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- Pathways into the GIS
- Family work patterns
- Unionization

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where a meaningful distinction exists between true zero and the value rounded
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

Highlights

In this issue

Pathways into the GIS

- Income earlier in life is the strongest correlate of Guaranteed Income Supplement (GIS) receipt. For individuals with average incomes, an additional $1,000 of earnings in their late 40s would reduce the probability of being a GIS recipient by 1.1 percentage points for men and 1.4 points for women. The effects are similar for other types of income.
- Subsequent income changes are also important. For example, an earnings increase of $1,000 for a woman in her early 50s would decrease the probability of receiving GIS by 1.1 percentage points. The same increase in her early 60s would reduce the probability by 0.8 points. This general pattern also held for other types of individual and family income.
- Evidence of job or personal difficulties in middle age—such as unemployment, social assistance or disability—increase the probability of receiving GIS benefits later on. On the other hand, participation in an employer pension plan or regular contributions to a registered retirement savings plan reduce the probability of GIS receipt. Both these positive and negative factors were significant even after controlling for income levels and trajectories.
- The effects of all variables were about three times greater for individuals with characteristics likely to place them at risk of GIS receipt. More than half of those who were in the bottom two income quintiles in their late 40s (56% of men and 61% of women) were not consistently collecting the GIS in their late 60s. This result is consistent with the finding that individuals remain quite mobile across income categories between their late 40s and late 60s.

Family work patterns

- Despite the substantial increase women's labour market participation in recent decades, the long-term work patterns of families with children remained quite different from those of families without children.
- Taking age differences between family types into account, 14% of families with children and 21% of families without children had both parents working a consistently standard schedule (between 1,500 and 2,300 hours per year) over a period of five years.
- Families with children tended to stay away from long hours. About 14% of families with children were in the long-hours group (at least one parent with particularly long hours—at least once above 2,300 hours, never below 1,500—and the other with at least a consistently standard schedule) compared with 20% of families without children.
- Families with children were more likely to have at least one parent with low hours (at least once below 1,500 hours without ever going above 2,300 hours) and the other parent with at least a standard schedule.
- Families with long hours reported higher levels of stress than other families, but those with children did not report higher stress levels than those without. In fact, the presence of children had a greater impact on the stress level of families with a consistently standard schedule—they tended to have lower levels of stress in the absence of children, but much higher levels with the presence of children.

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Pathways into the GIS

Sharanjit Uppal, Ted Wannell and Edouard Imbeau

Canada has an array of programs to provide financial security to seniors (see *Transfers, pensions and tax-advantaged savings plans*), which have helped reduce the low-income rate among seniors to about one-half that among younger adults.[6]

The Guaranteed Income Supplement (GIS) is a transfer specifically targeted at low-income seniors. The GIS is income-tested—benefits are based on previous year's income and are reduced with additional income, disappearing altogether when a maximum threshold is reached. In 2006, about 36% of seniors received at least some benefits, amounting to about $6.8 billion.[7]

Viewed through an income-support lens, the tiered system has succeeded in keeping the majority of seniors above the low-income cut-off. Nevertheless, over one-third of individuals 65 and over qualify for a supplement explicitly intended for low-income seniors. Clearly, both individuals and governments would be better off financially if more seniors had higher incomes from other sources and fewer needed GIS benefits.

How do individuals get to the point of needing GIS benefits? Were most at the lower end of the income distribution in middle age? Did their incomes drop further and faster than those of their contemporaries? Were they not covered by employer pension plans? Did they save less frequently? Become disabled? These questions are addressed by tracking individual income histories from age 45 to age 68. In addition to sources of income, the database used contains other relevant information: pension plan membership, RRSP contributions and withdrawals, disability deductions and time-specific family structure (see *Data source and definitions*). Although other factors related to income and earnings—for example, education and occupation—were not available, most of their impact on GIS receipt likely acts through income history.

Earnings and income trajectories

Individuals in their late 40s and early 50s are generally in their peak earnings years (Luong and Hébert 2009). Most will have paid off mortgages and other major debts and will be increasingly focused on saving for retirement. Many are then likely to reduce their work hours as their savings goals are achieved. This pattern dominates aggregate age-earnings profiles.

In some cases individuals may lose their jobs before savings goals are reached. Research has shown that middle-aged displaced workers, particularly those with high seniority, have significant long-term earnings losses (Morissette et al. 2007). Health problems and disability become more prevalent in middle age and can decrease the probability of working, hours of work and earnings (Galarneau and Radulescu 2009). And those at the bottom of the earnings distribution may simply not have the financial capability to save for retirement. Persistent low income in middle age is more prevalent among unattached individuals (Feng et al. 2007). This variety of potential outcomes indicates that a distributional approach that accounts for both levels of and changes in income is appropriate for the study of long-term outcomes, like the eventual receipt of GIS benefits.

Corresponding to the standard aggregate profile, average annual earnings peak for both men and women in their early 50s and decline thereafter

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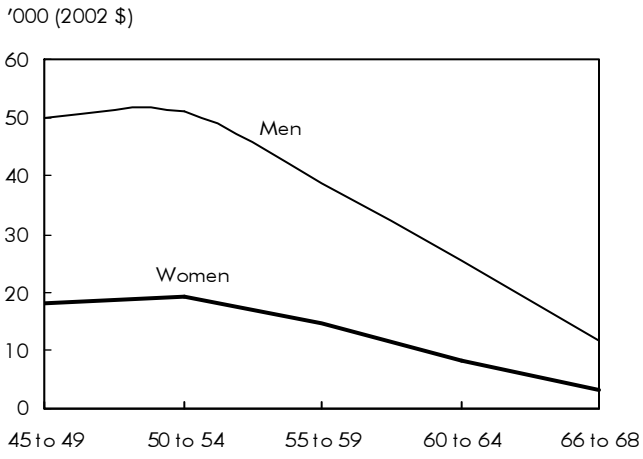
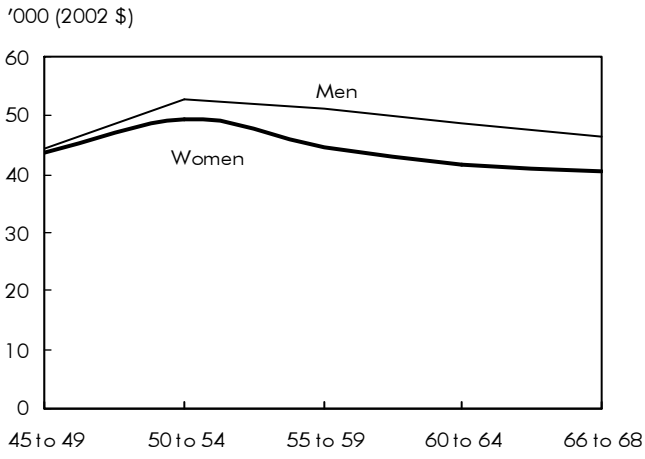
Chart A Employment earnings for men and women peak in their early 50s



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

Chart B Adjusted family income declines gradually after individuals' early 50s



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

(Chart A). By their late 60s, mean employment earnings have fallen to 23% of their peak value for men and 15% for women.

Size-adjusted family income follows a much different path that corresponds to the life cycle model of income smoothing.[11] Like earnings, adjusted income peaks in individuals' early 50s but then declines gradually (Chart B). By their late 60s, women live in families that, on average, retain 82% of the adjusted income experienced in their early 50s. The corresponding figure for men is 88%. These aggregate income replacement ratios are high compared with rules of thumb

Transfers, pensions and tax-advantaged savings plans

Canada has a tiered approach to income support for seniors. The first tier provides transfers to those age 65 and over—the Old Age Security (OAS) pension and the Guaranteed Income Supplement (GIS).[1] The second consists of employment-based public pensions funded by employer and employee contributions—the Canada and Quebec Pension Plans (C/QPP). The third tier comprises tax-sheltered employer pensions and private savings—registered pension plans (RPPs), registered retirement savings plans (RRSPs) and the new tax-free savings account (TFSA).

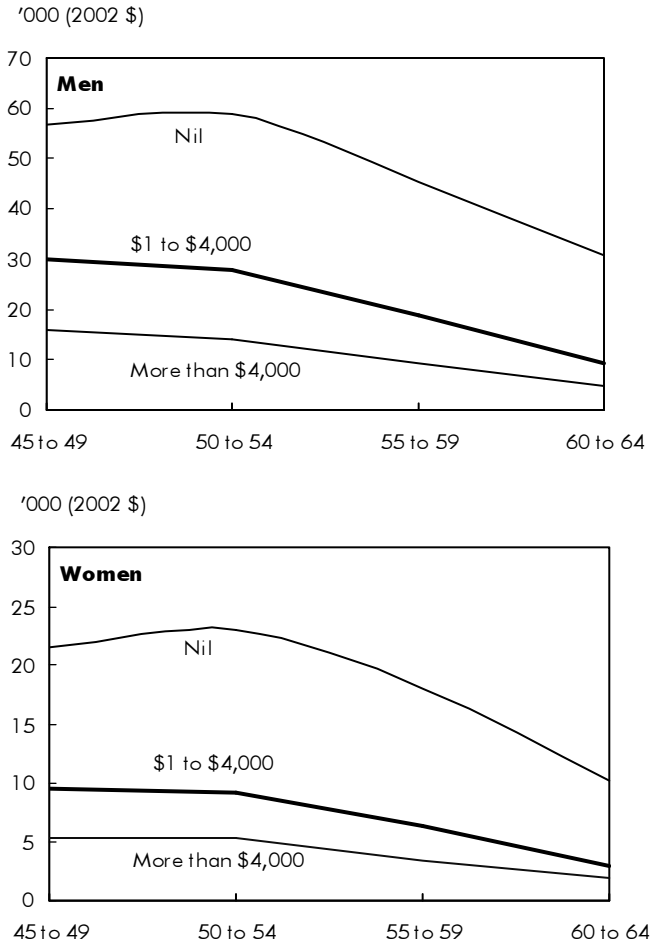
The tax-advantaged treatment of RRSPs, TFSAs and employer pension plans currently provides incentives to use them for retirement savings. Suggestions have been made to widen this net by developing a readily portable employer pension plan in addition to the CPP (Ambachtsheer 2008).

The recently introduced TFSAs overcome some disadvantages of RRSPs noted for low-income earners (Shillington 2003). These plans allow individuals to contribute up to $5,000 per year, but, unlike RRSP contributions, the amounts are not deductible from taxable earnings. Instead, the original capital and accrued interest or gains can be withdrawn tax-free and with no impact on social benefits like the GIS.

The OAS is a longstanding program designed to enhance the financial security of seniors. The basic OAS provides a modest complement to income from other sources such as the C/QPP, employer-sponsored pension plans, RRSPs, and other personal savings. To ensure that the incomes of seniors do not fall below a specific threshold, the GIS supplements the basic OAS pension when individuals have little or no other income.

In 2008, the maximum OAS pension was $6,082.23.[2] Seniors with little or no other income can have the GIS added to their income. The maximum GIS, paid to seniors with no other income, was $7,677.03 for single seniors and $10,139.40 for pensioner couples.[3] Combined benefits for seniors with no other income amounted to $13,759.26 for singles and $22,303.86 for couples. Since the GIS is reduced by $0.50 for every dollar of income from other sources (excluding the OAS pension and the first $3,500 of employment income[4]), no GIS was paid when other sources of income exceeded $15,672 for singles or $20,688 for couples.[5]

Chart C Mean employment income at younger ages of persons age 68 or 69 by GIS benefit



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

discussed in policy documents and recommended by financial advisors, but accord with earlier research that found high rates of adjusted replacement, particularly at the bottom and middle of the income distribution (Larochelle-Côté et al. 2008).

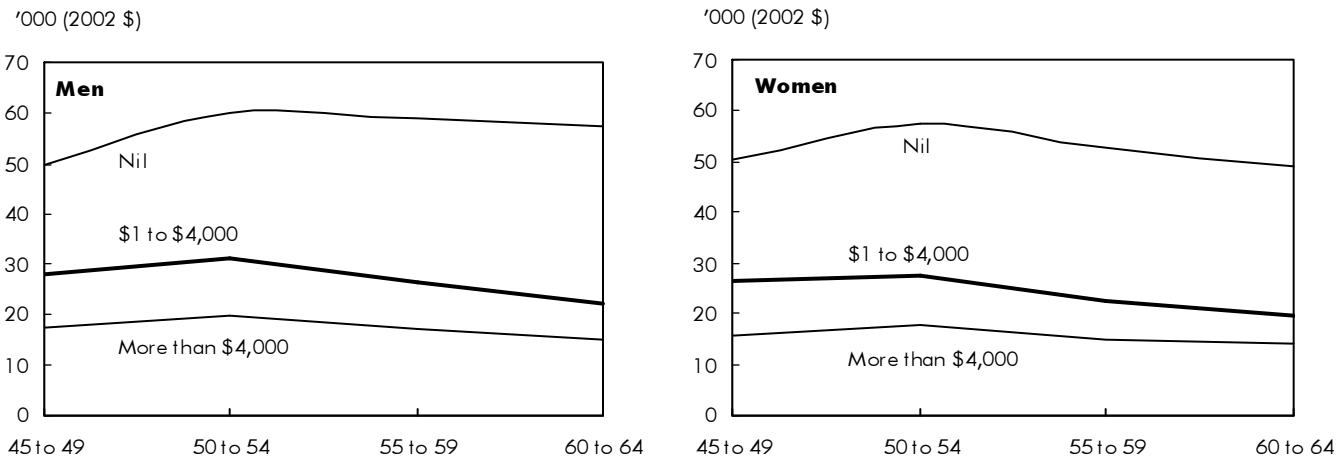
However, aggregates encompass a range of outcomes. Since the outcome of interest is the receipt of GIS benefits, aggregate trajectories were retraced according to the annual average level of GIS benefits received from age 66 to 68: none, $1 to $4,000, and more than $4,000. For both men and women who did not become GIS recipients, earnings peaked in their early 50s and declined swiftly thereafter, albeit not as steeply as in the aggregate picture (Chart C). Those receiving from $1 to $4,000 averaged less than one-half of the peak earnings of non-recipients, and those receiving more than $4,000 in benefits averaged less than one-quarter. These differences in earnings indicate that earnings in middle age are a primary correlate of future GIS receipt. But the trajectory may also be a significant factor since the earnings of GIS recipients were highest in their late 40s, while earnings of non-recipients continued to increase into their early 50s.

