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PERSPECTIVES

ON LABOUR AND INCOME

WINTER 2011
Vol. 23, No. 4

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- Delayed retirement: A new trend?
- Regional economic shocks and migration
- Varia
  Gambling 2011
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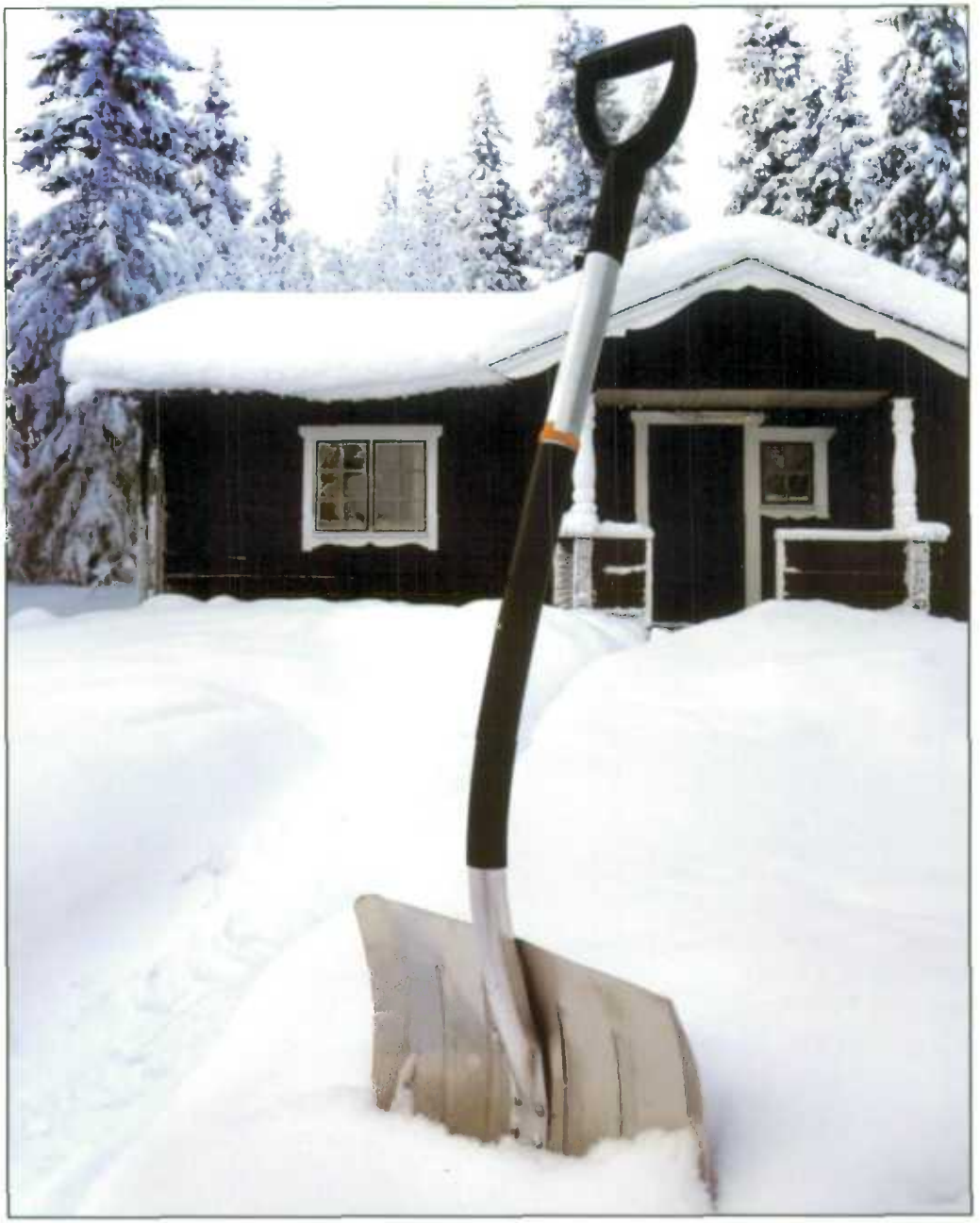
  1989 to 2011



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Highlights

In this issue

The financial well-being of the self-employed

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- The median household income of the self-employed as a group was 81% that of paid employees in 2009. However, income levels varied across self-employment categories. By most measures, the self-employed owners of incorporated businesses reported a larger household income than paid employees, while the unincorporated had a lower median income.
- Because the personal finances of the self-employed often interact with business finances, it is important to examine other indicators of financial well-being, including wealth accumulation.
- The self-employed were wealthier than paid employees. At $520,000, the median net worth of the self-employed—the difference between household assets and liabilities—was 2.7 times that of paid employees ($195,000). The self-employed not only reported higher levels of business assets, but also higher tangible assets.
- With greater wealth to manage, the self-employed were more likely to be knowledgeable about finances, having had more correct answers, on average, to a series of questions used to gauge financial capability.
- Although fewer of the self-employed reported that they were financially preparing for retirement, the majority (about 75%) were fairly or very confident that their retirement income would be sufficient to maintain their living standards. This compared to a figure of 69% among paid employees.
- At equal income levels, household spending differed little between paid workers and the self-employed.

Delayed retirement: A new trend?

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- The employment rate of individuals 55 or over has grown noticeably in recent years. From 1997 to 2010, it rose from 30.5% to 39.4% for men and from 15.8% to 28.6% for women.
- This strong growth seems at odds with the stability of the average retirement age since 2004. The apparent contradiction is in part the result of the influence of the age structure of workers on the average retirement age, making the average retirement age a poor indicator of recent changes in retirement behaviour.
- A more representative indicator of the retirement decisions of Canadians can be constructed on the basis of methods used to calculate life expectancy.
- This expected working-life indicator shows a significant increase in delayed retirement starting in the mid-1990s. In 2008, a 50-year-old Canadian could expect to be working for 16 years, compared to 14 years in 1977.
- The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy starting at age 50 was about the same in 2008 as in 1977.

Regional economic shocks and migration

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- Residents of census agglomerations (CAs) or census metropolitan areas (CMAs) with less than 500,000 residents were much more likely to migrate than residents of large metropolitan centres. In 2008, for example, the migration rate for those age 20 to 54 living in a CA with 10,000 to 19,999 residents was 7.9%, compared to 2.3% for persons the same age living in a CMA with 500,000 or more residents.

- From 2000 to 2008, people living in a region where the unemployment rate went up by one percentage point in relation to the national average between two years had virtually the same probability of migration as people in regions where the unemployment rate had remained close to the national average in the same two years.

- Similarly, individuals living in a region where hourly earnings had declined by $1 per hour in relation to the national average between two years were only slightly more likely to migrate than those living in a region where regional average hourly earnings remained the same as in the rest of the country during the same period.

- However, people who experienced a deterioration of their personal economic situation in relation to others were much more likely to migrate than persons whose economic situation had remained unchanged. Thus, individuals whose income had decreased by 30% or more over two years were 82% more likely to leave their region than those whose income had not changed.

- Unlike other Canadians, recent immigrants living in a region where unemployment had increased by one percentage point in relation to the national average between two given years were 10% more likely to migrate than immigrants living in a region where the unemployment rate had remained the same over the same two years.

What's new?

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- **From Statistics Canada**
  - Lay-offs during recessions
  - Commuting to work
  - Canadian labour force in 2031
  - Self-employment dynamics
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- **From other organizations**
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  - How's life? Measuring well-being
  - Charting International Labor Comparisons

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x	suppressed to meet the confidentiality requirements of the *Statistics Act*
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Articles

5 **The financial well-being of the self-employed**
Sébastien LaRochelle-Côté and Sharanjit Uppal

About 1 in 6 Canadian workers is self-employed. Does taking on the responsibility of a business result in greater earning potential? Less stable income? Affect spending patterns? This paper uses a variety of data sources to examine how the self-employed differ from paid employees in income level and dispersion, wealth, retirement preparation and spending.

17 **Delayed retirement: A new trend?**
Yves Carrière and Diane Galarneau

This article examines changes since 1976 in a number of indicators that show the aging of Canadian workers and a growing number of workers delaying retirement. The increase in delayed retirement is consistent with an increase in the employment rate of older workers, however, it is at odds with statistics indicating that the average retirement age has remained surprisingly stable. This article attempts to reconcile the two apparently contradictory trends using a new expected working-life indicator.

30 **Regional economic shocks and migration**
André Bernard

Following an economic shock affecting a city or region, many residents—particularly those who have just lost their jobs—will likely look to migrate to another region to improve their economic situation. This study uses data from the 1997 to 2008 Longitudinal Administrative Databank (LAD) to evaluate the impact of regional economic shocks on the migration of residents. In particular, it examines the extent to which a deterioration in the relative economic position of a region and a decrease in personal income are linked to higher probabilities of migration.

The financial well-being of the self-employed

Sébastien LaRochelle-Côté and Sharanjit Uppal

In 2010, about 2.7 million Canadians were self-employed in their main job, accounting for 16% of the workforce.[1,2] The self-employed range from working owners of large, incorporated businesses to part-time service providers.

The diversity of this group reflects various motivations for entering self-employment. Some will carefully evaluate their asset-building potential, retirement preparation, access to credit, taxes, and so on, before becoming entrepreneurs (Verheul et al. 2001). Others may be attracted to the independence or flexibility of self-employment, while some will be motivated by the lack of paid employment opportunities (Hou and Wang 2011). Indeed, self-employment tends to increase during economic downturns (LaRochelle-Côté 2010). As a result of these differing circumstances and motivations, the financial rewards of self-employment are likely to vary widely.

A comprehensive look at the financial situation of the self-employed remains a gap in Canadian research. This gap is due in part to data constraints, since there are relatively few sources of comprehensive information on household finances. Conceptual difficulties also exist as many of the self-employed have sources of work-related income that are not typically collected for paid jobs.

This paper examines how the income, wealth and spending of the self-employed differ from that of paid employees. It focuses on those who are in their prime working years, beginning with a look at household income differences between the self-employed and paid employees using 2009 data from the Survey of Labour and Income Dynamics (SLID). Next it focuses on differences in household wealth and retirement preparation, based on the 2009 Canadian Financial Capability Survey (CFCS). It also compares differences in household consumption patterns by using the 2008 Survey of Household Spending (SHS) (see *Data sources and definitions*).

Income

Individual income is not necessarily the optimal indicator of the financial well-being of individuals. Rather, household or family income is typically regarded as a better indicator of financial well-being, since the benefits of financial resources are most often shared among household or family members.

Overall, average household income differed little between self-employed and paid employees (since SLID includes information from all household members, households were classified on the basis of the working status of their major income earner). In 2009, both averaged just over $85,000 in household income (Table 1). The median income of the self-employed, however, was about 19% lower than the household income of paid employees.

One major distinction among the self-employed is between those who own incorporated businesses, and those who do not. Incorporated businesses are separate legal entities from their owners—comprising enterprises such as retail stores, restaurants, or manufacturing operations—which may be large or small. Unincorporated businesses are typically small (85% have no other employees) and are often referred to as 'own account' self-employed.

According to income measures, incorporated owners had higher household incomes than paid employees, who in turn had higher incomes than the non-incorporated self-employed. Looking at market income (total household income excluding government

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Data sources and definitions

Data are drawn from three surveys: the 2009 Survey of Labour and Income Dynamics (SLID), the 2008 Survey of Household Spending (SHS), and the 2009 Canadian Financial Capability Survey (CFCS). Although these surveys differ in scope and content, in each the self-employed are defined as those who reported that they were self-employed in their main job or said that self-employment constituted their main source of income during the survey reference period. All three surveys provide similar estimates for the number and proportionate size of the self-employed population. Among those age 25 to 59, the self-employed comprised 16.0% of the workforce in the SHS, 15.8% in SLID and 14.1% in the CFCS.

The **Survey of Labour and Income Dynamics** (SLID) is a longitudinol survey composed of six-year panels with a cross-sectional component. Cross-sectional data from 2009 are used in this study.

- **Average hours worked** are the total paid hours in all jobs during the reference year.
- **Average weeks worked** are the total number of weeks individuals were employed during the reference year.
- **Capital gains** are total capital gains, excluding losses.
- **Investment income** includes the actual amount of dividends (not just the taxable amount), interest and other investment income (for example, net partnership income and net rentol income).
- **Paid employee** is a paid worker working for wages, salary, tips or commission.
- **Self-employed** includes individuals who had a job in the reference week and belonged to one of the following categories: self-employed without paid help, incorporated; self-employed with paid help, incorporated; self-employed without paid help, not incorporated; or self-employed with paid help, not incorporated.
- **Self-employment income** is net income (including both farm and non-farm) from self-employment.
- **Total annual income** is the sum of income before taxes from all sources. It consists of two main components: market income and government transfers.
- **Total government transfers** include all federal and provincial government transfers.
- **Wages and salaries** are from all jobs, before deductions, including tips and commissions.

The **Canadian Financial Capability Survey** (CFCS) is a cross-sectional survey conducted between February and May 2009. The target population consisted of Canadians age 18 and over in the 10 provinces. The survey collected information on assets and liabilities and on Canadians' knowledge, abilities and behaviour concerning financial decision-making. The information on assets and liabilities is self-reported.

- **Business assets** include agricultural property, machinery and equipment; wholly or partially owned business property and assets; and copyrights, patents and royalties.
- **Confidence in retirement income** is based on the question "Taking all of the various sources of retirement income into account for your household (including government sources as well as personal and occupational pensions and provisions), how confident are you that your household income in retirement will give you the standard of living you hope for?"
- **Other financial assets** include cash savings; investments (stocks, bonds, term deposits, GICs, non-RRSP mutual funds); registered disability savings plans; tax-free savings plans; and private pensions.
- **RESPs** are Registered Education Saving Plans.
- **RRSPs** are Registered Retirement Savings Plans.
- **Tangible assets** include house or property (in or out of Canada, including principal residence), vehicles; collections, antiques, jewels, and other valuables; and home furnishings.
- **Total debt and liabilities** include mortgages (including principal residence and other mortgages); student loans; paydoy loans; and outstanding balances on credit cards and lines of credit.

The **Survey of Household Spending** (SHS) is carried aut annually in the 10 provinces. Data for the territories are available for 1998, 1999 and every second year thereafter. Data from 2008 are used in this study. The main purpose of the survey is to obtain detailed information about household spending during the reference year (the previous calendar year). Information is also collected on dwelling characteristics and household equipment.

transfers), the median household income of the incorporated was $75,600, that of the unincorporated was $37,900, while that of paid employees was $67,000. The sources of income also differ between the incorporated and non-incorporated self-employed (see *Individual income of the self-employed.*).

Since the self-employed may reap varying rewards based on their inherent competencies as entrepreneurs and changing business conditions, their income may be more dispersed than that of paid workers. Several measures of dispersion can be applied to test this hypothesis. The P75/P25 is the ratio of the income of a household at the 75th percentile divided by the income

Table 1 Household income - self-employed and paid employees, age 25 to 59

	Paid employees	Self-employed		
		Total	Incorporated	Unincorporated
		$		
Total household income				
Average	86,600	87,700	107,800*	73,900*
Median	72,600	58,800*	78,900	46,100*
Household market income				
Average	80,900	81,500	103,100*	66,700*
Median	67,000	54,500*	75,600*	37,900*
Dispersion measures[1]		ratio		
P90/P50	2.0	3.2	2.6	3.9
P75/P25	2.2	3.8	3.0	3.7
P50/P25	1.5	1.9	1.9	1.8

* significantly different from paid employees at the 5% level
1. Based on average adult equivalent (AEA) income measures.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2009.

of a household at the 25th percentile. A P75/P25 ratio of 2.0, for instance, would indicate that a household at the 75th income percentile had twice the income of a household at the 25th percentile. Similarly, the P90/P50 is the ratio of income at the 90th percentile compared to the median income, and is therefore a measure of dispersion in the top half of the distribution. Conversely, the P50/P25 can provide a sense of the dispersion between the middle and the lower part of the distribution. Higher scores for each statistic

Imputing consumption flows for housing and automobile expenditures

Because purchases of durable items are infrequent and housing expenditures can vary over the life cycle, a measure of consumption is considered more accurate if it can be estimated to account for the flow of service over time that is provided by durables and housing expenditures. This paper followed the approach used in Lafrance and LaRochelle-Côté (2011).

Housing

One commonly used approach is to compute 'imputed rents' for homeowners. This can be done by estimating a semilog equation with measures of location and quality for the dwelling (for instance, number of rooms) as independent variables, much in the spirit of Brown and Lafrance (2010) where rent is the value of annual serviced rental payments incurred by the renter, including utilities (e.g., water, electricity and fuel). The right-hand side variables measure the quality of the dwelling (i.e., the number of rooms—including a quadratic term—and bathrooms in the dwelling and the type of dwelling), while p takes the province in which the dwelling is located into account. The predicted values from each model are used to calculate imputed rents for owner-occupied housing. These values include utilities (e.g., water, fuel and electricity) that would normally be associated with renters, which may not necessarily accord with the utility expenditures of homeowners. The share of utilities as a proportion of rent is calculated for tenants by dwelling type, as expenditures on utilities vary by dwelling type.

These shares are then applied to the predicted rents for owner-occupied housing to determine the proportion of imputed rents that is accounted for by expenditures on utilities. The difference between these expenditures and actual expenditures on utilities is subtracted from the predicted rental values to obtain total shelter costs for homeowners.

Vehicles

This paper uses the method suggested in Pendakur (1998) to derive an imputed consumption flow for purchased transportation vehicles. The first step is to estimate a probit model among families with car operation expenses in excess of $100. In this model, the probability of purchasing a car is modelled as a function of variables indicative of a household's financial capacity: family size, net income, net income squared and province. The predicted probabilities are then multiplied by predicted purchase prices obtained from another model of car purchases. The total consumption flow from transportation is then equal to the imputed car purchase consumption flow, plus automobile operation expenses (e.g., gas, batteries and tires) and public transportation expenses.

indicate greater dispersion. Fundamentally, these three measures highlight the dispersion among middle-, upper- and lower-income earners.[3] According to all three measures, income dispersion was greater among self-employed, particularly the unincorporated. The P75/P25 ratio was 2.2 for paid employees, 3.0 for the incorporated self-employed, and 3.7 for the unincorporated. The P90/P50 ratio was also higher for the self-employed: 2.6 for the incorporated and 3.9 for the unincorporated compared to 2.0 for paid employees. At the lower end, the dispersion was not as large among the self-employed, but was still larger than among paid employees.

Wealth

Since the income stream varies more among the self-employed, and since they are less likely than paid workers to have pensions or supplemental health insurance, wealth accumulation is particularly important for this group (Verheul et al. 2001). Wealth could act as a buffer against income fluctuations due to business or personal circumstances, finance further business opportunities, or play a part in planning for retirement, among other uses.

The information in this section is from the 2009 Canadian Financial Capability Survey (CFCS). Although not primarily a wealth survey, the CFCS did collect self-reported information on the main categories of assets and debts at the household level.[4] While it is possible to classify survey respondents based on their working status, the CFCS did not distinguish the incorporated self-employed from the unincorporated.[5,6] Results are therefore shown for all of the self-employed.

The self-employed were wealthier than paid employees. In 2009, the average net worth of the self-employed was 2.7 times that of paid employees (Table 2). Household assets averaged about $1.2 million for the self-employed and their debts about $157,000. In comparison, paid employees reported an average of $480,000 in assets and $110,000 in debts.

