumulative positive hours.

3. Shows equivalent in number of full-time years.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

Methodology

For people with no activity limitations, **labour force status** is a weighted average over six years. For those with limitations, average activity rates are calculated for years with and without disability. Active indicates that an individual was employed or unemployed throughout the year, inactive indicates being unemployed and not looking for work throughout the year, and other indicates periods of activity and inactivity during the year. The differences were significant at the 5% threshold or better, which was based on Bootstrap weights. A similar approach was used to estimate the **proportion working full time throughout the year**. A person working full time throughout the year must have worked the equivalent of an average of 1750 to 2199 hours per year.

The estimates of adjusted hours of work come from a Tobit regression model, which is well suited to data sets containing a number of non-participants in a given activity, as is the case here because of persons who did not work a single hour during the observation period. The technique simultaneously takes the probability of working and the duration of the work time into consideration. The model begins by evaluating the probability of working using a binary variable, taking the value 1 if the number of hours is positive and 0 otherwise; it then evaluates, in linear fashion, the effect of the different independent variables on hours worked. Separate models were estimated for men and women. The independent variables were: having or not having a limitation, age, education, family type, province, region (urban or rural), being the major income recipient of the economic family, visible minority status,

belonging to an Aboriginal group, and recent immigrant status. In the longitudinal part, the years of observed disability were also taken into consideration, which partly catches the degree of disability. Each model had four binary variables indicating the length of observed disability (one, two or three, four or five, or six years) in addition to demographic characteristics.

The regressions on the earnings gap were estimated with an ordinary least squares model. Separate models were used for men and women. The dependent variable was the logarithm of 2004 hourly earnings, and the demographic variables were the same as in the hourly model. A second model included—in addition to demographic variables—labour market characteristics such as workplace size, industry, occupational skill level, seniority and unionization. Other models distinguished between disabilities that limited individuals at work or school from other disabilities. However, years of disability and type of disability could not be used simultaneously because of their high correlation. Only people with positive earnings were used for the estimates.

The regressions estimating the probability of low income covered all individuals with and without hours of work and took only demographic variables into consideration. The dependent variable was a binary variable with the value 1 if the person's household income after taxes was below the low income cut-off as defined in SLID, and 0 otherwise.

The analysis was conducted using Stata 10, which lends itself to the use of Bootstrap weights.

Table 6 Work-interruption rate¹ by years of disability and sex

	Years with disability						
	0	1	2	3	4	5	6
Men							
Number of jobs	3,445	815	431	'000 250	203	175	125
Interruptions	17	19	20	16	20	19	20
Women							
Number of jobs	3,052	792	362	'000 255	182	142	152
Interruptions	18	21*	19	24*	20	22	24

* Significant difference for persons with no disability at 0.05 threshold or better

1. Termination rate for all of one person's jobs.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

causing decreased performance, can result in reduced pay and fewer promotions (Harrison and Martocchio 1998, and Yelin and Trupin 2003).

Both for persons with limitations and those without, the reasons most often cited were job-related, that is, a layoff, the end of a contract or seasonal job, a dismissal, a strike or a company relocation. These job-related reasons accounted for between 43% and 53% of the reasons cited for work interruptions by men and between 35% and 40% of the reasons cited by women.

Comparable work-interruption rates

Among those in the labour force, both men and women affected by a disability were no more likely than those not affected to experience work interruptions between 1999 and 2004 (Table 6).³ However disabled persons were more likely to opt for reduced hours or non-participation.

Generally, regardless of having a disability, the reasons given for work interruptions were comparable. Only interruptions for health reasons were slightly more frequent for persons with a disability. Health reasons were cited for work interruption of respectively 6% and 8% of these men and women (no control for years of disability), compared with 0% and 1% for those without disabilities. A recent study (Marshall 2006) showed that persons with a disability were up to 2.4 times more likely to take extended sick leave, and hence were more likely to experience lower pay. Other research has also shown that absenteeism, in addition to

Table 7 2004 earnings differential between persons with a disability and those without a disability, by disability years

	Average hourly earnings	Difference		Adjusted difference	
		Gross		Model 1	Model 2
	\$			%	
Men					
Disability years					
0	25.08	...	...	...	...
1	24.19	-4	-4	-1	-1
2 or 3	21.72	-13*	-10*	-6*	-6*
4 or 5	21.49	-14*	-8*	-5*	-5*
6	19.97	-20*	-19*	-11*	-11*
Activity limitations					
None	25.08	...	...	...	...
At work or at school	21.04	-16*	-12*	-7*	-7*
Elsewhere	24.75	-1	-1	0	0
Women					
Disability years					
0	19.21	...	...	...	...
1	18.94	-1	-1	0	0
2 or 3	17.77	-7*	-7*	-4	-4
4 or 5	17.04	-11*	-11*	-8*	-8*
6	14.80	-23*	-17*	-10*	-10*
Activity limitations					
None	19.21	...	...	...	...
At work or at school	16.99	-12*	-10*	-6*	-6*
Elsewhere	19.47	1	-2	-1	-1

* Significant difference for 0 disability years at 0.05 threshold or better

Note: See *Methodology* for a model description.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

A significant earnings gap for long periods of disability

Persons affected by disability generally see their average hourly earnings lag behind those not affected, and the gap increases with the number of years of disability.⁴ In 2004, this gap ranged from nearly zero for those with one year of disability to 20% and 23% for men and women respectively who reported six years of disability (Table 7).

Since persons with disabilities may have characteristics that might explain their lower earnings, earnings were adjusted to neutralize the effect of these characteristics. When differences in demographic characteristics were taken into account, the earnings gap declined (model 1) but remained significant, ranging between 1% and 19%, depending on the number of years of disability. The addition of labour market characteristics (model 2) reduced the gap, but it remained significant for men starting at two to three years of disability, and for women starting at four to five years.

SLID does not give any indication of the type of disability, but it is possible to distinguish between disabilities that limit people at work or school and those that limit them in other activities. When men are limited at work, their earnings fall by 16%. After adjustments for demographic characteristics, the drop

remained significant at 12%. Among women, the drop was 12% before and 10% after adjustments. The inclusion of labour market characteristics reduced the drops to 7% and 6% respectively. People with disabilities that limited them other than at work did not have an earnings gap even before adjustments compared with people who were not limited. Being limited at work was a more pronounced disadvantage.

In general, few differences were seen between the disabled and the non-disabled in terms of union membership and pension or health insurance coverage. However, among women disabled for all six years, some differences appeared for disability and dental coverage (Table 8).⁵

Persons with a disability more at risk of low income

A person may have low earnings but live in a household that is not low-income because of the earnings and incomes of other household members. Low-income rates were examined for all persons, regardless of their labour force status. Labour force participation has a major effect on the likelihood of low income (Kapsalis and Tourigny 2007). Persons with a disability therefore have an additional risk factor, since their disability reduces their propensity to participate in the labour force.

Table 8 Characteristics of main job for the employed in 2004 by disability years

	Years with disability									
	Men					Women				
	0	1	2 or 3	4 or 5	6	0	1	2 or 3	4 or 5	6
Employed	2,466	546	450	240	76	2,269	569	454	227	99
Benefits										
Union or collective agreement	35	39	39	40	49*	33	41*	34	37	25 ^E
Employer life insurance or disability plan	72	65*	67	67	70	61	62	54*	54	40* ^E
Employer health insurance plan	76	70*	73	70	76	64	70*	62	57	52
Employer dental plan	71	68	67	67	66	58	62	54	57	43*
Pension plan	55	55	53	50	49	49	46	45	45	40 ^E

* Significant difference for 0 disability years at 0.05 threshold or better

Note: Data are from the longitudinal panel from 1999 to 2004. Considering the minor annual variation during this period, the selected variables correspond to the last year, 2004.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

Even after taking differences in demographic characteristics into consideration, persons with disabilities were generally at greater risk of having low income, and this probability generally increased with the number of years of disability. Men disabled for two to five years had twice as high a risk, and those disabled for six years had eight times the risk of men without a disability (Chart D). Women disabled for six years were at four times a higher risk than non-disabled women. Women who had been disabled for less than six years showed slight differences from the non-disabled. Among those limited at work or at school, men were almost at four times a higher risk of low income, and the risk for women was twice as high. People with limitations in activities other than at work did not show significant gaps compared with those without limitations. According to a recent study, people who were limited at work were not only at greater risk of having low income, but also of *persistent* low income, and their lower attachment to the labour market had the strongest impact on their persistent low income (Kapsalis and Tourigny 2007).

Conclusion

The use of longitudinal data on disability sheds new light on the entire subject of activity limitations. A first finding is that a disability can be temporary or

episodic, meaning that people are not necessarily affected by disability continuously. From 1999 to 2004, only 13% of people who indicated a disability reported being affected by it during all six years.

The longer the disability period, the more likely the persons affected are to have less education, to be women, to be older and to live alone. These characteristics are often associated with lower participation in the labour force. Persons with a disability indeed work fewer hours per year. This gap persists even after demographic characteristics are taken into consideration. Over a six-year period, the difference in the number of work hours between persons with and those without a disability can amount to 1.6 years of 'lost' work time. Following controls for labour market characteristics, the gap is still significant and amounts to almost one year.

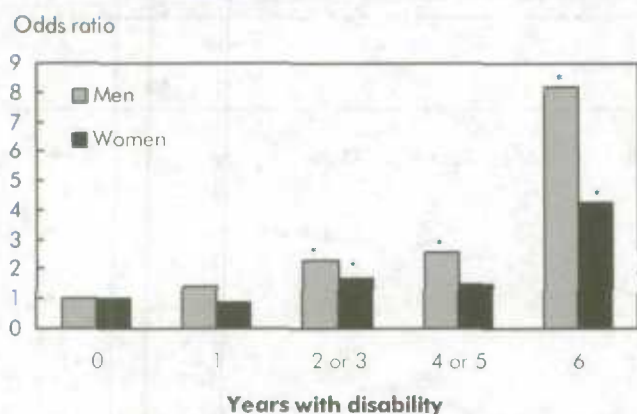
For many persons with disabilities, the effects of disability extend beyond the period of the disability. The participation rate and the annual work hours of persons with disabilities are lower not only during the years of disability, but also during other years.

For both men and women, work-interruption rates are similar to those for their counterparts without disabilities. However, persons with disabilities are more likely to stop working because of health problems. Job-related reasons (layoff, end of a temporary job, end of a contract, etc.) accounted for most work interruptions, for both persons with and those without limitations.

The review of working conditions shows significant differences between people with and without a disability. These differences are very sensitive to the years of disability, and persist even after taking differences in demographic characteristics into consideration. Thus, when compared with people without disabilities, men and women disabled for six years report earnings differences of up to almost 20%. In general, few differences are seen in terms of social benefits.

Labour market activity has a significant impact on the probability of low income. Given that people with disabilities have a lower propensity for being active in the labour market, their risk of being in low income is higher. This low-income risk is relatively higher among men: those disabled for four to five years have twice the risk, and those disabled for six years are eight times at greater risk than men without disabilities. Among women, the risk is four times greater when they have been disabled for six years, but there is little difference

Chart D Men with a disability are at a relatively higher risk of low income



* Significant difference for 0 disability years at 0.05 threshold or better

Source: Statistics Canada, Survey of Labour and Income Dynamics, 1999 to 2004.

in terms of the risk of low income for women with and those without disabilities for periods of less than six years.