The story is much the same for adjusted family income (Chart D). Those not receiving GIS benefits had a peak family income that was, on average, triple that of those receiving GIS benefits of more than $4,000 and double that of those receiving from $1 to $4,000. But differences in trajectory patterns were less clear-cut for family income than for employment earnings.

Not all types of income have the same relationship with future GIS receipt. Since work interruptions in middle age are likely to have long-term financial consequences, retrospective Employment Insurance (EI) benefits were also calculated for the three GIS benefit categories (Chart E). Among men, GIS recipients averaged three to four times more EI benefits in their late 40s and early 50s than non-GIS recipients. The differences in EI benefits were smaller for women, yet significant enough to indicate that receiving EI was likely to be a strong correlate of future GIS receipt. For both men and women, the gaps in EI benefits started to converge in older age groups, as fewer in the cohort remained in the labour market.

As noted, the incidence of disability increases with age and disabilities have a negative effect on hours of work and earnings. Moreover, to claim the disability deduction—used as the indicator of disability—the benchmark is a severe physical or mental disability that noticeably restricts activities of daily living. As could be expected, those who claimed the disability deduction at least once from ages 45 to 64 were much more likely to receive the GIS than those who never claimed (Chart F). The difference in GIS receipt was much larger among men—38% for those with a disability claim compared with 22% for other men—than among women (32% versus 24%).

Chart D Mean family income at younger ages of persons age 68 or 69 by GIS benefit



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

Distributional mobility

The receipt of GIS benefits was clearly related to the levels of various types of income some 20 years in the past and, to a lesser extent, their subsequent trajectories as individuals approached age 65. As strong as these correlations may be, they present an aggregate picture that may mask movements up and down the income distribution that lead to very different outcomes for individuals who start at the same point.

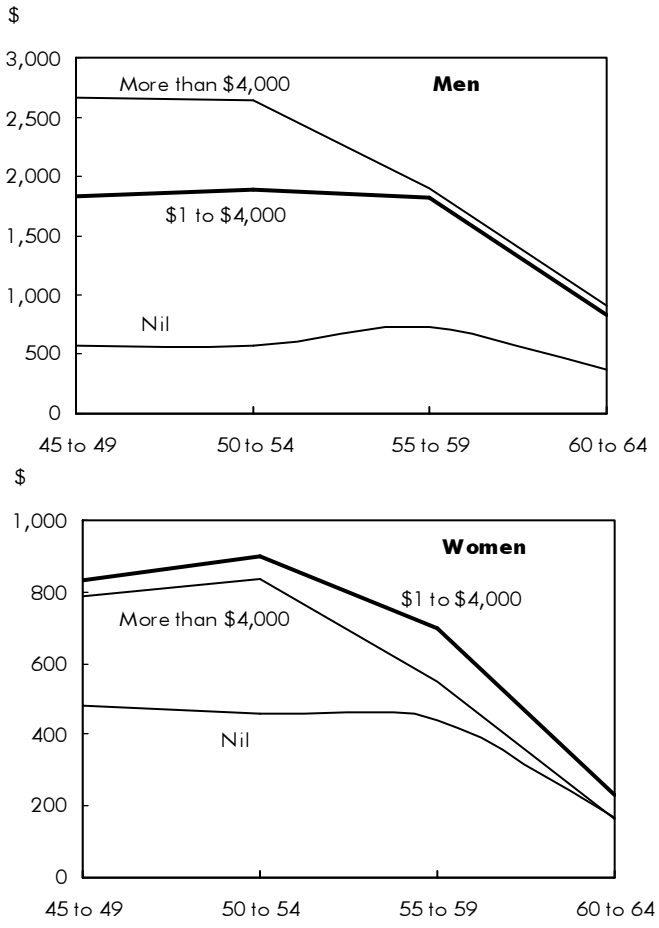
Since LAD follows the same individuals over time, documenting income mobility was simply a matter of determining where someone fit into the income distribution in their late 40s and late 60s. To accomplish this, the sample was divided into five equally sized groups from lowest to highest income for each age group. Cross-classifying these quintiles for each age resulted in a five-by-five matrix (Table 1). For example, 5% of men started in the second income quintile at age 45 to 49 and ended in the bottom quintile at 66 to 68. If everyone had remained within their starting quintile, then 20% of the population would be in each of the diagonal cells from the top left to the bottom right. Incomes were averaged over several years (ages

Table 1 Income mobility of individuals from their late 40s to their late 60s

	Quintile, age 66 to 68				
	Bottom	Second	Middle	Fourth	Top
Quintile, age 45 to 49			%		
Men					
Bottom	11.9	4.2	1.9	1.3	0.8
Second	5.0	7.3	4.2	2.3	1.3
Middle	2.0	5.1	6.7	4.3	2.0
Fourth	0.8	2.4	5.2	7.5	4.1
Top	0.4	1.0	2.1	4.6	11.8
Women					
Bottom	9.9	4.7	2.9	1.5	0.9
Second	6.0	6.2	4.0	2.4	1.4
Middle	3.2	5.6	5.4	3.7	2.2
Fourth	0.8	2.9	5.7	6.7	3.9
Top	0.1	0.7	2.0	5.8	11.5

Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

Chart E Employment insurance benefits at younger ages of persons age 68 or 69 by GIS benefit



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

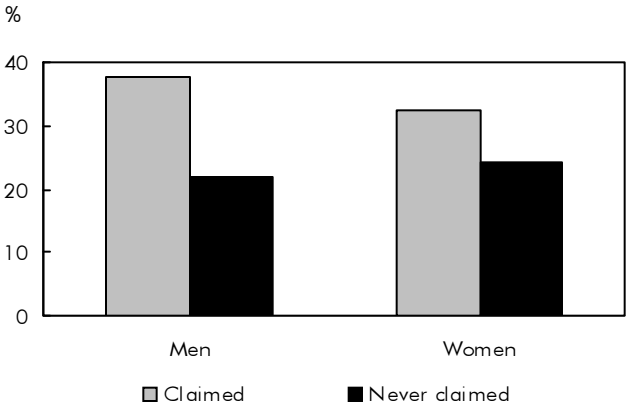
45 to 49 and 66 to 68) to smooth out temporary fluctuations and yield a conservative estimate of income mobility.

Position in the income distribution remained quite fluid in middle age. More than one-half of the population changed quintiles between their late 40s and late 60s. Although single-quintile moves were the most common, about one in five individuals made at least a two-quintile move. Women were more likely than men to make both single-quintile moves (39% versus 37%) and multiple-quintile moves (21% versus 18%). The greater mobility of women was evident through the first four quintiles, but women who started in the top quintile were less likely than men to drop into the bottom three quintiles.

Regardless of the degree of income mobility, a very strong gradient across earlier income quintiles was evident for GIS receipt among men—more than one-half (57%) of those who were in the bottom income quintile in their late 40s would go on to collect GIS benefits in their late 60s (Chart G). Future GIS receipt then dropped by roughly one-half in each subsequent quintile: to 31% in the second, 16% in the middle, 7% in the fourth and 2% in the top. Although the gradient again shows a strong relationship between income and later GIS receipt, it also reveals some significant variation, especially at the bottom end. While less than 5% in the top two quintiles went on to receive some GIS benefits, more than one-half of the bottom two quintiles ended up as non-recipients.

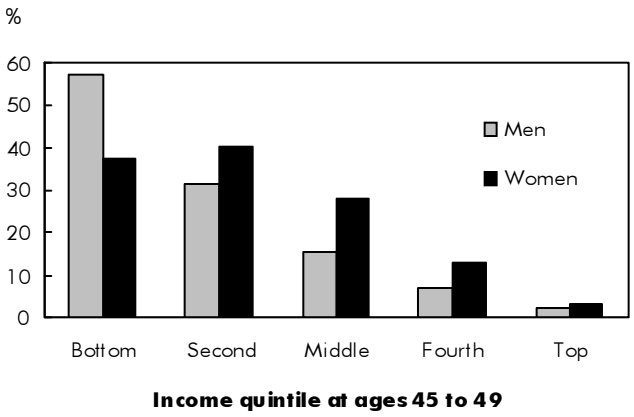
The income–GIS gradient was less clear for women at the bottom of the income scale. Women who were in the second income quintile in their late 40s were more likely to collect GIS in their late 60s (40%) than those in the bottom quintile (37%). The gradient was more evident in the top three quintiles, as future GIS receipt fell from 28% in the middle quintile to 13% in the fourth and 3% in the top. The gradient was not as

Chart F Disability claimants more likely to be GIS recipients



Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

Chart G GIS receipt[1] by late 40s income quintile



1. Age 66 to 68.
Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

well defined for women in this cohort (born in the late 1930s), since those in couples were less likely to work and most who did work earned less than their spouse (84%).[12] Therefore, family income should show more correlation with future GIS receipt for married women.

Overall, these descriptive statistics indicate a strong relationship between earlier income and GIS receipt, but with enough variation to suggest that more detailed models could yield further insight.

Modeling GIS receipt

Past research found some variability in GIS application and take-up rates across personal characteristics (Poon 2005). Although more recent research indicates that application and take-up rates are increasing, as of 2006 a significant number of eligible recipients still did not apply for or receive benefits (Luong 2009). Moreo-

Data source and definitions

The Longitudinal **Administrative Databank** (LAD) is a 20% sample of T1 tax returns. It carried 93,714 individuals age 68 or 69 in 2006 who filed a valid tax return for 2006.[8] The GIS was missing or zero for one or two years from age 66 to 68 for 12,510 of them. Also, income information was missing for another 21,690 individuals for at least one year between ages 45 and 64. Finally, the average GIS amount was greater than $7,000 for 150 individuals.[9] These GIS recipients were also excluded from the sample. The tables are based on 28,533 men and 30,831 women, with income adjusted to 2002 dollars.

The **Guaranteed Income Supplement** (GIS) is a transfer from the federal government to seniors with low or no income. The GIS and the Spousal Allowance are part of the OAS program. Their combined total is shown on tax returns as Net Federal Supplements (NFSL). For the sample used (individuals age 68 or 69 in 2006), the GIS would be equal to the NFSL amount since the 'Allowance' would be zero.

Employment income from T4 slips consists of all wages, salaries and commissions from paid employment.

Other employment income comprises any taxable receipts from paid employment other than wages, salaries and commissions, including tips, gratuities, or director's fees not reported on a T4 slip and some other components that have changed over time.

Self-employment income is all net earnings from self-employment in an unincorporated venture. Income from limited or non-active partnerships may have been included in this variable between 1982 and 1987 when it was part of self-employment business income. Now, only the tax filer's share of active self-employment partnership income is included.

Total income (individual or family) is everything from taxable and non-taxable sources. The definition has changed over the years to reflect changes in the tax form, refundable tax credits, and income calculations.[10]

Employment Insurance benefits are paid to eligible individuals experiencing paid employment-income interruptions. Benefits are also available for those who stop working because of sickness, injury, pregnancy, or the birth or adoption of a child.

Social assistance is a provincial or municipal transfer to cover basic needs of low-income individuals or families who have exhausted all other financial resources.

Registered Retirement Savings Plan (RRSP) contributions are the amounts claimed for a taxation year. The contribution limit is a percentage of the previous year's employment income up to an annual maximum, less any pension adjustment from an RPP.

Registered Pension Plan (RPP) contributions made by tax filers may be deducted from their total income. Under an RPP, approved by the Canada Revenue Agency, funds are set aside by an employer (and in many cases, also by the employee) to provide periodic payments to the employee upon retirement.

The **family-size adjustment** takes the total number of adults and children in a family into account to calculate family income adjusted for family size.

Table 2 Logit regression results

	Coefficient	Average marginal effect	Marginal effect for at-risk individual
Men			
Employment income, 45-49	-0.14*	-0.011	-0.035
Change in employment income			
45-49 to 50-54	-0.11*	-0.009	-0.027
50-54 to 55-59	-0.11*	-0.009	-0.027
55-59 to 60-64	-0.11*	-0.008	-0.027
Other individual income, 45-49	-0.21*	-0.017	-0.052
Change in other individual income			
45-49 to 50-54	-0.17*	-0.013	-0.042
50-54 to 55-59	-0.16*	-0.013	-0.040
55-59 to 60-64	-0.13*	-0.010	-0.032
Other family income, 45-49	-0.16*	-0.013	-0.040
Change in other family income			
45-49 to 50-54	-0.12*	-0.009	-0.030
50-54 to 55-59	-0.11*	-0.009	-0.027
55-59 to 60-64	-0.10*	-0.008	-0.025
Years of RRSP contributions	-0.03*	-0.003	-0.008
Years of RPP contributions	-0.04*	-0.003	-0.009
Years with EI benefits	0.08*	0.007	0.021
Years with social assistance payments	0.32*	0.026	0.079
Disability	0.54*	...	...
Intercept	3.56*	...	...
Women			
Employment income, 45-49	-0.18*	-0.014	-0.042
Change in employment income			
45-49 to 50-54	-0.14*	-0.011	-0.032
50-54 to 55-59	-0.12*	-0.010	-0.028
55-59 to 60-64	-0.11*	-0.008	-0.025
Other individual income, 45-49	-0.21*	-0.017	-0.049
Change in other individual income			
45-49 to 50-54	-0.17*	-0.014	-0.039
50-54 to 55-59	-0.17*	-0.013	-0.039
55-59 to 60-64	-0.10*	-0.008	-0.023
Other family income, 45-49	-0.19*	-0.015	-0.044
Change in other family income			
45-49 to 50-54	-0.15*	-0.012	-0.035
50-54 to 55-59	-0.13*	-0.010	-0.030
55-59 to 60-64	-0.11*	-0.008	-0.025
Years of RRSP contributions	-0.04*	-0.003	-0.010
Years of RPP contributions	-0.06*	-0.005	-0.014
Years with EI benefits	0.08*	0.006	0.019
Years with social assistance payments	0.35*	0.028	0.081
Disability	0.22*	...	...
Intercept	4.37*	...	...