Most of the difference in average assets was due to differences in tangible and business assets. Tangible assets are non-financial assets that are not normally used for business and include housing, furniture, vehicles and other valuables. For the vast majority of individuals, tangible assets consist mainly of housing-related items and vehicles.[7] The self-employed reported an average of $589,000 in tangible assets. The corresponding figure for paid employees was $317,000. Not surprisingly, business assets[8] were significantly higher among the self-employed ($373,000) than among paid employees ($44,000).[9]

The self-employed also had higher average financial assets—$218,000 versus $123,000 for paid employees.[10] Operating a business often requires more money to facilitate transactions, but some of that difference could also be linked to differences in retirement preparation as the self-employed reported higher RRSP values.[11]

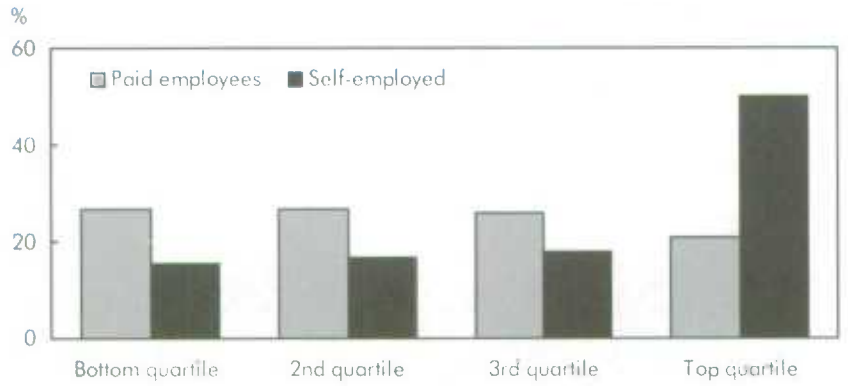
Looking at median values is often instructive since averages can be influenced by a small number of very wealthy individuals. However, at $520,000, the median household net worth of the self-employed was 2.7 times that of paid employees ($195,000)—the same ratio as average wealth between these groups. This means the difference between self-employed individuals and paid employees was not due to a higher concentration of wealth among the self-employed. Since they had higher median wealth, many more of the self-employed were concentrated near the top of the overall net worth distribution. More than one-half of the self-employed compared to 1 in 5 paid employees were located in the top quartile of the overall net worth distribution, roughly corresponding to those who had at least half a million dollars in net worth (Chart A).

Table 2 Average and median wealth measures – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	'000 ($)	
Tangible assets	317.3	589.4*
Financial assets	122.5	217.8*
RRSP	56.0	93.6*
RESP	3.5	5.0*
Other	63.0	119.2*
Business assets	44.2	373.0*
Average total assets	**484.0**	**1,180.3***
Average total debts and liabilities	109.2	156.6*
Average total net worth	374.8	1,023.7*
Median net worth	195.0	520.0*

* significantly different at the 5% level
Note: Income figures are rounded to the nearest 100.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Chart A Distribution across quartiles of household net worth



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Conversely, about 15% of the self-employed and 27% of paid employees were in the bottom wealth quartile, which includes those who had a household net worth of about $50,000 or less. This implies that entrepreneurs are an important source of wealth creation in Canada, a fact also noted by several U.S. studies (Quadrini 1999 and 2000).

The higher median wealth of the self-employed was unaffected by adjustments for age differences between paid employees and the self-employed, and by the removal of workers in primary industries to account for the fact that agriculture workers may have relatively high farm assets.

Such results might appear counter-intuitive, because the median household income of the self-employed was slightly lower than that of paid employees. However, such findings—which mirror results obtained in other U.S. studies—would be explained by the fact that many self-employed people leave funds within their companies, for reinvestment purposes, for debt servicing, or as a contingency fund (De Nardi et al. 2007). Hence, funds reinvested in their businesses can contribute to the wealth of the self-employed without increasing their income stream.

Retirement preparation

The 2009 CFCS also asked about retirement preparation. Preparing for retirement is an asset-building process to ensure that living standards can be maintained during the senior years, and is therefore an important aspect of long-term financial well-being. Since most of the self-employed are not covered by a pension plan, their retirement preparations are likely to differ from those of paid employees.

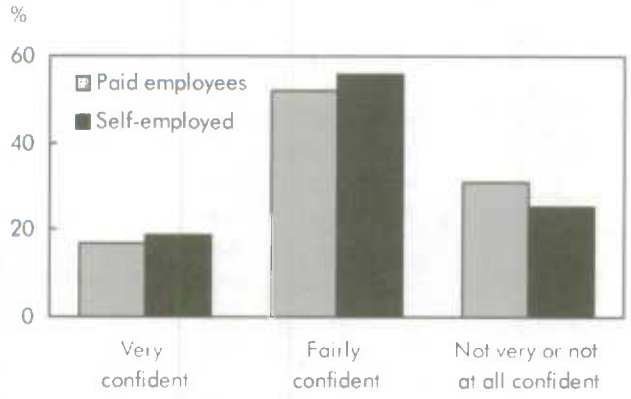
Paid employees were more likely than the self-employed to be preparing for retirement. About 85% of paid employees and 74% of the self-employed stated that they were financially preparing for retirement, either on their own or through an employer pension plan (Table 3). However, the lower percentage of self-employed individuals preparing for retirement may be linked to the fact that many of them keep working later in life.[12]

Table 3 Financial preparation for retirement – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	%	
Financially preparing	**85.2**	**74.3***
Expected primary retirement income source	**100.0**	**100.0**
Public pension	14.7	11.8*
Occupational or workplace pension	35.4	5.6*
Personal retirement savings plan benefits	26.3	36.4*
Business	1.6	13.6*
Employment	3.5	6.1*
Personal assets or other sources	6.1	17.2*
Don't know	12.3	9.3*

* significantly different at the 5% level
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Chart B Confidence in retirement income



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

More than one-third of paid employees expected that workplace pensions would be their primary source of retirement income. Because they are less likely to be covered by an employer-based registered pension plan, the self-employed were more likely to report that personal retirement savings, like RRSPs, would be their main source of retirement income. Another 30% of the self-employed reported that they would get retirement money from the sale of their business[13] or via personal assets and other sources. The greater reliance on their own resources for retirement planning may influence the self-employed to become more knowledgeable about finances in general (see *Financial capability scores*).

Despite the fact that they expect to rely more on their own funds to maintain their living standards in retirement, fewer of the self-employed were pessimistic about their retirement income than paid employees. About one-quarter of the self-employed and one-third of paid employees were not confident that their retirement income would give them the standard of living they desired (Chart B).

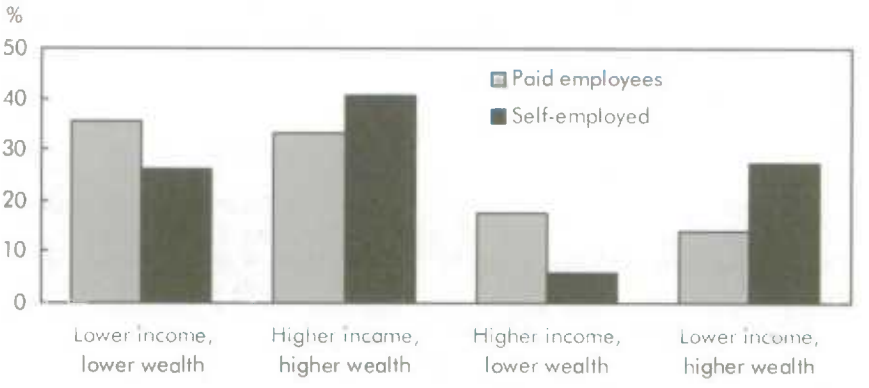
Relationship between wealth and income

Since the self-employed have greater income dispersion but also higher wealth than paid workers, the relationship between income and wealth is likely to differ between these groups. One strategy to identify these differences is to classify respondents into four categories:

- those with a household income and net worth below the population median (lower income, lower wealth)
- those with a household income and net worth above the population median (higher income, higher wealth)
- those with a household income higher than the population median, but a household net worth below the median (higher income, lower wealth)
- those with a household income lower than the population median, but a household net worth above the median (lower income, higher wealth).[14]

The distribution of paid employees and the self-employed across these four categories was quite different (Chart C). First, the self-employed were less likely than paid employees to be in the lower-income, lower-wealth category (26% for the self-employed versus 36% for paid employees) and less likely to be in the higher-income, lower-wealth category (6% for the self-employed versus 18% for paid employees).

Chart C Distribution across income and wealth categories



Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Conversely, 41% of all self-employed people were in the higher-income, higher-wealth category compared with one-third of all paid employees. Moreover, 27% of the self-employed were in the lower-income, higher-wealth group—nearly twice (14%) the percentage of paid employees. These results also held with controls in place for industry, occupation and personal characteristics.[15] This suggests that annual household income is not necessarily representative of the financial well-being of the self-employed. These differences in the distribution of income and wealth also bring up the question as to whether there are corresponding differences in the consumption patterns of the two groups.

Expenditures and consumption

Even though income may be more dispersed for the self-employed than paid employees, periods of high income and/or higher wealth may help maintain consumption levels in lean times. If this is the case, or if the self-employed expect it to be the case, their expenditures may not differ greatly from those of paid workers. In addition, the findings related to wealth indicate that the self-employed are more likely to have substantial financial assets that would enable them to smooth their expenditures across variations in income.

Data in this section come from the Survey of Household Spending (SHS).[16] In the SHS, expenditures include four categories of spending:

- gifts (money transfers to charities and individuals outside the household)
- personal security (including pension contributions, insurance and annuities)
- taxes
- consumption.

Consumption includes all goods and services that are acquired for the benefit of household members. All consumption figures have been adjusted to impute 'consumption flows' for housing and automobile expenditures (see *Imputing consumption flows for housing and automobile expenditures*).[17]

Since the distinction between the incorporated and unincorporated self-employed is not available in the SHS, this section focuses on the differences between paid employees and the self-employed as a whole. Households are classified as self-employed or paid workers according to the class of worker of the person who makes most of the household financial decisions. Income in this section refers to household rather than individual income since households are assumed to pool expenditures.

The households of the self-employed spent about 15% more than those of paid employees ($11,600), but their household income was also higher by about 13% (Table 4).[18] For both paid employees and the self-employed, consumption represented the largest expenditure group—more than 60% in both cases. The second largest expenditure was taxes, accounting for 23% of the total for paid workers and 22% for the self-employed. Both groups earned more than they spent—10% for paid employees and 8% for the self-employed—indicating that potential savings were similar for each group.[19]

Table 4 Average expenditures – self-employed versus paid employees, age 25 to 59

	All		Middle income[1]	
	Paid employees	Self-employed	Paid employees	Self-employed
			$	
Average total household expenditures	**79,100**	**90,800***	**72,900**	**72,300**
Consumption	54,100	63,400*	52,200	53,500
Personal security	5,700	5,700	5,500	5,000
Gifts	1,400	2,000	1,300	1,200
Taxes	18,000	19,700	14,000	12,600
Average total household income	**87,600**	**99,000***	**76,500**	**76,100**

* significantly different at the 5% level

1. Excluding individuals with before-tax income below 2/3 of the median and above 4/3 of the median.

Note: Figures are rounded to the nearest 100.

Source: Statistics Canada, Survey of Household Spending, 2008.

For a more detailed look at spending, consumption can be disaggregated into four main components: expenditures on residence and properties; transportation; food, clothing and care; and 'other,' which includes items that may be less essential for the safety and security of individuals (see Lafrance and LaRochelle-Côté 2011).

The self-employed spent more than paid employees on all components and sub-components of consumption (Table 5). However, differences were larger in the housing component, where expenses of the self-employed exceeded those of paid employees by $5,000 (26%). Expenses on food and health care and miscellaneous items were also higher for the self-employed.

The higher spending on housing translated into a slightly higher proportion of total consumption spent on residence and properties by the self-employed—38% versus 35% for paid employees. As a share of the total, the self-employed also spent proportionately less on transportation—17% versus 20%. Spending differed little for the other items and each group spent about the same proportion of their overall income on consumption.

Table 5 Detailed consumption patterns – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
	$	
Residence and properties	**19,100**	**24,100***
Shelter	11,800	15,100*
Other accommodation	1,200	1,800
Household operations	3,800	4,500*
Furnishings and equipment	2,200	2,600
Transportation	**10,600**	**10,900**
Purchased automobiles	3,800	4,000
Automobile operations	5,600	5,700
Public transportation	1,200	1,200
Food, clothing and care	**14,800**	**16,800***
Food	8,200	9,200*
Clothing	3,400	3,700
Personal care	1,400	1,400
Health	1,800	2,600*
Others	**9,600**	**11,600***
Recreation	4,700	5,800*
Reading and printed material	200	300*
Tobacco and alcohol	1,700	1,800
Miscellaneous	2,900	3,600
	%	
As a percentage of total	**100.0**	**100.0**
Residence	35.3	38.0
Transportation	19.5	17.2
Essentials	27.4	26.6
Others	17.7	18.3

* significantly different at the 5% level
Note: Figures are rounded to the nearest 100.
Source: Statistics Canada, Survey of Household Spending, 2008.

Conclusion

The self-employed represent 16% of the total Canadian workforce. Despite the necessity for the self-employed to manage fluctuations in income and, in most cases, finance their retirement without an employer pension plan, studies examining the financial well-being of the self-employed are relatively rare. Using a variety of data sources, this study examined differences between paid employees and the self-employed across a number of income, wealth, and spending indicators to provide a more comprehensive view of their financial well-being.

In 2009, both paid employees and the self-employed averaged more than $85,000 in total household income. However, this masked differences across self-employment categories. The average household income of the incorporated self-employed was 24% higher than that of paid employees. Conversely, the average household income of the unincorporated self-employed was 15% lower than that of paid employees. The household income of the self-employed was also more dispersed.

However, the self-employed were wealthier than paid employees. In 2009, the median net worth of the self-employed was 2.7 times that of paid employees. The self-employed were also relatively confident that their retirement income would suffice to maintain their living standards, even though they planned to rely more on private sources to finance their retirement than paid workers.

The joint distribution of income and wealth indicated that the lower-income self-employed generally had greater wealth at their disposal than paid workers with similar annual income. Fully 27% of the self-employed were classified as having household income below the

Individual income of the self-employed

Because owners of incorporated businesses are legally separate from their business entities, they can earn income in a variety of ways—by drawing a salary, by collecting dividends accruing to shareholders, through capital gains or through net self-employment income if they maintain a non-incorporated registered business along with their corporations.

In contrast, the unincorporated self-employed have fewer options. These businesses are not legally separate from their owners, who must report proceeds as net self-employment income.[20] Consequently, self-employment income is usually their main source of market income, although some may also report earnings from another paid job.

Overall, average individual income was slightly higher among paid employees (Table 6). In 2009, paid employees averaged $52,400 in total income, compared to $46,200 among the self-employed. As might be expected, most of the income of paid employees was from wages and salaries. The sources of income for the self-employed were more varied as they reported about $17,500 in wages and salaries, $20,600 in self-employment income, $4,400 in investment income (including dividends) and $1,100 in capital gains.

Just like household income, individual income varied significantly between the incorporated and the unincorporated. As a result, the unincorporated had 26% lower income than paid employees. At $57,800, the income of incorporated self-employed was similar to that of paid employees.[21]

The differences in total income were largely due to differences in market income, with little variation in government transfers across groups. The market income of the incorporated self-employed and of paid employees was about the same, while the market income of the unincorporated was $13,100 lower. The majority (73%) of market income earned by the unincorporated came from self-employment income, but another 16% came from wages and salaries. Income was more diffuse across sources among the incorporated, with two-thirds coming from wages and salaries, 16% from investment and capital gains (including dividends), and 18% from net self-employment income. More than 95% of the market income of paid employees came from wages and salaries.

The incorporated self-employed worked an average of 2,350 hours in 2009, compared to 1,930 hours for the unincorporated and 1,770 hours for paid employees.[22] This translated into an average hourly rate of about $24 per hour for the incorporated and just over $28 per hour for paid employees. The unincorporated self-employed earned, on average, significantly less—$20 per hour.

Table 6 Individual income sources – self-employed and paid employees, age 25 to 59

	Paid employees	Self-employed		
		Total	Incorporated	Unincorporated
		$		
Average total annual income	**52,400**	**46,200***	**57,800**	**38,900***
Average total market income	**50,000**	**44,400***	**56,600**	**36,900***
Wages and salaries	47,900	17,500*	36,300*	5,800*
Self-employment income	400	20, 600*	10,000*	27,100*
Investment income	700	4,400*	8,600*	1,800*
Capital gains	300	1,100*	700*	1,300*
Other income	800	900	1,000	900
Average total government transfers	**2,300**	**1,700***	**1,200***	**2,000***
Employment insurance and social assistance	1,300	500*	400*	500*
Other	1,000	1,200*	800*	1,500*
Median annual income (total)	**43,100**	**27,900**	**39,300**	**21,400**
Annual work hours		hours		
Average hours worked	1,770	2,090*	2,350*	1,930*
Median hours worked	1,960	2,090*	2,230*	2,090*

* significantly different from paid employees at the 5% level
Note: Income figures are rounded to the nearest 100. Hours are rounded to the nearest 10.
Source: Statistics Canada, Survey of Labour and Income Dynamics, 2009.

Financial capability scores

A unique feature of the Canadian Financial Capability Survey is a series of 14 questions designed to test respondents' knowledge of financial principles and practices. Although there is broad recognition that financial literacy should be a component of an entrepreneur's skill set, there is little empirical evidence on the subject. Keown (2011) found differences in test scores between the self-employed and paid workers that are statistically significant at the lower and higher end of the distribution but not in the middle. Corresponding differences were found across the population of interest (Table 7). On average, the self-employed answered 9.1 questians correctly compared to 8.7 for paid workers. The difference at the mean reflected a larger proportion of self-employed at the top of the distribution: 37.6% of the self-employed answered 11 or more questions correctly compared to 31.1% of paid workers.

A multivariate analysis (data not shawn) indicated that the mean financial capability score for the self-employed remained significantly higher than the score for paid workers after controlling for age, education, region, immigration status and occupation.

Table 7 Financial capability scores – self-employed versus paid employees, age 25 to 59

	Paid employees	Self-employed
Questions correctly answered	%	
0	6.0	5.6
1	0.4	0.5
2	0.7	0.5
3	1.1	0.7
4	1.8	1.7
5	2.8	2.8
6	6.1	4.7
7	9.7	7.9
8	11.8	10.6
9	13.8	12.7
10	14.8	14.7
11	13.3	14.4
12	9.7	11.2
13	5.9	8.5
14	2.2	3.5
Mean	8.7	9.1

Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

population median *and* net worth above the population median. This compared to 14% of paid employees in the same situation. The self-employed were also more likely to have the combination of higher income and higher wealth than paid employees. The apparent discrepancy between household income and wealth, also noted in the United States, could be due to the fact that many self-employed people leave money in their businesses for investment purposes, for debt-servicing, or simply to build up a reserve fund.

The overall expenditures of the self-employed and paid-worker households accounted for a similar proportion of their incomes, although the self-employed spent proportionately more on housing and less on transportation.

Perspectives

Notes

1. Source: Labour Force Survey, CANSIM Table 282-0011.
2. According to the Survey of Labour and Income Dynamics (SLID), about one-tenth of paid employees in their main job had at least one other job at the same time. Most were also paid employees in their second job, but a significant number were self-employed in their second job. As a proportion of the total workforce, however, multiple jobholders with a business on the side represent a small portion of the overall workforce.
3. To avoid the concentration of unattached individuals among low-income families, all dispersion measures are based on household income values that have been adjusted for the size of the family. These 'adult-equivalent adjusted' (AEA) household income figures can be obtained by dividing total household income by the square root of the household size.
4. A limitation of the Canadian Financial Capability Survey is that information on assets is missing for approximately 50% of survey respondents. However, both the self-employed and paid employees had a similar degree of non-response. Also, the characteristics of those who did not answer the assets part of the survey did not differ between the self-employed and paid employees, thereby minimizing sample bias error.
5. The reference person is representative of the household's major source of employment income as they earned at least 50% of the total household income in at least two-thirds of all households. Restricting the sample to self-employed people earning at least 50% of total household income did not change the main conclusions.

6. Because the CFCS had a higher rate of non-response and 2009 was a downturn year, the results were verified against Statistics Canada's two most recent editions of the Survey of Financial Security (SFS), conducted in 1999 and 2005. A proxy variable based on income information and business ownership had to be derived to identify survey respondents who were most likely to be self-employed because the SFS does not have a job status indicator. In all cases, the average wealth of the self-employed was at least twice the average wealth of paid employees.

7. For the self-employed, however, tangible assets could include properties, machines and materials that are also used to conduct business, but not necessarily included or declared a 'business asset,' for example, a farm, a car used for business and personal reasons, or an office located within the house.

8. Assets that are used to conduct business include agricultural property, machinery and equipment, wholly or partially owned business property and assets, and copyrights, patents and royalties.

9. The CFCS enquired about personal household wealth, not the company's wealth. As a result, some of the self-employed—particularly the incorporated—might not have reported the full value of their corporations.

10. The CFCS question on financial assets asked respondents to consider the value of their employer pension plans in their estimates. In contrast, the SFS used plan descriptions to calculate the value of employer pensions. Thus, the CFCS may under-represent the value of employer pensions relative to the SFS. Nevertheless, the ratio between the median wealth of the self-employed and paid workers is similar in both surveys.