Longitudinal data reveal gaps in terms of working hours, earnings and low income between people with and without disabilities that are masked in cross-sectional data. They also underline the importance of measuring the severity of the disability better in order to fully understand its impact.

Perspective

■ Notes

1. Similar results were reported in Uriarte-Landa and Spector 2008.
2. These differences are significant at the threshold of 5% or better. Disability rates were also higher in PAIS for some Atlantic provinces (Statistics Canada 2008).
3. Refers to all jobs held per year. The rate is calculated on the basis of the total number of jobs held each year between 1999 and 2004.
4. The gap in average hourly earnings is calculated for persons with earnings during the 2004 reference year.
5. Some studies have tried to determine to what extent the availability of a disability pension can increase the probability of disability claims among workers. The results are generally non con.

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In the works

Some of the topics in upcoming issues

■ Time-crunched families

A profile of time-crunched families in the context of increased labour market participation of women with children and a higher share of dual-earner families.

■ Employer top-ups

A look at the trends in the proportion of mothers with a paid job who receive a top-up from their employer after birth, as well as their socio-demographic and job characteristics.

■ Trajectory into Guaranteed Income Supplement

This study will use tax data to examine the income and earnings patterns of middle-aged individuals and couples to identify the characteristics most closely associated with future Guaranteed Income Supplement receipt.

■ Health and labour market activities

A look at the relationship between mental and physical health and employment and hours worked for working-age men and women.

■ Student loans

An attempt at shedding some light on the effect of student loans on household financial behaviour, this study will examine historical default rates of student loans as one indicator of repayment hardship, and how families with student loans manage their household budgets and expenditures and continue to pay these loans.

■ Non-tax-sheltered investments

This study will examine families with investment income from non-tax-sheltered sources of saving and present a comparative profile of “investors” and “non-investors.”

■ Job quality indicators

A look at the provincial differences in the socio-economic well-being of employed persons by occupation-education mix of factors.

Perspectives

Shifting pensions

Philippe Gougeon

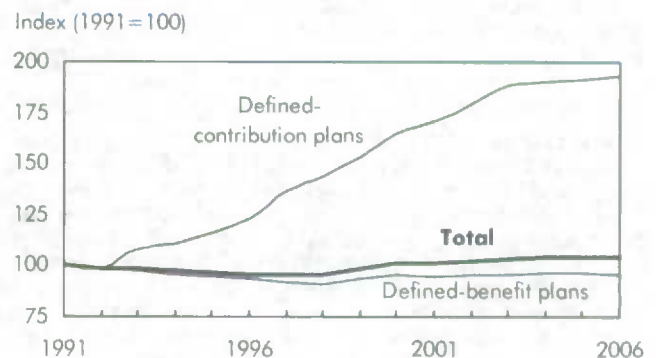
In planning for retirement, Canadians rely on a system that has three components: public plans (the universal Old Age Security, the Guaranteed Income Supplement and the Canada/Quebec Pension Plans for paid workers); employer-sponsored plans (registered pension plans [RPPs], deferred profit-sharing plans and group registered retirement savings plans [group RRSPs]); and personal savings—including registered retirement savings plans (RRSPs). From 1992 to 2006, the importance of private pension plans (self-sponsored or employer-sponsored) in the composition of the average retirement income of Canadians 65 and over grew from 23% to 32% of their total income.¹ Fluctuations in the world economic situation can affect income from private pension plans, depending on their characteristics. With the prevailing situation in Canada and many other countries since fall 2008, the financial situation of current and future retirees could be affected depending on the type of plan and investment.

Registered pension plans comprise defined-benefit (DB), money-purchase or defined-contribution (DC) and hybrid/mixed (H/M) plans.² These plans covered 30%, 6% and 1%, respectively, of employees in 2006.³ Over the last 30 years, a gradual transition away from DB plans (see *Data source and definitions*) has taken place in several countries, especially in the United Kingdom and the United States (Broadbent et al. 2006), and to some extent in Canada.

A change in the prevalence of these plans would imply a modification in the distribution of risk between employers and employees, which could have an impact on the standard of living of future Canadian retirees, whose numbers are growing rapidly.

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Chart A The number of defined-contribution plan participants almost doubled between 1991 and 2006



Source: Statistics Canada, Pension Plans in Canada Survey.

For employees, DB plans provide some security because benefits are predefined, and the investment risk rests mainly with employers. However, transfers of benefits are more complicated with a job change.⁴ For employers, DB plans carry financial obligations to maintain solvency and conduct the actuarial valuations required by pension authorities.

On the other hand, the investment risk with DC plans is assumed mainly by contributing members because their retirement benefits are entirely dependent on contributions and plan performance. This characteristic is an advantage in periods of economic growth, as at the end of the 1990s and in the mid-2000s, but it may prove less advantageous in a more uncertain context like the one since the fall of 2008. Such plans, however, have the advantage of being more easily portable to a new employer.

Data source and definitions

The **Pension Plans in Canada Survey** is an annual census of all registered pension plans in Canada. RPPs are retirement benefit programs that employers or unions establish for employees. The plans are registered with the Canada Revenue Agency for tax purposes, and, in most cases, with a provincial or federal jurisdiction. Plans are registered in the jurisdiction with the most active members.

New plan/plan opening: A plan opened between 1991 and 2006 and still open in 2006 was considered new. The opening date refers to the date on which the employer implemented the plan. Such a plan could be created following an amalgamation of companies or collective bargaining.

Registered pension plan (RPP): A plan the employer establishes to provide a pension to retiring employees. Regular employer contributions finance retirement benefits, and, in many cases, so do employee contributions and investment income resulting from these contributions. The two major types are defined benefit and defined contribution.

Defined benefit plan (DB plan): An RPP under which benefits correspond to a set amount or are determined with a formula providing a pension unit for each year of service. Employees may or may not be required to contribute. The employer pays the balance required to finance plan benefits. The law requires that an actuarial valuation be conducted at least once every three years in order to determine the contributions required to guarantee plan solvency. Best-average earnings plans were the most frequent in 2006.

Defined contribution plan (DC plan): An RPP in which the value of accumulated contributions is applied upon employee retirement to provide pension income. Employees may or may not be required to contribute. As opposed to DB plans, the amount of contributions is known, but the amount of benefits is only known when employees retire.

Employee benefits depend on investment profits and pension accrual rate. Profit-sharing plans are included in this category, but what differentiates them is that company profitability affects employer contributions.

Hybrid/mixed plans (H/M plans): Hybrid plans provide the better of a defined-benefit and a defined-contribution option. Mixed plans provide income from both defined-benefit and defined-contribution portions. These two have been grouped because each has a DB and a DC component, albeit combined in different manners. Furthermore, in both cases, some risk is shared between the employer and employees.

Defined benefit/defined contribution plan (DB/DC plan): A plan in which some employees are covered by a DB plan and others are covered by a DC plan. This can apply to different categories of employees, and/or current employees get one of two types of plans, and new employees, the other.

Plan size: **small** (3 to 99 active members); **medium** (100 to 999 active members); **large** (1,000 to 9,999 active members); **very large** (10,000 or more active members).

Public-sector plan: The main employer is a municipal, provincial or federal government, a crown corporation, or any other organization considered public.

Private-sector plan: The main employer is an incorporated or unincorporated business (company or sole owner), a cooperative, a professional association or labour union, or a religious, charitable or non-profit organization.

Closed/terminated plan: A plan closed between 1991 and 2006. Reasons for termination include replacement by a new plan, merger with another plan, bankruptcy, no participants, disapproval by the Canada Revenue Agency, company dissolution, financial or administrative considerations, conversion to RRSP, and legal non-compliance. Plans that have re-opened are excluded from this category.

Defined contribution increases, defined benefit stagnates

In 2006, DB plans covered 81% of workers participating in a registered pension plan, while DC plans covered 16%. From 1991 to 2006, the number of DC plan participants almost doubled, from 466,000 to 899,000 (Chart A). Although DB plans still cover most RPP members (4.6 million members in 2006), they lost 192,000 members over the same period, primarily between 1991 and 1997 (Table 1). And while the number of women covered by DB plans has increased, that growth has been weak.

The decrease in DB plan membership is even more significant considering that employment increased 29% over the same period. In 1991, 41% of Canadian employees were covered by a DB plan. Fifteen years later, that proportion was down to 30%.

For DC plans, the proportional increase in members outstripped overall employment growth so their coverage rate rose from 4% to 6%.⁵

Private-sector defined benefit decreasing

In Canada, DB plans still cover most private-sector pension plan participants, but they have lost membership in recent years (Table 2). In 2006, they covered 73% of private-sector plan members compared with 86% in 1991, representing a decrease of 279,000 members. At the same time, the number of private-sector employees increased by 34%. Therefore, despite the growth in employment, they still lost 12% of their members.

DC plan membership in the private sector nearly doubled over the same period, increasing the coverage rate from 14% to 27% (Chart B).

Table 1 Pension plan membership

	1991	2006	Change
	'000		%
Both sexes			
Employees	11,672	15,043	29
Pension coverage	5,239	5,480	5
DB plan	4,773	4,581	-4
DC plan	466	899	93
Coverage rate (%)	45	36	-19
DB plan	41	30	-26
DC plan	4	6	50
Men			
Employees	6,327	7,889	25
Pension coverage	3,076	2,810	-9
DB plan	2,790	2,276	-18
DC plan	286	534	87
Coverage rate (%)	49	36	-27
DB plan	44	29	-35
DC plan	5	7	50
Women			
Employees	5,345	7,154	34
Pension coverage	2,163	2,670	23
DB plan	1,984	2,305	16
DC plan	180	365	103
Coverage rate (%)	40	37	-8
DB plan	37	32	-13
DC plan	3	5	52

Note: Plans with fewer than three members, inactive plans and hybrid/mixed plans were withdrawn from the sample. Coverage rates exclude members from the territories since they are not part of the Labour Force Survey.

Source: Statistics Canada, Pension Plans in Canada Survey.

Other employer-sponsored pension plans

Hybrid/mixed plans are a middle ground between DB and DC plans. H/M plans have characteristics of both, providing the security of DBs and the advantages of DCs. Since 2000, the number of people covered by such plans has nearly tripled. Before that, their number had been relatively stable. Nevertheless, given their relatively low weight (barely 1% of employees), they are not considered in this article. The recent increase in their membership may augur an increase in their future importance in Canada. In the United States, membership in such plans has been increasing for several years (Clark and Schieber 2000, and Coronado and Copeland 2003).

In 2001, group registered retirement savings plans (group RRSPs)⁶ covered approximately 1.6 million employees (Marisette and Zhang 2004). Although they are very similar to DC plans, group RRSPs have more members. Together, DC plans and group RRSPs covered more than 2 million employees (17%) in 2001, almost half the DB membership. According to a recent study, these two plans now cover 50% of private-sector employees (Baldwin 2008). In the United States, 401(k) plans are similar to group RRSPs in several ways (Frenken 1996). However, because group RRSPs are not part of the database used for this analysis, they cannot be included in the definition of DC plans.