* statistically significant at the 5% level or better

Note: Dependent variable = 1 if GIS collected all years from age 66 to 68, 0 if never collected. Income is in thousands of dollars. A cohort dummy and regional dummies were also included in the regression.

Source: Statistics Canada, Longitudinal Administrative Databank, 2006.

ver, some individuals will have income near the boundaries of GIS eligibility and cycle in and out of receipt regularly, while others may drop into or out of GIS receipt because of one-time factors such as RRSP withdrawals or investment gains. To minimize the effect of such variability on model results, the population was limited to those who consistently received full or partial GIS benefits and those receiving no benefits from ages 66 to 68.[13] Since the relationships seemed to differ for men and women, separate models were run. The probability of consistently receiving GIS benefits was 23% for men and 24% for women, compared with annual rates of 30% and 32% for those age 66 to 68 in 2006.

The models accounted for both income level and trajectory with variables representing levels averaged across ages 45 to 49 and subsequent changes through ages 50 to 54, 55 to 59 and 60 to 64. Three types of income were included: employment income, all other individual income, and total income of other family members adjusted for family size.[14]

The models implicitly assume that all types of income have a similar impact on future GIS benefits. This makes sense in terms of marginal impact on individual well-being, since a dollar is a dollar regardless of the source. On the other hand, long-term receipt of EI and social assistance benefits can result in labour market scarring effects, deterioration of human capital, or other unmeasured impediments to employment earnings. To capture these effects, years of non-zero EI and social assistance were included in the models. Similarly, another variable indicated whether the disability deduction was claimed at any time during the study period.

The models included several characteristics likely to reduce the probability of receiving GIS. Since employer pension plans are specifically designed to provide retirement benefits, membership in such plans should decrease the likelihood of GIS receipt relative to others with similar earnings but no pension plan. And because plan benefits are closely related to tenure, the variable counts years with a positive pension adjustment.[15] Similarly, since those predisposed to planning for the future are likely to make use of tax-advantaged savings options, years of RRSP contributions were also included. Controls for current province of residence and birth-year cohort (1937 or 1938) completed the list.

With LAD, some variables of interest were not available. Earnings before age 45, education and occupation are all likely to have some impact on GIS receipt.[16] However, each would also be related to income, especially long-term income, so much of their effects should be captured by the trajectories. CPP contributions were not included in the models since they would be almost perfectly collinear with earnings up to the industrial average. The models do not contain explicit information on marital status—although marital status and changes thereto affect individual finances, they do so mainly through the size-adjusted earnings of other family members.[17] The models were estimated using logistic regressions, the coefficients showing the effects of the different variables on the natural logarithm of the odds ratio.[18]

Income levels and trajectories are significantly related to GIS receipt

As expected, income levels and trajectories were the most important factors associated with eventual receipt of GIS benefits (Table 2). For women in their late 40s, all types of income reduced the probability by about the same amount. For example, an extra $1,000 of other family income diminished the probability by an average of 1.5 percentage points. For men, the effects were similar, with effects for all types of income varying from 1.1 to 1.7 points, for an extra $1,000 of income.

A $1,000 increase in income at older ages reduced the probability by 0.8 to 1.4 percentage points. The results also confirmed that changes in income at younger ages had larger effects.

Because the effects of extra income vary with characteristics of individuals and because lifetime GIS receipt is more common among people with lower career earnings, the effects of changes in income were examined for a representative individual who was more at risk—someone with income, income increases and years of pension and RRSP contributions equal to one-half of the sample mean.

For this person, the effects were much larger. An extra $1,000 of average income in the individual's late 40s diminished the probability by 4 or 5 percentage points. A similar increase later in life diminished the probability by 2 to 4 points.

RRSP and pension contributions reduce probability of GIS receipt

The probability of becoming a consistent GIS recipient diminished with each year of contributions to a private pension plan or an RRSP. Contributing regularly to these savings vehicles builds a pool of tax-sheltered capital that later provides a retirement income stream. For men, one extra year of contributions to an RRSP or pension plan diminished the probability by 0.3 percentage points. The effects were similar for women, diminishing the probability by 0.3 points for one extra year of RRSP contributions and 0.5 for a private pension plan. For the representative at-risk individual, the effects were much larger. One extra year of contributions led to a 1-point fall in the probability.

Unemployment, social assistance and disability increase likelihood of GIS benefits

Although EI and social assistance benefits were included in other income, which reduced the probability of GIS receipt, looking at them separately actually showed the opposite effect. Average effects were similar for men and women. One extra year of EI benefits increased the probability by 0.7 percentage points. For social assistance, this figure was 3 points. For the at-risk individual, the effects were much larger again: 2 points for EI and 8 for social assistance. Having a disability also increased the probability of becoming a lifetime GIS recipient.[19]

Summary

The GIS is an income-tested supplement to the basic OAS pension for seniors with little or no income from other sources. Benefits are reduced as income from other sources increases so that no benefits are paid to individuals with other income exceeding $15,672 or pensioner couples with income exceeding $20,688.[20]

GIS benefits have been instrumental in keeping many seniors above the low-income cut-off. Nevertheless, the program costs the government some $6.8 billion

dollars per year and seniors would be better off financially if their other sources of income put them above program thresholds.

The primary goal of this study was to document factors contributing to consistent GIS receipt from ages 66 to 68. The key result should surprise no one: the probability of receiving GIS benefits was strongly correlated to earlier income levels, specifically earnings in an individual's late 40s. However, low earnings at that stage do not presage an immutable path into later GIS receipt.

Both the descriptive and multivariate analyses point to non-trivial income mobility in late middle age. More than one-half of men and women change income quintiles between their late 40s and their late 60s, with about one in five moving at least two quintiles. While very few who started in the top quintiles went on to receive GIS benefits, almost one-half of those starting in the bottom two quintiles eventually collected benefits. The multivariate models provided some evidence on how these results came about.

First, subsequent income changes mattered, particularly those that took place in individuals' early 50s. Second, negative labour market and health shocks—measured by years of EI receipt or any claiming of the disability deduction—significantly increased the probability of becoming a GIS recipient. Similarly, social assistance benefits significantly raised the incidence of GIS receipt. Third, employer pension plans and RRSPs reduced the probability of GIS receipt. Finally, all of these effects were stronger at the lower end of the income distribution, accounting for the greater variability of outcomes there.

These results were based on a sample of younger seniors. Among this group, just over one-half (54%) of GIS recipients were women. That proportion steadily rose with age: 57%, 62% and 73% for the age groups 70 to 74, 75 to 79, and 80 and above respectively. Thus income dynamics among older seniors would be a logical extension to the work presented here, particularly as it pertains to the well-being of older women.

Notes

1. The OAS program also includes the Allowances for survivors and for spouses or common-law partners of GIS recipients between the ages of 60 and 64. The Allowances have somewhat different benefit levels and reduction formula than the regular GIS. This article refers only to GIS benefits available to individuals 65 and over.
2. The maximum was paid to seniors meeting the full residence requirements and having incomes of less than $64,718. The basic pension is reduced by 15 cents for every dollar of income above the threshold. Therefore, the OAS pension was fully recovered when income exceeded $105,266. These thresholds are adjusted annually. The full OAS pension is paid to seniors who meet the 40-year residence requirement. Seniors with 10 to 39 years in Canada, after age 18, are granted a partial pension at the rate of 1/40 of a full pension benefit for each year of residence. Additional years of residence in Canada do not increase the OAS pension payable once payments have begun.
3. The single rate is also paid when the spouse is not eligible for OAS benefits.
4. All OAS benefits are indexed quarterly to the Consumer Price Index. Thus, GIS recipients in the sample received comparable real benefits up to 2006. Two significant changes have been made since then: the GIS was increased in 2006 and 2007 by a total of 7%, over and above regular indexation; and the GIS earnings exemption was increased from $500 to $3,500 in 2008. The GIS earnings exemption enables seniors to exclude some of their employment income from GIS benefit calculations.
5. GIS recipients who choose to work can have slightly higher incomes because of the GIS earnings exemption.
6. According to the Survey of Labour and Income Dynamics, the 2007 low-income rate was 4.8% for seniors, 9.9% for those age 18 to 64 and 9.5% for those under 18.
7. Calculated using Human Resources and Skills Development Canada (HRSDC) administrative data.
8. The data were for individuals residing in the 10 provinces, as the samples for the territories were too small to reach meaningful conclusions.
9. For low-income seniors who qualify for a partial OAS pension and are eligible for the GIS, the GIS is topped up. This is sometimes referred to as 'super GIS.' It provides partial OAS recipients with the same minimum income guarantee (i.e. the total amount of OAS/GIS) as full OAS recipients. The models were rerun to test their robustness to this restriction with these individuals included—with no material changes to the results presented.
10. Statistics Canada's definition of total income (XTIRC) differs from Canada Revenue Agency's definition (TIRC) as follows (see Statistics Canada 2005 for a complete list of variables): XTIRC = TIRC – adjustment for dividends – capital gains + refundable tax credits + other non-taxable income.

11. Family income is divided by the square root of family size to account for changes in demands on family finances over time.
12. Among women who were married from age 45 to 49, 58% reported positive earnings each year compared with 72% among other women (not married for at least one year).
13. The models were also run on a broader population that included occasional recipients with the non-recipient group. The results were similar but with some loss of precision.
14. The proxy is family income, adjusted for family size, minus total individual income. Another model that adjusted the different types of income by family members for family size was also estimated, with nearly identical results.
15. The pension adjustment variable is used rather than the contribution variable since it includes individuals in plans not requiring employee contributions.
16. Other than its effect on income, education may also correlate to retirement-planning skills, but this should be largely accounted for by RRSP contribution history.
17. Models with various formulations of marital status produced inconsistent and sometimes contradictory results. The preferred model thus excluded family status as a separate variable. The variations of family status included indicators for ever being married, number of years married, and the death of a spouse.
18. The odds ratio is p/(1-p), where p is the probability of interest.
19. The presence of a disability was indicated by the claiming of the disability deduction in any year and was statistically significant for both men and women. Average marginal effects cannot be calculated for binary variables.
20. GIS recipients who choose to work can have slightly higher incomes due to the GIS earnings exemption.

References

Ambachtsheer, Keith. 2008. *The Canada Supplementary Pension Plan (CSPP): Towards an Adequate, Affordable Pension Plan for All Canadians.* C.D. Howe Institute Commentary: The Pension Papers. No. 265. May. 20 p. http://www.cdhowe.org/pdf/commentary_265.pdf (accessed August 4, 2009).

Feng, Yan, Sangita Dubey and Bradley Brooks. 2007. *Persistence of Low Income Among Non-elderly Unattached Individuals.* Statistics Canada Catalogue no. 75F0002MIE – No. 005. Income Research Paper Series. Ottawa. 32 p. http://www.statcan.gc.ca/pub/75f0002m/75f0002m2007005-eng.pdf (accessed August 4, 2009).

Galarneau, Diane and Marian Radulescu. 2009. "Employment among the disabled." *Perspectives on Labour and Income.* Vol. 10, no. 5. May. Statistics Canada Catalogue no. 75-001-XIE. p. 5-15. http://www.statcan.gc.ca/pub/75-001-x/2009105/pdf/10865-eng.pdf (accessed August 4, 2009).

LaRochelle-Côté, Sébastien, John Myles and Garnett Picot. 2008. *Income Security and Stability During Retirement in Canada.* Statistics Canada Catalogue no. 11F0019M – No. 306. Analytical Studies Branch Research Paper Series. Ottawa. 59 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2008306-eng.pdf (accessed August 4, 2009).

Luong, May. 2009. "GIS update." *Perspectives on Labour and Income.* Vol. 10, no. 7. July. Statistics Canada Catalogue no. 75-001-XIE. p.5-13. http://www.statcan.gc.ca/pub/75-001-x/2009107/pdf/10906-eng.pdf (accessed August 4, 2009).

Luong, May and Benoît-Paul Hébert. 2009. "Age and earnings." *Perspectives on Labour and Income.* Vol. 10, no.1. January. Statistics Canada Catalogue no. 75-001-XIE. p. 5-11. http://www.statcan.gc.ca/pub/75-001-x/2009101/pdf/10779-eng.pdf (accessed August 4, 2009).

Morissette, René, Xuelin Zhang and Marc Frenette. 2007. *Earnings Losses of Displaced Workers: Canadian Evidence from a Large Administrative Database on Firm Closures and Mass Layoffs.* Statistics Canada Catalogue no. 11F0019M – No.291. Analytical Studies Branch Research Paper Series. Ottawa. 38 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2007291-eng.pdf (accessed August 4, 2009).

Poon, Preston. 2005. "Who's missing out on the GIS?" *Perspectives on Labour and Income.* Vol. 6. No. 10. October. Statistics Canada Catalogue no. 75-001-XIE. p. 5-14. http://www.statcan.gc.ca/pub/75-001-x/11005/8704-eng.pdf (accessed August 4, 2009).