11. The vast majority of the self-employed are not covered by private pension plans.

12. In 2006, 44% of employed men age 65 and over were self-employed compared with 24% and 15% of those age 55 to 64 and 25 to 54, respectively (Uppal 2011). There was a similar pattern among women.

13. The first $750,000 in capital gains from the sale of a qualifying corporation can be tax-free. This particular feature of the tax system, called the Lifetime Capital Gains Exemption, is seen by many entrepreneurs as an important source of retirement income.

14. Individuals were classified on the basis of their AEA (adult-equivalent adjusted) income and net worth. The AEA is a 'per adult' equivalent that takes the number of people living in the household into account. It can be obtained by dividing total household and net worth figures by the square root of family size and is considered more closely aligned with an individual's true financial well-being.

15. Since the combination of low wealth and high income may be due to factors other than self-employment, a model was estimated that controlled for industry, occupation and a number of socio-economic characteristics. The self-employed were still significantly more likely to have lower incomes and higher wealth than paid workers.

16. In the SHS, the household reference person is the one taking care of the family's finances. Because the SHS does not provide information about the class of worker of survey respondents, self-employment was proxied by identifying those who said that their major source of income was from self-employment or those claiming property taxes or rents against business income.

17. A consumption flow is an estimate of consumption services that are obtained on an annual basis from durable goods and can be roughly interpreted as the amount that would have to be paid to 'rent' them.

18. All consumption, expenditure and income items are reported at the household level in the SHS. Survey respondents are those responsible for maintaining the family's finances. This means that other members of the household could influence household income and spending as paid employees.

19. The differences were also quite small when the comparisons were restricted to households in the middle of the income distribution.

20. Net self-employment income can be reported in the T1 file as business income, professional income, commission income, farming income or fishing income. Self-employment income is defined as the sum of the net income reported in all of these five reporting options.

21. Given that the self-employed are typically older than paid employees, age-adjusted incomes were also calculated. This did not significantly alter the results. Furthermore, longitudinal data from 2005 to 2008 were also used to check for the robustness of these results. Individuals who were self-employed (or paid employees) throughout the period were included in the sample. The conclusions remained largely unchanged.

22. Hours worked are defined as total hours paid in all jobs during the reference year.

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Delayed retirement: A new trend?

Yves Carrière and Diane Galarneau

The authors wish to thank Angèle Larivière, who worked as a summer student at Human Resources and Skills Development Canada in 2008, for helping develop the working-life tables.

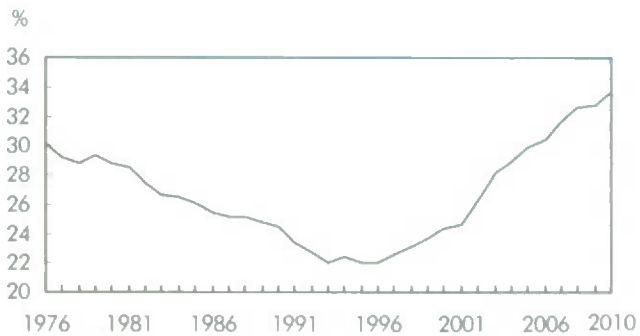
In recent years, Canada's aging population and the retirement of baby boomers has attracted a great deal of attention. Although the aging of the boomer generation is inevitable, certain incentives for older workers to continue working are frequently being considered to reduce the economic impact of aging (Burniaux et al. 2004; Expert Panel on Older Workers 2008; Denton and Spencer 2009; Hering and Klassen 2010; Hicks 2011). As life expectancy and years of good health increase, these measures may help strike a better balance between increased longevity and length of retirement (Castonguay and Laberge 2010). As well, they may make it easier to transfer knowledge and human capital, ease the transition to retirement and help workers who are financially unprepared (Mintz 2009).[1]

On the other hand, change may already be under way. While there was a marked trend toward early retirement in the 1980s and early 1990s prompted by high public-sector deficits and downsizing of private-sector organizations (Wannell 2007), the tide appears to have turned since the late 1990s. In 1997, the downward trend in the employment rate of individuals age 55 and over reversed—their employment rate has since increased by 12 percentage points to 34%—higher than in 1976 (Chart A).

The upward trend in the employment rate of those 55 and over could continue given that boomers are more highly educated, the coverage rate of defined-benefit pension plans is on a downward trend, and the expected tightening of the labour market due to incoming smaller cohorts (Gougeon 2009; Expert Panel on Older Workers 2008). In addition, work is becoming less physically demanding due to technological advances (Beach 2008). The trend may also have been amplified by the recent recession and financial crisis as well as the debt load of workers nearing retirement (Draut and McGhee 2004; Copeland 2009; RBC 2011; Marshall 2011). These factors may already have prompted a number of workers to postpone their retirement (Sun Life Financial 2011).

Using data from the Labour Force Survey (LFS), this article examines changes between 1976 and 2010 in indicators that measure aging of the workforce

Chart A Employment rate trend for people 55 and over reversed in the mid-1990s



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

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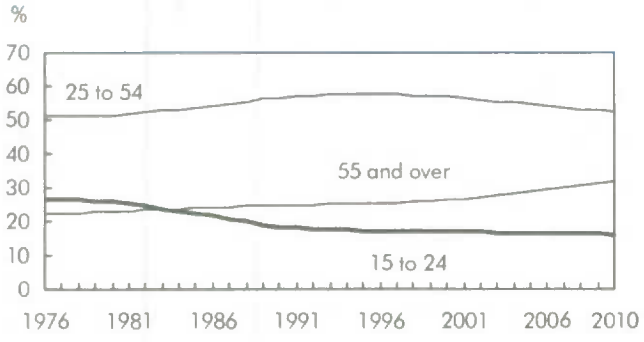
and delayed retirement. This article also attempts to reconcile two apparently contradictory trends: the increasing employment rate of individuals 55 and over and the relatively stable average retirement age in recent years (CANSIM Table 282-0051). The following questions will then be examined using working-life tables: How has the expected working life at age 50 changed in the last three decades? Is expected working life after age 50 increasing, as suggested by the recent increase in the employment rate? If it is in fact increasing, when did the trend change direction? Are the expected years in retirement a larger portion of life after 50 now than in the late 1970s? Lastly, the article looks at changes in the normal hours of work of individuals 55 and over during the period in which their employment rate showed strong growth. Since older workers tend to reduce their hours of work, could such a decrease offset the positive impact on the longer expected working life?

Aging has changed the age composition of the population

Population changes in recent decades have changed the age structure of the population age 15 and over (Chart B). The percentage of individuals 55 and over increased from 22% to 32%. A large part of that growth has occurred since the early 2000s, as the boomer generation entered the 55-and-over age group.

Chart B Percentage of the population 55 and over rose rapidly from the early 2000s



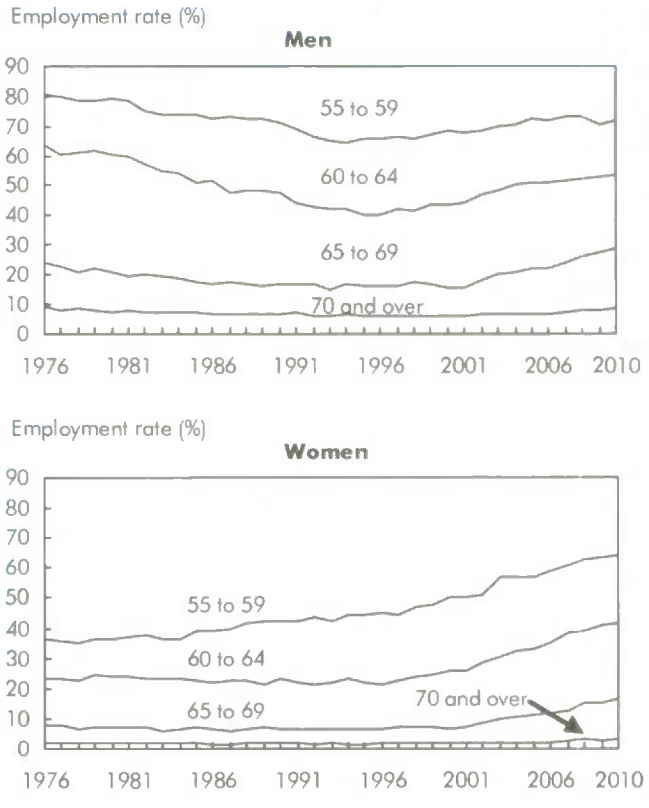
Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

At the same time, the percentage of 15- to 24-year-olds dropped significantly from 27% to approximately 16%. The percentage of 25- to 54-year-olds increased rapidly in the 1970s and early 1980s, levelled off and began to decrease in the second half of the 2000s.

Noticeable increase in the employment rate of older Canadians

The change in the population's age composition coincided with major social and labour market upheavals in Canada. The most prominent change in that period was an increase in the employment rate of women age 15 or over, from 41.9% in 1976 to 57.9% in 2010. In contrast, the employment rate of men age 15 or over fell by more than 7 percentage points in the same period.

Chart C Employment rate trend reversed for men, continued increase for women



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

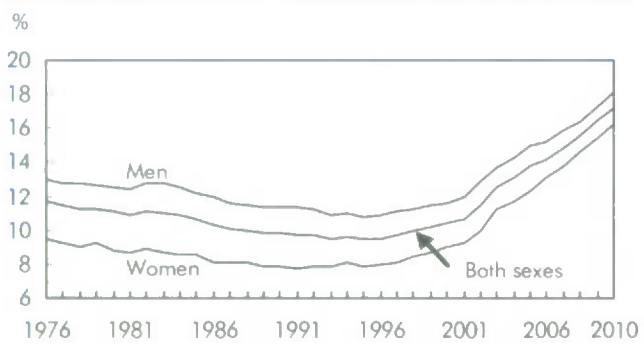
Particularly noteworthy are increases in the employment rate in recent years of both men and women 55 and over (Chart C). For men, this is a reversal of a previous trend in which the employment rate of those 55 and over dropped from 45.4% to 29.8% from 1976 to 1996. By 2010, it had risen to 39.4%. Men age 65 to 69 showed the most pronounced change, as their employment rate almost doubled between 2000 and 2010. The employment rate of men 60 to 64 also increased significantly.

For women, the upward trend in the employment rate began in earnest in 1996. Before then, the employment rate was relatively stable, with only the 55-to-59 age group rising slowly but steadily. After 1996, the employment rate of 55-to-59 year-olds increased to 64.1% in 2010, while the employment rate of women 60 to 64 almost doubled, from 21.5% to 41.4%. The employment rate of women age 65 to 69 increased at the fastest pace, from 6.9% in 2000 to 16.6% in 2010. These increases narrowed the employment-rate gap between men and women from 28.5 percentage points in 1976 to 10.8 in 2010.

An aging workforce

The increased participation of older age groups and the relative decrease in younger workers are two factors contributing to the aging workforce. The percentage of workers 55 and over declined slowly until the mid-1990s and then rose sharply in the early 2000s. In 2010, more than 1 in 6 workers was 55 or over (Chart D).

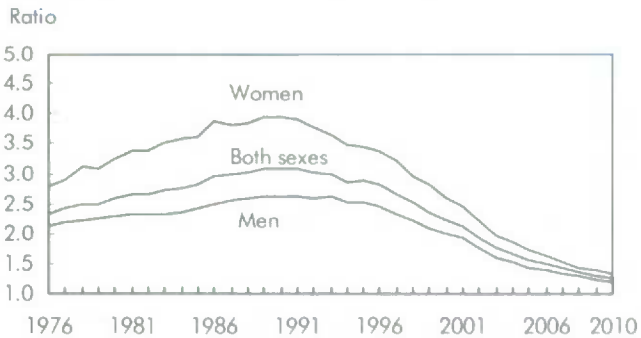
Chart D After a slow decline, the percentage of workers 55 and over rose



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

The aging workforce has also changed the potential capacity to replace older workers. In 1976, there were 2.3 younger workers age 25 to 34 for each worker 55 or over. In 1991, the ratio peaked at 3.1. The ratio then fell to 1.3 in 2010 (Chart E).

Chart E After peaking in 1991, the entrant–retiree ratio dropped



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

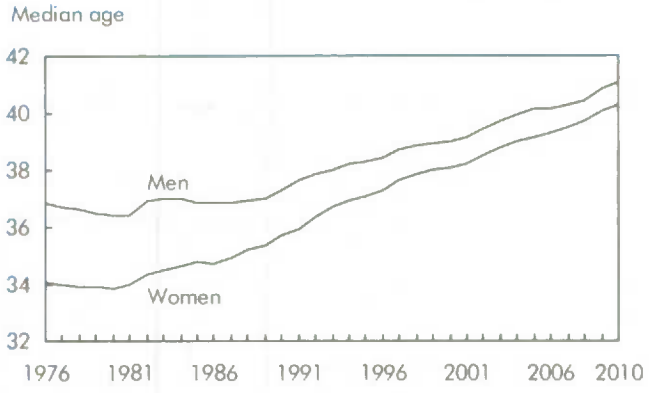
For most of the period studied, the entrant–retiree ratio of women was higher than that of men, reflecting their younger age—the median age of employed women in 1976 was almost 3 years younger than that of employed men (Chart F)—and the increasing employment rate of younger women, which helped lower their average age. As a result, the entrant–retiree ratio rose from 2.8 in 1976 to 3.9 in 1991.

The median age of women gradually caught up to that of men, so that the gap between them closed to approximately 1 year in the 2000s. Over time, the participation of women in the labour market became similar to that of men, resulting in a comparable entrant–retiree ratio of 1.3 in 2010.

Indicators of a lengthening working life

The concept of retirement age is not easily measured, despite widespread interest in the concept (Bowlby 2007; Denton and Spencer 2008—see *Data source, method and definitions*). However, some indicators seem to point to a lengthening working life in recent years. Given the potential effects of a longer working life on

Chart F Median age of employed women has almost reached that of men



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

economic growth (Expert Panel on Older Workers 2008; Denton and Spencer 2009), it is important to understand the recent trends.

First, the annual full-time employment rate was reproduced by age at three points in time: 1976, 1997 (the major turning point in retirement behaviour) and 2010 (Chart G). The full-time employment rate was chosen to approximate the concept of 'career job,' that is, the job held after graduation and before retirement.

A rightward shift can be seen in the employment rate by year of age when comparing 1976 to 1997 and 2010, such that younger workers are starting full-time work later in life. In 1976, the full-time employment rate reached the level of the older groups at about age 25. In 2010, that level was reached at age 29 mainly due to increased years of education.

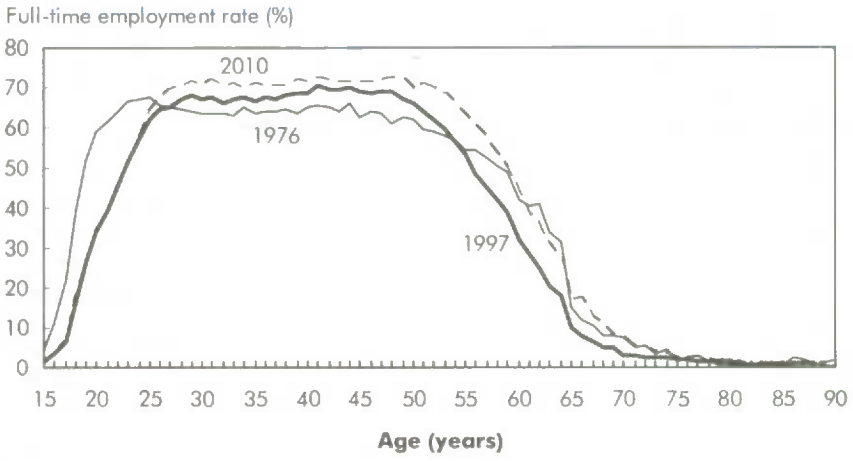
Moreover, the employment rate increased between 1976 and 1997 for each year of age from 27 to 54. That period coincides with the increasing participation of women in the labour market, which boosted the overall employment rate. The increase continued through 2010, the employment rates of those age groups being higher than in 1997 and 1976.

For those 55 years and over, the employment rate increased between 1997 and 2010, with the employment rate for each year of age over 55 exceeding the 1997 rate. The 2010 rates also exceed the 1976 rates up to age 60, and from this age and up the 2010 and 1976 rates are similar.

Both men and women are entering full-time employment later in life (Chart H). In the over-55 age group, the employment rate of men fell between 1976 and 1997, but that of women rose during and beyond that period. In addition, the 2010 rebound in the employment rate of those 55 and over is primarily the result of the sharp increase in the full-time employment rate of women. Men contributed to the rebound to a lesser extent.

The increase starting in the mid-1990s in the employment rate of men 55 to 69 may indicate delayed retirement. The increase in the employment rate of women is likely the result of two trends: delayed retirement and the arrival of cohorts with higher employment rates.

Chart G Younger workers entering full-time work later in life, employment rates rebounding among older workers



Source: Statistics Canada, Labour Force Survey, 1976, 1997 and 2010.

Data source, method and definitions

Data source

This article is based on data from the Labour Force Survey (LFS), which has a sample size of 54,000 households each month. The LFS provides information on major labour market trends by industry, occupation, hours worked, employment rate and unemployment rate. In this article, the population being studied is that of older workers—those age 55 and over. However, the working-life tables are based on the population age 50 to 80, since this is the age group covering most retirements. Since data for the Northwest Territories, Yukon and Nunavut are not included, the findings of this study apply only to the 10 provinces.

Retirements

The LFS allows the number of retirements in a month or year to be calculated, since "retired" is one response to the question about the reason for stopping work, which is asked if the respondent is not working at the time of the survey, but has worked in the preceding 12 months.[2] Retirements are recorded only for those age 50 and over.

Retirements identified using the LFS are not necessarily full retirements, first retirements or career job retirements. The LFS records retirement as reported and perceived by the respondent at the time of the survey. Since the concept of retirement has changed since the survey began, the concept captured by the LFS has also changed. Compared with retirements recorded during the 1970s and 1980s, retirements recorded today are less likely to be full retirements, since the paths to retirement have become more varied (Schellenberg et al. 2005). As a cross-sectional survey, the LFS cannot identify the multiple states between first retirement and full retirement.

The method used to obtain the number of retirements is not the same as the one used in Gower (1997). The retirement file used therein considered only the retirements for 1 out of 6 months for each rotation group. In this article, responses from all rotation groups are considered. However, retirements in the first and last months of data collection for each year of retirement have been excluded. The number of retirements for the first month of collection (for example, January 2010 for retirements in January 2010) is consistently lower, since respondents have only two weeks to report their retirement. The last month of data collection (for example, November 2010 for retirements in January 2010) is also excluded, due to a processing adjustment introduced in November 1995. Excluding the last month of data collection ensures that the data are processed in the same way for all selected months.

In this article, data are presented by year of retirement and not by year of data collection. Each year of retirement data requires 21 months of collection. For example, to obtain all the retirements in 2009, the LFS data from February 2009 to October 2010 must be used. Therefore data on retirements in 2010 are not shown because collection is not yet complete.

Method

Expected working-life calculation

Expected working life can be calculated using LFS data with a method similar to the one used for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009). First, the number of retirements for each year of age from 50 to 80 is calculated using the LFS retirement variable. The retirement rate is then determined by dividing the number of retirements by the annual average number of employed individuals for each year of age plus one-half of the retirements at the same age (assuming that retirements are distributed evenly throughout the year). To a hypothetical cohort of employed 50-year-olds in a given year (say, 1976), that year's retirement rates for each subsequent year of age are applied, as if the cohort were aging and shrinking as a result of retirements. That makes it possible to determine the number of years that a person would spend working and in retirement if, beginning at age 50, the retirement rates were the same as in 1976.

Expected working life has been calculated as described above for each year from 1976 to 2009. Since retirement occurs relatively infrequently, three-year moving averages have been used to calculate retirement rates. Thus the tables go from 1977 to 2008.

Since life expectancy has continued to increase, expected working life takes both changes in behaviour regarding retirement and declining probabilities of death into account (Canadian Human Mortality Database, Université de Montréal 2010). It must therefore be assumed that mortality is the same for the employed and the general population. The method can show how expected working life starting at age 50 has changed as a percentage of the remaining years of life. The tables stop at age 80 since there are few employed people over 80.