Table 2 Pension plan coverage by sector

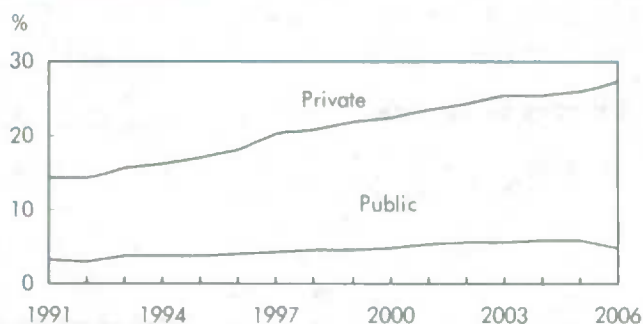
	1991	2006
	'000	
Public sector		
Employees	2,855.3	3,261.6
DB plan members	2,463.7	2,550.8
DC plan members	80.9	132.1
Private sector		
Employees	8,814.6	11,781.4
DB plan members	2,309.7	2,030.5
DC plan members	384.9	766.8

Source: Statistics Canada, Pension Plans in Canada Survey.

However, the situation is very different in the public sector. DC plan membership has certainly increased, but they remain a small minority in this sector.

Whether private or public sector, DB or DC, the fluctuations have been similar for both men and women. Furthermore, for both men and women, DC plan coverage has changed almost exclusively in the private sector.

These trends are somewhat similar to those in the United States, where private-sector DC plan membership, which had previously been lower than DB plan membership, is now nearly double. In 1975, 26% of private-sector pension plan members were in DC plans. In 2005, the proportion was 64% (U.S. Depart-

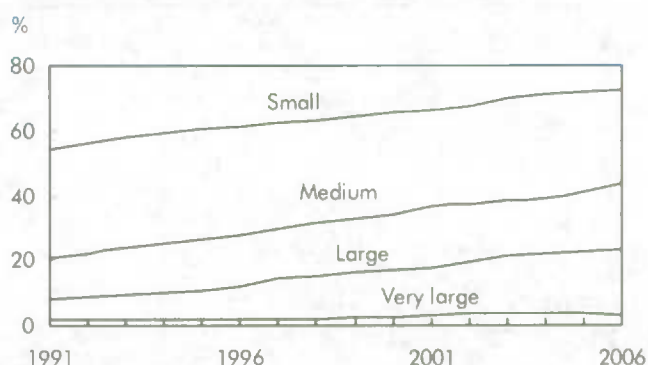
Chart B Private sector the main source of change in DC plan coverage

Source: Statistics Canada, Pension Plans in Canada Survey.

Table 3 Pension coverage by plan size

	1991		2006	
	'000	%	'000	%
Small plans	269.3	100.0	219.3	100.0
Defined benefit	122.9	45.6	60.4	27.5
Defined contribution	146.4	54.4	158.9	72.5
Medium plans	794.9	100.0	818.9	100.0
Defined benefit	630.4	79.3	461.5	56.4
Defined contribution	164.5	20.7	357.4	43.6
Large plans	1,186.6	100.0	1,259.6	100.0
Defined benefit	1,092.1	92.0	968.3	76.9
Defined contribution	94.5	8.0	291.3	23.1
Very large plans	2,988.4	100.0	3,182.5	100.0
Defined benefit	2,928.0	98.0	3,091.2	97.1
Defined contribution	60.4	2.0	91.3	2.9

Note: See *Data source and definitions* for description of plan sizes.
Source: Statistics Canada, Pension Plans in Canada Survey.

Chart C Defined-contribution plans of all sizes gained ground

Note: See *Data source and definitions* for description of plan sizes.
Source: Statistics Canada, Pension Plans in Canada Survey.

ment of Labor 2008). As in several other countries, the public sector has seen very little movement toward such plans (Broadbent et al. 2006).

DC plan size on the increase

In 2006, as in 1991, DC plans were more common among small employers. During the period from 1991 to 2006, however, they gained ground in all size groups (Table 3). On the other hand, DB plan membership dropped, sometimes significantly, in all size groups except very large ones, the great majority of which remain DB plans.

The growth of DC plans among plans of almost all sizes has been constant over time (Chart C). However, very large plans experienced a slight setback, mainly between 2001 and 2006.

Sources of change

The trends observed in membership may be attributable to three factors: plan conversions (DB to DC, for example), plan openings and closures, and variation in the number of members in active plans.

Conversion to other types of plans explains 78% of the 192.1 thousand loss of DB plan members (Table 4). Most then joined hybrid/mixed plans. Such conversions may mean that employers are trying to provide workers with pension plans providing the advantages of two plan types while offsetting their disadvantages (Clark and Schieber 2000). Despite the significant addition of members, H/M plans cover few employees. In 2006, they had just 152,000 members, or approximately one-sixth that of DC plans.

Table 4 Sources of change in plan membership

	Defined benefit		Defined contribution	
	'000	%	'000	%
Membership variation	-192.1	100.0	433.2	100.0
Plan conversions	-149.4	77.8	56.4	13.0
Plan openings and closures	-14.2	7.4	98.7	22.8
Change in membership	-28.5	14.9	278.1	64.2

Source: Statistics Canada, Pension Plans in Canada Survey, 1991 to 2006.

Plan openings and closures explain less than 10% of lost DB plan membership, while the variation in active plan membership accounts for 15%. Plan openings and closures may be related because of indirect plan conversions or a fusion of two or more plans.⁷

Of the additional 433,000 DC plan members, 64% came from increased membership in active plans. Openings and closures accounted for 23% of the growth in DC plans, mainly in the private sector. Plan conversions accounted for 13% of the increased membership. In total, 90% of all membership movement between 1991 and 2006 took place in the private sector.

Growth of DC plans in all industries

In 1991, DB plans covered most members in all industries. Fifteen years later, the number of DC plans had increased in all industries and even included most employees in some, particularly in mining, quarrying, and oil and gas extraction, and in wholesale trade (Table 5).

Table 5 Pension plan membership by industry

	1991		2006	
	DB plan	DC plan	DB plan	DC plan
	%			
Industry	91.1	8.9	83.6	16.4
Agriculture, forestry, fishing and hunting	55.1	44.9	44.4	55.6
Mining, quarrying, and oil and gas extraction	82.6	17.4	45.8	54.2
Utilities	99.4	0.6	94.3	5.7
Construction	90.5	9.5	85.9	14.1
Manufacturing	90.5	9.5	76.5	23.5
Wholesale trade	71.7	28.3	48.9	51.1
Retail trade	79.2	20.8	75.4	24.6
Transportation and warehousing	89.0	11.0	81.5	18.5
Information, culture, arts, entertainment and recreation	93.8	6.2	57.5	42.5
Finance and insurance, administrative and professional services, real estate	87.3	12.7	77.4	22.6
Educational services, health care and social assistance	93.8	6.2	89.4	10.6
Accommodation and food services	81.4	18.6	70.8	29.2
Other services	71.5	28.5	34.9	65.1
Public administration	96.9	3.1	95.9	4.1

Note: Excluded are plans with fewer than three members, inactive plans and plans other than DB and DC.

Source: Statistics Canada, Pension Plans in Canada Survey.

Methodology

The years 1991 to 2006 were used, and plans with fewer than three members were excluded because they are more similar to individual plans. Hybrid/mixed plans were excluded due to their small membership. DB/DC plans (under 80,000 members in 2006) were also dropped, because the information provided does not make it possible to distinguish the DB and DC parts of the plans. Lastly, non-active plans were excluded, except when discussing plan closures.

To determine the number of plans opened and closed during the study period, and particularly the number of members affected at the time of closure, files from 2006 with plan opening and closure dates were used. Closed plans remain in the database. For open plans, those started between 1991 and 2006, as well as their characteristics for 2006, were used.

To find the number of members affected by a plan conversion, files from two consecutive years were compared by plan number to see if the type of plan changed from one year to the next.

Since plans may change types more than once, they could be re-counted in other periods. However, there was a risk of underestimating the number of members affected by conversions, because sometimes employers closed an existing plan and opened a new plan when they wanted to make that type of transition. Furthermore, for several years, plan identification numbers were not consistent throughout Canada. Therefore, it may be that some still-existent plans could not be monitored from one year to the next. The scope of those underestimations could not be evaluated, but, due to their nature, they are unlikely to affect the observed trend.

NAICS two-digit codes were not used in the database before 1998. Standard Industrial Classification codes (SIC-1970) were used to identify industry. A conversion table was used to convert SIC-1970 codes to NAICS two-digit codes. Some industries had to be grouped together in order to ensure that 1991 to 1993 data, initially coded in accordance with SIC-70, were consistent with those coded under NAICS from 2004 to 2006.

Industry changes do not explain DC increase

In part, a change in labour market structure may have created the increased prevalence of DC plans (Ippolito 1995, Gustman and Steinmeier 1992, and Aaronson and Coronado 2005). For example, if workers are now more likely to be part of a given industry and the employees in that industry are historically more often covered by DC plans, the greater overall prevalence of such plans could be partially attributable to the growth of that industry.

Two logistic regressions were estimated to understand to what degree changes in the industrial structure, plan size, and distribution of participants by sex and province between 1991 and 2006 explain the increased prevalence of DC plans (see *Logistic regression*). The first focused on the period from 1991 to 1993, and the second, 2004 to 2006. Even after taking all factors into account, the probability that a plan would be defined contribution was more than 2.5 times greater in the later period (Table 6). This trend therefore seems strong and does not seem to depend on changes in the industrial structure, paralleling previous results (Ippolito 1995).

An Oaxaca decomposition also confirmed the low contribution of these factors to the higher prevalence of DC plans. In fact, such changes should have contributed to a slight increase in DB coverage.

Conclusion

A change in the prevalence of defined-contribution pension plans may have a significant impact on employers and workers. Between

Table 6 Logistic regression coefficients for probability of defined-contribution plan

	1991 to 1993		2004 to 2006	
	Coef-ficient	Proba-bility	Coef-ficient	Proba-bility
		%		%
Defined-contribution plan	-1.998*	11.9	-0.811*	30.8
Members (ref. 400 to 499)				
3 to 49	2.373*	59.3	1.695*	70.8
50 to 99	1.267*	32.5	1.198*	59.5
100 to 199	0.857*	24.2	0.747*	48.4
200 to 299	0.488*	18.1	0.413*	40.2
300 to 399	0.205	14.3	0.234	36.0
500 to 749	-0.177	10.2	-0.358*	23.7
750 to 999	-0.265	9.4	-0.403*	22.9
1,000 to 2,499	-0.729*	6.1	-0.653*	18.8
2,500 to 4,999	-1.779*	2.2	-0.814*	16.5
5,000 to 9,999	-1.178*	4.0	-1.651*	7.9
10,000 or more	-2.132*	1.6	-2.387*	3.9
Control jurisdiction (ref. Ontario)				
Newfoundland	0.326*	15.8	0.233	35.9
Prince Edward Island	1.148*	29.9	0.551	43.5
Nova Scotia	0.655*	20.7	0.464*	41.4
New Brunswick	0.578*	19.5	0.402*	39.9
Quebec	-0.035	11.6	-0.714*	17.9
Manitoba	0.666*	20.9	0.592*	44.5
Saskatchewan	0.709*	21.6	0.525*	42.9
Alberta	0.641*	20.5	0.752*	48.5
British Columbia	0.868*	24.4	0.419*	40.3
Other jurisdictions ¹	0.102	13.0	0.075	32.4
Industry sector (ref. private)				
Public	-0.335*	8.8	-0.476*	21.6
Women in plan (ref. 40% to 59%)				
0% to 19%	-0.370*	8.6	-0.384*	23.2
20% to 39%	-0.090	11.3	-0.114	28.4
60% to 79%	0.020	12.2	0.235*	36.0
80% to 100%	0.364*	16.3	0.466*	41.5
Industry (ref. manufacturing)				
Agriculture, forestry, fishing and hunting	0.773*	22.7	0.503*	42.4
Mining, quarrying, and oil and gas extraction	-0.060	11.3	0.215	35.5
Utilities	-0.555	7.2	-0.544*	20.5
Construction	1.154*	30.1	0.994*	54.6
Wholesale trade	0.639*	20.4	0.628*	45.4
Retail trade	1.461*	36.9	1.277*	61.5
Transportation and warehousing	0.764*	22.6	0.381*	39.4
Information, culture, arts, entertainment and recreation	0.644*	20.5	0.302*	37.6
Finance and insurance, administrative and professional services, real estate	0.430*	17.3	0.379*	39.4
Educational services, health care and social assistance	1.370*	34.8	1.164*	58.7
Accommodation and food services	0.719*	21.8	0.477*	41.7
Other services	0.542*	18.9	0.173	34.6
Public administration	1.336*	34.0	1.155*	58.5

* significant difference from reference group (ref.) at the 0.05 level or better

1. Federal, Quebec/federal, not registered by proper pension authority.

Source: Statistics Canada, Pension Plans in Canada Survey.