Shillington, Richard. 2003. *New Poverty Traps: Means-testing and Modest Income Seniors.* Backgrounder. No. 65. April. C.D. Howe Institute. 13 p. http://www.cdhowe.org/pdf/backgrounder_65.pdf (accessed August 4, 2009).

Statistics Canada. 2005. *Longitudinal Administrative Data Dictionary: 1982–2003.* Statistics Canada Catalogue no. 12-585-XIE. July. 123 p. http://dsp-psd.pwgsc.gc.ca/Collection/Statcan/12-585-X/12-585-XIE2003000.pdf (accessed August 4, 2009).

Family work patterns

Sébastien LaRochelle-Côté and Claude Dionne

One of the most significant social transformations of the past few decades has been the increase in the total time spent at the workplace by couples, essentially driven by the substantial rise in the labour market participation of women (Marshall 2009). While this increase in labour market participation has been advantageous in many ways (e.g. rising economic output, more income to meet family needs), parents may feel they have less and less time available for their children or for themselves, and may find it increasingly challenging to reconcile family and work responsibilities—especially if they consistently work long hours year after year.

This paper looks at the work patterns of families over a five-year period. The longitudinal focus is necessary because other studies have shown that individual work patterns may vary extensively over time (Bluestone and Rose 1997). It is also advantageous because relationships between work time and indicators of well-being are likely to be more robust when studied over a longer period (see *Data source and definitions*). Furthermore, longer-term patterns of labour market participation are likely to be more representative of what families experience in terms of time spent at work and elsewhere (Heisz and LaRochelle-Côté 2006).

The paper also documents differences in work patterns between families with children and families without children and discusses the potential effects of long work hours on the well-being of families with children. Families with children may face a particular set of challenges related to work–life balance when working long hours. Families with long hours are those with two adults working full time, with at least one working a particularly high number of hours.

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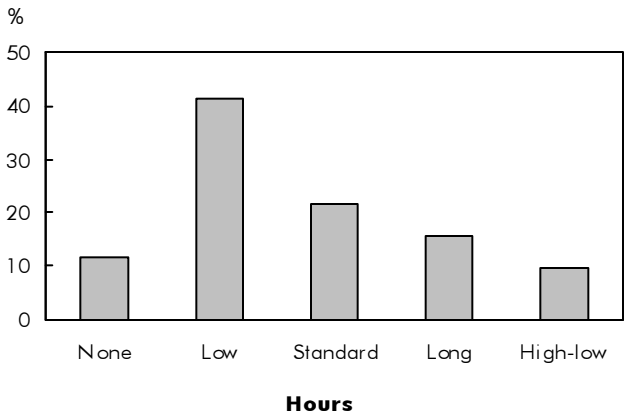
Long-term work patterns

The study of work patterns over several years requires a careful approach as the work patterns of individuals and families may vary substantially over time. To deal with this, a relatively simple method (Bluestone and Rose 1997, and Heisz and LaRochelle-Côté 2006) can be used (Chart A).

The first category—those never working—consisted of individuals who did not participate in the labour market in any of the five years (12% of adults in sample). The second category covered workers with at least one year below 1,500 hours and none above the 2,300-hour threshold (42% of adults). These workers were considered to be working 'low' hours since they averaged 1,000 hours per year over the five years.

Chart A Work hours of individuals over five years



Note: Adults for whom hours information was not available in all five years were excluded, with the remaining sample reweighted.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

Data source and definitions

The longitudinal **Survey of Labour and Income Dynamics** (SLID) is conducted every year to collect information about income and labour market activity. Respondents are asked about hours usually worked at all jobs, which are then aggregated into annual paid hours. Paid hours include paid holidays, paid sick or maternity leave, and usual paid overtime. For example, an individual reporting 2,000 hours per year is typically working a 40-hour week, 52 weeks per year.

Since information on work hours was gathered for six years for all individuals age 16 and over, it was possible to create categories of long-term work patterns as suggested in Bluestone and Rose 1997. The work patterns of couples were then regrouped into family work patterns.

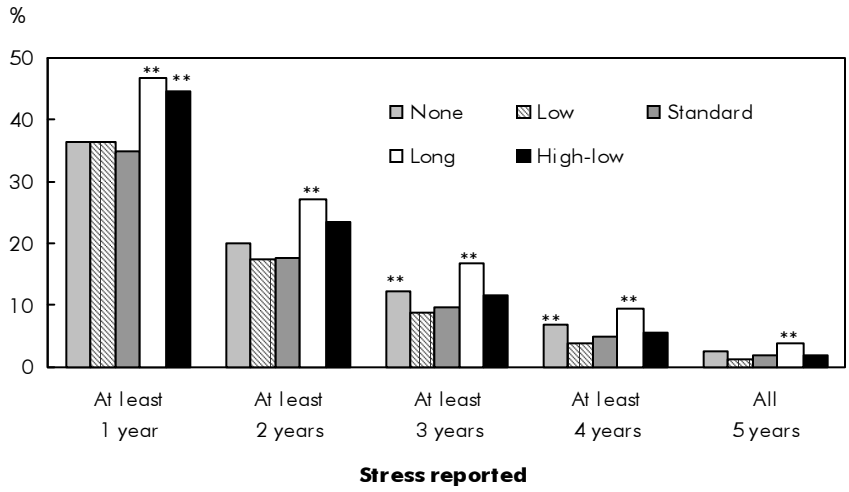
Three longitudinal panels (1996 to 2001, 1999 to 2004, and 2002 to 2007) were combined to create a sample of two-adult families with sufficient labour and demographic information for both in at least five of the six years.[1] Families with missing information for two or more years were dropped from the sample and the weights of the remaining sample were adjusted to compensate.[2] Because of the requirement for families to be in sample for all years, those that experienced a change in marital status (divorce, separation or death) also had to be excluded, but these amounted to a relatively small portion. Of the 8,800 families remaining in sample, approximately 4,800 had at least one child under age 18 in all six years (excluding children born over the period). As work patterns might have different implications for families with children, they are shown separately. Standard errors were generated using bootstrap weights.

The third category contained individuals consistently working 1,500 to 2,300 hours (22%). This is the 'standard' category since the average 2,000 hours per year corresponds roughly to one full year at 40 hours per week. The fourth category was those with 'long' hours—at least one year above the 2,300-hour threshold and no year below 1,500 hours (16%). These individuals worked 2,500 hours per year on average, surpassing the standard group by 25%. Finally, in the 'high-low' category were individuals with particularly variable work hours—less than 1,500 hours in at least one year, more than 2,300 in at least one other—but with an average very similar to the standard category (1,800 hours compared with 2,000).

Work patterns and well-being

Work patterns are not necessarily problematic as they are often the product of individual choices. However, those that involve longer hours may become more challenging when they are associated with adverse effects on well-being. Stress, in particular, is an important effect that is widely used as a prime indicator of well-being in the literature, as it is associated with adverse effects on psychological and physiological health (Wilkins and Beaudet 1998). Stress is

Chart B Individuals working long hours reported more stress



** significantly different from the standard category at the 5% level or better
Note: Adults for whom hours information was not available in all five years were excluded, with the remaining sample reweighted.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

also a natural consequence of 'role overload'—having too much to do and too little time to do it (Higgins and Duxbury 2002).

The importance of stress has led a number of commentators to investigate the association between stress levels and work hours (Higgins and Duxbury 2002, Hébert and Grey 2006, and Heisz and LaRochelle-Côté 2006). As a result, stress can reasonably be used as a good proxy for work patterns more likely to be associated with adverse effects on well-being.[3]

Individuals working long hours consistently reported significantly higher levels of stress (Chart B). For instance, 16.9% of individuals with long hours reported higher stress levels in at least three of the five years, compared with 10.9% of the population as a whole and 9.7% among those with consistently standard schedules. Nearly half of all individuals with long hours were stressed in at least one year, compared with 38.5% of the population as a whole. This suggests that individuals with long schedules are more likely than others to feel the adverse effects of work time. It also suggests that long hours are less likely to be welfare-maximizing choices for individual workers.[4]

Family work patterns

Describing long-term work patterns of individuals is relatively straightforward, but describing family work patterns is more complicated since every family has two adults who may have variable work schedules over time. To simplify this, the high-low and standard categories were combined. The merger of these two categories is perhaps debatable as high-low workers might face different labour market challenges (and they also report slightly higher stress levels than standard individuals), but it is reasonable since they work as many hours as standard workers on average and are closer to standard workers than individuals with long hours are in terms of stress levels. The work patterns of the two adults in the family were then used to create 10 family work patterns, ranging from the least labour intensive (both adults not working) to the most (both with long hours) in terms of average annual family work hours over five years.

Families were clearly concentrated in certain patterns (Table 1). More specifically, almost 43% of families had one adult with low hours and another with a standard or long hours. Families having one adult with low hours and one with standard hours put in approximately 3,100 hours per year on the job, while those having one adult with low hours and one with long hours did approximately 3,500 hours.

Table 1 Long-term family work patterns

	Two-adult families	Annual work hours
	%	hours
Two not working	4.4	0
One not working, one low hours	5.8	900
Two low hours	10.2	2,200
One not working, one standard	5.3	1,900
One not working, one long hours	3.7	2,500
One low hours, one standard	25.6	3,100
One low hours, one long hours	17.3	3,500
Two standard	13.7	3,900
One standard, one long hours	10.9	4,400
Two long hours	3.2	5,000

Note: 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

The category with both adults working a consistently standard schedule was only 14%, which suggests a lot of variation in family work patterns and underscores the need to examine patterns over a longer run. Consistently standard families spent an average 3,900 hours per year at work, which is the equivalent of two full-year schedules at 40 hours per week.

Work-intensive categories—one adult with long hours and the other with at least a standard schedule—also accounted for 14% of families (only 3% had both adults with consistently long hours). These families averaged at least 4,400 hours per year on the job.

At the other end of the spectrum, 9% of families had one adult not working at all over the five years but the other with at least a standard schedule. Those with the working partner putting in long hours did nearly 2,500 hours on average; those with a standard-schedule partner, 1,900. The three least labour-intensive categories together accounted for approximately 20% of families with two adults.

Work patterns among families with children

Lack of time raises a different set of well-being issues for families with children. For instance, studies have shown that children enjoying more available parental hours fare better at school (Curtis and Phipps 2000). Other studies also correlate children's health with hours worked by parents (Anderson et al. 2003). Significant differences in work patterns can be seen between families with children and families without children, even after adjusting for age differences (Table 2).[5] More particularly, after adjusting for age differences, families with children were less likely to have both parents working a consistently standard schedule (14%) than families without children (21%). Families with children were also much more likely to have one parent with low hours and the other with at least a standard schedule—51% compared with 41% of age-adjusted families without children. Parents with children were also less likely to fall into the two most work-intensive categories. These results suggest that the presence of children is correlated with differences in work patterns. The greater share of families with children having at least one parent with low hours (mostly mothers) also suggests that many families with children are organized so that at least one parent (mostly mothers) spends less time at a paid job.[6]

Families with long hours

Families with very long work hours likely face extra challenges in balancing personal and work responsibilities, with the hours spent by both adults on the job leaving little time for family or personal duties. Who are these families? Clearly, those with both parents consistently putting in long work hours qualify, with 5,000 hours annually (100 hours per week) over five years. Both individuals are more likely to report higher levels of stress and suffer other adverse effects of long work hours. Arguably, families having at least one parent with fewer work hours should not be part of this definition as this parent has, at least in theory, more time available to compensate for the increased workload of the other parent. Similarly, families with two adults consistently working standard hours should also be excluded because individuals with standard hours tend not to exhibit higher levels of stress, and, despite the relatively high level, these hours are less variable year over year (Heisz and LaRochelle-Côté 2006), facilitating the dual management of work and family responsibilities.

According to the literature on work time, it appears reasonable to include families having at least one parent with long hours and the other with a consistently standard schedule—particularly families with children—in the long hours group, for several reasons. First, these families spend a considerable number of hours on the job (4,400 per year on average), which reduces the time available for parental duties and family activities (Curtis and Phipps 2000). Second, most families with two full-time, full-year paid jobs face a challenge with work–life balance as conflicting demands and role overload increase (Burton and Phipps 2007), with these likely to be particularly sensitive among families with children. Third, a parent with long hours may also affect the well-being of the other parent since these spouses, mainly women, see increased parental work (and stress) in response to work stress experienced by their partner (MacDonald et al. 2005 and Bolger et al. 1989). Finally, families with both parents working at least

Table 2 Detailed family work patterns

	Two-adult families		
	With children[1]	Without children	Without children (age-adjusted)
	%		
Both not working	1.2	8.8	1.1
One not working, one low hours	2.4	10.4	3.0
Both low hours	8.5	12.4	9.0
One not working, one standard	4.8	5.9	2.0
One not working, one long hours	4.2	3.0	1.9
One low hours, one standard	29.6	20.2	26.5
One low hours, one long hours	21.6	11.5	14.9
Both standard hours	13.8	13.5	21.1
One standard, one long hours	11.0	10.7	15.5
Both long hours	2.9	3.4	4.9

1. 'Families with children' refer to those with two spouses and at least one child under 18.
Note: 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

Table 3 Long-term work patterns of families with and without children

	With children[1]	Without children[2]
	%	
Families with long hours	13.9	20.5
Consistently standard couples	13.8	21.1
One low, other at least standard	51.2	41.4
Other (lower labour market engagement)	21.1	17.0

1. 'Families with children' refer to those with two spouses and at least one child under 18.
2. The weights of families without children were modified to account for age differences with families with children.

Note: 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

45 hours per week (approximately 4,500 per year) can be described as very short of time (Burton and Phipps 2007), which reinforces the argument that these families face a particular challenge in maximizing their welfare due to time constraints.