In this article, only employment exits for retirement (Table 1) are considered, even though other types of exits (for example, layoff, caregiving or illness) may lead to retirement. If all exits had been included, the number

Table 1 Distribution of individuals age 50 and over who left a job in the 12 months preceding the LFS reference week by reason, selected years[1]

	1976	1980	1989	1999	2007	2009
Reason				%		
Illness or disability	14	13	11	8	10	7
Personal or family responsibilities	7	4	3	2	2	2
Laid off	35	40	43	45	46	55
Retired	28	28	31	35	33	27
Other	15	15	12	10	9	8

1. With the exception of 2009, the preceding years are comparable in the business cycle.
Source: Statistics Canada, Labour Force Survey (LFS), 1976, 1980, 1989, 1999, 2007 and 2009.

Data source, method and definitions (concluded)

of employed individuals in the hypothetical cohort would have declined more quickly in each year, but the findings would have been the same. The study by Denton et al. shows similar trends using a very broad definition of retirement, wherein retirement rates correspond to the drop in the participation rate between two ages.

The distribution of reasons for job exits for those over 50 changed over time. For example, the proportion of exits due to layoffs increased between 1976 and 2009, while personal and family reasons decreased. Retirements increased until the late 1990s, but have dropped in recent yeors.

One advantage of the expected working-life tables is that they make it possible to identify trends of older workers approaching retirement that are not affected by the age structure of the 50-and-over age group. Given that the first of the baby boomers entered the 50-and-over age group in the mid-1990s, certain chonges among older workers may be primarily the result of the oge of the group dropping due to the significant influx of the baby boomers.

Definitions

Older worker: In this article, a worker who is 55 or over.

Entrant-retiree ratio: There are several ways to calculate this type of ratio, and they all result in very similar trends. In this article, the number of workers age 25 to 34 is divided by the number of workers age 55 and over. The 25-to-34 age group was chosen instead of the 15-to-24 age group to avoid including students in the indicator.

Retiree: A person age 50 or over who has worked in the preceding 12 months, but is not working at the time of the survey as result of retirement.

Expected working life: In this article, 'expected working life' is used instead of 'pre-retirement expected working life' for brevity. Both refer to the same concept, namely the number of years that an employed 50-year-old can expect to work before retiring or dying, should this occur before retirement.

Post-retirement life expectancy: The number of years one can expect to live after retiring from o job.

An analysis of employment-rate changes alone is not enough to determine whether retirement is being postponed, especially among women. Therefore, another indicator will be examined: the average retirement age.

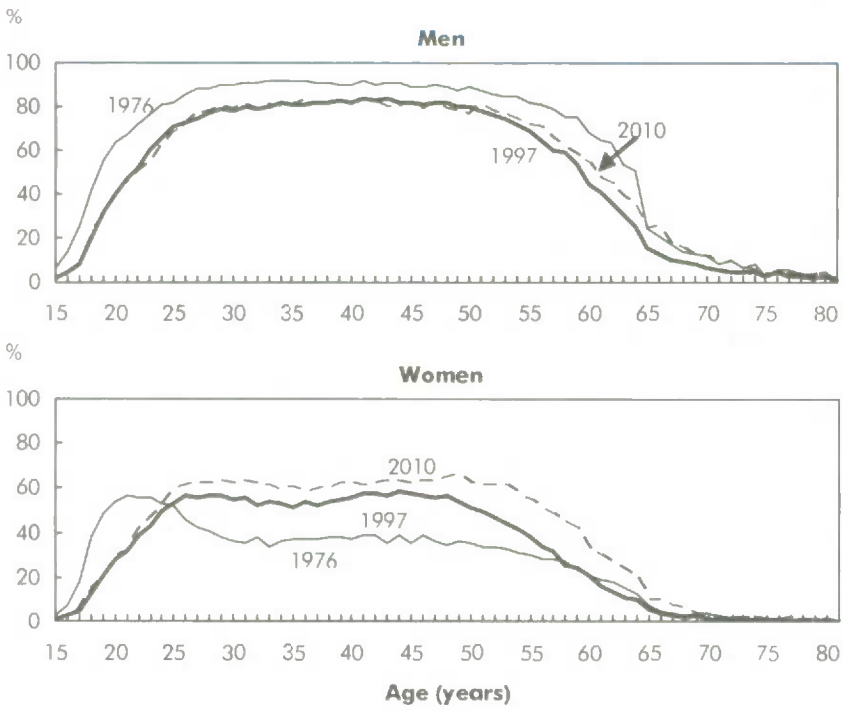
Interpretation issues with the average retirement age

The average retirement age is often used to study changes in retirement behaviour. The average retirement age rose somewhat after bottoming out in the mid-1990s (Chart I); however, since 2004 it has remained relatively stable at around 62, which is surprising because the employment rate of those 55 and over has been rising significantly for a number of years.

Whether average retirement age is calculated from the LFS or another source, it must be interpreted with caution for the following reasons:

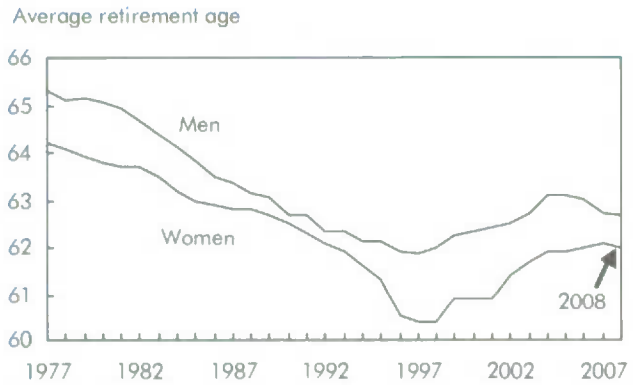
- It is influenced by the age structure of the 50-and-over age group.

Chart H For men under 65, the full-time employment rate has remained lower than in 1976, for women, it has increased continuously starting at age 24 since 1976



Source: Statistics Canada, Labour Force Survey, 1976 to 2010.

Chart I Average retirement age stable since 2004



Source: Statistics Canada, Labour Force Survey, 1977 to 2009.

Chart J Demographic effect on average retirement age

Source: Statistics Canada, Labour Force Survey, 1976 to 2009.

- It is more sensitive to early retirements than delayed retirements.
- It is not necessarily representative of the behaviour of all workers approaching retirement.

The influence of the age structure of the 50-and-over age group may result in a lower average retirement age if most of the employed people in that age group are 50 to 59, or a higher average retirement age if most of those people are 60 to 69. Therefore, the gradual entry of the sizeable boomer generation into the 50-and-over age group may have a large impact on the average retirement age.

To illustrate this effect, the average retirement age from 1976 to 2031 was calculated using 2008 annual employment and retirement rates. Only the age structure was allowed to vary. In that way, the impact of age structure changes on the average retirement age between now and 2031 could be isolated (Chart J).

In the mid-1990s, the first of the baby boomers turned 50, making the 50-and-over age group younger overall (the percentage of 60- to 69-year-old men and women dropped between 1990 and 2000), bringing down the average retirement age (by 0.5 years for men and 0.6 years for women) and partially offsetting the potential increase in the average retirement age, as a result of the numerous young retirees from the boomer generation.

Simlarly, the gradual entry of the boomers into the 60-to-69 age group between 2006 and 2026 will age the 50-and-over worker group, increasing the average retirement age by approximately 1.5 years. The trend is significant because it could suggest a lengthening of the working life of older workers with no change in retirement behaviour.

In addition to being influenced by the age structure, the average retirement age is more sensitive to early retirements than delayed retirements. For example, in the most extreme case that, in a given year, only one person retired and all other employed individuals postponed their retirements, the average retirement age would be the age of that single retiree. The average retirement age would eventually reflect the late retirements, but not until a number of years after the changes in retirement behaviour of the employed individuals had occurred.

In the above example, the average retirement age for that year would not account for the numerous individuals who postponed their retirement and would be representative of the behaviour of only one individual.

For these reasons, the average retirement age does not reliably reflect changes in retirement behaviour. This partly explains why, for several years, the average retirement age has not increased significantly, even though the employment rate of Canadians 55 and over

has risen sharply. The expected working life tables make it possible to measure changes in retirement behaviour more accurately.

Expected working life[3] has increased by approximately three years since 1997

While retirement age is hard to measure, it is possible to construct expected working-life tables from LFS data using a method similar to that for calculating life expectancy (Bélanger and Larrivée 1992; Denton et al. 2009; Wannell 2007—see Data *source, method and definitions*). Despite certain limitations, changes in expected working life reflect changes in retirement behaviour much more accurately than average retirement age.

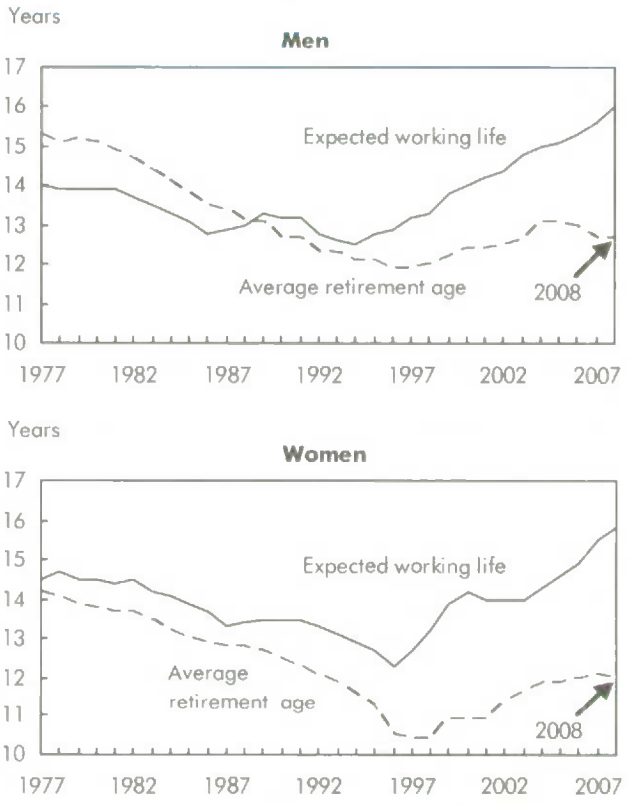
Expected working life makes it possible to estimate the number of years that a person can expect to work before retiring.[4]

The average number of years a 50-year-old can expect to continue working was compared (using expected working-life tables) with a similar number derived from the average retirement age[5] (Chart K). From 1976 to the mid-1990s, both numbers fell significantly for men and women. However, the number derived from the average retirement age fell almost twice as much.

As well, the increase that started in the mid-1990s is greater based on expected working life. For men, the increase starts in 1994 and totals 3.5 years. Using average retirement age, the increase starts in 1997 and totals only 0.8 years. For women, the increase from the mid-1990s totals 3.5 years using expected working life and 1.6 years using average retirement age.

The working-life tables therefore indicate a significant increase in delayed retirement starting in the mid-1990s, which is consistent with the increase in the employment rate of older Canadians starting in the same period. The expected years of employment is even greater in 2008 (16 years for men and women) than in 1977 (14 years for men and women). These estimates indicate that, in 2008, Canadians tended to retire later in life than in 1977. Specifically, employed 50-year-olds would have waited longer to retire at the 2008 retirement rates than at the 1977 retirement rates.[6]

Chart K Employed 50-year-old men likely to work for approximately 16 years before retiring, women almost as long



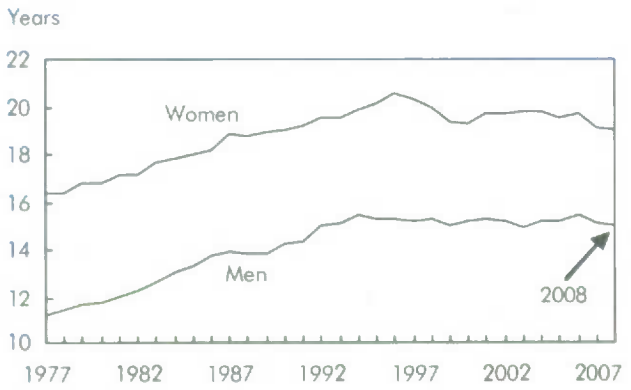
Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Fewer expected years in retirement?

Has the trend toward later retirement resulted in fewer expected years in retirement after age 50? This question is important given the impact on economic growth of an increase in the number of years spent in retirement as a result of increased longevity.

The working-life tables show that the expected length of retirement for men increased from 11.2 years to 15.4 years between 1977 and 1994 (Chart L).[7] It has since levelled off at approximately 15 years (in 2008).[8]

Chart L Length of retirement stable since the mid-1990s

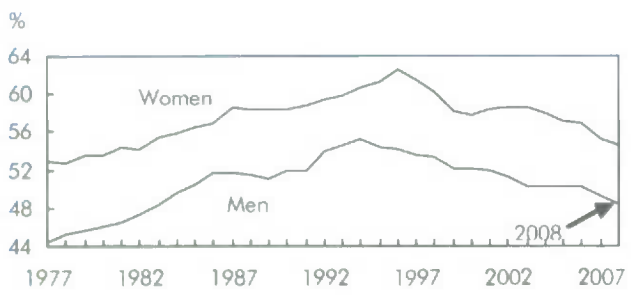


Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

Although life expectancy has continued to increase since the mid-1990s, the proportion of expected years in retirement at age 50 has declined (Chart M). In 1994, slightly more than 55% of the remaining years of life after age 50 were expected to be spent in retirement; in 2008, the number fell to 48%, similar to the level in 1977 (45%).[9]

The trends for women are similar. From 1977 to 1996, the expected working-life tables show that the years in retirement for women increased from 16.4 to 20.6, and the years in retirement as a percentage of total life expectancy starting at age 50 increased from 53% to 63%. The years in retirement then fell to 19 years in 2008, or 55% of total life expectancy at age 50, which is comparable to the 1977 number.

Chart M Since the mid-1990s, decreasing proportion of total life expectancy spent in retirement starting at age 50



Source: Statistics Canada, Labour Force Survey, 1977 to 2008.

For both men and women, the expected working-life tables show that the expected length of retirement, in absolute terms, has stabilized after a sharp increase between 1977 and the mid-1990s. That relative stability, combined with an increase in life expectancy at age 50, has increased the percentage of years spent working after age 50 over the last 15 years or so. Since the trend to delayed retirement was well-established before the recent financial crisis and economic downturn, it cannot be viewed as a direct consequence of these events.

Decreased hours of work for men 50 and over

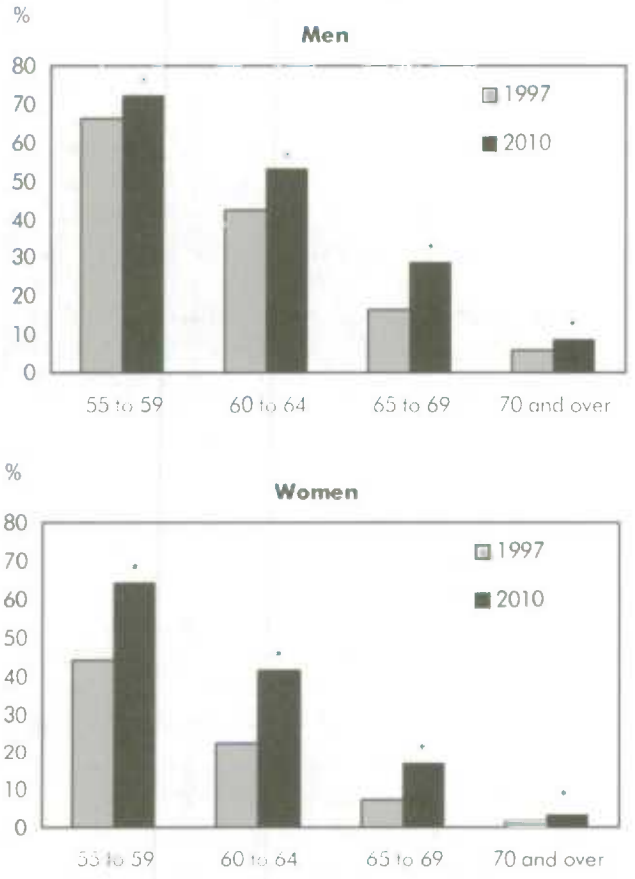
The longer working life of older workers may offset some of the economic impacts of aging. However, hours of work must be considered, since the number of hours worked generally declines with age. In the absence of a productivity increase, the full effect of longer working life on economic growth could be offset by shorter hours of work for older workers.

As the employment rate of men 55 and over increased, their regular hours of work decreased (charts N and O). In 1997, men 55 and over worked an average of 40.1 hours per week, compared to 38.6 hours per week in 2010.[10] The decrease occurred mainly in the 55-to-64 age group, with no significant decrease in older groups. The decrease affected mostly full-time workers, who worked an average of 1.4 fewer hours per week, while part-time workers added 0.6 hours per week.

Despite the increased incidence of part-time work among men 55 and over (from 14.3% to 15.9% between 1997 and 2010), the employment growth was largely the result of an increase in full-time employment which represented 5 out of 6 new jobs.

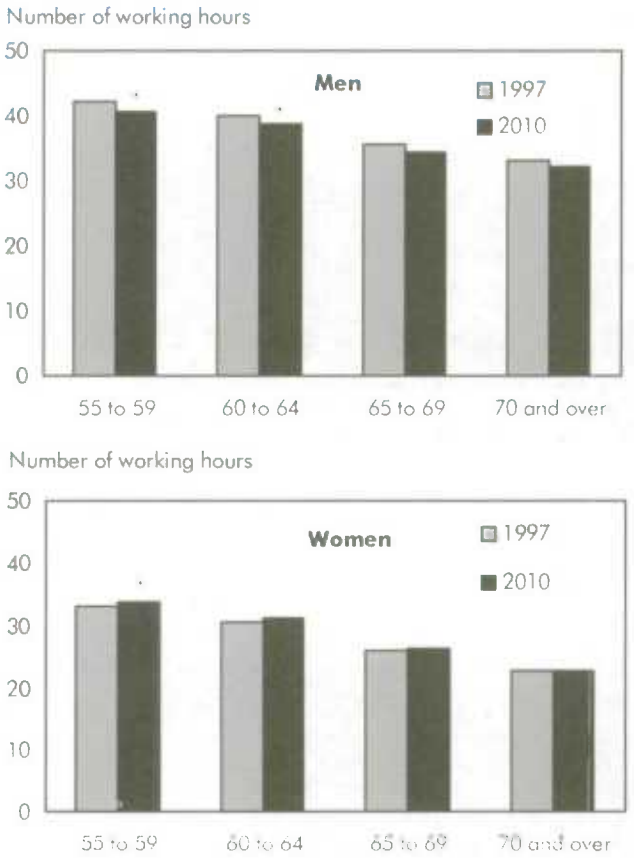
The employment rate increase (which is partly due to delaying retirement) has had a marked effect on total annual hours of work for older men, which have increased by 87% since 1997. If the employment rate had not risen, the hours would have increased by 51%.[11] Therefore the slight decrease in average weekly hours was not sufficient to offset a large portion of the increase in annual hours.

Chart N Growing employment rate of individuals 55 and over



* The differences between the 1997 and 2010 employment rates and average number of weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

Chart O Average number of working hours getting shorter for men but longer for women



* The differences between the 1997 and 2010 employment rates and average weekly working hours by age group are statistically significant at the 0.05 threshold.
Source: Statistics Canada, Labour Force Survey, 1997 and 2010.

The shortening of the average work week for men is mainly the result of a change in the composition of the male labour force. Specifically, the transition of older workers from primary and manufacturing industries, which traditionally entail relatively long hours of work, to business, construction, and professional, scientific and technical services, which have relatively shorter hours of work, is a key reason for the decrease in hours (accounting for between 37% and 44% of the change).[12]

Increased average hours of work for women

In addition to increased employment, the average work week lengthened slightly for women, from 31.4 hours in 1997 to 31.9 hours in 2010. Unlike men, the positive effect of women's increased employment is amplified by the longer average work week. The number of female workers 55 and over grew by 160% between 1997 and 2010. Assuming that their 2010 average work week was maintained throughout the

year, women's average annual hours increased slightly more (164%) than the number of women. If the employment rate and average work week had remained at 1997 levels, the increase in annual hours would only have been 44%.

Women's increased hours of work are the result of an increased rate of full-time work despite a shortening of the work week of full-time workers from 40.2 hours to 38.8 hours. In contrast, the work week of women in part-time jobs increased from 15.7 hours to 17.0 hours.

Among women 55 and over, the distribution by occupation and industry remained relatively stable between 1997 and 2010, such that this factor did not significantly contribute to the increase in their average hours of work.

Conclusion

Baby boomers have played a large part in changes to the Canadian labour market over the last 30 years and their impact will likely continue to be felt for years to come. The aging of the boomer generation and its transition to retirement will have a major impact on the labour market and the overall economy.