Logistic regression

A logistic model was chosen based on a study using a similar methodology (Ippolito 1995). The logistic regression models the probability of plans being defined contribution based on certain characteristics. The equation used was

$$DC = \alpha + \beta_1 T_g + \beta_2 J_i + \beta_3 Public + \beta_4 S_i + \beta_5 I_i$$

DC is a binary dependent variable equal to 1 when a plan is a DC plan and 0 when it is a DB plan.⁸ T_g is a vector of binary variables for plan size according to membership. J_i is a vector of binary variables representing each of the jurisdictions in which plans can be registered. $Public$ is a binary variable equal to 1 for a public-sector plan and 0 for the private sector. S_i represents the proportion of women pension plan members, and I_i is a binary variable repre-

senting different industries. Industries were identified according to North American Industry Classification System (NAICS) two-digit codes.⁹ The high number of size variables allows the best consideration of the effect of members and their numbers on the probability of a plan being defined contribution.

The regression was carried out on a group of plans over three consecutive years in the beginning (1991 to 1993) and at the end (2004 to 2006) of the study period. Those years were selected to verify whether the probability of plans being defined contribution had changed.

Information on unionization, as Ippolito had in 1995, was not available.

1991 and 2006, DC plan membership nearly doubled, greatly increasing their prevalence, to the detriment of DB plans. Furthermore, the increase in prevalence of DC plans was relatively steady through the study period, and a significant portion of the decrease in DB plan membership came from conversions to defined-contribution or hybrid/mixed plans. Although DC plans have some undeniable advantages for employees, their increased prevalence suggests a transfer of risk from employers to workers since 1991.

The increased prevalence of DC plans is reflected in nearly all plan sizes but almost exclusively in the private sector. A regression analysis indicates that industry changes, for example, did not appear to play a role. In fact, the changing labour market structure should have encouraged the growth, albeit slight, of DB plans. Instead, the increased prevalence of DC plans appears to come from a basic change in private-sector employer practices.

Perspectives

Notes

1. These data are from the Longitudinal Administrative Database (LAD).
2. See *Other employer-sponsored pension plans*.
3. Members from the Canadian territories were withdrawn from these coverage rates since they are not part of the Labour Force Survey. Plans with fewer than three members and inactive plans were withdrawn from the sample.
4. For more details on the effects of employment change on retirement income, see Blake 2003.
5. This trend is even more pronounced when group RRSPs are taken into account. They are not part of the database used here and cannot be taken into consideration.
6. See Morissette and Zhang 2004 for a presentation of RPP and GRRSP characteristics.
7. See *Methodology* for reasons that may lead to plan closure.
8. H/M plans were excluded from the sample.
9. See *Methodology*.

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We welcome your views on articles and other items that have appeared in *Perspectives*. Additional insights on the data are also welcome, but to be considered for publication, communications should be factual and analytical. We encourage readers to inform us about their current research projects, new publications, data sources, and upcoming events relating to labour and income.

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What's new?

Recent reports and studies

■ From Statistics Canada

■ *Manufacturing in 2008*

Employment in the manufacturing sector continued to decline in 2008, falling by 84,800 to 1.7 million. Employment has declined at an annual average rate of 2.4% since peaking at 2.0 million in 2000. Ontario, Quebec and British Columbia were hardest hit.

Labour productivity in manufacturing fell 0.7% in 2008, the first decline since 2001. At the same time, investments in plant and equipment and the rate of capacity use by factories both decreased. Operating profits of manufacturing corporations remained almost unchanged from 2007 to 2008, amounting to \$46.3 billion.

In 2008, 13 of the 21 manufacturing industries posted sales declines. Most notably, sales of motor vehicle manufacturers fell 22.0% to \$47.3 billion in 2008, a 14-year low. In the wood products industry, sales fell 13.1% to \$21.7 billion. This was nearly 40% below their most recent high of \$35.8 billion in 2004.

For the first time, Canada's petroleum and coal products industry vaulted to number one in terms of manufacturing sales in the wake of higher energy prices. Sales rose 22.2% to an unprecedented \$81.5 billion. But by the close of 2008, industrial prices for petroleum and coal products had fallen by almost 50% from their peak in July.

For more information, see *Manufacturing: The Year 2008 in Review* by Russell Kowaluk and Rob Larmour, Analysis in Brief series, April 2009, 25 p.

■ *Payroll employment*

Non-farm payroll employment fell by 79,600 in February, down 0.5% from a month earlier. Since peaking in October 2008, it has declined by 2.0% or 296,000.

In February, the largest drop was in manufacturing, where widespread declines pushed payroll employment down by 19,300. Although manufacturing employment has been in steady decline since it last peaked earlier this decade, the pace of job loss has accelerated in recent months. Since October 2008, payroll employment in manufacturing has fallen by 99,700 or 6.1%, more than three times the rate of decline of total payroll employment. Nearly one-quarter of the manufacturing decline since October has come directly from the auto sector.

Payroll employment in construction dropped by 11,100, mainly in building equipment contractors, other specialty trade contractors and general residential construction. As well, architectural and engineering services saw a decline (-3,200) as construction activity in Canada slowed.

A number of other industries, including non-Internet publishing, credit intermediaries and related activities and truck transportation also experienced declines.

Despite the overall decline in February, health and education showed modest job growth.

For more information, see the April 29, 2009 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *Employment Insurance*

Labour market conditions in Canada have deteriorated significantly in recent months. Through the early part of 2008, employment slowed, and since October has fallen sharply. As a result, the number of regular Employment Insurance (EI) beneficiaries has climbed 21.9% since October 2008, reaching 610,200 in February 2009.

In February, the number of people receiving regular EI benefits increased by 44,300 or 7.8% from January. Alberta, British Columbia, Ontario and Saskatchewan posted the largest increases.

In Alberta, the number jumped by 27.3% in one month to 30,600 in February, bringing the total increase since October 2008 to 67.9%. Also, between February 2008 and February 2009, the number of beneficiaries doubled in most large centres in the province.

The number of beneficiaries in British Columbia reached 63,700 after an 11.6% increase in February; the total increase since October 2008 was 39.8%. In Ontario, the 7.8% increase in February brought the number to 198,900; since October 2008, the number of beneficiaries has risen by 28.6%. From January to February, the number of beneficiaries in Saskatchewan rose 7.3% to 10,000, and has climbed to 17.6% since October 2008, much less than the national average.

Between February 2008 and February 2009, the number of men receiving regular benefits increased more than the number of women (36.7% compared with 20.6%).

In February, 325,700 employment insurance claims were filed in Canada, the largest number since 1997, when comparable data became available. The number of February claims was up 51,000 or 18.6% from January.

For more information, see the April 28, 2009 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ ***Labour productivity***

Extending the weakness that began in the second quarter of 2007, labour productivity of Canadian businesses fell 0.5% in the fourth quarter of 2008, as output dropped more rapidly than hours worked.

The real gross domestic product (GDP) of Canadian businesses shrank by 1.3% in the fourth quarter, reflecting weak domestic demand and the continuing slump in exports. This was the largest decline since the first quarter of 1991, when business sector GDP declined 2.2%.

At the same time, hours worked fell 0.8% after remaining virtually unchanged in the previous two quarters.

The majority of industries experienced a drop in productivity in the fourth quarter. Wholesale trade, manufacturing, and finance, insurance and real estate accounted for much of the decline.

In the United States, productivity in the business sector edged down 0.1% in the fourth quarter. It was the first quarterly decrease since the fourth quarter of 2007.

For 2008 as a whole, labour productivity in the Canadian business sector fell 1.1%, the first annual decline since 1996. Production of goods and services dropped by 0.3%. At the same time, hours worked continued to rise, albeit at only half the rate of the previous two years.

Despite a slight decrease in the fourth quarter, productivity in American businesses grew 2.7% for 2008 as a whole, appreciably higher than the annual rates for the previous three years. This occurred in a context marked by a gradual slowdown in the annual growth rate of American GDP that began in 2005, and the first annual decrease in hours worked in five years.

For more information, see the March 17, 2009 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ ***Employer pension plans (trusteed pension funds)***

The market value of assets held in employer-sponsored pension funds fell by 8.7% during the third quarter of 2008 to \$869.0 billion, the largest quarterly decline in a decade. The decline was the result of a significant drop in stock prices and foreign investments.

The Standard and Poor's/Toronto Stock Exchange closing composite index lost 9.3% of its value during the third quarter. As a result, the market value of stocks and equity funds accounted for 34.2% of total pension fund assets at the end of the third quarter, down from 38.4% in the same quarter in 2007. Prior to the market downturn in 2001 and 2002, stocks and equities funds accounted for up to 45% of the market value of pension fund assets.

The value of pension funds held in foreign investments has fallen for six consecutive quarters. At the end of the third quarter, foreign investments accounted for 28.9% of total pension fund assets, down from the most recent peak of 31.3% during the first quarter of 2007.

Expenditures of \$22.8 billion in the third quarter exceeded revenues of \$17.0 billion, for a negative cash flow of \$5.8 billion. This was the largest quarterly net

income loss in six years and the second time in 2008 that pension funds experienced a negative cash flow. The negative cash flow resulted from significant net losses on the sale of securities. Collectively, pension fund managers reported \$8.5 billion in third quarter losses, the largest net loss on sale of securities recorded for trusted pension funds.

Total revenue from contributions in the third quarter of 2008 amounted to \$8.3 billion, down 1.6% from the second quarter. Pension benefits paid to retirees grew 5.8%, reaching a high of \$9.8 billion. Benefits exceeded pension contributions made by employers and employees for a fifth quarter in a row.

For more information, see the March 12, 2009 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *Low income in Canada's regions*

Comparisons of low income between regions may affect policy choices. However, it is often argued that rankings of distributions are not robust and that they are also sensitive to definitions of low income. This paper avoids these problems by using a stochastic dominance approach to compare regional low income profiles in Canada without arbitrarily specifying a low-income line.

This analysis was carried out for the 10 provinces using the Survey of Labour and Income Dynamics for 2000. Robustness of the results was also verified for different choices of spatial price deflators and equivalence scales. The extent to which the findings are sensitive to the choice of an absolute or a relative concept of low income was also examined.