For this study, 'families with long hours' includes those with two adults working long hours as well as those with one adult working long hours and the other a consistently standard schedule. Based on this definition, 14% of families with children had particularly long hours (compared with 20% for age-adjusted families without children).

For simplicity, the remaining categories were also regrouped to create four categories of family work patterns. These categories accounted for the major differences shown in work patterns between families with children and without children. In addition to families with long hours, the categories were families with both adults consistently working standard hours; families with one parent working low hours and another with at least a standard schedule; and all other family work arrangements involving less than standard hours (Table 3).

Families with and without children showed substantial differences in work patterns. For instance, 14% of families with children worked long hours compared with 20% of those without. Furthermore, while 21% of families without children consistently worked standard hours, only 14% of families with children did so. Finally, 51% of all families with children were in the one low, 'one at least' standard mould, compared with 41% of families without children—suggesting that the model whereby one parent has more time available for purposes other than work is common among families with children.[7]

Long hours and presence of children

If long hours do have a particular impact on the welfare of families with children, then there may be a negative association between long hours and the presence of children. While the average number of children under 18 was virtually identical by family work pattern (Table 4), differences were apparent in the proportion of families with young children (under age 6). More preschool children were in families with less intensive work patterns (15% to 17%) than in families with long hours (9%) or consistently standard hours (11%).

Since the presence of children may be related to other family or personal characteristics, a series of regressions were conducted to test the robustness of the association between the presence of children (including young children) and long family hours. Both the

Table 4 Presence of children by family work pattern[1]

	Total	Average number of children	With preschool children[2]
	%		
All family work patterns	**100.0**	**1.7**	**14.2**
Families with long hours	13.9	1.7	9.3
Consistently standard couples	13.8	1.7	11.2
One low, other at least standard	51.2	1.7	15.4
Other (lower labour market engagement)	21.1	1.8	16.5

1. 'Families with children' refer to those with both a head and a spouse and at least one child under 18. The weights of families without children were modified to account for age differences with families with children.
2. Children under 6 at the end of the 5-year period.

Note: 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

Children and family work patterns

To ensure that the association between work patterns and the presence of children was not due to other personal or family characteristics, a regression was designed to control for demographic characteristics that might affect work time patterns—a multinomial logit to determine the probability of being in one of the four family work patterns. The objective was to see if the relationship between the presence of children and certain family work patterns remained when all demographic characteristics were taken into account (Table 5).

The presence of children was negatively correlated with the probability of being in consistently standard families or in families with long work hours. However, after adding a dummy variable indicating the presence of young children, both child variables were negatively associated with the probability of being in consistently standard- or long-hour families—but the presence of young children was negatively correlated only with long hours. These results confirm that families may have a preference for fewer hours on the job when children—particularly young ones—are present, even after demographic and family characteristics are taken into account.

Table 5 Association between the presence of children and family work patterns

	Children present			Young children present		
	Lower engagement	Consistently standard	Long family hours	Lower engagement	Consistently standard	Long family hours
	coefficient					
Constant	-1.684**	-0.406	-0.205	-1.684**	-0.406	-0.206
Presence of children	0.029	-0.648**	-0.610**	0.008	-0.631**	-0.552**
Presence of young children	...	...	...	0.153	-0.124	-0.483**
Demographic controls[1]	Yes	Yes	Yes	Yes	Yes	Yes
Panel controls	Yes	Yes	Yes	Yes	Yes	Yes

** statistically significant at the 5% level or better
1. Region of residence, age, immigration status and education level.
Note: The reference category is one parent with low hours and one at least standard parent. 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

presence of children and young children were negatively associated with long hours when demographic characteristics were taken into account. The presence of children, but not young children, was negatively associated with consistently standard hours (see *Children and family work patterns*). Such results raise the possibility that families with children are less likely to choose situations that would expose them to long work hours and time-crunch issues. It also suggests that families with young children are particularly averse to long hours.

Long work hours and family well-being

It is often argued that long hours are associated with detrimental effects on well-being, particularly for families with children. The association between well-being and hours can be investigated by looking at the relationship between long family hours and various statistical indicators, and also by examining whether these indicators tend to be more significant when the focus is restricted to families with children.

A good starting point is the link between family hours and family earnings. The issue of time and money is a crucial one for families in general, and for families with children in particular. For instance, higher-income parents might be able to substitute money for their own time—at least partially—by hiring nannies or housekeepers (Burton and Phipps 2007). In other words, if families with long hours can generate more earnings from their longer work hours, then the welfare consequences of an elevated workload may be smaller.

Among families with children, those working long hours made significantly less money on average than consistently standard families, despite working 600 (or 15%) more hours—$86,500 per year on average, compared with $97,700 (Table 6). The difference was

Table 6 Earnings by family work pattern

	Annual family hours	Annual family earnings			
		Mean	25th percentile	Median	75th percentile
	hours	2007 $			
Families with children[1]					
All work patterns	3,300	73,600	42,400	69,000	97,500
Families with long hours	4,500	86,500	52,900	82,800	118,200
Consistently standard couples	3,900	97,700	70,100	94,000	120,500
One low, other at least standard	3,300	74,400	47,200	69,600	94,700
Other (lower labour market engagement)	2,100	47,100	18,400	40,900	64,800
Families without children[2]					
All work patterns	3,500	73,800	48,800	71,300	95,400
Families with long hours	4,500	90,500	64,100	88,100	112,900
Consistently standard couples	3,900	85,900	64,300	83,500	106,300
One low, other at least standard	3,400	72,100	50,400	68,200	87,700
Other (lower labour market engagement)	2,000	42,700	15,200	38,800	61,500

1. 'Families with children' refer to those with two spouses and at least one child under 18.
2. The weights of families without children were modified to account for age differences with families with children.

Note: 'Standard' includes high-low individuals.

Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

even larger at the 25th percentile, where families with long hours were worse off by $17,200. At the 75th percentile, however, earnings levels became similar.[8]

Such differences in earnings levels were not seen among families without children, even if similar differences were found in average hours across family work patterns. At first glance, the lower earnings of parents with the most hours compared with those working consistently standard hours appears counterintuitive. Some parents may have had to work long hours in order to maintain a minimum standard of living—they could not afford to reduce their hours. Such findings suggest that long-hour families with children do not necessarily have additional resources to better cope with work–life balance issues.

Other indicators can also be used to investigate the relationship between long hours and well-being. Job and occupation characteristics, in particular, can be related to differences in work time and have the potential to reveal information about family well-being (Heisz and LaRochelle-Côté 2006 and 2007). Differences between families with (and without) children across family work patterns could therefore reveal more about the preferences of families with children, and, by extension, their state of well-being.[9] Since job information was available only for when individuals were employed, only the first three work-pattern categories were examined: families with long hours, consistently standard families, and families with one low, one at least standard parent (Table 7).

Job-quality indicators are used by many analysts to classify jobs as good or bad. Good jobs tend to have better pension and union coverage, and are more likely to be found in large firms. More particularly, good jobs also tend to be associated with stable, full-time hours, and bad jobs with more 'unstable' work arrangements (Gunderson and Riddell 2000). In general, families with and without children were not significantly different in terms of job-quality indicators. However, fathers in families working long hours tended to be more unionized than their counterparts without children. Since unionized jobs tend to be more secure and associated with more predictable shifts, this may indicate that, given the long work hours, families with children are looking for more security and stability. It also suggests that parents may try to reduce the adverse effects of long work hours on their families.

Differences were also examined by occupation and industry (Table 8). Mothers in families working long hours were more likely than other women to work in the public sector. Since husbands typically spend the most time on the job in such families, mothers may be compensating for their husband's long hours by working in industries generally known for more stable schedules to ensure that one parent has hours that help them fulfill their parental duties. Furthermore, parents in families with long hours were also much more likely than

Table 7 Job quality indicators by family work pattern

	Families with children[1]			Families without children[2]		
	Long family hours	Consistently standard	One low, one at least standard	Long family hours	Consistently standard	One low, one at least standard
	%					
Union coverage[3]						
Men	24.8	38.2	28.1	16.6	44.4	29.7
Women	30.0	36.1	29.2	26.5	40.9	26.5
Pension coverage[3]						
Men	43.2	63.8	47.8	40.2	63.0	47.9
Women	46.5	61.7	37.1	47.0	60.0	39.2
Firm size[3,4]						
Men						
Less than 100 employees	55.9	32.6	45.1	53.0	29.2	48.4
100 to 499 employees	11.1	13.1	12.6	11.4	11.3	11.1
500 employees or more	29.9	51.9	39.1	33.9	56.4	37.5
Women						
Less than 100 employees	50.0	33.2	48.9	44.8	30.5	46.2
100 to 499 employees	14.3	12.0	11.8	20.3	13.9	15.2
500 employees or more	33.5	50.6	35.2	33.9	52.2	34.2
Multiple jobs at some point						
Men	23.0	10.5	18.7	22.1	10.5	19.9
Women	24.3	15.2	20.7	22.5	16.1	17.9
Experienced a job change						
Men	21.3	23.6	28.3	29.3	26.2	29.8
Women	24.6	21.9	29.1	27.7	25.6	34.6

1. 'Families with children' refer to those with both a head and a spouse with at least one child under 18.
2. The weights of families without children have been modified to account for age differences with families with children.
3. Based on main job in the year they reported the most hours.
4. Statistics about firm size may not add up because of 'unknown' answers in SLID.
Note: 'Standard' includes high-low individuals. Includes families in which both parents are participating in the labour market.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

non-parents to be self-employed. Among those with children, 31% of fathers and 24% mothers were self-employed, compared with just 22% and 10% of non-parents. Since the self-employed typically have more control over their schedules than paid employees, this may not be a surprise as parents with long hours may need more flexibility to deal with parental duties.[10]

Mothers in consistently standard families were much more likely than other women to be managers. This is not too surprising since consistently standard work still involves a large number of hours, which means these mothers may be more likely to need (or choose) to put in the hours for professional reasons.[11]

The results suggest that parents working long hours may respond to the presence of children by making different choices to reduce the welfare impact of long hours on the family. To test that hypothesis, an empirical strategy was needed to examine whether long work hours had different welfare implications on parents. Although SLID does not provide much information on the state of family well-being, it does enquire about the general level of perceived stress. This measure is not perfect since stress can be caused by many factors not necessarily related to work hours. Furthermore, the direction of the causality is not always clear as work hours can cause stress, but stress can also affect work hours. The best that can be done

Table 8 Industry and occupation by family work pattern

	Families with children[1]			Families without children[2]		
	Long family hours	Consistently standard	One low, one at least standard	Long family hours	Consistently standard	One low, one at least standard
	%					
Industry[3]						
Men						
Public administration	13.9	19.7	14.6	11.2	21.5	14.3
Business services	13.6	14.0	14.7	14.5	14.2	14.3
Other services	30.7	25.5	29.0	39.8	22.5	36.0
Goods-producing	38.9	37.4	38.4	33.0	35.4	28.8
Women						
Public administration	39.6	35.9	36.2	28.8	38.3	27.3
Business services	14.9	16.7	15.8	17.1	17.7	19.4
Other services	26.0	22.1	32.2	33.3	26.1	34.7
Goods-producing	15.1	20.1	13.1	17.4	15.2	16.0
Self-employed[3]						
Men	31.4	7.6	17.8	21.9	7.5	15.9
Women	23.5	9.1	13.7	10.4	6.0	6.8
Manager[3]						
Men	18.2	13.0	15.0	26.2	13.0	13.7
Women	12.4	13.6	6.6	15.3	6.0	9.6

1. 'Families with children' refer to those with both a head and a spouse with at least one child under18.
2. The weights of families without children were modified to account for age differences with families with children.
3. Based on main job in the year they reported the most hours.
Note: Only families in which both parents are in the labour market. 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

is to develop a family measure of stress by using information on individual stress levels, and by assuming that a measure of family stress is a good proxy for family well-being.[12] One measure used was the proportion of families in which both parents reported at least one episode of stress over the period (Table 9).[13] As expected, families with long hours had significantly higher levels of stress (28%) than consistently standard couples (17%), and more than families with one low hours and another with at least standard hours (22%), although the latter difference was not significant.

However, a different picture emerged when family stress levels were examined separately for families with and without children. While families with long hours reported relatively high levels of stress even in the absence of children, consistently standard families with children were much more likely than those without children to report higher levels of stress (22% compared with 13%), suggesting that consistently standard families with children—who also spend a large number of hours in the labour market—also face well-being issues of their own.

Because stress levels can also be associated with other demographic and job characteristics, the robustness of the association between family stress and family work arrangements was tested with regressions that included a dummy variable to account for the presence of children and used families with consistently standard hours as a reference group. Once again, families with long hours were much more likely to be stressed than consistently standard families (Table 10). Families in the one low, one at least standard group were also more likely to be stressed than consistently standard families, albeit by a less significant margin.

After adding a dummy variable to account for children's interactions with family work patterns, both coefficients associated with work patterns remained

Table 9 Families with both spouses having at least one episode of stress

	All families	With children[2]	Without children[1]
		%	
Families with long hours	28.1*	28.6	27.6*
Consistently standard couples (ref.)	17.1	22.4	12.5
One low, one at least standard	21.6	23.3	18.9

* Statistically significant at the 10% level or better
1. The weights of families without children have been modified to account for age differences with families with children.
2. 'Families with children' refer to those with two spouses and at least one child under18.
Note: 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

The results imply that families working long hours typically experienced higher stress levels regardless of the circumstances. Consistently standard families reacted to the presence of children as they tended to report lower levels of stress than families with long hours in the absence of children, and similar levels as other family types in the presence of children.