In fact, some of the changes are well under way. Since the early 1980s, workers 55 and over have represented an increasingly large part of the total population while the potential capacity to replace older workers has been decreasing. In 1991, the ratio of young worker (25 to 34) to those nearing retirement (55 and over) was 3.1; in 2010, it was 1.3.

An important trend in recent years for both men and women has been the growth in the employment rate of people 55 and over. This growth could mitigate certain anticipated effects of population aging. For men, the growth represents a reversal of a previous trend, since their employment rate was falling between 1976 and 1997. For women, the growth is the continuation of a trend. From 1997 to 2010, the employment rate of men 55 and over grew from 30.5% to 39.4%, and that of women grew from 15.8% to 28.6%.

This strong growth seems at odds with the stability of the average retirement age since 2004. The average retirement age has remained at approximately 62 for close to 7 years. As an indicator, it has a number of limitations and may misrepresent retirement trends. In order to address these shortcomings, the expected working life was calculated using a method similar to that used for calculating life expectancy.

This approach makes it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if he or she were subject to the retirement rates for a given year as they aged.

The working-life tables indicate a significant increase in delayed retirement starting in the mid-1990s. Expected working life was even higher in 2008 than in 1977. It was about 14 years for men and women in 1977, compared to 16 years in 2008.

The recent trend to delayed retirement also stabilized the expected length of retirement. The working-life tables show that the expected length of retirement increased from 1977 to the mid-1990s and has since remained relatively stable. The expected length of retirement expressed as a percentage of total life expectancy after age 50 was about the same in 2008 as in 1977.

Although the 2008 financial crisis and economic slowdown may have prompted some workers to postpone their retirement, delayed retirement is far from being a new trend. The results show that the trend began in the mid-1990s, well before these events.

Delayed retirement could alleviate some of the economic challenges of population aging. However, hours of work must be considered, since a drop in average weekly hours could partly offset the impact of an increased expected work life on annual hours and economic growth. In fact, the average work week for those 55 and over in 2010 was indeed 1 hour shorter than in 1997.

Despite this drop, annual working hours for those 55 and over increased by 87% since 1997. If the employment rate had remained at its 1997 level, the increase would have been 48%. Therefore delayed retirement, measured by the working-life tables, has had a large positive impact on total annual hours despite the decrease in average weekly hours.

Perspectives

Notes

1. Mintz (2009) states that 1 in 5 Canadians fails to accumulate enough savings to replace 90% or more of his/her pre-retirement expenses. The proportion is even greatet for low- and average-income earners.

2. Only starting in 1997 was this question asked of people who had been temporarily laid off.

3. Here, and elsewhere in the text, 'expected working life' is used instead of 'pre-retirement expected working life' for readability. In theory, working life can end for reasons other than retirement. However, this article considers only termination of employment after age 50 as a result of retirement or death.

4. Like the life-expectancy calculation, which gives an idea of the number of years a person has left to live if the mortality rate in a given year applies throughout that person's life, the expected working-life tables make it possible to calculate the number of years a 50-year-old Canadian can expect to work before retiring if the retirement rates in a given year prevail into the future.

5. For purposes of comparison, 50 was subtracted from the average retirement age and the number thus derived was compared to the expected working life at age 50.

6. This result is also partly attributable to the lower death rate.

7. This is a comparison between a 50-year-old Canadian under the 1977 retirement rate at each age and a 50-year-old Canadian under the 1994 retirement rate at each age.

8. Using the average retirement age, the expected length of retirement increased from 10 years to 18.3 years in the same period. Both indicators show a sizeable increase in the expected length of retirement after age 50, however, the increase is noticeably greater using the average retirement age because it has a number of limitations, as mentioned earlier.

9. Using the average retirement age, the increases went from 39% in 1977, to 57% in 1994 and to approximately 59% in 2008.

10. This comparison is between 1997 and 2010, and not 2008 or 2007. Even though, in 2010, a number of population groups had not completely recovered the losses incurred during the 2008 recession, those 55 and over were less affected by the slowdown, and in 2010 men and women in that age group had employment rates that were greater than those in 2008 (39.4% versus 38.6% for men and 28.6% versus 27.3% for women). The employment rates of those 55 and over were greater in 2010 than in 2007.

11. The number of workers 55 and over increased by 95% between 1997 and 2010. Assuming that men maintained the annual average of weekly hours worked in 2010, week by week, their average annual hours would have increased slightly less (87%) than the number of workers. The increase in overall annual hours is slightly less than the increase in the number of workers. The LFS does not include annual hours. To obtain annual hours, the annual average of the weekly hours worked was multiplied by 52.

12. This is the result of an Oaxaca decomposition. Demographic variables were used in the regressions (age, age squared, education, province of residence, whether the person resided in a CMA, and marital status) as well as labour market variables (industry, occupation, length of employment, company size, unionization, whether the person was a part-time or full-time employee, and hourly wage).

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Regional economic shocks and migration

André Bernard

Every year, Canadian communities experience economic slowdowns, often caused by the closing of key establishments in the local economy. When the employment and wage prospects of one region weaken in relation to others, residents—particularly those active in the labour force—look to migrate elsewhere to improve their economic situation. Theoretically, the decision to migrate or remain in one's region is linked in part to the probability of finding a job and the expected level of income in the regions considered (Todaro 1986 and 1969).

There are advantages to migrating from one region of the country to another. For example, people who were laid off and would otherwise be unemployed may find work in regions experiencing labour shortages. In such cases, migration serves as a market-adjustment mechanism (Blanchard and Katz 1992). However, significant decreases in population may have negative consequences for the affected regions. The economic and social vitality of those regions can suffer if property tax revenue and thus municipal services decline or stagnate. Such a situation may then exacerbate the region's economic decline, especially if those leaving are the most skilled or the youngest.[1]

The people who leave following a regional economic shock are not necessarily the individuals directly affected by the job or income losses. Others may perceive a weakening in their long-term job and earnings outlooks and thus look to migrate. For example, an increase in a region's unemployment or a decline in average earnings will generally limit residents' potential wage increases and their chances of obtaining new, higher-paying jobs in the same region. If unemployment rates and average hourly wages remain the same in other regions, they will become more attractive to potential migrants.

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Such economic shocks are more likely to affect communities with smaller populations. The economies of large metropolitan centres are generally more diversified (Beckstead and Brown 2003) and therefore less subject to abrupt changes. The economic prosperity of cities outside large metropolitan centres and migration problems associated with them can draw the attention of public policy makers.[2] For example, if a policy's objective is to promote retention of residents in a given region, it is important to know the extent to which economic considerations play a key role in the decision of these residents to migrate or not.

Most studies examining the link between economic conditions and internal migration in Canada have looked at interprovincial migration (Finnie 2004, Coulombe 2006, Bernard et al. 2008, and Ostrovsky et al. 2008).[3,4] Instead this study considers migration from one census agglomeration (CA) or census metropolitan area (CMA) to another.[5] The main objective is to determine if there is a link between regional economic shocks and the migration of residents. The impact of changes in the economic situation of individuals on migration will also be examined. Regional economic shocks are defined by changes in regional economic conditions, measured by two variables: unemployment rate and average hourly earnings. These two variables reflect the extent to which a region offers strong employment opportunities at good wages for its residents. The economic situation of individuals is measured by the level of and changes in annual personal income.

The focus of this study is on migration from cities outside large metropolitan centres, that is, CAs and CMAs of less than 500,000 people. The migration period covered is from 2000 to 2008.[6]

The preliminary goal of the study is to document migration during the period studied based on the size of the population of the CA and CMA. This is done to determine the extent to which residents of smaller

CAs and CMAs are more likely to migrate. The destination of these migrants will also be examined. Are they mostly going to large metropolitan centres or are they migrating to similarly sized CAs or CMAs?

The primary data sources used for this study are the Longitudinal Administrative Databank (LAD) and the Labour Force Survey (LFS) (see *Data sources and definitions*).

Migration much higher in small CAs

In general, the smaller a region's population, the higher its migration rate. For example, in 2008, the migration rate among persons age 20 to 54 living in a CA with a population between 10,000 and 19,999 was 7.9% (Table 1). In other words, 7.9% of the population of those regions in 2007 had migrated to another CA or CMA in Canada in 2008. In contrast, in CMAs of 500,000 or more, this rate was only 2.3%. So residents of small CAs were more than three times more likely to migrate elsewhere in the country than persons living in large CMAs.

A negative relationship between the size of a CA's or CMA's population and its rate of migration in each year considered is observed from 2000 to 2008. CAs with medium-sized populations have lower migration rates than CAs with smaller populations.

Table 1 Migration rate by CA or CMA population, persons age 20 to 54

	Population				
	10,000 to 19,999	20,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 or more
			%		
2000	7.6	6.2	5.5	4.2	2.5
2001	8.4	6.6	5.7	4.5	2.8
2002	8.2	7.7	6.3	3.5	2.0
2003	10.0	7.8	6.9	5.2	3.4
2004	8.5	6.2	5.6	4.3	2.7
2005	8.4	6.5	5.6	4.3	2.6
2006	8.2	6.6	5.6	4.3	2.8
2007	10.4	9.9	6.2	4.5	2.8
2008	7.9	7.0	5.2	3.9	2.3

CA Census agglomeration
CMA Census metropolitan area
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008.

Data sources and definitions

The main databank used in this study is the **Longitudinal Administrative Databank (LAD)**. It comprises a 20% random sample of the annual T1 Family File (T1FF), a cross-sectional file of all tax filers and their families. Census families are identified from the information provided to the Canada Revenue Agency in tax returns and applications for the Canada Child Tax Benefit. These sources provide longitudinal data on individuals and their families, like sources of income and such basic sociodemographic characteristics as place of residence, age, sex, and family type. LAD currently covers the period from 1982 to 2009. In this study, the data from 1999 to 2008 were used.

For the purpose of this study, a move has taken place when a person lives in a census agglomeration (CA) or census metropolitan area (CMA) at *t-1* and lives in another at *t*. Conversely, no move has taken place when the person lives in the same CA or CMA during the two years. Persons who leave the country are excluded from the analysis for their years outside the country. The first moves were observed between 1999 and 2000 and the last between 2007 and 2008.[7]

In addition, if the person was a student at *t-1* or at *t*, the move is excluded. Students often attend institutions outside their region of origin and their migration status may be difficult to interpret for that reason. The tax deduction for full-time studies is used to identify students, with those in full-time studies at least four months in a year considered as students.

The sample is restricted to persons age 20 to 54 since they are much more likely to be involved in the workforce and to migrate than younger or older Canadians. Moves that may be related to a transition to retirement were intentionally excluded.

The population sizes for the CAs and CMAs are from the **2006 Census** (see Appendix for a list of the CAs and CMAs by population size). The **Postal Code Conversion Files from 2000 to 2008** were used to identify the CA or CMA of residence for each individual in LAD. The family postal code, available in LAD, was matched to the Postal Code Conversion File.[8]

The data on regional economic conditions were drawn from the **Labour Force Survey (LFS)**. The LFS is a monthly survey of approximately 54,000 Canadian households that provides details on employment and unemployment in Canada. It covers the civilian population 15 years of age and over, but excludes persons living on reserves and in other Aboriginal settlements in the provinces, full-time members of the Canadian Armed Forces, and persons living in institutions. The unemployment rate and average hourly earnings for each year were calculated for each CA of 50,000 residents or more and for each CMA, as well as for the country as a whole.

Immigrants are identified through the **Longitudinal Immigration Database (IMBD)**, which is a file linked to LAD. The IMBD, created by Citizenship and Immigration Canada, contains a variety of information on immigrants at time of landing in Canada.

Migration to large metropolitan centres

Large metropolitan centres are attractive to migrants from CAs and CMAs with less than 500,000 residents. However, migrants are not more susceptible than Canadians in general to live in these large metropolitan areas following their migration.

Large CMAs were by far the most frequent destination for migrants from CAs or CMAs in all population categories. For example, 39.6% of migrants from a CA with a population between 10,000 and 19,999 chose CMAs of 500,000 or more (Table 2). In contrast, only 7.3% remained in a CA with a similarly sized population.

There is a similar phenomenon with migrants from CAs with a population between 20,000 and 49,999 and between 50,000 and 99,999. Some 45.2% and 47.0% respectively of these migrants chose to move to a large CMA, whereas less than 15% chose to migrate to a CA with a population similar in size to their own.

Even migrants who leave a CMA with a population between 100,000 and 499,999 were more than twice as likely to migrate to a CMA with a population of 500,000 or more (53.2%) than to a CMA with a population of similar size to their own (22.4%).

The stronger attraction of large metropolitan centres is not unexpected. Indeed, one might surmise that the number of migrants moving to a given region is more or less proportional to the size of the region's population. Thus, compared to the population in general, migrants from the smallest towns are not more likely, after migrating, to live in a large metropolitan centre. On average from 2000 to 2008, 64.9% of the population age 20 to 54 lived in a CMA of 500,000 or more, which is actually much higher than the proportion of migrants from smaller CMAs or CAs who moved to these CMAs.

Little difference in the economic conditions of areas of origin and areas of destination

To establish a link between regional economic conditions and migration, the annual unemployment rate and average hourly earnings for each CA of 50,000 or more and each CMA were compiled. These data were obtained from the Labour Force Survey (LFS) (see *Data sources and definitions*). These data enable us to determine if people move from regions with a relatively high rate of unemployment and relatively low rates of pay to regions with relatively low unemployment and relatively high rates of pay.

On average, the economic conditions of the regions that migrants leave and the economic conditions of the regions to which migrants move are similar at the time of departure and arrival to the national average. From 2000 to 2008, the unemployment rate of the CAs and CMAs of origin was 6.8% on average, whereas the unemployment rate of the CAs and CMAs of destination was 6.6%[9] (Table 3). In both cases, the difference between the regional unemployment rate and the national average for the corresponding year was 0.2 percentage points.

Thus, we do not see any general movement from CAs or CMAs with relatively high unemployment to CAs or CMAs with relatively low unemployment.

Table 2 Origin and destination of migrations by CA or CMA population, persons age 20 to 54

	Regions of destination (residents)					
	10,000 to 19,999	20,000 to 49,999	50,000 to 99,999	100,000 to 499,999	500,000 or more	Distribution of the population[1]
Regions of origin (residents)	%					
10,000 to 19,999	7.3	15.0	16.4	21.6	39.6	1.8
20,000 to 49,999	3.9	13.9	11.8	25.1	45.2	6.3
50,000 to 99,999	4.8	10.9	10.3	27.1	47.0	7.0
100,000 to 499,999	3.0	9.9	11.5	22.4	53.2	20.0
500,000 or more	3.0	8.8	10.8	30.9	46.6	64.9

CA Census agglomeration
CMA Census metropolitan area
1. Average distribution of the population from 2000 to 2008.
Source: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008.

Table 3 Unemployment rate and average hourly earnings of regions of origin and regions of destination for migrants age 20 to 54 whose region of origin is a CA or CMA with less than 500,000 residents

	Before migration		After migration
		%	
Regional unemployment rate[1]	6.8		6.6
		$ per hour	
Regional average hourly earnings[1]	17.70		18.30
Difference in relation to national average			
		percentage points	
Unemployment rate	-0.2		-0.2
		$ per hour	
Earnings	-0.50		-0.50

CA Census agglomeration
CMA Census metropoliton area
1. The unemployment rate and average hourly earnings before migration (*t-1*) are compared to the national average at *t-1*, whereas those after migration are compared to the national average at *t*.
Sources: Statistics Canada, Longitudinal Administrative Databank, 1999 to 2008; Labour Force Survey, 1999 to 2008.

The same holds true for regional average hourly earnings. Although migrants left regions with slightly lower hourly earnings, they tended to move to regions where there was a similar gap in hourly earnings ($-0.50/hour) in relation to the national average.

Little influence of regional economic shocks but strong influence of changes in personal income

The estimated impact of the effect of regional economic shocks on migration using regression models are presented below (see *Logistic regression models*).

Changes in regional economic conditions appear to have a negligible impact on the probability of residents migrating, except when their own income is affected, in which case the probability of migration increases considerably.

Residents of a region where the unemployment rate increases by one percentage point in relation to the national average between two years have almost the same probability of migration as residents of regions where the unemployment rate remains similar to the national average during those two years. In both instances, the probability of migration is about 6.0% (Table 4).

The same conclusion can be reached with regard to changes in regional average hourly earnings. Those living in a region where hourly earnings decrease by $1/hour in relation to the national average between two years are only slightly more likely to migrate than those living in a region where regional average hourly earnings remain the same as in the rest of the country. The migration probability is between 5.8% and 6.0% depending on the situation.

However, changes in individuals' incomes have a major impact on the probability of migration. People whose incomes decline by 30% or more between two years, when the income level of these individuals in the two previous years is taken into account, are 82% more likely to leave their CA or CMA the following year than individuals whose incomes remain stable. In other words, people who experience a deterioration of their personal economic situation compared to others are more likely to migrate than persons whose economic situation remains unchanged.

Individuals whose income falls by a smaller proportion are also more likely to migrate than people whose incomes remain stable, but the difference is smaller. For example, people whose incomes decrease by 20% or more but less than 30% are 49% more likely to migrate than individuals whose incomes remain stable. Thus, the greater the decline in income, the more incentive there is to migrate.

It should be noted that increases in income are also associated with a greater migration probability, although the relationship is much weaker than for equivalent decreases in income. For example, persons whose incomes rise by 30% or more between two years are 46% more likely to migrate than persons whose incomes do not change. Results for men and women are similar, both in the case of regional economic shocks and changes in personal income.

Previous studies have shown that, on average, migrants experience higher increases in earnings than non-migrants, especially among those who leave one of the Atlantic provinces, Quebec or Saskatchewan (Bernard et al. 2008, Finnie

Table 4 Probability of migration, persons age 20 to 54 living in a CA or CMA with less than 500,000 residents

	Total		Men		Women	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**6.0**	...	**6.1**	...	**5.6**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	6.0	0.99*	6.1	0.99*	5.5	0.99*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	5.8	0.97*	6.0	0.97*	5.4	0.97*
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.8	1.46*	9.2	1.50*	8.0	1.43*
Gain of 20% to less than 30%	7.5	1.25*	7.9	1.28*	6.7	1.21*
Gain of 10% to less than 20%	7.1	1.19*	7.4	1.20*	6.5	1.17*
Gain of 5% to less than 10%	6.6	1.09*	6.7	1.09*	6.0	1.09*
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	6.8	1.13*	6.8	1.11*	6.4	1.16*
Loss of 10% to less than 20%	7.8	1.30*	8.0	1.29*	7.3	1.31*
Loss of 20% to less than 30%	9.0	1.49*	9.1	1.48*	8.4	1.52*
Loss of 30% or more	10.9	1.82*	11.0	1.78*	10.4	1.87*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 residents), family type (couple without children) and year (2008).
Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

2004). The results presented in this study indicate that migration enables many people to improve their economic situation. However, the analysis does not give any indication that people are more likely to migrate following a negative regional shock if their own economic situation remains stable. The indirect effects of a perceived weakening on an individual's economic outlook would therefore be very low, unless they were offset by other unobserved phenomena. However, this result is consistent with the findings of a previous study showing that provincial economic shocks had little impact on net provincial migration rates (Coulombe 2006).

People age 35 to 54 more likely to migrate following a change in income

The analysis by age group does not reveal any divergence from the general findings regarding the impact of regional economic shocks on migration. Whether those age 20 to 34, 35 to 44 or 45 to 54 are considered, changes in the regional unemployment rate or in regional average hourly earnings in relation to the national average do not significantly change the probability that residents will migrate (Table 5).

On the other hand, persons age 35 to 44 and 45 to 54 are more likely to migrate following a decline in their personal incomes than persons age 20 to 34.

Logistic regression models

When an economic shock hits a particular region, it can be expected that the regional unemployment rate will increase but that the unemployment rate for the rest of the country will remain essentially unchanged. Similarly, the wages in the affected region will likely drop[11] while wages in the rest of the country will remain practically unchanged.