The paper shows that, in most cases, dominance relations can be determined and regional low income can be ordered for a wide range of low-income lines. It also shows that dominance results are robust to the choice of equivalence scales, while rank reversal occurs when alternative cost-of-living deflators are used. Switching from an absolute to a relative low-income concept affected low-income rankings only for Ontario, Quebec and the Prairie provinces. Nevertheless, for all scales, the study found low income to be greatest in British Columbia.

For more information, see *Comparing Low Income of Canada's Regions: A Stochastic Dominance Approach* by Wen-Hao Chen, Income Research Paper Series, October 2008, 44 p.

■ *Productivity in Canadian and U.S. manufacturing*

Many historical comparisons of international productivity use measures of labour productivity (output per worker). Differences in labour productivity can be caused by differences in technical efficiency or differences in capital intensity. Measures of total factor productivity allow international comparisons to ascertain whether differences in labour productivity arise from differences in efficiency or differences in factors utilized in the production process.

This paper examines differences in output per worker in the manufacturing sectors of Canada and the United States in 1929 and the extent to which they arose from efficiency differences. It makes corrections for differences in capital and materials intensity per worker in order to derive a measure of total factor efficiency of Canada relative to the United States, using detailed industry data. It finds that while output per worker in Canada was only about 75% of the United States productivity level, the Canadian total factor productivity measure was about the same as the American level—that is, the two countries differed very little in technical efficiency. Canada's lower output per worker was the result of the use of less capital and materials per worker than in the United States.

For more information, see *The Productivity Differential Between the Canadian and U.S. Manufacturing Sectors: A Perspective Drawn from the Early 20th Century* by John R. Baldwin and Alan G. Green, Canadian Productivity Review research paper, December 2008, 35 p.

■ *Men and women and domestic work*

While women are still largely responsible for household work, the gender gap on the domestic front is closing. In 2005, men aged 25 to 54 averaged 2.5 hours per day doing unpaid household work, including primary child care and shopping, up from 2.1 in 1986. In contrast, the average time women spent on these activities declined from 4.8 hours per day in 1986 to 4.3 in 2005. As a result, while women still devote more time to unpaid household work than their male counterparts, the gap is down from close to three hours per day in the mid-1980s to less than two hours per day twenty years later in the mid-2000s.

For more information, see "Are women spending more time on unpaid domestic work than men in Canada?" by Colin Lindsay, *Matter of Fact* series on the General Social Survey, September 2008.

■ *Inequality and instability of earnings*

This paper examines the variability of workers' earnings in Canada from 1982 to 2000 by a graphical descriptive approach using the Longitudinal Administrative Data file. The study decomposed the total variance of workers' earnings into a 'permanent' or long-run component between workers and a 'transitory' or year-to-year earnings instability component over time for given workers. The decomposition was applied to a five-year moving window.

The general rise in total earnings variance over the period was found to reflect quite different patterns of change for its separate components. Long-run earnings inequality generally increased over the period, while year-to-year earnings instability steadily decreased. Changes in the total earnings variability were driven primarily by changes in long-run earnings inequality.

Second, the patterns of change in the two variance components showed substantial differences between men and women. Since the early 1990s, long-run earnings inequality continued to rise for men, but it decreased markedly for women. Since the late 1980s, earnings instability fell quite steadily for women, but it showed a more cyclical pattern for men.

Third, the patterns across ages of the two variance components were almost opposite. Long-run earnings inequality generally rises with age, so it is markedly highest among older workers. Earnings instability, in contrast, generally declines with age, so it is markedly highest among entry-age workers.

For more information, see *Long-run Inequality and Annual Instability of Men's and Women's Earnings in Canada* by Charles M. Beach, Ross Finnie and David Gray, Analytical Studies Branch Research Paper Series, December 2008.

■ *Immigrant economic and social outcomes in Canada*

This paper reviews Statistics Canada research on the economic deterioration for immigrants entering Canada and the possible reasons behind it. Through

the 1980s and 1990s three factors were associated with this deterioration: the changing mix of source regions and related issues such as language and school quality, declining returns to foreign experience, and the deterioration in economic outcomes for all new labour market entrants, of which immigrants are a special case.

After 2000, the reasons appear to be different, and are associated more with the dramatic increase in the number of engineers and information technology (IT) workers entering Canada, and the IT economic downturn. The paper also reviews research indicating that economic outcomes for most second-generation Canadians remain very positive. Finally, the interaction between immigration and social cohesion in Canada as well as possible reasons Canada has not seen the discontent with immigration policy observed in some European countries are discussed.

For more information, see *Immigrant Economic and Social Outcomes in Canada: Research and Data Development at Statistics Canada* by Garnett Picot, Analytical Studies Branch Research Paper Series, December 2008, 37 p.

■ From other organizations

■ *Canada and the IMF*

Canada played an important role in the postwar establishment of the International Monetary Fund (IMF), yet it was also the first major member to challenge the orthodoxy of the Bretton Woods par value system by abandoning it in 1950 in favour of a floating, market-determined exchange rate.

Canada's trail-blazing experience demonstrated that a flexible exchange rate could operate in a stable and effective manner under a high degree of capital mobility. It also showed that monetary policy needs to be conducted differently under a flexible exchange rate and capital mobility. The remarkable stability of the dollar during the 1950s contradicted previous wisdom on floating exchange rates, which had predicted significant volatility.

In 1962, Canada returned to the Bretton Woods system as a "prodigal son" after a period of controversial monetary policy and a failed attempt to depreciate the value of the Canadian dollar. This paper analyzes the interaction between Canadian and IMF officials regarding Canada's exchange rate policy in view of the economic circumstances and the prevailing wis-

dom at the time. It also examines the impact of the Canadian experience on IMF research and policy. See *Canada and the IMF: Trailblazer or Prodigal Son?* by Michael Bordo, Tamara Gomes and Lawrence Schembri, discussion paper, Bank of Canada, January 2009.

■ *Retirement income security and well-being in Canada*

A large international literature has documented the labour market distortions associated with social security benefits for near-retirees. This paper investigates the 'other side' of social security programs, seeking to document improvements in well-being arising from the provision of public pensions.

To the extent households adjust their savings and employment behaviour to account for enhanced retirement benefits, the positive impact of the benefits may be crowded out. The study uses the large variation across birth cohorts in income security entitlements in Canada that arise from reforms to the programs over the past 35 years. This variation allows exploring the effects of benefits on elderly well-being while controlling for other factors that affect well-being over time and by age.

The study examines measures of income, consumption, poverty, and happiness. For income, it finds large increases in income corresponding to retirement benefit increases, suggesting little crowd out. Consumption also shows increases, although smaller in magnitude than for income. It also finds larger retirement benefits diminish income poverty rates, but have no discernable impact on consumption poverty measures. This could indicate smoothing of consumption through savings or other mechanisms. See *Retirement Income Security and Well-Being in Canada* by Michael Baker, Jonathan Gruber and Kevin Milligan, NBER Bulletin on Aging and Health, January 2009.

■ *The changing role of education in the marriage market*

This paper reports trends in educational assortative marriage in Canada and compares them to similar trends in the United States. It shows that educational homogamy—the tendency of like to marry like—has risen in both countries over the last three decades. At the beginning of the 1970s, educational homogamy

rates were substantially higher in the United States than in Canada. However, the tendency to marry across educational boundaries declined more rapidly in Canada than in the United States so that by century's end the two countries were virtually indistinguishable.

Trends in both countries were mainly driven by changing patterns of mate selection rather than changes in the marital opportunity structure produced by growing similarity in the educational attainment of young men and women. The study discusses these trends in the context of their implications for recent developments and future trends in family income inequality. See "The changing role of education in the marriage market: Assortative marriage in Canada and the United States since the 1970s" by Feng Hou and John Myles, *Canadian Journal of Sociology*, Summer 2008, Vol. 33, No. 2.

■ *U.S. labour market in 2008*

The U.S. labour market started to slide during the second half of 2007 and continued sliding through 2008. In the fourth quarter of 2008, the unemployment rate rose to 6.9% and the unemployment level reached 10.6 million, increases of 2.1 percentage points and 3.3 million persons over the fourth quarter of 2007. Employment declined for nearly all major worker groups, with men accounting for a much larger proportion of the decline than women. And the employment-population ratio fell during 2008. See "U.S. labor market in 2008: economy in recession" by James Marschall Borbely, *Monthly Labor Review*, March 2009.

■ *Job losses across industries*

December 2007, considered as the official start of the current recession in the U.S., marked the end of a nearly three-year employment expansion, totalling almost 5.4 million jobs. Job growth had slowed during 2007, and then employment fell by 3.1 million (-2.2%) during 2008, with declines that were more widespread and severe than during the previous two employment contractions. Of the major industries, only mining, education and health care saw some employment growth in 2008. See "Substantial job losses in 2008: weakness broadens and deepens across industries" by Laura A. Kelter, *Monthly Labor Review*, March 2009.

■ *Work hours preferences and life events*

Using panel data for 2001 to 2005 from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, this study examines workers' desires for, and achievement of, work-hour flexibility by estimating a dynamic model that controlled for preferences in previous years and tested for the effects of life events on both desired employment and desired work hours.

Many life events, such as motherhood and retirement, were found to have predictable effects. Parallel regressions were estimated for actual employment and the number of hours usually worked, and the results were compared to those for preferences. The dynamics of usual hours often mirrored those for preferences, suggesting that labour markets function effectively for many employees. However, mismatches were associated with three life events: motherhood, widowhood for men, and job loss. The results also suggest that many men and women would extend employment under phased retirement programs, although only for a brief period. See "Who wants and gets flexibility? Changing work hours preferences and life events" by Robert Drago, Mark Wooden and David Black, *Industrial & Labor Relations Review*, 2008, Vol. 62, No. 3.

■ *Rich households and aggregate fluctuations*

This paper analyzes the exposure of high-income households to aggregate booms and busts and finds a significant break with the past in regard to who bears aggregate risk. The income—especially wages and salaries—of rich households is now more vulnerable to aggregate fluctuations than that of poorer households and the consumption of high-income households varies more with aggregate fluctuations in part because the income of these households varies more. This has clear implications for the effects of recent recessions on consumption inequality. See *Who Bears Aggregate Fluctuations and How?* by Jonathan Parker and Annette Vissing-Jorgensen, NBER Digest Online, April 2009.

■ *Deciphering the credit crunch*

This study identifies four distinct economic mechanisms that played a role in the liquidity and credit crunch now hobbling the financial system. First, the effects of the hundreds of billions of dollars of bad

loan write-downs on borrowers' balance sheets caused two "liquidity spirals." As asset prices dropped, financial institutions not only had less capital but also a harder time borrowing, because of tightened lending standards.

Second, lending channels dried up when banks, concerned about their future access to capital markets, hoarded funds from borrowers regardless of credit-worthiness. Third, runs on financial institutions can and did suddenly erode bank capital. Fourth, the mortgage crisis was amplified and became systemic through network effects, which can arise when financial institutions are lenders and borrowers at the same time.

The study also traces trends in the banking industry that contributed to the lending boom, the housing frenzy, and the 2007 crisis. One such trend developed as banks off-loaded their risks by moving to an "originate and distribute" model of lending. Rather than holding mortgages and other loans on their own books, they held them just long enough to repackage them and pass them on to other investors, who would trade them in bundles as securities. Commercial banks also relied increasingly on short-term wholesale funding and played a role in building the crisis, too. For example, since they only briefly held loans on their books, these banks had little incentive to monitor individual mortgages. See *Deciphering the Liquidity and Credit Crunch 2007-2008* by Markus Brunnermeier, NBER Digest Online, March 2009.