That said, such findings require a word of caution. Parents working long hours may face well-being issues that are not necessarily captured by their stress levels. When working long hours, stress may also be different in the presence of children than in the absence of children. Clearly, additional work is required to better understand the well-being implications of work patterns on families with children. Ideally, a larger set of family well-being indicators should be applied to a reasonably large sample of families.

positive and significant—especially in the case of families with long hours, indicating that these families experienced more stress than consistently standard families. However, the coefficient associated with the dummy variable for presence of children in consistently standard families was positive, indicating that those with children tended to report significantly higher levels of stress than those without children. Furthermore, the child interaction coefficients associated with one low, one at least standard families and with long hour families were not significant, which means that the presence of children did not seem to be associated with higher stress levels in these families. All coefficients stayed the same when demographic characteristics were taken into account, but the significance of the coefficient associated with long hours became lower when job characteristics were considered, which suggests that at least some of the stress experienced by families working long hours could be due to job factors.

Table 10 Association between family work patterns and stress

	Without child interactions	With child interactions		
		Overall	Demographic controls	Demographic, job controls
		coefficient		
Constant	0.126**	0.073	0.114**	0.069
Work pattern[1]				
One low, at least one standard	0.046*	0.068*	0.067	0.082*
Long family hours	0.108**	0.152**	0.156**	0.129*
Work patterns with children				
Standard hours	...	0.108**	0.107**	0.102**
One low, one at least standard	...	-0.064	-0.063	-0.069
Long family hours	...	-0.095	-0.100	-0.082
Demographic controls[2]	No	No	Yes	Yes
Job controls[3]	No	No	No	Yes
Panel controls	Yes	Yes	Yes	Yes

* statistically significant at the 10% level
** statistically significant at the 5% level or better
1. Reference category is families with two consistently standard parents.
2. Region of residence, age, immigration status, and education level.
3. Industry, management and self-employment dummies, job quality indicators (pension, union, firm size), and wage quartile dummies, based on the job with the most hours over the 5-year period.
Note: Only families in which both parents are participating to the labour market. Stress is defined as both parents experiencing at least one period of stress. 'Standard' includes high-low individuals.
Source: Statistics Canada, Survey of Labour and Income Dynamics, longitudinal panels 1996 to 2001, 1999 to 2004, and 2002 to 2007.

Conclusion

Over the past few decades, women increased their labour market participation substantially. While this is advantageous in a number of ways (higher family income, more equality between men and women), it also brings challenges as families might find it more difficult to reconcile work and family responsibilities—especially if both parents consistently work long hours year after year. This paper looked at the work patterns of families over five years. Families were grouped into four family work patterns: with long hours; with two adults consistently working on a standard basis; with one parent working short hours and the other at least a consistently standard schedule; and other patterns (with fewer family hours). Families with long hours had at least one adult with particularly long hours (at least once above 2,300 hours without ever going below 1,500 hours) and another with a consistently standard schedule (always between 1,500 and 2,300 hours or the equivalent). The rationale for this definition was that individuals in these families showed an increased tendency to have higher stress levels, and were therefore likely to face more work–life balance challenges.

Significant work-pattern differences were found between families with children and those without children. For instance, 14% of families with children under 18 were in the long-hours group, compared with 20% of families without children. Furthermore, families with children were much more likely to fall in the one low, one at least standard mould (51% versus 41% for families without children) and less likely to have two parents with consistently standard schedules (14% versus 21%). Long hours were also negatively associated with the presence of young children in the family.

Families with children might have different work patterns because of the well-being implications of working long hours. This paper examined the characteristics of families working long hours, and whether such characteristics differed from families without children. Families with parents working long hours were financially worse off than consistently standard parents even though they worked 15% more hours—a difference not seen among families without children. Families with children were more likely to work in unionized jobs (fathers), more likely to work in the public sector (mothers) and more likely to be self-employed (both), thereby increasing the possibility that their long hours were not always by choice, and, when facing the prospect of long hours, they organized themselves to reduce the negative impact.

This hypothesis was tested with a measure of family stress—defined as both adults reporting at least one episode of stress over the five-year period. While families with long hours were more stressed than other types of families, the presence of children did not appear to have much impact on their stress levels. Rather, the presence of children seemed to affect the stress of consistently standard families. This is not necessarily surprising. The marginal stress effect of children was probably lower among long-hour families since they already had high stress levels.

Perspectives

Notes

1. Because a significant portion of the panel had one year of missing information, results are based on individuals who had at least five years of information. For individuals with information in all six years, the last five were used.
2. Families with missing information represented approximately 15% of the sample. Weights were adjusted to ensure that the remaining families were representative of the original sample in terms of age, education, family type, and region of residence.
3. SLID also collects information on the incidence of bad health, but this was not clearly associated with long work hours. In fact, the incidence of bad health was highest among the underemployed.
4. Individuals with no hours also tended to report higher levels of stress in the more persistent stress categories, indicating that the absence of work is also associated with stress. High-low individuals were also more likely to report higher levels of stress when frequencies of two years or less were used. However, none of these categories matched the consistently higher stress levels found for individuals with long hours.
5. Since families with children tend to be much younger than families without children, the weights of families without children were adjusted by boosting the weights of younger families without children and by reducing the weights of older families without children to ensure that both types of families had similar age distributions.
6. Women form the vast majority of spouses with low hours among families in categories 6 and 7 of Table 2.

7. This does not mean that families in other categories are not dealing with work–life balance issues of their own. Rather, the issue should be viewed in terms of available time, which is particularly low in the case of families that spend a considerable amount of time on the job.
8. Figures are expressed in 2007 dollars.
9. All job characteristics are based on the main job held in the year with the most hours (or if the same hours are reported in more than one year, for the job associated with the most earnings).
10. The higher proportion of self-employment among parents working long hours may also help explain why they earn less than those with consistently standard hours, since the self-employed earn less on average than employees.
11. Demographic characteristics were also examined, but major differences were not seen between the two types of families and therefore had little potential to reveal much on well-being differences.
12. The focus is on families with two working adults to remove stress caused by lack of work from consideration.
13. Similar results were obtained with family stress defined as the proportion of families with the two parents combined reporting at least two episodes of stress.

References

Anderson, Patricia M., Kristin F. Butcher and Phillip B. Levine. 2003. "Maternal employment and overweight children." *Journal of Health Economics*. Vol. 22, no. 3. May. p. 477-504.

Bluestone, Barry and Stephen Rose. 1997. "Overworked and underemployed: Unraveling an economic enigma." *The American Prospect*. Vol. 8, issue 31. March. 11 p.

Bolger, Niall, Anita DeLongis, Ronald C. Kessler and Elaine Wethington. 1989. "The contagion of stress across multiple roles." *Journal of Marriage and the Family*. Vol. 51, no. 1. February. p. 175-183. http://www.jstor.org/stable/pdfplus/352378.pdf (accessed August 5, 2009).

Burton, Peter and Shelley Phipps. 2007. "Families, time and money in Canada, Germany, Sweden, the United Kingdom and the United States." *Review of Income and Wealth*. Series 53, no. 3. September. p. 460-483. http://www3.interscience.wiley.com/cgi-bin/fulltext/118503373/PDFSTART (accessed August 5, 2009).

Curtis, Lori and Shelley Phipps. 2000. *Economic Resources and Children's Health and Success at School: An Analysis Using the NLSCY*. W-01-1-4E. Catalogue no. MP32-28/01-1-4E-IN. Working Paper Series. Applied Research Branch. Human Resources Development Canada. Ottawa. 37 p. http://www.servicecanada.gc.ca/eng/cs/sp/sdc/pkrf/publications/research/2000-000177/SP-459-10-01E.pdf (accessed August 5, 2009).

Gunderson, Morley and W.Craig Riddell. 2000. "The changing nature of work: Implications for public policy." *Adapting Public Policy to a Labour Market in Transition*. W. Craig Riddell and France St-Hilaire (eds.). Chapter 1. Institute for Research on Public Policy (IRPP). Montreal. p. 1-37. http://books.google.ca/books?id=DwLB_SFWQkIC&printsec=frontcover&source=gbs_v2_summary_r&cad=0#v=onepage&q=&f=false

Hébert, Benoît-Paul and Alex Grey. 2006. "Time-related stress: Incidence and risk factors." *Horizons*. Vol. 8, no. 3. April. Policy Research Initiative. p.14-18. http://www.policyresearch.gc.ca/doclib/HOR_v8N3_200604_e.pdf (accessed August 5, 2009).

Heisz, Andrew and Sébastien Larochelle-Côté. 2007. *Understanding Regional Differences in Work Hours*. Statistics Canada Catalogue no. 11F0019MIE – No. 293. Analytical Studies Branch Research Paper Series. Ottawa. 48 p. http://dsp-psd.pwgsc.gc.ca/Collection/Statcan/11F0019MIE/11F0019MIE2007293.pdf (accessed August 5, 2009).

Heisz, Andrew and Sébastien Larochelle-Côté. 2006. *Work Hours Instability in Canada*. Statistics Canada Catalogue no. 11F0019MIE – No. 278. Analytical Studies Branch Research Paper Series. Ottawa. 38 p. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2006278-eng.pdf (accessed August 5, 2009).

Higgins, Chris and Linda Duxbury. 2002. *The 2001 National Work–Life Conflict Study: Report One*. Report prepared for the Healthy Communities Division, Health Canada. Ottawa. 99 p. http://www.phac-aspc.gc.ca/publicat/work-travail/pdf/rprt_1_e.pdf (accessed August 5, 2009).

MacDonald, Martha, Shelley Phipps and Linda Lethbridge. 2005. "Taking its toll: The influence of paid and unpaid work on women's well-being." *Feminist Economics*. Vol. 11, no.1. March. p. 63-94.

Marshall, Katherine 2009. "The family work week." *Perspectives on Labour and Income*. Statistics Canada Catalogue no. 75-001-XIE. Vol. 10, no. 4. April. p. 5-13. http://www.statcan.gc.ca/pub/75-001-x/2009104/pdf/10837-eng.pdf (accessed August 5, 2009).

Wilkins, Kathryn and Marie P. Beaudet. 1998. "Work stress and health." *Health Reports*. Statistics Canada Catalogue no. 82-003-XIE. Vol.10, no. 3. Winter. p. 47-62. http://www.statcan.gc.ca/studies-etudes/82-003/archive/1998/4140-eng.pdf (accessed August 5, 2009).

PERSPECTIVES
ON LABOUR AND INCOME

Unionization

Unionization rates in the first half of 2008 and 2009

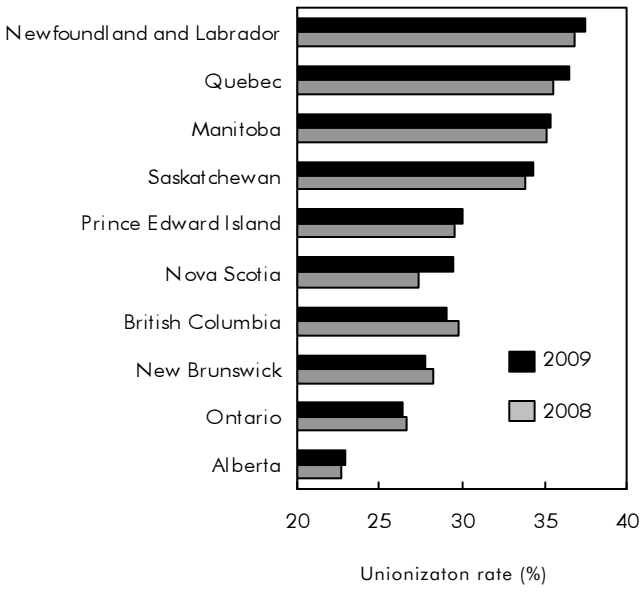
Average paid employment (employees) during the first half of 2009 was 14.1 million, a decrease of 317,000 over the same period a year earlier (Table 1). The number of unionized employees also fell, by 72,000 (to 4.2 million). However, since union membership fell slightly less rapidly than employment, the unionization rate edged up from 29.4% in 2008 to 29.5% in 2009.

As men suffered disproportionately more losses in unionized jobs, their unionization rate fell to 28.2%. By contrast, the number of unionized women increased, bringing their rate to 30.8% in 2009. As a result, the gap in the rates between men and women widened further in 2009.

Private-sector employees lost a significant number of unionized jobs between 2008 and 2009. As a result, the unionization rate declined from 16.3% to 16.1% in the private sector, while the rate increased from 71.0% to 71.3% in the public sector.

As with overall job losses, losses in unionized jobs were concentrated among full-time jobs. However, unionization remained relatively stable among full-time workers at 31.0%. The unionization rate of part-time workers rose to 23.3% in 2009.

Chart A Newfoundland and Labrador, the most unionized province; Alberta, the least



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Data sources

Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at 613-951-4090. Data on strikes, lockouts and workdays lost, and those on major wage settlements were supplied by Human Resources and Skills Development Canada (HRSDC). Further information on these statistics may be obtained from Client services, Workplace Information Directorate, HRSDC at 1-800-567-6866.