To reflect this situation in the models, the probability of an individual migrating from year *t-1* to *t* is based on the differences between the regional and national unemployment rates at *t-1*, *t-2* and *t-3*, and the differences between regional and national average hourly earnings at *t-1*, *t-2* and *t-3*. This allows the impact of an increase (decrease) of one percentage point in the regional unemployment rate in relation to the national average between two years on the probability of an individual migrating to be measured. In the same way, the effect of an increase (decrease) of one dollar in regional average hourly earnings in relation to the national average between two years on the probability of an individual migrating can be measured. The model therefore explicitly measures the effect of asymmetric regional economic shocks and not the effect of shocks on the entire country, which might occur, for example, in the case of a general recession throughout the country. The variables of interest are the unemployment rate and average hourly earnings at *t-1*. The variables at *t-2* and *t-3* are added to ensure that a positive or negative difference at *t-1* reflects an economic shock as much as possible and not a pre-existing trend in the regional unemployment rate or average hourly earnings.

Using the same principle, the model also includes changes in personal income between *t-2* and *t-1*. In this way, the impact of an individual's income increasing or decreasing by different percentages from *t-2* to *t-1* on the probability of migrating from *t-1* to *t* can be measured. Once again, to ensure that these changes are not merely reflecting pre-existing income trends, the income quintile at *t-2* and *t-3* is also included in the model. In other words, this specification makes it possible to test the hypothesis that a person whose income was comparable to that of other Canadians at *t-3* and *t-2* but who experiences a major drop in income the following year will be more inclined to migrate.

Lastly, the model takes various individual and regional characteristics at *t-1* that may affect migration probability into account: age, sex, immigrant status, family type, size of the population of the CA or CMA, province and distance from a large CMA, and year.

More specifically, the model, which is estimated using logistic regressions, is specified as follows:

$$\text{Prob}(mig_{i,t,r}=1) = f(\text{(Regional unemployment rate} - \text{National unemployment rate})_{r,t-1},$$
$$\text{(Regional unemployment rate} - \text{National unemployment rate})_{r,t-2},$$
$$\text{(Regional unemployment rate} - \text{National unemployment rate})_{r,t-3},$$
$$\text{(Regional average hourly earnings} - \text{National average hourly earnings})_{r,t-1},$$
$$\text{(Regional average hourly earnings} - \text{National average hourly earnings})_{r,t-2},$$
$$\text{(Regional average hourly earnings} - \text{National average hourly earnings})_{r,t-3},$$
$$\text{Change in income}_{i,\,t-2\text{ to }t-1},$$
$$\text{Income quintile}_{i,\,t-2},$$
$$\text{Income quintile}_{i,\,t-3},$$
$$X'_{i,t-1},\ X'_{r,\,t-1},\ \text{Year}).$$

Thus, the probability of an individual *i* migrating from one region *r* between *t-1* and *t* is a function of the differences between the regional national unemployment rates at *t-1*, *t-2 and t-3*, the differences between the regional and national average hourly earnings at *t-1*, *t-2 and t-3*, changes in the individual's income between *t-2* and *t-1*, the individual's income quintile at *t-2* and *t-3*, individual characteristics X_i at *t-1* and regional characteristics X_r at *t-1*. Since the databank is organized in person years, dummy variables representing the year of migration (from 2000 to 2008) are also included.

The individual characteristics X_i considered are

- age group at *t-1*, where the age groups are 20 to 24 years, 25 to 34 years, 35 to 44 years and 45 to 54 years
- sex at *t-1*
- family type at *t-1*, where the categories are couples with children (youngest child is under 12 years), couples with children (youngest child is 12 years or over), couples without children, lone parents, persons living alone, filing child.

The regional characteristics X_r considered are

- size of the population of the CA at *t-1*, where the population size groups are 50,000 to 99,999 and 100,000 to 499,999.
- the province of the CA or CMA of residence and its distance[12] from a CMA of 500,000 or more at *t-1*, where the categories are
  - Newfoundland and Labrador
  - Prince Edward Island
  - Nova Scotia
  - New Brunswick
  - Quebec, less than 100 km from Québec or Montréal
  - Quebec, between 100 km and 250 km from Québec or Montréal
  - Quebec, more than 250 km from Québec or Montréal
  - Ontario, less than 100 km from Ottawa–Gatineau, Toronto or Hamilton
  - Ontario, between 100 km and 250 km from Ottawa–Gatineau, Toronto or Hamilton
  - Ontario, more than 250 km from Ottawa–Gatineau, Toronto or Hamilton
  - Manitoba
  - Saskatchewan
  - Alberta, less than 100 km from a Calgary or Edmonton CMA
  - Alberta, between 100 km and 250 km from a Calgary or Edmonton CMA
  - Alberta, more than 250 km from a Calgary or Edmonton CMA
  - British Columbia, less than 100 km from Vancouver
  - British Columbia, between 100 km and 250 km from Vancouver
  - British Columbia, more than 250 km from Vancouver.

Logistic regression models (concluded)

Distance can represent a major impediment to mobility. Migration over a very long distance can be monetarily costly and have a more substantial impact on a personal level. In contrast, in communities in southwest Ontario, close to the large CMAs of Toronto or Hamilton, which have the highest population densities in the country, migration from one region to another may be much less costly.[13] Consequently, to ensure that the effect of economic conditions on the probability of migration do not merely reflect a distance effect, this element has been taken into account.

Separate regressions were also run by age group, sex and immigrant status.

LAD unfortunately does not contain any data on level of education and labour force status. Level of education is positively associated with migration (Dion and Coulombe 2008) and would therefore have been included as a variable in the modelling if it had been available. In addition, although significant reductions in income are often involuntary and may be the result of a layoff or employment difficulties, especially if income had been stable in the previous two years, this is not always the case. Reductions in income can be the result of a voluntary retirement from the labour force or a reduction in the number of hours worked. Unfortunately, it is not possible to distinguish the effect of voluntary and involuntary decreases in income on migration with these data.[14]

Table 5 Probability of migration by age group, persons age 20 to 54 living in a CA or CMA with less than 500,000 residents

	20 to 34 years		35 to 44 years		45 to 54 years	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**5.8**	...	**3.6**	...	**2.9**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	5.8	0.99*	3.6	0.99*	2.9	0.99*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	5.6	0.97*	3.6	1.00*	2.8	0.96*
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.2	1.41*	5.3	1.48*	4.5	1.57*
Gain of 20% to less than 30%	7.0	1.20*	4.5	1.25*	3.7	1.30*
Gain of 10% to less than 20%	6.7	1.15*	4.3	1.20*	3.4	1.19*
Gain of 5% to less than 10%	6.2	1.07*	4.0	1.10*	3.1	1.07*
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	6.4	1.11*	4.2	1.16*	3.3	1.13*
Loss of 10% to less than 20%	7.3	1.26*	4.7	1.31*	3.9	1.35*
Loss of 20% to less than 30%	8.0	1.38*	5.8	1.60*	4.7	1.62*
Loss of 30% or more	9.5	1.64*	7.4	2.06*	5.7	1.98*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 residents), family type (couple without children) and year (2008).
Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

Individuals age 35 to 44 and 45 to 54 whose incomes drop 30% or more between two years are respectively 106% and 98% more likely to leave their CA or CMA than people in the same age group whose incomes remain stable. The likelihood increases by 64% for those between the ages of 20 and 34.

This result may be explained by the fact that the earnings of middle-aged people, follow, on average, a relatively stable, upward trajectory (Hébert and Luong 2009). Decreases in income in this age group could be more likely to come from layoffs, which could prompt many of these individuals to migrate. In contrast, for younger individuals, reductions in income may be the result of voluntary cutbacks in hours worked, parental leave or part-time studies. Unfortunately, differences between voluntary and involuntary reductions in income cannot be distinguished with the data used. Regardless, the data presented in this study do not accord with the generally observed greater mobility of young people (Dion and Coulombe 2008) associated with a greater sensitivity to changes in economic conditions or personal income.

Table 6 Probability of migration of recent immigrants, age 20 to 54 living in a CA or CMA with less than 500,000 residents

	Total		Men		Women	
	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability	Predicted probability	Ratio to the baseline probability
	%	ratio	%	ratio	%	ratio
Baseline probability[1]	**7.4**	...	**7.2**	...	**6.7**	...
Regional unemployment rate at *t-1*						
Difference of one point with the entire country, at *t-1* (ref. no difference)	8.1	1.10*	8.0	1.11*	7.3	1.08*
Regional average hourly earnings at *t-1*						
Difference of $1/hour with the entire country, at *t-1* (ref. no difference)	7.4	1.01	7.0	0.98	7.0	1.03
Change in income between *t-2* and *t-1*						
Gain of 30% or more	8.3	1.12*	7.8	1.10	7.7	1.15
Gain of 20% to less than 30%	7.6	1.03	7.3	1.03	7.0	1.04
Gain of 10% to less than 20%	7.7	1.04	7.2	1.00	7.4	1.10
Gain of 5% to less than 10%	7.3	0.99	6.8	0.95	7.0	1.04
No change (between -5% and +5%)	ref.	ref.	ref.	ref.	ref.	ref.
Loss of 5% to less than 10%	8.8	1.19*	8.3	1.16	8.3	1.24
Loss of 10% to less than 20%	7.6	1.03	7.1	1.00	7.3	1.08
Loss of 20% to less than 30%	9.2	1.25*	9.0	1.26	8.5	1.26*
Loss of 30% or more	12.6	1.71*	12.2	1.70*	11.7	1.74*

* significantly different from the baseline probability at the 5% level
CA Census agglomeration
CMA Census metropolitan area
1. The model also includes the following variables (the reference category, used to calculate probabilities, is in parentheses): differences between regional and national unemployment rates at *t-2* and *t-3* (no difference), differences between regional and national hourly earnings at *t-2* and *t-3* (no difference), the income quintile at *t-2* (third quintile), the income quintile at *t-3* (third quintile), age (25 to 34 years), sex (male), province and distance from a large CMA (Ontario, less than 100 km), population of the CA or CMA (CMA with less than 500,000 people), family type (couple without children) and year (2008).
Sources: Statistics Canada, Longitudinal Administrative Databank, 1997 to 2008; Labour Force Survey, 1997 to 2008.

For all age groups, an increase in income of 30% or more is once again associated with a greater probability of migration, but to a lesser degree than for equivalent decreases in income.

Immigrants more sensitive to variations in regional economic conditions and to changes in income

So far, changes in regional economic conditions have been shown to have no significant effect on the probability of migration of the population of a region as a whole. However, these results are somewhat different for recent immigrants—those who have been living in the country 10 years or less.

Immigrants living in a region where the unemployment rate increases by one percentage point in relation to the national average between two years are 10% more likely to migrate than immigrants living in a region where the unemployment rate remains similar to the national average. Thus, a regional economic shock has a relatively small, but significant, impact on the probability that immigrants will leave their CA or CMA (Table 6). The results are similar for men and women.[10]

Like other Canadians, immigrants whose incomes drop significantly will migrate in larger numbers. Immigrants who experience a 30% or more decrease in income between two years were 71% more likely to leave their CA or CMA the following year than immigrants whose incomes remained stable. The impact of changes in income on migration probability is therefore relatively less important for immigrants than for Canadians in general, but, immigrants are more likely to react to changes in regional economic conditions.

It has been shown that immigrants are more mobile than other Canadians (Dion and Coulombe 2008). The findings in this section suggest that part of this greater mobility may be explained by greater sensitivity to changes in regional economic conditions.

Conclusion

The main objective of this study was to determine if there is a link between regional economic shocks and the migration of residents. The analysis primarily looked at census agglomerations (CA) and census metropolitan areas (CMA) with less than 500,000 residents.

This analysis began by showing that residents of CAs and CMAs with a population under 500,000 were much more likely to migrate than those in large metropolitan centres. In 2008, for example, the migration rate of people age 20 to 54 living in a CA of 10,000 to 19,999 was 7.9%, whereas it was only 2.3% for people of the same age living in a CMA of 500,000 or more.

When they leave, these individuals rarely move to a CA or CMA with a population similar to their CA or CMA of origin. Instead, they are the most likely to go to large metropolitan centres. However, after their migration, migrants from the smallest CMAs or CAs remain less likely than the population in general to live in a large CMA.

The analysis showed that residents of CAs or CMAs of under 500,000 were not generally influenced by regional economic shocks when their personal income was not affected. These economic shocks were measured by changes in regional unemployment rates and regional average hourly earnings in relation to the national average. This finding applies to both men and women as well as to both younger and older residents.

There is one notable exception. Unlike other Canadians, recent immigrants were somewhat more likely to move in the event of a regional economic shock. For example, an increase of one percentage point in the regional unemployment rate in relation to the national average between two years is associated with a 10% increase in the probability that immigrants will migrate, even when personal income does not change.

As for changes in personal income, they had a major impact on the migration of all groups. Individuals whose income drops by 30% or more between two years were, on average, 82% more likely to migrate than people whose income remained stable during those two years. For persons between the ages of 35 and 54, the effect is even greater.

The findings in this study have some application to public policy. First, they highlight the greater mobility of the populations of Canada's smallest cities. Unfortunately, our data do not allow us to say with certainty the degree to which these individuals left their regions for strictly economic reasons. However, results indicate that people react to changes in their personal economic situations. In other words, someone who experiences a drop in income will look to improve his or her circumstances and, often, will consider migration.

Appendix

CAs and CMAs by population-size category

CA with a population from 10,000 to 19,999

Amos (Que.)
Bay Roberts (N.L.)
Campbellton (N.B./Que.)
Camrose (Alb.)
Canmore (Alb.)
Cobourg (Ont.)
Cold Lake (Alb.)
Collingwood (Ont.)
Cowansville (Que.)
Dawson Creek (B.C.)
Dolbeau–Mistossini (Que.)
Elliot Lake (Ont.)
Estevan (Sask.)
Grand Falls–Windsor (N.L.)
Hawkesbury (Ont./Que.)
Ingersall (Ont.)
Kenora (Ont.)
Kitimat (B.C.)
La Tuque (Que.)
Lachute (Que.)
Matane (Que.)
North Battleford (Sask.)
Okotoks (Alb.)
Petawawa (Ont.)
Port Hope (Ont.)
Powell River (B.C.)
Prince Rupert (B.C.)
Salmon Arm (B.C.)
Squamish (B.C.)
Summerside (P.E.I.)
Swift Current (Sask.)
Temiskaming Shores (Ont.)
Terrace (B.C.)
Thompson (Man.)
Tillsonburg (Ont.)
Wetaskiwin (Alb.)
Williams Lake (B.C.)
Yellowknife (N.W.T.)
Yorkton (Sask.)

CA with a population from 20,000 to 49,999

Alma (Que.)
Baie-Comeau (Que.)
Bathurst (N.B.)
Brandon (Man.)
Brockville (Ont.)
Brooks (Alb.)
Campbell River (B.C.)
Centre Wellington (Ont.)
Corner Brook (N.L.)
Courtenay (B.C.)
Cranbrook (B.C.)
Duncan (B.C.)
Edmundston (N.B.)
Fort St. John (B.C.)
Joliette (Que.)
Kentville (N.S.)
Leamington (Ont.)
Lloydminster (Alb./Sask.)
Midland (Ont.)
Miramichi (N.B.)
Moose Jaw (Sask.)
New Glasgow (N.S.)
Orillia (Ont.)
Owen Sound (Ont.)
Parksville (B.C.)
Pembroke (Ont.)
Penticton (B.C.)
Port Alberni (B.C.)
Portage la Prairie (Man.)
Prince Albert (Sask.)
Quesnel (B.C.)
Rimouski (Que.)
Rivière-du-Loup (Que.)
Rouyn-Noranda (Que.)
Saint-Georges (Que.)
Salaberry-de-Valleyfield (Que.)
Sept-Îles (Que.)
Sorel-Tracy (Que.)
Stratford (Ont.)
Thetford Mines (Que.)
Timmins (Ont.)
Truro (N.S.)
Val-d'Or (Que.)
Victoriaville (Que.)
Whitehorse (Y.T.)
Woodstock (Ont.)

CA with a population from 50,000 to 99,999

Belleville (Ont.)
Cape Breton (N.S.)
Charlottetown (P.E.I.)
Chatham–Kent (Ont.)
Chilliwack (B.C.)
Cornwall (Ont.)
Drummondville (Que.)
Fredericton (N.B.)
Granby (Que.)
Grande Prairie (Alb.)
Kamloops (B.C.)
Kawartha Lakes (Ont.)
Lethbridge (Alb.)
Medicine Hat (Alb.)
Nanaimo (B.C.)
Norfolk (Ont.)
North Bay (Ont.)
Prince George (B.C.)
Red Deer (Alb.)
Saint-Hyacinthe (Que.)
Saint-Jean-sur-Richelieu (Que.)
Sarnia (Ont.)
Sault Ste. Marie (Ont.)
Shawinigan (Que.)
Vernon (B.C.)
Wood Buffalo (Alb.)

CMA with a population from 100,000 to 499,999

Abbotsford (B.C.)
Barrie (Ont.)
Brantford (Ont.)
Greater Sudbury / Grand Sudbury (Ont.)
Guelph (Ont.)
Halifax (N.S.)
Kelowna (B.C.)
Kingston (Ont.)
Kitchener (Ont.)
London (Ont.)
Moncton (N.B.)
Oshawa (Ont.)
Peterborough (Ont.)
Regina (Sask.)
Saguenay (Que.)
Saint John (N.B.)
Saskatoon (Sask.)
Sherbrooke (Que.)
St. Catharines–Niagara (Ont.)
St. John's (N.L.)
Thunder Bay (Ont.)
Trois-Rivières (Que.)
Victoria (B.C.)
Windsor (Ont.)

CMA with a population of 500,000 or more

Calgary (Alb.)
Edmonton (Alb.)
Hamilton (Ont.)
Montréal (Que.)
Ottawa–Gatineau (Ont./Que.)
Québec (Que.)
Toronto (Ont.)
Vancouver (B.C.)
Winnipeg (Man.)

CA Census agglomeration
CMA Census metropolitan area

Conversely, when personal income does not change, people react very little to changes in regional economic conditions. Thus, the effects of regional economic shocks would be present, but direct and not indirect.

Immigrants present an interesting exception. Unlike other Canadians, they were more inclined to migrate as a result of changes in regional economic conditions, even if their income remained constant. Many Canadian communities have policies in place to attract and retain immigrants. The results of this study indicate that economic considerations play a role in an immigrant's decision on where to live.

Perspectives

Notes

1. One study showed that interprovincial migration resulted in a redistribution of human capital from the less wealthy and less urbanized provinces to the wealthier, more urbanized provinces (Coulombe 2006).

2. At the federal level, agencies have been created to promote regional economic development, particularly outside large metropolitan centres. These agencies include the Atlantic Canada Opportunities Agency, the Economic Development Agency of Canada for the Regions of Quebec, the Federal Economic Development Agency for Southern Ontario and Western Economic Diversification Canada. Issues related to regional economic development are equally important at the provincial level. See Joanis et al. (2004) for a discussion of regional development policies in Quebec.

3. In the United States, studies on the relationship between economic shocks and migration have looked mainly at the migration between states. For example, Cebula (2005) shows that the ability of a state to attract migrants was an increasing function of its income per person and its employment rate. In contrast, Anjomani (2002) finds no significant link between, on the one hand, growth in employment and a state's revenue and, on the other hand, its net migration rate.

4. According to two studies, the probability of migrating to another province is related to the provincial unemployment rate. The results of those studies show that an increase of one percentage point in a province's unemployment rate is associated with a 10% increase in the probability that residents of that province will migrate (Bernard et al. 2008 and Finnie 2004). According to another study, interprovincial migration depends more on long-term structural characteristics than on short-term local economic shocks (Coulombe 2006). Finally, another study showed that immigrants had reacted strongly to the increased demand for labour in Alberta during the five years following 2000 by becoming more inclined to move there (Ostrovsky et al. 2008).

5. Rural areas and towns with less than 10,000 residents are not included in this study. For an analysis of the migration profile of those regions, see Rothwell et al. (2002).

6. Nationally, this was a period of economic growth dominated by a generally downward trend in unemployment until the start of the economic slowdown in 2008. This period was characterized, however, by a sharp drop in manufacturing employment, which hit many communities with a high concentration of employment in that sector particularly hard (Langevin 2010).

7. The choice of the period covered by the analysis was established largely on the basis of the data limitations. The most recent year available in the Longitudinal Administrative Databank (LAD) at the time of this study was 2008. In addition, 1997 was the first year of data on wages available in the Labour Force Survey (LFS). Since lagged values *t-1*, *t-2* and *t-3* for average hourly wages were used, the first possible migration period is from 1999 to 2000.

8. The postal code is provided by the tax filer on his or her income tax return, generally before April 30 each year. However, the time can vary from one individual to another, adding a degree of imprecision to this study's measurement of migration.