■ *Offshoring of service occupations*

Advances in telecommunications—in particular, the Internet—have enabled information to circle the globe nearly instantaneously. Consequently, many services that previously needed to be performed domestically can now theoretically be performed anywhere in the world. The movement of work that results from this development, generally termed "offshoring," has the potential to affect employment in industries and occupations, but the nature and scale of its impact remain unclear. This article identifies 160 occupations considered susceptible to offshoring and reports trends in historical and projected data for those occupations. See "Service-providing occupations, offshoring, and the labor market" by Roger J. Moncarz, Michael G. Wolf and Benjamin Wright, *Monthly Labor Review*, December 2008.

■ Upcoming events

Workshop for Users of the German Socio-Economic Panel (GSOEP) and the Cross-National Equivalent Files (CNEF), September 10-12, 2009 at Cornell University.

The Department of Policy Analysis and Management at Cornell University will hold this workshop to introduce researchers to the German Socio-Economic Panel (GSOEP) and the Cross-National Equivalent Files (CNEF).

Twenty-four waves of GSOEP data are available to researchers interested in using this rich panel study. The CNEF currently includes data from six countries' panel studies: the GSOEP, the British Household Panel Study (BHPS), the Canadian Survey of Labour and Income Dynamics (SLID), the Household Income and Labour Dynamics in Australia (HILDA), the Swiss Household Panel (SHP) and the United States Panel Study of Income Dynamics (PSID). Data from each of these studies have been extracted and manipulated to facilitate cross-national comparative research.

The resulting subset of variables from each study constitutes the Cross-National Equivalent Files. The purpose of the workshop is to introduce and familiarize new users with the file structure and potential of the GSOEP and CNEF data. Current users will also benefit from sessions with highly trained researchers who will explain more subtle issues involved in analyses that use the GSOEP sample of residents of the former East Germany.

For more information, contact Melody Reinecke, Department of Policy Analysis and Management, 120 MVR Hall, Cornell University, Ithaca, NY 14853-4401, USA. Telephone: 607-255-8012, Fax: 607-255-4071, E-mail: GSOEP@cornell.edu or CNEF@cornell.edu. Conference information will also be available on the Department of Policy Analysis and Management website at <http://www.human.cornell.edu/che/PAM/Research/Centers-Programs/German-Panel/2007conf.pdf>

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Major wage settlements
Workplace Information Directorate
(Human Resources and Social
Development Canada)
819-997-3117 or 1-800-567-6866

Labour income
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Survey of Labour and Income Dynamics
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Adult Education and Training Survey
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Work absence rates

There are many kinds of absence. Some, such as annual vacation, are generally considered beneficial for both the organization and the employee. Since they are usually scheduled, their effect on the organization can be fairly easily absorbed; the same can be said of statutory holidays. Other absences, such as those caused by illness and family-related demands, are generally unavoidable, as are those due to inclement weather.

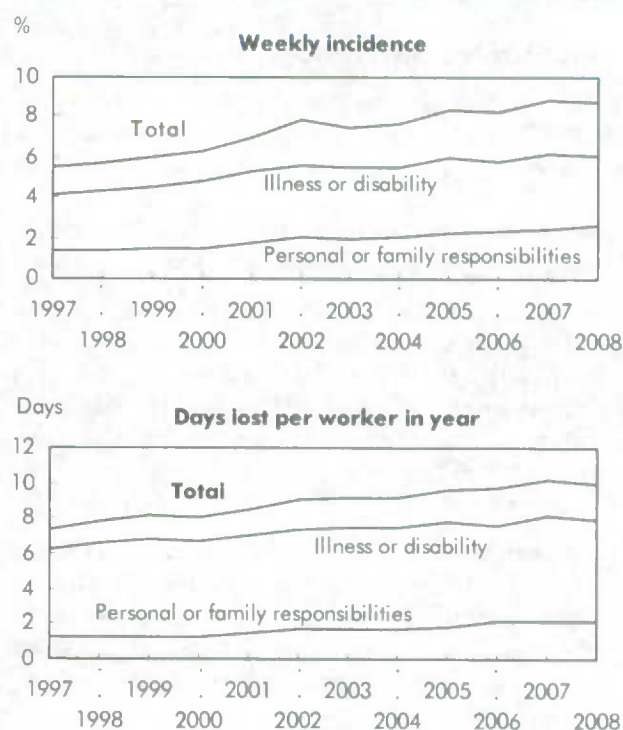
Absenteeism, a term used to refer to absences that are avoidable, habitual and unscheduled, is a source of irritation to employers and co-workers. Such absences are disruptive to proper work scheduling and output, and costly to an organization and the economy as a whole. Although absenteeism is widely acknowledged to be a problem, it is not easy to quantify. The dividing line between avoidable and unavoidable is difficult to draw, and absenteeism generally masquerades as legitimate absence. The Labour Force Survey (LFS) can provide measures of time lost because of personal reasons—that is, illness or disability, and personal or family responsibilities. However, within these categories, it is impossible to determine if an absence is avoidable or unscheduled. LFS data on absences for personal reasons can, however, be analyzed to identify patterns or trends that indicate the effect of absenteeism (see *Data source and definitions*).

Recent trends—1997 to 2008

Since 2000, both the incidence and the number of days lost for personal reasons (illness or disability, and personal or family responsibilities) have shown a rising trend (Chart). Several factors have contributed: notably, an aging workforce; the growing share of women in the workforce, especially those with young children; high worker stress;¹ and more generous sick- and family-related leave benefits.

In an average week in 1997, excluding women on maternity leave, about 5.5% (484,000) of all full-time employees holding one job were absent from work for all or part of the week for personal reasons.² By 2008, the figure had risen to 8.7% (975,000) (Table 1). Total work time missed also rose steadily, from 3.0%

Chart Work absence rates, 1997 to 2008



Source: Statistics Canada, Labour Force Survey.

of the scheduled week in 1997 to 4.0% in 2008; this was slightly down from 2007. Extrapolated over the full year, work time lost for personal reasons increased from the equivalent of 7.4 days per worker in 1997 to 10.0 days in 2008.

Variations in absence rates in 2008

Absence for personal reasons differs among various worker groups. Several factors are responsible, principally working conditions (physical environment, degree of job stress, employer-employee relations, collective agreement provisions, work schedules);

adequacy and affordability of community facilities such as child-care centres and public transportation; family circumstances, especially the presence of pre-school children or other dependent family members; and physical health of the worker, a factor closely related to age. Measuring the effects of these and other contributing factors is not easy since many are not captured by the LFS. However, some insight is gained by examining personal absences in 2008 by selected demographic characteristics, occupation and industry, and other attributes such as union and job status.

Demographic differences

In 2008, excluding women on maternity leave, an estimated 8.7% of full-time employees missed some work each week for personal reasons: 6.1% for own illness or disability, and 2.6% for personal or family responsibilities (Table 2). As a result, full-time employees lost about 4.0% of their work time each week.

On average, each full-time employee lost 10.0 days in 2008 for personal reasons (7.9 for own illness or disability plus 2.1 for personal or family demands). This amounted to an estimated 113 million workdays for all full-time employees. Men lost fewer days than women—8.8 (6.7 for illness or disability plus 2.1 for personal or family demands) versus 11.8 (9.6 plus 2.2).

The presence of pre-school aged children exerts a strong influence on work absences for personal or family responsibilities. In 2008, full-time employees in families with at least one pre-school aged child lost an average of 6.1 days, compared with only 1.6 for those in families without children.

The growing prevalence of family-leave entitlements in the workplace, the extension of Employment Insurance parental benefits,³ and the greater involvement of fathers in child care appear to have eliminated the difference between the sexes with respect to personal and family-related absences (Marshall 2003; Marshall 2008). In 1997, women with pre-school aged children and working full time lost 4.1 days for such reasons, compared with 1.8 days for men in similar circumstances. By 2006, the gap had narrowed considerably (6.2 days for women versus 5.4 for men), and in 2007, it actually reversed (6.3 days for men versus 4.8 for women). In 2008, men with pre-school aged children and working full time again lost more time than women in similar circumstances (6.5 days versus 5.4).

Workdays missed because of illness or disability tended to rise with age, from an average of 5.1 days for youth (15 to 19) to 12.0 for full-time employees aged 55 to 64.

Industry and sector

Work absence rates differ by sector (public or private) and industry, with almost all of the difference arising from illness and disability absences (Table 3). Contributing factors include the nature and demands of the job, the male–female composition of the workforce, and the union density—the last being a strong determinant of the presence of paid sick or family leave.

Full-time employees in the public sector (more likely unionized or female) lost more work time in 2008 for personal reasons (13.3 days, compared with 12.8 in 2007) than their private-sector counterparts (9.1 days, compared with 9.5 in 2007).

At the major (2-digit) industry level, the most workdays were missed by employees in health care and social assistance (14.9 days), public administration (13.8), and transportation and warehousing (12.3).

The lowest averages were recorded by full-time workers in professional, scientific and technical services (6.3 days). Those in accommodation and food services also missed fewer workdays (7.3).

Occupation

Contributing factors for absence rates by occupation are similar to those for industry (Table 4). Again, as by major industry, differences arise mainly from time lost due to illness or disability.

The most days lost in 2008 were recorded for full-time employees in health occupations (16.1), and occupations unique to production (13.5). Workers in management (6.3), and in natural and applied sciences (7.8) recorded the fewest days lost.

Union coverage, job status, workplace size and job tenure

Full-time workers who belonged to unions or were covered by collective agreements missed more workdays on average in 2008 for personal reasons than their non-unionized counterparts (13.9 versus 8.2) (Table 5).

Workers with permanent jobs (more likely to be unionized) lost more workdays (10.2) than those whose jobs were not permanent (8.2).

Days lost tended to rise with workplace size, increasing from a low of 8.5 in workplaces with fewer than 20 employees (firms more likely to have low union rates) to 11.9 in workplaces with more than 500 employees (firms likely to have high union rates).

Days lost tended to rise with job tenure, with almost all the differences arising from illness and disability. Employees with tenure of up to one year lost 7.5 days, while those with over 14 years lost 12.4 days (the latter group were also likely older).

Province and CMA

Work absence levels differed by geographic area (Table 6), with most of the variation again arising from illness or disability.

Full-time employees in Quebec (11.6) and Nova Scotia (11.4) lost the most work time in 2008. Those in Alberta (8.3) and Prince Edward Island (9.0) lost the least.

Among the census metropolitan areas, Saguenay (13.7), Greater Sudbury (13.6) and Trois-Rivières (12.8) lost the most days per full-time worker. Kitchener-Waterloo (7.4), Calgary (8.1) and Toronto (8.3) had the least.

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■ Notes

1. For more information on this subject, see Margot Shields, "Stress, health and the benefit of social support," *Health Reports* (Statistics Canada Catalogue 82-003-XIE) vol. 15, no. 1, January 2004. Also see Cara Williams, "Sources of workplace stress," *Perspectives on Labour and Income* (Statistics Canada Catalogue 75-001-XIE) vol. 4, no. 6, June 2003 online edition.
2. 1997 marks the introduction of the revised Labour Force Survey questionnaire.
3. In December 2000, changes in Employment Insurance regulations extended the duration of parental leave benefits from 10 to 35 weeks. The 35 weeks can be taken by one (qualifying) parent, or they can be split between both (qualifying) parents.