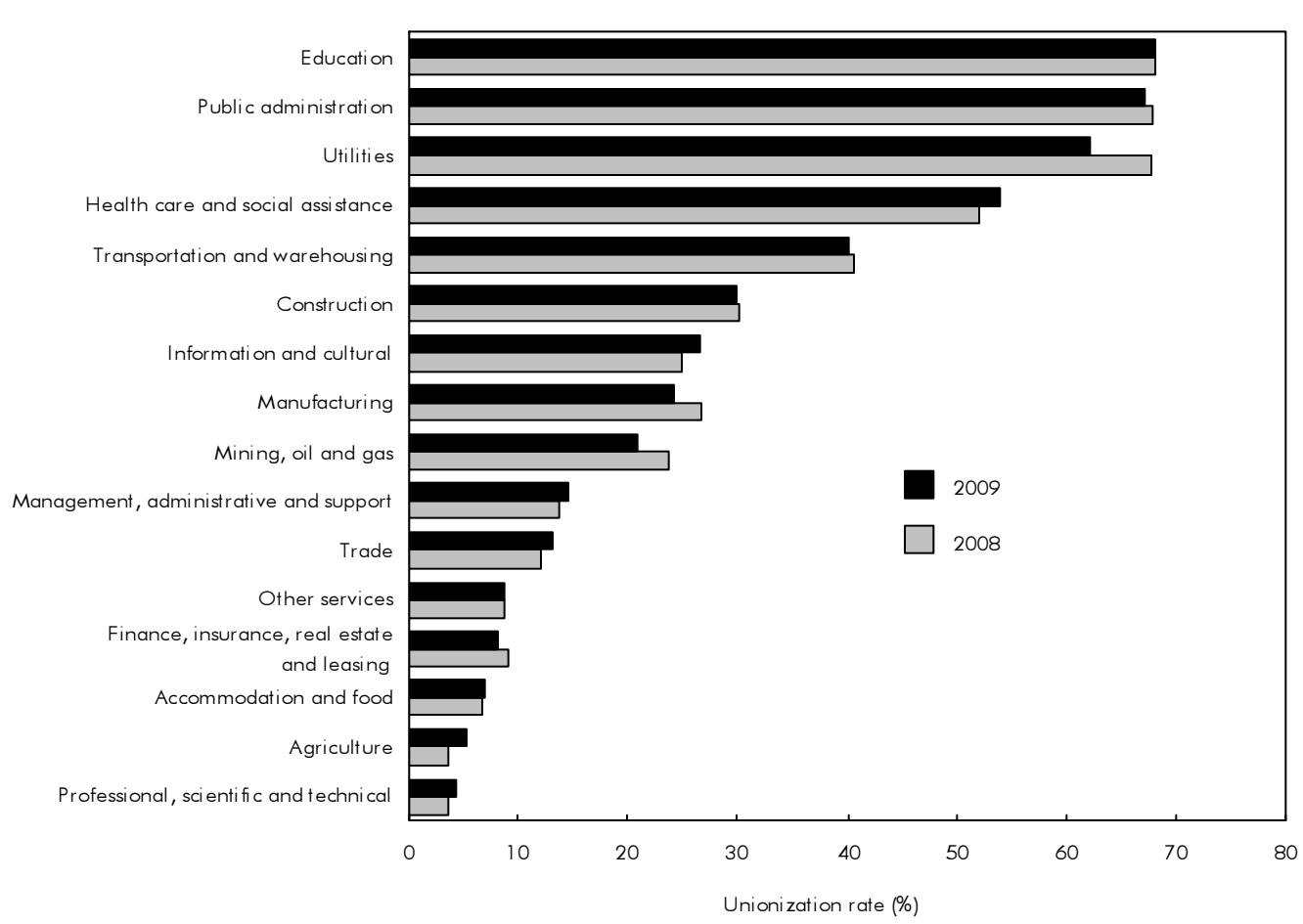
Statistics Canada Statistique Canada
Canada

The unionization rate for permanent employees remained relatively stable at 29.8%, but increased to 27.7% for those in non-permanent jobs. Between 2008 and 2009, the unionization rate also rose in firms of all sizes, except those with 20 to 99 employees where the rate remained stable.

The provincial picture was more mixed (Chart A). Seven provinces recorded increases in their unionization rate, including those that had a relatively high rate to begin with. By contrast, unionization decreased in British Columbia, New Brunswick, and Canada's most populous province (Ontario).

Changes in unionization rates varied across industries. Notable declines were observed in utilities, in mining, oil and gas, and in manufacturing. Notable increases occurred in health care and social assistance; information and cultural; management, administrative and support; trade and agriculture (Chart B).

Chart B The highest unionization rates were in public sector industries

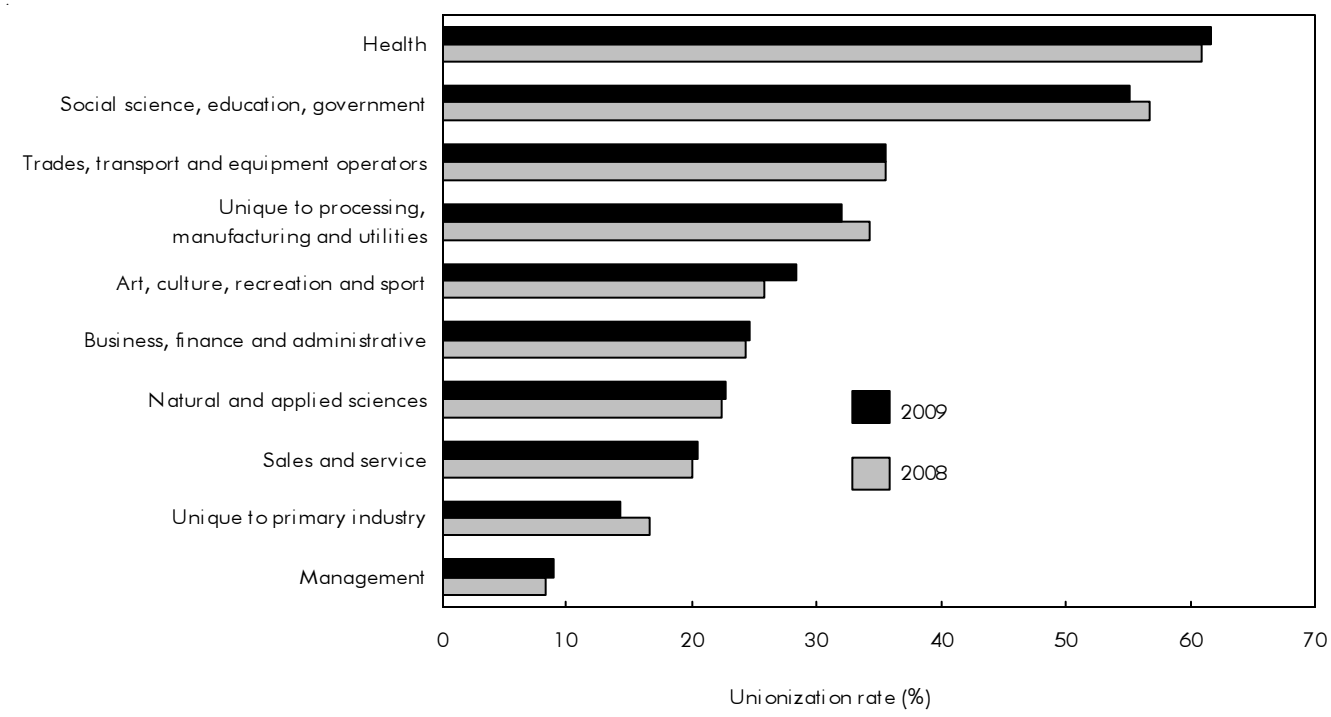


Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Changes in the unionization rate also varied across 10 major occupational groups (Chart C). Consistent with the industrial picture, unionization declined most in occupations unique to primary industries and among occupations unique to processing, manufacturing and utilities. The unionization rate also declined in social science, education and government occupations. Conversely, it rose in health occupations, and in art, culture, recreation and sport occupations. Changes in the unionization rate were more modest among other major occupational categories.

Finally, the number of employees who were not union members but were covered by a collective agreement averaged 300,000 in the first half of 2009, little changed from last year's total of 301,000.

Chart C Unionization in community service occupations far outpaced that in others



Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Table 1 Union membership and coverage by selected characteristics

	2008			2009		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage[1]		Members	Coverage[1]
	'000	%	%	'000	%	%
Both sexes	**14,404**	**29.4**	**31.5**	**14,087**	**29.5**	**31.6**
Men	7,221	28.7	31.1	6,963	28.2	30.4
Women	7,183	30.0	31.9	7,123	30.8	32.9
Sector[2]						
Public	3,443	71.0	74.5	3,423	71.3	75.1
Private	10,962	16.3	17.9	10,664	16.1	17.7
Age						
15 to 24	2,464	13.5	15.2	2,321	14.7	16.5
25 to 54	10,032	32.3	34.5	9,800	31.9	34.1
25 to 44	6,614	29.4	31.8	6,415	29.4	31.6
45 to 54	3,418	37.7	39.7	3,385	36.6	38.8
55 and over	1,909	34.6	36.5	1,966	35.2	37.3
Education						
Less than Grade 9	316	24.7	26.0	289	24.4	26.4
Some high school	1,502	19.9	21.6	1,344	20.1	21.6
High school graduation	2,877	25.9	27.5	2,788	25.3	26.9
Some postsecondary	1,283	22.1	23.8	1,229	21.6	23.3
Postsecondary certificate or diploma	5,063	33.0	35.3	5,003	33.2	35.6
University degree	3,364	34.3	36.9	3,434	34.5	37.1
Province						
Atlantic	962	29.7	31.2	954	30.5	32.0
Newfoundland and Labrador	193	36.8	39.0	189	37.5	39.3
Prince Edward Island	60	29.6	31.1	58	30.1	32.6
Nova Scotia	390	27.4	28.2	388	29.5	30.8
New Brunswick	319	28.3	30.0	319	27.7	29.1
Quebec	3,299	35.5	39.2	3,257	36.5	40.0
Ontario	5,658	26.7	28.2	5,480	26.4	28.1
Prairies	2,592	26.9	28.8	2,585	27.3	29.2
Manitoba	517	35.1	37.1	520	35.4	37.4
Saskatchewan	415	33.8	35.3	422	34.3	36.3
Alberta	1,660	22.7	24.6	1,643	22.9	24.8
British Columbia	1,894	29.8	31.4	1,811	29.1	30.6
Work status						
Full-time	11,765	30.9	33.1	11,398	31.0	33.2
Part-time	2,639	22.7	24.3	2,689	23.3	25.1
Industry						
Goods-producing	3,214	28.4	30.4	2,970	26.5	28.5
Agriculture	116	3.5	4.2	114	5.3	6.3
Natural resources	285	23.7	25.6	271	20.9	22.3
Utilities	151	67.7	70.5	147	62.2	67.0
Construction	802	30.2	32.0	744	30.0	31.8
Manufacturing	1,861	26.8	28.8	1,694	24.2	26.2
Service-producing	11,190	29.6	31.8	11,117	30.3	32.5
Trade	2,392	12.2	13.8	2,319	13.1	14.7
Transportation and warehousing	700	40.6	42.5	690	40.0	41.7
Finance, insurance, real estate and leasing	894	9.0	10.6	902	8.2	9.6
Professional, scientific and technical	811	3.6	4.9	786	4.3	5.2
Management, administrative and support	522	13.7	15.3	490	14.6	16.2
Education	1,187	68.1	71.7	1,163	68.0	71.9
Health care and social assistance	1,650	52.1	53.8	1,704	54.0	56.4
Information and cultural	632	24.9	26.9	626	26.6	28.6
Accommodation and food	964	6.7	7.6	972	7.0	7.8
Other	519	8.7	10.7	546	8.8	10.1
Public administration	918	67.9	73.6	920	67.2	72.8

Table 1 Union membership and coverage by selected characteristics (concluded)

	2008			2009		
		Union density			Union density	
	Total employees	Members	Coverage[1]	Total employees	Members	Coverage[1]
	'000	%	%	'000	%	%
Occupation						
Management	1,036	8.3	10.8	1,019	8.9	11.2
Business, finance and administrative	2,840	24.3	26.3	2,787	24.6	26.7
Professional	395	17.1	18.9	420	18.0	19.5
Financial and administrative	775	22.4	24.6	733	24.2	26.5
Clerical	1,670	26.9	28.8	1,634	26.5	28.7
Natural and applied sciences	1,074	22.5	24.8	1,036	22.8	24.9
Health	882	60.9	63.1	912	61.7	64.2
Professional	89	41.6	47.0	105	40.2	46.1
Nursing	275	77.2	79.1	273	81.5	83.1
Technical	208	56.4	58.5	216	57.5	60.0
Support staff	310	55.1	56.6	319	54.8	56.7
Social and public service	1,351	56.7	59.4	1,387	55.1	58.2
Legal, social and religious workers	640	37.1	39.4	683	35.9	38.4
Teachers and professors	711	74.3	77.4	704	73.7	77.4
Secondary and elementary	480	86.4	88.2	485	85.5	88.2
Other	231	49.0	54.8	219	47.5	53.7
Art, culture, recreation and sport	330	25.8	28.8	322	28.3	30.9
Sales and service	3,658	20.1	21.8	3,658	20.5	22.3
Wholesale	361	4.9	6.0	383	4.9	6.1
Retail	1,037	11.6	12.8	1,025	11.7	12.9
Food and beverage	533	9.1	10.0	531	9.9	10.8
Protective services	245	51.8	59.0	250	54.0	61.4
Child care and home support	185	47.3	49.6	195	49.6	51.2
Travel and accommodation	1,297	25.9	27.3	1,274	25.7	27.3
Trades, transport and equipment operators	2,094	35.5	37.5	1,968	35.6	37.6
Contractors and supervisors	134	28.6	30.6	140	27.2	29.6
Construction trades	274	37.5	39.6	271	38.1	39.7
Other trades	850	36.4	38.6	768	38.1	40.3
Transportation equipment operators	492	37.0	38.6	490	34.7	36.0
Helpers and labourers	343	32.3	34.4	300	32.1	34.8
Unique to primary industry	263	16.7	18.6	253	14.3	15.9
Unique to processing, manufacturing and utilities	876	34.2	36.4	745	32.1	34.3
Machine operators and assemblers	697	34.5	36.8	603	31.7	33.7
Labourers	178	33.0	34.9	143	34.0	36.9
Workplace size						
Under 20 employees	4,713	12.6	14.2	4,697	13.4	14.9
20 to 99 employees	4,708	30.3	32.4	4,732	30.2	32.4
100 to 500 employees	3,073	39.6	42.0	2,883	40.4	43.1
Over 500 employees	1,910	52.0	54.8	1,775	52.7	55.4
Job tenure						
1 to 12 months	3,432	15.9	18.2	3,053	16.4	18.6
Over 1 year to 5 years	4,584	22.8	24.6	4,753	23.4	25.3
Over 5 years to 9 years	2,135	33.4	35.6	2,051	32.2	34.4
Over 9 years to 14 years	1,434	35.3	37.0	1,464	34.9	36.8
Over 14 years	2,819	50.4	52.8	2,766	49.6	52.1
Job status						
Permanent	12,728	29.7	31.7	12,449	29.8	31.8
Non-permanent	1,676	26.8	29.6	1,638	27.7	30.4

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey, January-to-June averages.