9. The sample of CAs and CMAs of origin is limited to CAs and CMAs of 50,000 or more and less than 500,000. However, the sample of CAs and CMAs of destination includes all CAs and CMAs of 50,000 or more.

10. Regressions were also run by immigrants' level of education on arrival. Results are similar when samples of immigrants who arrived in Canada with or without a university degree are considered (data not shown). An interesting possibility for future analysis would be to examine the role of the characteristics of immigrants on arrival on the relationship between regional economic shocks and migration.

11. An increase in unemployment is normally triggered by a drop in the demand for labour, which in turn puts downward pressure on wages.

12. This is the distance, in kilometres, between the CA or CMA and the closest CMA of 500,000 or more. Google Map was used to estimate the distance. When there was more than one route to the closest large CMA, the

shortest route was selected. Distances are generally from downtown to downtown. In the case of the municipality of Wood Buffalo in Alberta, which covers a large territory, the community of Fort McMurray (the most populous) was used as the point of origin.

13. This variable of distance from large metropolitan centres may also be seen as a substitute for population density in a given radius around the region. Small and medium-sized centres often tend to develop close to large metropolitan centres so that, in general, the farther one is from such centres the less dense the population.

14. Taking the effect of unobserved variables into account by running random effects models (which look at omitted heterogeneity) was considered. However, such models are based on the assumption that unobserved variables are not correlated with variables already in the model, in which case the coefficients of interest may be biased. Since education and labour force status are normally strongly correlated with income, a key variable included in the model, this technique was not used for this analysis.

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In the works

Some of the topics in upcoming issues

Consumer debt in Canada

The article will examine the growth and the changing composition of consumer debt in Canada between 1982 and 2008. It will also highlight the differences in financial liability (i.e., debt payment as a percentage of disposable income), spending, and saving patterns between households owing consumer debt only, and those owing both consumer and mortgage debt. Most of the analysis is based on the 2008 Survey of Household Spending.

Job-related training by older workers from age 55 to 64

This paper will examine the factors influencing job-related training on the retention of older workers in the labour force, including current and changing trends, barriers to training, and sociodemographic issues. The data source used will be the 2008 Access and Support to Education and Training Survey.

The evolution of wealth over the life cycle

This paper will study the evolution of the financial wealth of Canadians over their life cycle by using a synthetic cohort approach on a variety of cross-sectional wealth data sources.

Labour market allocation after the downturn

Using the most recent sources of labour data, this paper will study which areas and groups have been most impacted by employment changes in the aftermath of the recent downturn. It will also provide comparisons with the previous downturns.

Seniors returning to Canada

While Canada is primarily viewed as an immigrant-receiving country, many Canadians emigrate for career and other considerations each year. This article uses the census to focus on the return of emigrants in their senior years, comparing their labour market participation, demographic characteristics and receipt of transfer payments to other Canadians.

Voting patterns

Voter turnout rates in Canada have been declining in recent decades and are low compared to those in many OECD countries. This study makes use of a special supplement to the Labour Force Survey to examine the characteristics of voters versus non-voters, particularly those who reported they were too busy to vote.

What's new?

Recent reports and studies

From Statistics Canada

Lay offs during recessions

In Canada, total employment fell by more than 400,000 between October 2008 and July 2009. Using data from the Labour Force Survey, this study looks at which workers were laid off during the most recent downturn and how they differ from their counterparts who were laid off during recessions in the 1980s and 1990s.

The recent downturn had lower layoff rates and higher short-term re-employment rates than the previous two recessions. Workers were also laid off for a shorter duration.

Compared to the previous two recessions, workers laid off in the most recent downturn were older, better-educated, and less likely to come from the manufacturing sector. However, differences were mainly due to changes in the age–education profile of the Canadian workforce.

For more on this subject, see the full article *Workers Laid-off During the Last Three Recessions: Who Were They, and How Did They Fare?* Analytical Studies Branch Research Paper Series, Statistics Canada, September 2011. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2011337-eng.pdf.

Commuting to work

In 2010, Canadian workers averaged 26 minutes commuting to work on a typical day. Travelling times were longer for workers living in large metropolitan areas. This article uses the 2010 General Social Survey on Time Use to examine various facets of travelling between home and work.

Almost 20% of full-time workers experienced traffic congestion every work day while over one-half of full-time workers reported never being caught in traffic jams while commuting to work.

Regardless of the size of metropolitan areas, public transit users spent more time computing than car users. Results indicate the difference is not due to distance as public transit users typically travel shorter distances.

The majority of respondents were satisfied with commuting times, although 15% of workers reported being dissatisfied.

To view this article, see "Commuting to work: Results of the 2010 General Social Survey," *Canadian Social Trends*, Statistics Canada, August 2011. http://www.statcan.gc.ca/pub/11-008-x/2011002/article/11531-eng.pdf.

Canadian labour force in 2031

Based on five projection scenarios with varying assumptions about population growth and age-specific participation rates, this article projected how the Canadian labour force might change from 2010 to 2031.

According to these scenarios, the labour force is projected to reach between 20.5 and 22.5 million by 2031, from 18.5 million in 2010. The participation rate of those 15 years of age and over is projected to fall from 67.0% to between 59.7% and 62.6%. In addition, there could be as few as 3 persons in the labour force for every person age 65 and over and not in the labour force. In 2010, this ratio was about 5 to 1.

The decline in the overall participation rate and the ratio of the labour force to non-working seniors can be explained by the gradual movement of the baby boomers into retirement and smaller replacement cohorts. Trends are not significantly altered by increases in immigration, fertility, or higher educational attainments. However, continuation of the rise in seniors' participation rates could delay the drop in the overall participation rate.

For more information on this subject, refer to "Projected trends to 2031 for the Canadian labour force," *Canadian Economic Observer*, Statistics Canada, August 2011. http://www.statcan.gc.ca/pub/11-010-x/2011008/part-partie3-eng.htm.

Self-employment dynamics

This paper asks how and why the transition rates for males between non-employment, paid employment, own-account self-employment, and self-employment with paid help changed between the 1990s and the 2000s.

The study found that the self-employed were much less likely to move back into paid employment in the 2000s than they were in the 1990s. Model results indicate that this increased stability was not due to demographic change or changes in the industrial and occupational structure.

The greater stability of the self-employed sector in the 2000s has likely contributed to an increase in productivity relative to the 1990s, when there were more new entrants and lower survival rates.

For the full results, please see *The Dynamics of Male Self-employment in Canada: Comparing the 1990s to the 2000s*, Economic Analysis Research Paper Series, Statistics Canada, October 2011. http://www.statcan.gc.ca/pub/11f0027m/11f0027m2011073-eng.htm.

Main sources of stress among workers

Based on the 2010 General Social Survey on Time Use, this article examines how workers who report being highly stressed at work differ from those with reporting other sources of stress.

About 62% of highly stressed workers identified work as the main source of their stress. These individuals were generally well-educated—almost three-quarters had a college or university education—and were employed in white-collar occupations. They also reported household incomes of $100,000 or more. The majority were men and the largest group was from age 35 to 49.

Highly stressed workers citing time stress were more likely than others to be in dual-worker families. Women accounted for two-thirds of highly stressed workers who identified family as their main source of stress.

The study was published in "What's stressing the stressed? Main sources of stress among workers." *Canadian Social Trends*, Statistics Canada, October 2011. http://www.statcan.gc.ca/pub/11-008-x/2011002/article/11562-eng.htm.

From other organizations

OECD Employment Outlook 2011

Compared to other OECD countries, Canada's labour market is recovering faster from the recent labour market downturn. Canada's unemployment rate for the second quarter of 2011 stood at 7.5% compared to the OECD average of 8.2% during the same period.

Additionally, Canada's long-term unemployment is among the lowest in the OECD countries. However, youth and low-skilled workers continued to experience lower employment rates than before the downturn. The reduction in the employment rate of youths in OECD countries is similar to that in Canada.

For details, see *OECD Employment Outlook 2011*, OECD, Paris, September 2011. http://www.oecd.org/document/46/0,3746,en_2649_33729_40401454_1_1_1_1,00.html.

How's life? Measuring well-being

Every person aspires to a good life. But what does "a good or a better life" mean? This report looks at the most important aspects that shape people's lives and well-being: income, jobs, housing, health, work–life balance, education, social connections, civic engagement and governance, environment, personal security and subjective well-being. It paints a comprehensive picture of well-being in OECD countries and other major economies by looking at people's material living conditions and quality of life across the population.

The report finds that well-being has increased on average over the past 15 years, but differences across countries are large. Furthermore, some groups of the population, particularly less-educated and low-income people, tend to fare worse in all dimensions of well-being.

The report notes that "Canada performs exceptionally well in measures of well-being, as shown by the fact that it ranks among the top countries in a large number of topics in the Better Life Index."

For complete results, please see: *How's life? Measuring well-being*, OECD, Paris, October 2011. http://www.oecd.org/document/10/0,3746,en_2649_201185_48791306_1_1_1_1,00.html.

Charting International Labor Comparisons

Responding to the demand for comparable international labour market indicators, the U.S. Bureau of Labor Statistics (BLS) produces an annual report based on consistent concepts.

The 2011 edition features 2009 data, as well as trends over time for gross domestic product, labor force, manufacturing hourly compensation costs and productivity, and consumer prices. To increase country and indicator coverage, data from other organizations also are included.

Country coverage has been expanded in this edition, particularly for emerging economies.

The indicators are published in *Charting International Labor Comparisons (2011 Edition)*, Bureau of Labour Statistics, United States. August 2011. http://www.bls.gov/fls/chartbook.htm.

Varia

In this issue: Gambling and Unionization 2011

Previous updates

Retirement – Summer 2006

Minimum wage – Summer 2010

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Gambling – Winter 2011

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Economic and social indicators

Property taxes – Autumn 2003

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Tourism – Summer 2005

Residential construction – Autumn 2005

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Personal debt – Spring 2007

Provincial labour force differences by education – Summer 2008

Contacts

Administrative data

Small area and administrative data
Customer Services
613-951-9720

Business surveys

Annual Survey of Manufactures and Logging
Client Services
613-951-9497

Annual surveys of service industries
Client Services
613-951-4612

Business Conditions Survey of Manufacturing Industries
Claude Robillard
613-951-3507

Census

Labour force characteristics
Sandra Swain
613-951-6908

Income statistics
Eric Olson
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Employment and income surveys

Labour Force Survey
Marc Lévesque
613-951-4090

Survey of Employment, Payrolls and Hours
Sylvie Picard
613-951-4003

Employment Insurance Statistics Program
Gilles Groleau
613-951-4091

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

Labour income
Anna MacDonald
613-951-3784

Survey of Labour and Income Dynamics
Survey of Financial Security
Survey of Household Spending
Client Services
613-951-7355 or 1-888-297-7355

General Social Survey

Education, Work and Retirement
Aging and Social Support
Time Use
Client Services
613-951-5979

Pension surveys

Pension Plans in Canada Survey
Bruno Pépin
613-951-4023

Quarterly Survey of Trusteed Pension Funds
Gregory Sannes
613-951-4034

Special surveys

Adult Education and Training Survey
Client Services
613-951-7608 or 1-800-307-3382

National Graduates Survey
Client Services
613-951-7608

Gambling 2011

- Net revenue from government-run lotteries, video lottery terminals (VLTs), casinos and slot machines not in casinos rose steadily from $2.73 billion in 1992, before levelling off and remaining at around $13.7 billion since 2007 ($13.74 billion in 2010).[1]

- Net revenue from pari-mutuel betting (horse racing) dropped from $532 million to $315 million over the same period (1992 to 2010).

- Net revenue from casinos continued to represent one-third of the gambling industry (34%) in 2010, while revenue and representation were up for lotteries (27%), stable for slot machines outside casinos (mainly at racetracks) (21%) and down for VLTs for the fifth straight year (19%).

- Average gambling revenue per person 18 and over in 2009 ranged from $120 in the three territories to $855 in Saskatchewan, with a national average of $515.[2]

- Compared with workers in non-gambling industries, those in gambling were more likely to be between age 15 and 34 (42% versus 36%), be paid by the hour (80% versus 65%), be paid less ($21.95 hourly versus $24.05), and receive tips at their jobs (27% versus 7%).

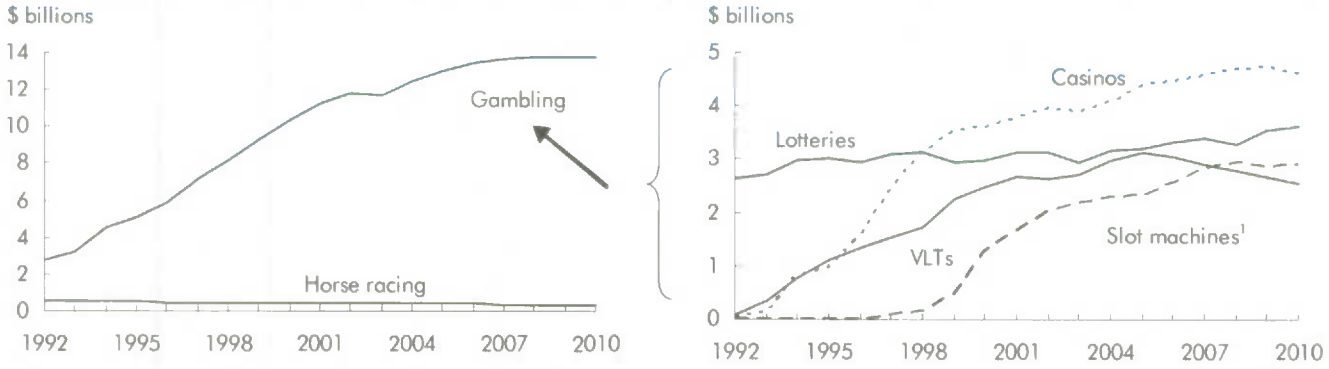
- Men increased their share of employment in the gambling industry from 35% in 1992 to 53% in 2010. Similarly the rate of full-time jobs increased from 60% to 81% between the two years.[3]

- Around 6 in 10 women and men living alone reported spending money on at least one gambling activity; however, on average men spent almost twice as much as women—$615 compared with $335.

- Gambling participation and average expenditures increased with household income. For example, 46% of households with incomes of less than $20,000 gambled in 2009 and spent an average of $390, while equivalent figures for those with incomes of $80,000 or more were 75% and $620.

For further information on any of these data, contact Katherine Marshall, Labour Statistics Division. She can be reached at 613-951-6890 or at katherine.marshall@statcan.gc.ca.

Chart A Net revenue from government-run gambling has levelled off recently



1. Refers to those found outside government-run casinos.
Source: Statistics Canada, National Accounts.

Table 1 Gambling revenues and profits

	Gambling revenue[1]		Gambling profit[2]		Share of total revenue[3]		Revenue per capita (18 and over)[4]	
	1992	2009	1992	2009	1992	2008	1992	2009
	$ millions (current)				%		$	
Canada	**2,734**	**13,752**	**1,680**	**6,634**	**1.9**	**4.4**	**130**	**515**
Newfoundland and Labrador	80	204	42	108	2.3	2.6	190	490
Prince Edward Island	20	43	7	16	2.7	3.1	210	385
Nova Scotia	125	315	72	139	2.8	3.6	180	415
New Brunswick	117	220	49	133	2.7	2.9	210	360
Quebec	693	2,772	472	1,400	1.8	3.4	130	440
Ontario	853	4,713	529	1,713	1.9	4.9	105	455
Manitoba	153	641	105	306	2.5	5.2	185	685
Saskatchewan	62	675	39	331	1.1	5.2	85	855
Alberta	225	2,110	125	1,428	1.6	5.2	120	740
British Columbia	403	2,051	239	1,054	2.2	5.5	155	570
Yukan, Northwest Territories and Nunavut	5	10	1	6	0.3	0.3	80	120

1. Total revenue from wagers on all government-controlled gambling, such as lotteries, casinos and VLTs, minus prizes and winnings. Revisions to provincial estimates will occur in November 2011.
2. Net income of provincal governments from total gambling revenue, less operating and other expenses (see Data sources and definitions).
3. The 2008 share of total revenue calculation is based on 2008 gambling revenue and 2008 total provincial revenue. The 2009 provincial revenue will be available in November 2011.
4. Persons 18 and over were selected as this is the legal age of gambling in most provinces.
Sources: Statistics Canada, National Accounts, Public Institutions (Financial management statistics) and post-censal population estimates.

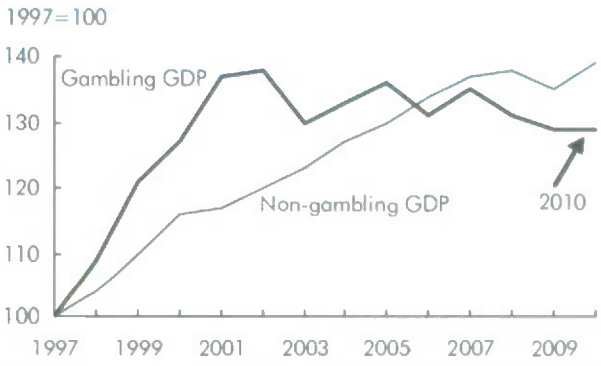
Table 2 Characteristics of workers

	Gambling[1]		Non-gambling	
	1992	2010	1992	2010
	thousand			
Total employed	**11**	**41**	**12,720**	**17,000**
	%			
Sex				
Men	35	53	55	52
Women	65	47	45	48
Age				
15 to 34	57	42	45	36
35 and over	43	58	55	64
Education				
High school or less	66	43	57	39
Postsecondary certificate or diploma	21	35	27	35
University degree	13	23	16	26
Work status				
Full-time	60	81	81	81
Part-time	40	19	19	19
Provinces				
Atlantic provinces	8	5	7	6
Quebec	F	23	24	23
Ontario	28	37	39	39
Prairies	30	23	17	19
British Columbia	25	12	13	13
Class of worker				
Employee	99	99	85	84
Self-employed	F	F	15	16

1. Employment at racetracks and 'racinos' (racetracks with slots and/or other gaming activities) is excluded. These activities are coded under 'spectator sports.'

Source: Statistics Canada, Labour Force Survey.

Chart B Gambling GDP still flat since the recent economic downturn



Note: The price, at basic prices, of the goods and services produced. The GDP figures for the gambling industry refer strictly to wagering activities, such as lottery ticket sales, VLT receipt sales, and bets at casinos. Other economic spinoffs, such as hotel and restaurant business, security services and building and equipment maintenance are not included.

Source: Statistics Canada, National Accounts.

Table 3 Characteristics of jobs

	Gambling		Non-gambling	
	1997	2010	1997	2010
	thousand			
Employees[1]	**33**	**41**	**11,331**	**14,330**
	%			
Unionized[2]	29	31	34	32
Non-unionized	71	69	66	68
Permanent job	91	93	89	87
Temporary job	9	7	11	13
Usually receive tips	27	27	7	7
No tips	73	73	93	93
Paid by the hour	80	80	61	65
Not paid by the hour	20	20	39	35
Average hourly earnings,[3] full-time			$	
Both sexes	13.30	21.95	16.55	24.05
Men	13.50	24.20	17.85	25.55
Women	13.05	18.85	14.80	22.25

1. More detailed questions on employees were introduced with the 1997 revision of the Labour Force Survey.
2. Includes persons who are not union members, but whose jobs are covered by collective agreements.
3. Includes tips and commissions.

Source: Statistics Canada, Labour Force Survey.