■ References

- Marshall, Katherine. 2003. "Benefiting from extended parental leave". *Perspectives on Labour and Income*. Vol. 15, no. 2. Summer. Statistics Canada Catalogue no. 75-001-XPE. p. 15-21.
- Marshall, Katherine. 2008. "Fathers' use of paid parental leave". *Perspectives on Labour and Income*. Vol. 20, no. 3. Autumn. Statistics Canada Catalogue no. 75-001-XPE. p. 5-14.

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Data source and definitions

The data in this article are annual averages from the **Labour Force Survey (LFS)**. They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunity to arrange their work schedules around personal or family responsibilities. Multiple jobholders, too, are excluded because it is not possible using LFS data to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada's work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employer). In 2008, the number of employed persons on such long-term illness or disability leave averaged 29,500 in a typical week. Their exclusion would have reduced the weekly work absence incidence for illness or disability from 6.1% to 5.8%, the inactivity rate from 3.2% to 2.9%, and days lost per worker that year from 7.9 to 7.3.

Personal reasons for absence are split into two categories: 'own illness or disability' and 'personal or family responsibilities' (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two reasons represented 30% of all time lost by full-time paid workers each week in 2008. Vacations, which accounted for 41% of total time away from work, are not counted in this study, nor are statutory holidays, which represented 12%. Maternity leave represented 11% and other reasons, 6%.

The **Incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating incidence, the length of work absence—whether an hour, a day, or a full week—is irrelevant.

The **inactivity rate** shows hours lost as a proportion of the usual weekly hours of full-time paid workers. It takes into account both the incidence and length of absence in the reference week.

Days lost per worker are calculated by multiplying the inactivity rate by the estimated number of working days in the year (250).

Reasons for work absences in the LFS

The LFS sets out the following reasons for being away from work:

- own illness or disability
- caring for own children
- caring for elder relative (60 years or older)
- maternity leave (women only)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (because of material shortages, plant maintenance or repair, for instance)
- other

As normally published, personal or family responsibilities consist of caring for own children, caring for elder relative, and other personal or family responsibilities.

Table 1 Absence rates for full-time employees by sex, 1997 to 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Both sexes									
1997	5.5	4.1	1.4	3.0	2.5	0.5	7.4	6.2	1.2
1998	5.7	4.3	1.4	3.1	2.6	0.5	7.8	6.6	1.2
1999	6.0	4.5	1.5	3.2	2.7	0.5	8.1	6.8	1.3
2000	6.3	4.8	1.5	3.2	2.7	0.5	8.0	6.7	1.3
2001	7.0	5.3	1.8	3.4	2.8	0.6	8.5	7.0	1.5
2002	7.8	5.6	2.1	3.6	3.0	0.7	9.1	7.4	1.7
2003	7.5	5.5	2.0	3.7	3.0	0.7	9.2	7.5	1.7
2004	7.6	5.5	2.1	3.7	3.0	0.7	9.2	7.5	1.7
2005	8.3	6.0	2.3	3.9	3.1	0.7	9.6	7.8	1.8
2006	8.2	5.8	2.4	3.9	3.0	0.9	9.7	7.6	2.1
2007	8.8	6.2	2.5	4.1	3.2	0.8	10.2	8.1	2.1
2008	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Men									
1997	4.6	3.4	1.2	2.5	2.1	0.4	6.3	5.3	0.9
1998	4.9	3.7	1.2	2.7	2.3	0.4	6.9	5.8	1.0
1999	5.2	3.9	1.3	2.8	2.4	0.4	7.0	5.9	1.1
2000	5.5	4.1	1.4	2.8	2.4	0.4	7.0	5.9	1.1
2001	6.1	4.6	1.6	3.1	2.5	0.5	7.6	6.3	1.3
2002	6.7	4.8	1.9	3.2	2.6	0.6	8.0	6.5	1.6
2003	6.5	4.7	1.8	3.3	2.6	0.6	8.2	6.6	1.5
2004	6.6	4.6	2.0	3.2	2.6	0.7	8.0	6.4	1.6
2005	7.2	5.2	2.1	3.4	2.7	0.7	8.6	6.9	1.7
2006	7.2	5.1	2.1	3.5	2.7	0.8	8.7	6.7	1.9
2007	7.5	5.1	2.4	3.5	2.7	0.8	8.8	6.7	2.1
2008	7.5	5.1	2.4	3.5	2.7	0.8	8.8	6.7	2.1
Women									
1997	6.7	5.1	1.7	3.6	3.0	0.6	9.1	7.6	1.5
1998	6.7	5.1	1.6	3.7	3.1	0.6	9.2	7.8	1.5
1999	7.1	5.4	1.8	3.8	3.2	0.6	9.6	8.0	1.6
2000	7.5	5.7	1.8	3.8	3.2	0.6	9.4	7.9	1.5
2001	8.2	6.2	2.0	3.9	3.2	0.7	9.8	8.0	1.8
2002	9.2	6.7	2.4	4.3	3.5	0.8	10.7	8.7	1.9
2003	8.9	6.6	2.3	4.3	3.5	0.8	10.7	8.8	1.9
2004	8.9	6.6	2.3	4.3	3.6	0.7	10.8	9.0	1.9
2005	9.6	7.0	2.6	4.5	3.7	0.8	11.2	9.1	2.0
2006	9.5	6.8	2.7	4.5	3.5	1.0	11.2	8.8	2.4
2007	10.3	7.5	2.8	4.8	3.9	0.9	12.0	9.9	2.1
2008	10.2	7.3	2.8	4.7	3.8	0.9	11.8	9.6	2.2

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.

Table 2 Absence rates for full-time employees by sex, age, education and presence of children, 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
Age	%			%			days		
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
15 to 19	7.0	5.2	1.8	2.6	2.1	0.6	6.6	5.1	1.4
20 to 24	8.0	5.8	2.2	3.0	2.3	0.7	7.4	5.7	1.7
25 to 34	8.8	5.7	3.1	3.7	2.5	1.1	9.2	6.4	2.8
35 to 44	8.9	5.9	3.0	3.9	2.9	1.0	9.9	7.3	2.5
45 to 54	8.3	6.2	2.2	4.2	3.5	0.7	10.5	8.9	1.7
55 to 64	9.4	7.3	2.1	5.4	4.8	0.6	13.6	12.0	1.6
65 and over	7.8	5.6	2.2	4.5	3.7	0.8	11.4	9.3	2.0
Men	7.5	5.1	2.4	3.5	2.7	0.8	8.8	6.7	2.1
15 to 19	6.9	5.0	1.8	2.6	2.0	0.6	6.4	5.0	1.4
20 to 24	7.4	5.4	2.0	2.9	2.3	0.6	7.3	5.7	1.6
25 to 34	7.3	4.4	2.9	3.1	1.9	1.2	7.7	4.8	2.9
35 to 44	7.6	4.9	2.7	3.4	2.4	1.0	8.4	5.9	2.5
45 to 54	7.3	5.3	2.0	3.7	3.1	0.6	9.3	7.8	1.5
55 to 64	8.2	6.2	2.0	4.7	4.2	0.6	11.9	10.4	1.4
65 and over	8.1	5.9	2.2	4.8	4.0	0.8	12.0	10.0	2.0
Women	10.2	7.3	2.8	4.7	3.8	0.9	11.8	9.6	2.2
15 to 19	7.3	5.5	1.8	2.7	2.1	0.6	6.8	5.3	1.5
20 to 24	8.8	6.4	2.4	3.0	2.3	0.7	7.6	5.7	1.8
25 to 34	10.9	7.5	3.4	4.5	3.5	1.0	11.3	8.7	2.6
35 to 44	10.6	7.3	3.3	4.7	3.7	1.0	11.8	9.3	2.5
45 to 54	9.5	7.2	2.3	4.8	4.1	0.8	12.1	10.1	2.0
55 to 64	10.9	8.6	2.2	6.4	5.7	0.7	15.9	14.2	1.8
65 and over	7.4	5.2	F	4.0	3.2	F	10.0	8.0	F
Educational attainment									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Less than grade 9	9.2	7.1	2.1	5.6	4.8	0.8	14.0	12.1	1.9
Some secondary	10.0	7.3	2.7	5.1	4.2	0.9	12.8	10.5	2.4
High school graduation	8.3	6.0	2.3	4.0	3.2	0.8	9.9	8.0	1.9
Some postsecondary	9.4	6.7	2.6	4.2	3.3	0.9	10.6	8.3	2.2
Postsecondary certificate or diploma	9.0	6.3	2.7	4.3	3.4	0.9	10.7	8.5	2.2
University degree	7.7	5.1	2.6	3.1	2.2	0.9	7.7	5.5	2.2
Presence of children									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
With children	9.4	6.0	3.4	4.3	3.1	1.2	10.8	7.9	3.0
Preschoolers- under 5 years	11.7	6.2	5.5	5.4	3.0	2.4	13.5	7.4	6.1
5 to 12 years	8.8	5.8	3.0	3.8	3.0	0.8	9.4	7.4	2.0
13 years and over	8.1	6.0	2.1	4.0	3.4	0.6	10.0	8.5	1.5
Without children	8.2	6.1	2.0	3.8	3.2	0.6	9.5	7.9	1.6

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.

Table 3 Absence rates for full-time employees by industry and sector, 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
		%			%		days		
All industries	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Public employees	10.7	8.0	2.7	5.3	4.3	1.0	13.3	10.8	2.4
Private employees	8.0	5.5	2.5	3.6	2.8	0.8	9.1	7.0	2.1
Goods-producing	8.1	5.5	2.6	3.9	3.1	0.8	9.7	7.7	2.1
Primary	6.1	4.0	2.0	3.1	2.4	0.7	7.7	5.9	1.8
Agriculture	7.1	4.4	2.6	3.4	2.5	0.8	8.4	6.4	2.0
Other	5.7	3.9	1.8	3.0	2.3	0.7	7.5	5.8	1.8
Utilities	9.2	6.7	2.6	4.0	3.2	0.8	10.1	8.1	2.0
Construction	7.4	4.9	2.6	3.4	2.6	0.8	8.6	6.5	2.1
Manufacturing	8.8	6.1	2.7	4.3	3.4	0.9	10.7	8.6	2.1
Durable	8.9	6.2	2.7	4.2	3.4	0.8	10.5	8.5	2.1
Non-durable	8.5	6.0	2.6	4.4	3.5	0.9	11.0	8.8	2.2
Service-producing	8.9	6.3	2.6	4.1	3.2	0.9	10.2	8.0	2.2
Trade	8.0	5.5	2.5	3.5	2.7	0.8	8.8	6.8	2.0
Wholesale	8.2	5.3	2.9	3.3	2.5	0.8	8.3	6.3	2.0
Retail	7.9	5.5	2.4	3.6	2.8	0.8	9.1	7.1	2.0
Transportation and warehousing	8.7	6.6	2.2	4.9	4.1	0.8	12.3	10.3	2.0
Finance, insurance, real estate and leasing	7.8	5.4	2.4	3.3	2.5	0.7	8.2	6.3	1.9
Finance and insurance	8.0	5.6	2.4	3.4	2.6	0.7	8.5	6.6	1.8
Real estate and leasing	7.1	4.6	2.4	2.8	2.0	0.8	7.0	5.0	2.0
Professional, scientific and technical	7.6	4.5	3.1	2.5	1.7	0.8	6.3	4.2	2.1
Business, building and support services	10.4	7.6	2.8	4.6	3.6	1.0	11.5	9.0	2.5
Educational services	9.2	6.4	2.8	3.9	2.9	1.0	9.7	7.3	2.4
Health care and social assistance	10.9	8.5	2.3	6.0	5.1	0.9	14.9	12.7	2.2
Information, culture and recreation	7.8	5.2	2.5	3.2	2.4	0.8	7.9	5.9	2.0
Accommodation and food services	6.3	4.5	1.8	2.9	2.2	0.7	7.3	5.6	1.7
Other services	7.5	4.7	2.8	3.2	2.3	0.9	7.9	5.6	2.3
Public administration	11.8	8.6	3.2	5.5	4.4	1.1	13.8	11.0	2.8
Federal	14.5	10.2	4.3	6.5	4.9	1.5	16.2	12.3	3.8
Provincial	10.8	8.2	2.5	5.0	4.3	0.7	12.6	10.8	1.8
Local, other	9.3	6.9	2.4	4.8	3.8	1.0	12.0	9.6	2.4

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.