2008 annual averages

Approximately 4.2 million employees (29.1%) belonged to a union in 2008 and another 304,000 (2.1%) were covered by a collective agreement (Table 2).

The public sector, which consisted of government, Crown corporations, and publicly funded schools or hospitals, had 70.6% of its employees belonging to a union. This was more than four times the rate for the private sector (16.3%).

Approximately one-third of full-time employees belonged to a union, compared with about one-fourth of the part-time. Also, almost 30% permanent employees were union members, compared with about 25% of the non-permanent.

Unionization rates also varied by age group with 37.4% of those aged 45 to 54 being members of a union as compared to 14.0% of those aged 15 to 24. High unionization rates were also found among those with a university degree (33.6%) or a post-secondary certificate or diploma (33.0%); in Newfoundland and Labrador (36.6%) and in Quebec (35.8%); as well as in educational services (67.4%); public administration (67.0%), and utilities (66.6%), and in health care occupations (61.1%). Low unionization rates were recorded in Alberta (21.9%); in agriculture (4.2%) and professional, scientific and technical services (4.0%); and in management occupations (8.4%).

Table 2 Union membership, 2008

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Both sexes	**14,496**	**4,223**	**29.1**
Men	7,302	2,080	28.5
Women	7,195	2,143	29.8
Sector[2]			
Public	3,424	2,418	70.6
Private	11,072	1,805	16.3
Age			
15 to 24	2,522	353	14.0
25 to 54	10,050	3,209	31.9
25 to 44	6,610	1,921	29.1
45 to 54	3,440	1,288	37.4
55 and over	1,924	662	34.4
Education			
Less than Grade 9	313	75	24.0
Some high school	1,506	302	20.1
High school graduation	2,906	736	25.3
Some postsecondary	1,300	295	22.7
Postsecondary certificate or diploma	5,082	1,676	33.0
University degree	3,390	1,139	33.6
Province			
Atlantic	978	289	29.5
Newfoundland and Labrador	197	72	36.6
Prince Edward Island	61	18	29.5
Nova Scotia	396	109	27.6
New Brunswick	324	90	27.6
Quebec	3,339	1,194	35.8
Ontario	5,685	1,498	26.4
Prairies	2,608	688	26.4
Manitoba	521	181	34.8
Saskatchewan	419	140	33.5
Alberta	1,667	366	21.9
British Columbia	1,886	554	29.4
Work status			
Full-time	11,911	3,641	30.6
Part-time	2,586	582	22.5
Industry			
Goods-producing	3,296	920	27.9
Agriculture	123	5	4.2
Natural resources	292	65	22.3
Utilities	152	101	66.6
Construction	860	255	29.7
Manufacturing	1,869	493	26.4
Service-producing	11,200	3,303	29.5
Trade	2,389	299	12.5
Transportation and warehousing	711	285	40.0
Finance, insurance, real estate and leasing	897	77	8.6
Professional, scientific and technical	802	32	4.0
Business, building and other support	521	75	14.5
Education	1,141	769	67.4
Health care and social assistance	1,670	882	52.8
Information, culture and recreation	636	151	23.8
Accommodation and food	983	66	6.7
Other	526	47	8.9
Public administration	926	620	67.0

Differences between the sexes

For the fifth year in a row, the unionization rate for women in 2008 surpassed that of men (29.8% vs. 28.5%). The gap widened slightly, by 0.3%, as compared to that in 2007.

Among men, part-time employees had a much lower rate than full-time employees (18.1% versus 29.7%). Among women, the gap was narrower (24.5% versus 31.6%) (data not shown). The unionization rate for women in the public sector (71.9%) exceeded that of men (68.5%), reflecting women's presence in public administration, and in teaching and health positions. However, in the private sector, only 12.2% were unionized, compared with 19.8% of men. The lower rate among women reflected their predominance in sales and several service occupations.

A higher-than-average rate was recorded among men with a post-secondary certificate or diploma (33.0%). For women, the highest rate was among those with a university degree (39.8%), reflecting unionization in occupations like health care and teaching.

Among those in permanent positions, the rate for men (29.2%) was similar to that for women (30.2%). Among those is non-permanent positions, women were more unionized than men (27.2% versus 23.3%).

Table 2 Union membership, 2008 (concluded)

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Occupation			
Management	1,058	89	8.4
Business, finance and administrative	2,844	691	24.3
Professional	397	69	17.4
Financial and administrative	781	176	22.5
Clerical	1,666	447	26.8
Natural and applied sciences	1,066	241	22.6
Health	899	550	61.1
Professional	94	40	42.1
Nursing	280	219	78.3
Technical	217	126	58.0
Support staff	307	165	53.6
Social and public service	1,326	739	55.7
Legal, social and religious workers	646	237	36.6
Teachers and professors	680	502	73.9
Secondary and elementary	451	391	86.6
Other	228	111	48.6
Art, culture, recreation and sport	339	84	24.7
Sales and service	3,668	736	20.1
Wholesale	364	17	4.7
Retail	1,052	125	11.9
Food and beverage	542	50	9.3
Protective services	240	129	53.7
Child care and home support	174	80	45.9
Travel and accommodation	1,296	335	25.8
Trades, transport and equipment operators	2,155	758	35.1
Contractors and supervisors	143	42	29.6
Construction trades	300	109	36.2
Other trades	845	310	36.7
Transportation equipment operators	512	183	35.7
Helpers and labourers	355	114	32.0
Unique to primary industries	279	46	16.4
Processing, manufacturing and utilities	861	291	33.8
Machine operators and assemblers	690	235	34.0
Labourers	171	56	32.7
Workplace size			
Under 20 employees	4,794	614	12.8
20 to 99 employees	4,746	1,417	29.9
100 to 500 employees	3,022	1,194	39.5
Over 500 employees	1,934	998	51.6
Job tenure			
1 to 12 months	3,470	547	15.8
Over 1 year to 5 years	4,640	1,063	22.9
Over 5 years to 9 years	2,139	713	33.3
Over 9 years to 14 years	1,431	502	35.1
Over 14 years	2,815	1,399	49.7
Job status			
Permanent	12,721	3,774	29.7
Non-permanent	1,775	449	25.3

1. Excludes non-members covered by a collective agreement.
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey.

Average earnings and usual hours

Earnings are generally higher in unionized as compared to non-unionized jobs. Factors other than collective bargaining provisions contribute to this. These include varying distributions of unionized employees by age, sex, job tenure, industry, occupation, firm size, and geographical location. The effects of these factors are not examined here. However, unionized workers and jobs clearly have characteristics associated with higher earnings. For example, unionization is higher for older workers, those with more education, those with long tenure, and those in larger workplaces. Still, a wage premium exists, which, after controlling for employee and workplace characteristics, has been estimated at 7.7% (Fang and Verma 2002).

Average hourly earnings of unionized workers were higher than those of non-unionized workers in 2008 (Table 3). This held true for both full-time employees ($25.06 vs. $21.54) and part-timers ($20.79 vs. $13.16). Unionized part-time employees not only had higher weekly earnings, but they also worked more (19.2 hours vs. 16.8). This led to a larger gap in weekly earnings ($405.97 vs. $225.94).

On average, full-time unionized women earned 94% as much per hour as their male counterparts. In contrast, those working part-time earned 16% more.

Table 3 Average earnings and usual hours by union and job status, 2008

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
		$			hours	
Both sexes	21.32	22.70	14.96	35.5	39.4	17.3
Union member	24.47	25.06	20.79	35.9	38.6	19.2
Union coverage[1]	24.46	25.07	20.64	36.0	38.6	19.1
Not a union member[2]	19.89	21.54	13.16	35.3	39.8	16.8
Men	23.18	24.30	13.91	38.0	40.6	16.6
Union member	25.26	25.76	18.56	38.3	39.8	18.2
Union coverage[1]	25.28	25.78	18.57	38.3	39.8	18.1
Not a union member[2]	22.24	23.60	12.76	37.9	41.0	16.2
Women	19.43	20.77	15.42	32.9	38.0	17.7
Union member	23.71	24.27	21.51	33.6	37.3	19.5
Union coverage[1]	23.65	24.25	21.33	33.6	37.3	19.5
Not a union member[2]	17.48	19.01	13.34	32.6	38.3	17.0
Atlantic	18.08	19.10	12.68	36.7	40.4	17.4
Union member	22.80	23.10	20.00	37.8	39.6	20.1
Union coverage[1]	22.78	23.08	19.95	37.7	39.6	19.9
Not a union member[2]	15.98	17.12	11.01	36.3	40.7	16.8
Quebec	20.03	21.23	14.74	34.5	38.2	17.9
Union member	22.81	23.23	20.16	35.2	37.5	20.0
Union coverage[1]	22.69	23.13	19.85	35.3	37.6	19.8
Not a union member[2]	18.30	19.86	12.68	33.9	38.6	17.2
Ontario	22.15	23.81	14.58	35.5	39.5	17.2
Union member	25.92	26.75	20.52	36.1	38.8	18.7
Union coverage[1]	25.96	26.83	20.36	36.1	38.8	18.6
Not a union member[2]	20.68	22.55	13.04	35.2	39.7	16.8
Prairies	22.26	23.48	16.05	36.6	40.5	17.3
Union member	24.61	25.18	21.27	36.4	39.4	19.1
Union coverage[1]	24.77	25.32	21.50	36.5	39.5	19.1
Not a union member[2]	21.27	22.73	14.23	36.7	40.9	16.7
British Columbia	21.46	22.75	16.09	35.1	39.5	16.9
Union member	24.87	25.40	22.19	35.5	38.8	18.8
Union coverage[1]	24.89	25.46	21.95	35.5	38.8	18.7
Not a union member[2]	19.93	21.46	13.99	34.9	39.8	16.3

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).
2. Workers who are neither union members nor covered by collective agreements.

Source: Statistics Canada, Labour Force Survey.

References

Fang, T. And Verma, A. 2002. "Union wage premium." *Perspectives on Labour and Income*. Statistics Canada Catalogue no. 75-001-XIE. p. 13-19. http://www.statcan.ca/english/freepub/75-001-XIE/75-001-XIE2002109.pdf (accessed July 30, 2009).

Wage settlements, inflation and labour disputes

The wage rate increase in 2008 remained the same as in the previous year at 3.3% (Table 4). This was the fourth consecutive year when the increase in wages surpassed the rate of inflation. For the third year in a row the wage gain in the public sector exceeded that in the private sector (3.5% versus 2.7%). However, there was a reversal of the trend in the first four months of 2009 whereby the gains stood at 2.8% in the private sector and 2.4% in the public sector.

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike or lockout duration, and state of the economy. The number of collective agreements up for renewal in a year determines the potential for industrial disputes. Union size and strike or lockout duration determine the number of person-days lost. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible. Similar to 2006, in 2008 the proportion of estimated working time lost due to strikes and lockouts was 0.02%.

Table 4 Major wage settlements, inflation and labour disputes

	Average annual increase in base wage rates[1]				Labour disputes and time lost[3]			
Year	Public sector employees[2]	Private sector employees[2]	Total employees	Annual change in consumer price index	Strikes and lockouts[4]	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1980	10.9	11.7	11.1	10.0	1,028	452	9,130	0.37
1981	13.1	12.7	13.0	12.5	1,049	342	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.8	645	330	4,441	0.18
1984	3.9	3.2	3.6	4.3	716	187	3,883	0.15
1985	3.8	3.3	3.7	4.0	829	164	3,126	0.12
1986	3.6	3.0	3.4	4.1	748	486	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	3.9	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.1	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	271	5,079	0.17
1991	3.4	4.4	3.6	5.6	463	254	2,516	0.09
1992	2.0	2.6	2.1	1.4	404	152	2,110	0.07
1993	0.6	0.8	0.7	1.9	381	102	1,517	0.05
1994	0.0	1.2	0.3	0.1	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.2	328	149	1,583	0.05
1996	0.5	1.7	0.9	1.5	330	276	3,269	0.11
1997	1.1	1.8	1.4	1.7	284	258	3,608	0.12
1998	1.6	1.8	1.7	1.0	381	244	2,440	0.08
1999	1.9	2.7	2.2	1.8	413	160	2,441	0.08
2000	2.5	2.4	2.5	2.7	378	143	1,644	0.05
2001	3.4	3.0	3.3	2.5	381	221	2,203	0.07
2002	2.9	2.6	2.8	2.2	294	166	2,986	0.09
2003	2.9	1.2	2.5	2.8	266	79	1,730	0.05
2004	1.4	2.3	1.8	1.8	297	259	3,185	0.09
2005	2.3	2.5	2.3	2.2	260	199	4,148	0.11
2006	2.6	2.3	2.5	2.0	151	42	793	0.02
2007	3.4	3.2	3.3	2.2	206	66	1,771	0.05
2008	3.5	2.7	3.3	2.3	187	41	876	0.02
2009[5]	2.4	2.8	2.4	1.0				

1. Involving 500 or more employees.
2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.
3. Involving 1 worker or more.
4. Ten person-days not worked.
5. 2009 data refer to January to April only.

Sources: Statistics Canada, Prices Division; Human Resources and Skills Development Canada, Workplace Information Directorate .