Table 4 Absence rates for full-time employees by occupation, 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
		%			%			days	
All occupations	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Management	6.1	4.0	2.1	2.5	1.9	0.6	6.3	4.7	1.6
Business, finance and administrative	9.8	6.8	3.0	4.0	3.2	0.9	10.1	8.0	2.1
Professional	7.4	4.9	2.4	3.0	2.2	0.8	7.4	5.5	1.9
Financial and administrative	9.0	6.1	2.9	3.6	2.8	0.8	8.9	6.9	2.0
Clerical	10.8	7.7	3.2	4.6	3.7	0.9	11.4	9.2	2.3
Natural and applied sciences	8.1	4.9	3.1	3.1	2.0	1.1	7.8	5.1	2.7
Health	11.0	8.8	2.1	6.4	5.6	0.8	16.1	14.0	2.1
Professional	7.6	5.7	F	4.0	3.1	F	10.0	7.8	F
Nursing	12.2	10.1	2.1	7.5	6.6	1.0	18.8	16.4	2.4
Technical	10.7	8.4	2.3	6.2	5.4	0.8	15.5	13.4	2.1
Support staff	11.1	9.0	2.1	6.4	5.7	0.7	16.1	14.3	1.8
Social and public service	9.2	6.4	2.8	3.9	2.9	1.0	9.8	7.3	2.5
Legal, social and religious	9.6	6.6	3.0	4.1	3.1	1.0	10.4	7.8	2.6
Teachers and professors	8.8	6.2	2.6	3.7	2.8	0.9	9.3	6.9	2.4
Secondary and elementary	9.7	7.0	2.8	4.0	3.1	1.0	10.1	7.6	2.4
Other	6.7	4.4	2.3	3.0	2.1	0.9	7.6	5.4	2.2
Culture and recreation	8.0	5.4	2.5	3.2	2.3	0.9	8.0	5.8	2.2
Sales and service	7.8	5.7	2.0	3.8	3.1	0.8	9.5	7.6	1.9
Wholesale	6.1	4.1	2.1	2.3	1.7	0.6	5.7	4.4	1.4
Retail	7.5	5.5	2.1	3.6	2.8	0.8	9.0	7.0	2.0
Food and beverage	6.1	4.4	1.7	3.1	2.4	0.7	7.7	5.9	1.8
Protective services	7.9	6.1	1.7	4.9	4.1	0.8	12.3	10.2	2.1
Childcare and home support	11.2	8.0	3.2	5.1	4.0	1.1	12.7	10.0	2.7
Travel and accommodation	9.2	7.0	2.2	4.6	3.8	0.8	11.5	9.6	2.0
Trades, transport and equipment operators	8.5	5.9	2.6	4.2	3.3	0.9	10.6	8.4	2.2
Contractors and supervisors	5.9	3.3	2.6	2.4	1.7	0.7	5.9	4.2	1.8
Construction trades	8.5	5.7	2.8	4.0	3.0	0.9	9.9	7.6	2.3
Other trades	8.7	5.9	2.8	4.1	3.2	0.9	10.3	7.9	2.4
Transport equipment operators	8.0	5.7	2.3	4.7	3.8	0.9	11.7	9.4	2.3
Helpers and labourers	9.9	7.4	2.4	5.0	4.2	0.8	12.5	10.6	1.9
Occupations unique to primary industry	6.8	4.5	2.3	3.7	2.8	0.8	9.2	7.1	2.1
Occupations unique to production	10.0	7.3	2.7	5.4	4.5	0.9	13.5	11.2	2.3
Machine operators and assemblers	10.0	7.2	2.8	5.5	4.5	1.0	13.7	11.3	2.4
Labourers	10.1	7.6	2.4	5.1	4.3	0.7	12.7	10.8	1.9

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.

Table 5 Absence rates for full-time employees by workplace size, job tenure, job status and union coverage, 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
Workplace size									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Under 20 employees	7.6	5.1	2.6	3.4	2.6	0.8	8.5	6.4	2.1
20 to 99 employees	8.7	6.1	2.6	3.9	3.1	0.8	9.7	7.7	2.1
100 to 500 employees	9.5	6.9	2.6	4.6	3.6	0.9	11.4	9.1	2.3
Over 500 employees	9.5	7.0	2.5	4.8	3.9	0.9	11.9	9.7	2.2
Job tenure									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
1 to 12 months	7.7	5.3	2.4	3.0	2.2	0.8	7.5	5.6	1.9
Over 1 to 5 years	8.5	5.8	2.7	3.8	2.9	0.9	9.5	7.2	2.3
Over 5 to 9 years	9.3	6.4	2.9	4.4	3.3	1.1	10.9	8.3	2.6
Over 9 to 14 years	8.9	6.0	2.8	4.2	3.3	0.9	10.6	8.3	2.3
Over 14 years	9.2	6.9	2.3	4.9	4.2	0.7	12.4	10.6	1.8
Job status									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Permanent	8.8	6.2	2.6	4.1	3.2	0.9	10.2	8.1	2.2
Non-permanent	7.6	5.1	2.5	3.3	2.5	0.8	8.2	6.2	2.0
Union coverage									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Union member or covered by collective agreement	10.6	8.0	2.6	5.5	4.6	1.0	13.9	11.5	2.4
Non-unionized	7.7	5.1	2.6	3.3	2.5	0.8	8.2	6.2	2.0

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.

Table 6 Absence rates for full-time employees by province, region and census metropolitan area (CMA), 2008, excluding maternity leave

	Incidence ¹			Inactivity rate ²			Days lost per worker in year ³		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
Province and region		%			%		days		
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
Atlantic	8.8	6.5	2.2	4.3	3.6	0.7	10.8	8.9	1.8
Newfoundland and Labrador	7.7	6.0	1.7	3.9	3.3	0.6	9.8	8.2	1.6
Prince Edward Island	7.3	5.4	2.0	3.6	3.0	0.6	9.0	7.4	1.5
Nova Scotia	9.4	7.0	2.3	4.6	3.9	0.7	11.4	9.7	1.7
New Brunswick	9.0	6.6	2.4	4.4	3.5	0.9	11.0	8.8	2.2
Quebec	9.1	6.4	2.7	4.6	3.7	0.9	11.6	9.2	2.3
Ontario	8.6	5.9	2.7	3.8	2.9	0.9	9.5	7.4	2.2
Prairies	8.6	5.9	2.6	3.7	2.8	0.9	9.2	6.9	2.3
Manitoba	10.0	7.3	2.7	4.5	3.6	0.8	11.2	9.0	2.1
Saskatchewan	9.6	6.7	2.9	4.2	3.2	1.0	10.5	8.1	2.4
Alberta	7.9	5.4	2.6	3.3	2.4	0.9	8.3	6.1	2.3
British Columbia	8.2	6.1	2.0	3.9	3.2	0.7	9.8	8.0	1.8
CMA									
Both sexes	8.7	6.1	2.6	4.0	3.2	0.9	10.0	7.9	2.1
All CMAs	8.6	6.0	2.6	3.9	3.0	0.9	9.7	7.5	2.1
St. John's	8.5	6.7	1.9	3.8	3.2	0.5	9.5	8.1	1.4
Halifax	9.9	7.2	2.6	4.4	3.6	0.8	10.9	9.0	1.9
Saint John	8.4	5.9	2.5	4.0	3.1	0.9	10.1	7.7	2.4
Saguenay	8.9	6.7	F	5.5	4.6	F	13.7	11.6	F
Québec	8.6	6.0	2.6	3.8	3.1	0.7	9.4	7.6	1.8
Montréal	9.3	6.3	3.0	4.6	3.5	1.0	11.4	8.8	2.6
Trois-Rivières	9.4	7.5	F	5.1	4.5	F	12.8	11.3	F
Sherbrooke	8.5	6.3	F	4.6	3.8	F	11.6	9.6	F
Gatineau	11.9	8.1	3.8	5.0	3.8	1.2	12.6	9.5	3.0
Ottawa	10.4	6.9	3.5	4.3	3.2	1.1	10.8	8.1	2.7
Kingston	9.5	6.5	2.9	4.0	3.2	0.9	10.0	7.9	2.2
Greater Sudbury/ Grand Sudbury	10.4	7.4	3.0	5.4	4.3	1.2	13.6	10.7	2.9
Toronto	7.8	5.3	2.4	3.3	2.5	0.8	8.3	6.4	2.0
Hamilton	8.5	6.0	2.5	4.2	3.3	0.9	10.4	8.2	2.2
St. Catharines-Niagara	9.6	6.4	3.1	4.5	3.5	1.0	11.2	8.6	2.5
London	8.3	5.8	2.5	3.4	2.7	0.7	8.5	6.8	1.6
Windsor	9.5	6.6	2.9	4.8	3.8	1.1	12.1	9.5	2.6
Kitchener-Waterloo	7.7	4.9	2.8	3.0	2.2	0.8	7.4	5.5	1.9
Oshawa	9.1	6.4	2.6	4.4	3.5	0.9	11.0	8.7	2.3
Thunder Bay	10.2	7.7	F	4.9	4.0	F	12.2	10.0	F
Winnipeg	9.9	7.4	2.6	4.3	3.6	0.8	10.8	8.9	1.9
Regina	10.5	7.7	2.8	4.5	3.6	0.9	11.2	8.9	2.2
Saskatoon	8.8	6.4	2.4	3.6	2.9	0.8	9.1	7.2	1.9
Calgary	7.7	5.2	2.4	3.2	2.3	0.9	8.1	5.8	2.3
Edmonton	8.8	5.8	3.0	3.6	2.6	1.0	8.9	6.5	2.4
Abbotsford	8.8	7.2	F	4.5	3.9	F	11.2	9.7	F
Vancouver	7.5	5.7	1.8	3.4	2.8	0.6	8.5	7.1	1.5
Victoria	10.1	7.6	2.5	4.4	3.7	0.8	11.0	9.2	1.9
Non-CMAs	8.7	6.1	2.6	4.4	3.5	0.9	10.9	8.7	2.2
Urban Centres	8.8	6.4	2.5	4.3	3.4	0.9	10.7	8.6	2.1

1. Absent workers divided by total.

2. Hours absent divided by hours usually worked.

3. Inactivity rate multiplied by working days in year (250).

Source: Statistics Canada, Labour Force Survey.



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