Table 4 Household expenditures on gambling activities

	At least one gambling activity		Government lotteries		Other lotteries/raffles, etc.		Casinos, slot machines and VLTs		Bingos	
	$	%	$	%	$	%	$	%	$	%
All households										
2000	490	74	245	64	85	31	545	21	745	9
2001	515	72	255	62	100	30	555	20	815	9
2002	570	73	265	63	130	30	680	21	905	8
2003	505	74	245	66	95	29	670	19	800	8
2004	515	71	265	61	100	28	665	19	805	6
2005	550	69	255	61	140	27	720	18	965	6
2006	495	73	255	64	110	28	685	19	520	6
2007[1]	645	52	280	48	125	17	850	17	790	4
2008	480	70	250	62	110	25	695	18	655	5
2009	495	67	265	58	110	26	710	17	530	6
One-person households[2]	460	57	210	49	80	17	890	13	515	6
Men	615	59	270	53	100	16	1,430	14	315	3
18 to 44	740	52	160	44	55	13	1,915	16	F	F
45 to 64	525	68	295	62	135	20	915	16	F	F
65 and over	570	57	375	55	110	14	1,165	7	F	F
Women	335	56	160	46	65	19	440	13	570	8
18 to 44	160	46	95	37	50	19	175	13	F	F
45 to 64	270	64	155	56	80	26	355	12	295	8
65 and over	475	57	200	45	50	14	670	13	715	12
All households										
Newfoundland and Labrador	425	68	290	55	95	36	310	6	575	13
Prince Edward Island	530	67	290	49	110	39	485	14	1,160	9
Nova Scotia	495	75	250	65	95	41	660	13	895	9
New Brunswick	440	70	260	60	95	35	535	9	780	9
Quebec	375	67	250	61	70	16	425	12	495	7
Ontario	490	66	280	59	115	24	595	19	370	5
Manitoba	540	75	255	61	95	41	610	25	735	8
Saskatchewan	735	76	250	62	135	51	1,315	23	720	5
Alberta	785	67	285	53	145	36	1,535	19	705	4
British Columbia	450	63	240	54	110	23	660	17	445	3
Income after tax										
Less than $20,000	390	46	170	39	65	10	845	8	625	7
$20,000 to $39,999	415	62	255	54	80	17	435	14	600	7
$40,000 to $59,999	495	70	295	60	90	26	655	17	515	6
$60,000 to $79,999	465	76	265	69	120	32	535	21	465	4
$80,000 and over	620	75	280	65	135	38	1,025	21	340	4

1. New screening questions were added in 2007 to reduce the response burden, but for some categories, including games of chance, the response rate was lower than expected. These screening questions were modified for 2008. See catalogue no. 62F0026M, no. 1 for more details.
2. Using one-person households allows examination of individual characteristics. Persons 18 and over were selected as this is the legal age for gambling in most provinces.

Note: Expenditures are per spending household. Unless otherwise indicated, figures are for 2009.
Source: Statistics Canada, Survey of Household Spending.

Data sources and definitions

Labour Force Survey: a monthly household survey that collects information on labour market activity, including detailed occupational and industrial classifications, from all persons 15 years and over.

National Accounts: The quarterly Income and Expenditure Accounts (IEA) is one of several programs constituting the System of National Accounts. The IEA produces detailed annual and quarterly income and expenditure accounts for all sectors of the Canadian economy, namely households, businesses, governments and non-residents.

Survey of Household Spending (SHS): an annual survey that began in 1997 and replaced the Family Expenditure Survey and the Household Facilities and Equipment Survey. The SHS collects data on expenditures, income, household facilities and equipment, and other characteristics of families and individuals living in private households.

Gambling industries: This industry group covers establishments primarily engaged in operating gambling facilities, such as casinos, bingo halls and video gaming terminals, or providing gambling services, such as lotteries and off-track betting. It excludes horse race tracks and hotels, bars and restaurants that have casinos or gambling machines on the premises.

Gambling profit: net income from all provincial and territorial government-controlled gambling, such as lotteries, casinos and VLTs after prizes and winnings, operating expenses (including wages and salaries), payments to the federal government, other System of National Accounts adjustments, and other expenses are deducted. Other expenses includes categories such as 'special payments' or 'win contributions,' which vary by province and can influence profit rates.

Gambling revenue: all money wagered on provincial and territorial government-run lotteries, casinos and VLTs, less prizes and winnings. Gambling revenue generated by and for charities and on Indian reserves is excluded.

Government casino: a government-regulated commercial casino. Permits, licences and regulations for casinos, both charity and government, vary by province. Government casinos, now permitted in several provinces, also vary by the degree of public and private involvement in their operations and management. Some government casinos are run entirely as Crown corporations, while others contract some operations—for example, maintenance, management or services—to the private sector.

Video lottery terminal (VLT): a coin-operated, free-standing, electronic game of chance. Winnings are paid out through receipts that are turned in for cash, as opposed to cash payments from slot machines. Such terminals are regulated by provincial lottery corporations.

Table 5 Household expenditures on all gambling activities by income group, 2009

	Average expenditure			Gaming as % of total income	
	All households	Reporting households	Percentage reporting	All households	Reporting households
	$			%	
Income after tax	**330**	**495**	**67**	**0.4**	**0.6**
Less than $20,000	180	390	46	1.3	2.7
$20,000 to $39,999	255	415	62	0.8	1.4
$40,000 to $59,999	345	495	70	0.7	1.0
$60,000 to $79,999	355	465	76	0.5	0.7
$80,000 and over	465	620	75	0.4	0.5

Source: Statistics Canada, Survey of Household Spending.

Notes

1. Refers to total money wagered on all non-charity government-controlled gambling, such as lotteries, casinos and VLTs, minus prizes and winnings.

2. Survey of Household Spending (SHS) and National Accounts rankings of provincial expenditures differ, in part because the SHS includes both charity and non-charity gambling activity.

3. Employment at racetracks and 'racinos' (racetracks with slots and/or other gaming activities) is excluded. These activities are coded under 'spectator sports.'

Unionization 2011

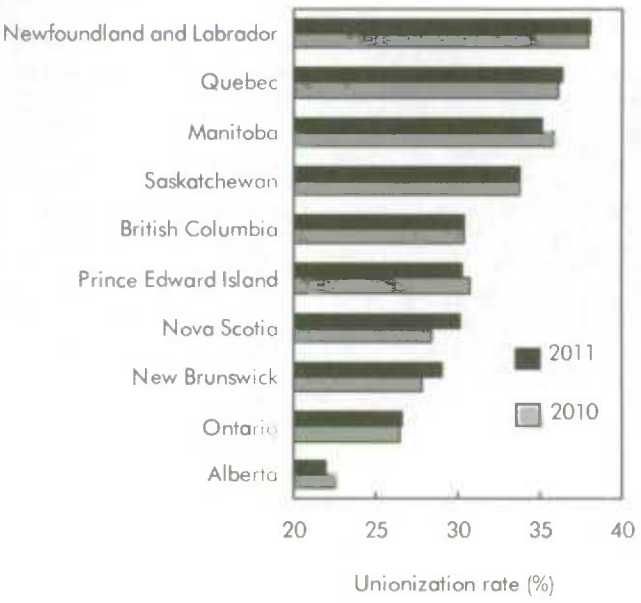
Unionization rates in the first half of 2010 and 2011

Average paid employment (employees) during the first half of 2011 was 14.5 million, an increase of 249,000 over the same period a year earlier (Table 1). The number of unionized employees also increased, by 80,000 (to 4.3 million). However, since union membership rose slightly more rapidly than employment, the unionization rate edged up from 29.6% in 2010 to 29.7% in 2011.

As women experienced disproportionately more gains in unionized jobs, their unionization rate rose to 31.1%. The unionization rate for men remained constant at 28.2%. As a result, the gap in the rates between men and women widened further in 2011.

Gains in unionized jobs were mainly part-time jobs. Unionization among full-time workers remained steady at 31.1%, while the unionization rate of part-time workers rose to 23.6% in 2011.

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



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

The unionization rate for permanent employees decreased to 29.9%. However, it increased to 28.0% for those in non-permanent jobs. Between 2010 and 2011, the unionization rate slipped in large (100 employees or more) and small (fewer than 20 employees) firms, but rose slightly for those with 20 to 99 employees.

Data sources

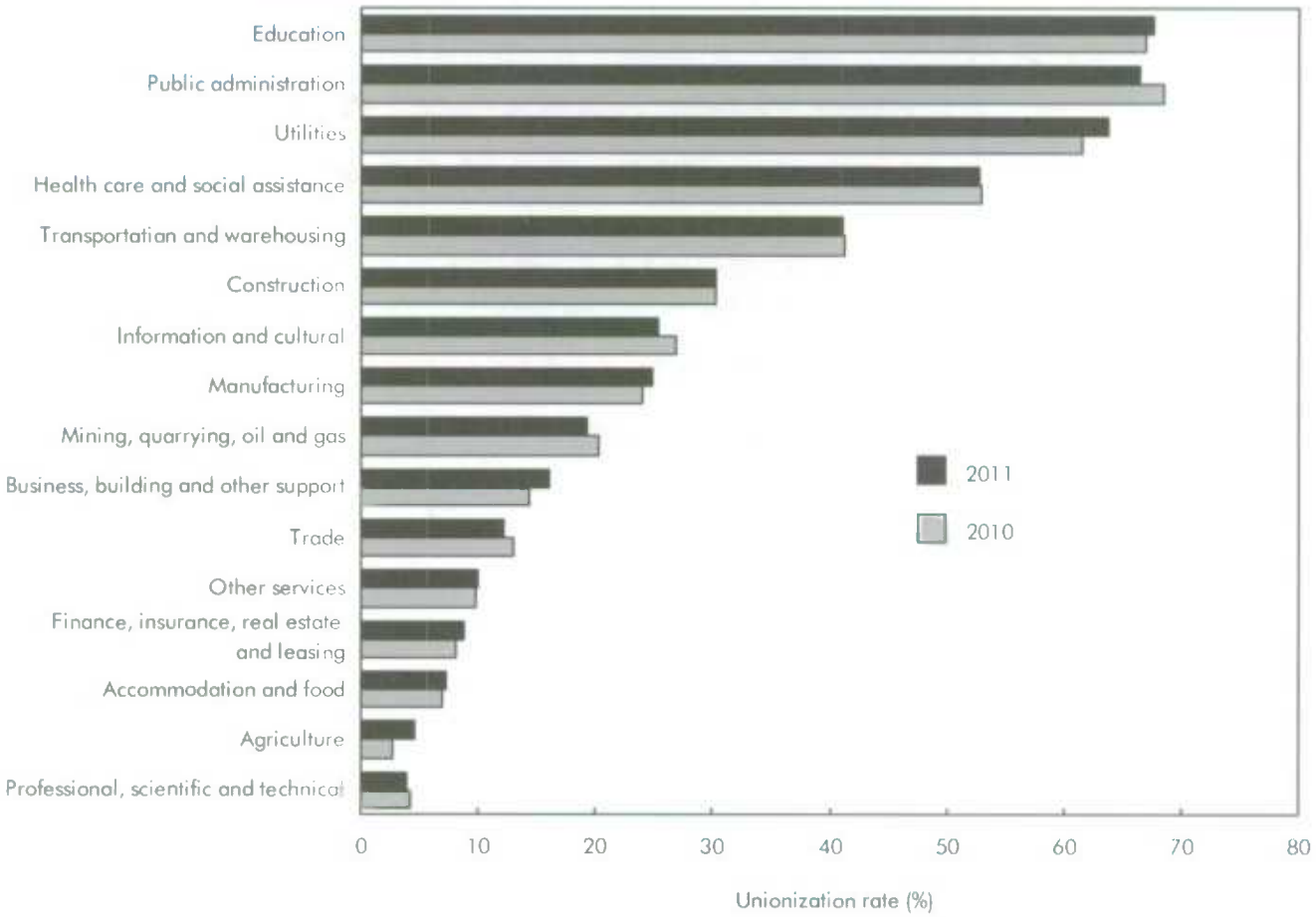
Information on union membership, density and coverage by various socio-demographic characteristics, including earnings, are from the Labour Force Survey. Further details can be obtained from Marc Lévesque, Labour Statistics Division, Statistics Canada at 613-951-4090. Data on strikes, lockouts and workdays 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.

Sharanjit Uppal is with the Labour Statistics Division. He can be reached at 613-951-3887 or at sharanjit.uppal@statcan.gc.ca.

The provincial picture was mixed (Chart A). Five provinces recorded increases in their unionization rate, Nova Scotia recording the largest increase. By contrast, unionization decreased in Prince Edward Island, Manitoba and Alberta.

Changes in unionization rates varied across industries. Notable declines were observed in public administration and information and cultural industries. Notable increases occurred in agriculture, and in utilities. (Chart B).

Chart B The highest unionization rates were in public sector industries

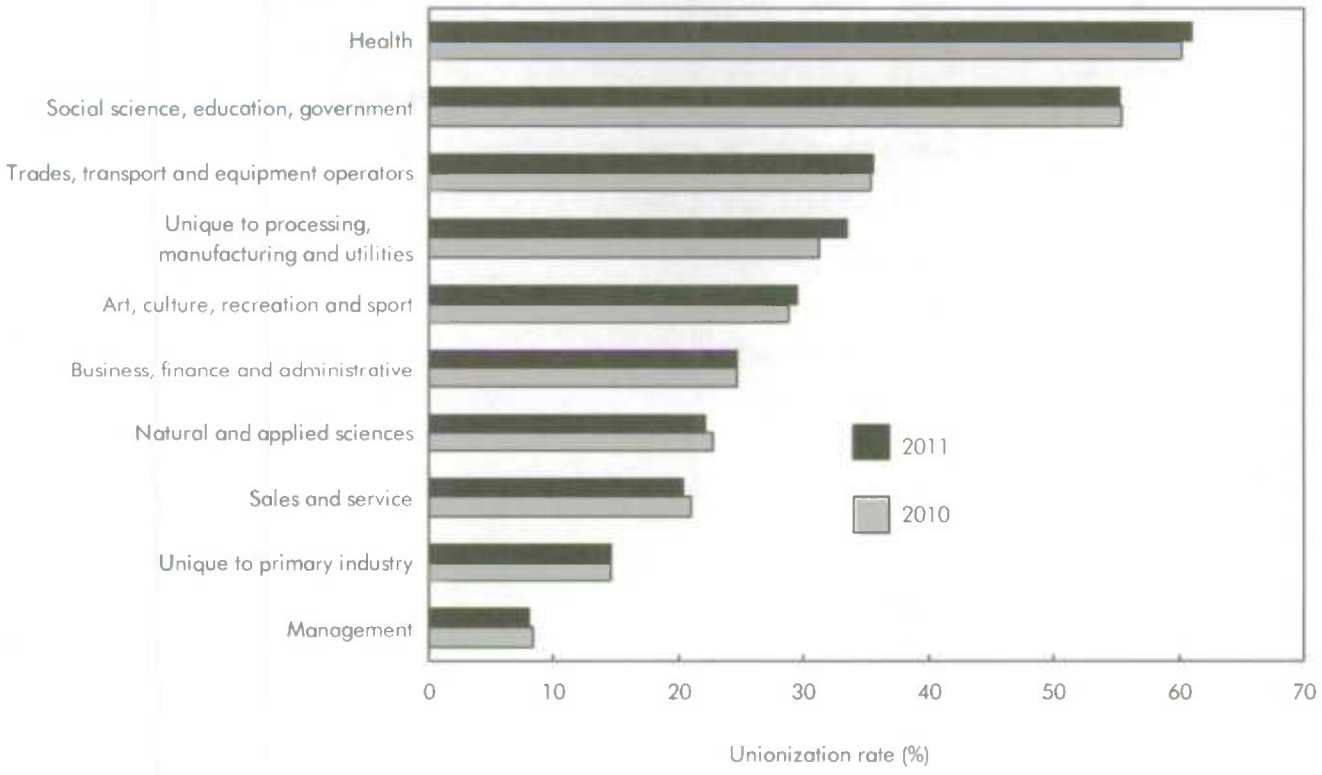


Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Changes in the unionization rate also varied across 10 major occupational groups (Chart C). Unionization declined most in sales and services, and in natural and applied sicences. Conversely, it rose notably in occupations unique to processing, manufacturing and utilities. 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 295,000 in the first half of 2011, an increase from last year's total of 288,000.

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

	2010			2011		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage[1]		Members	Coverage[1]
	'000	%	%	'000	%	%
Both sexes	**14,258**	**29.6**	**31.6**	**14,507**	**29.7**	**31.7**
Men	7,049	28.2	30.4	7,244	28.2	30.3
Women	7,209	30.9	32.8	7,263	31.1	33.0
Sector[2]						
Public	3,509	71.2	74.8	3,600	71.1	74.7
Private	10,749	16.0	17.5	10,907	16.0	17.5
Age						
15 to 24	2,281	14.9	16.5	2,329	14.5	16.4
25 to 54	9,920	32.0	34.1	9,963	32.1	34.3
25 to 44	6,475	30.0	32.2	6,453	30.0	32.1
45 to 54	3,445	35.8	37.8	3,510	36.1	38.3
55 and over	2,057	34.4	36.3	2,215	34.3	36.2
Education						
Less than Grade 9	277	24.0	25.3	247	23.1	24.9
Some high school	1,295	20.4	22.0	1,244	19.6	21.0
High school graduation	2,858	25.7	27.0	2,817	24.8	26.3
Some postsecondary	1,205	22.6	24.6	1,230	21.7	23.9
Postsecondary certificate or diploma	5,032	33.3	35.4	5,251	33.7	35.8
University degree	3,591	33.6	36.3	3,718	34.0	36.5
Province						
Atlantic	954	30.3	31.7	951	31.5	33.2
Newfoundland and Labrador	193	37.9	39.7	200	38.1	39.9
Prince Edward Island	58	30.7	33.0	59	30.2	33.1
Nova Scotia	388	28.4	29.6	386	30.1	31.7
New Brunswick	314	27.8	29.2	305	29.0	30.8
Quebec	3,327	36.1	39.3	3,385	36.3	39.6
Ontario	5,553	26.5	27.9	5,669	26.6	28.2
Prairies	2,587	27.1	29.6	2,672	26.5	28.4
Manitoba	524	35.9	38.1	537	35.1	36.9
Saskatchewan	422	33.8	35.9	427	33.8	35.5
Alberta	1,641	22.6	25.2	1,707	22.0	23.9
British Columbia	1,838	30.4	31.8	1,830	30.4	31.9
Work status						
Full-time	11,530	31.1	33.2	11,721	31.1	33.3
Part-time	2,728	23.5	25.0	2,785	23.6	25.1
Industry						
Goods-producing	2,962	26.5	28.6	3,062	26.9	28.7
Agriculture	100	2.7	3.2	114	4.5	4.7
Mining, quarrying, oil and gas	277	20.3	23.1	292	19.3	21.2
Utilities	146	61.6	65.5	144	63.8	66.2
Construction	801	30.3	32.0	838	30.3	31.6
Manufacturing	1,638	24.0	26.2	1,675	24.9	26.9
Service-producing	11,296	30.4	32.4	11,445	30.4	32.5
Trade	2,378	13.1	14.4	2,371	12.2	13.8
Transportation and warehousing	645	41.3	42.8	690	41.1	42.5
Finance, insurance, real estate and leasing	909	8.2	9.2	893	8.8	9.8
Professional, scientific and technical	821	4.2	5.3	825	3.9	5.0
Business, building and other support	495	14.3	16.2	512	16.0	18.2
Education	1,207	67.0	70.9	1,209	67.6	71.6
Health care and social assistance	1,778	52.9	55.3	1,831	52.7	54.7
Information and cultural	625	26.9	28.3	647	25.3	27.5
Accommodation and food	978	7.0	7.8	981	7.3	8.1
Other	524	9.8	11.0	519	9.9	11.2
Public administration	935	68.5	73.4	968	66.5	72.0

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

	2010			2011		
		Union density			Union density	
	Total employees	Members	Coverage[1]	Total employees	Members	Coverage[1]
	'000	%	%	'000	%	%
Occupation						
Management	1,019	8.3	10.9	980	8.0	11.0
Business, finance and administrative	2,751	24.7	26.5	2,828	24.6	26.4
Professional	407	16.1	17.9	424	16.7	18.4
Financial and administrative	734	25.3	27.4	733	25.7	27.7
Clerical	1,610	26.6	28.3	1,671	26.1	27.8
Natural and applied sciences	1,098	22.8	24.9	1,097	22.1	24.1
Health	951	60.2	62.4	996	61.0	62.9
Professional	107	38.2	44.7	113	41.0	44.4
Nursing	278	78.5	80.5	290	79.1	81.0
Technical	223	59.8	61.0	253	59.3	60.9
Support staff	342	52.5	54.2	340	53.6	55.1
Social and public service	1,437	55.4	58.7	1,432	55.3	58.7
Legal, social and religious workers	714	37.1	40.0	716	34.6	37.6
Teachers and professors	724	73.5	77.2	716	76.0	79.9
Secondary and elementary	492	85.9	88.0	483	87.1	89.3
Other	232	47.1	54.3	233	53.0	60.4
Art, culture, recreation and sport	341	28.9	30.8	351	29.5	31.3
Sales and service	3,716	21.0	22.5	3,747	20.3	22.0
Wholesale	386	5.5	6.8	397	5.2	5.9
Retail	1,080	13.2	14.3	1,053	10.7	12.0
Food and beverage	527	10.1	10.8	536	9.0	9.9
Protective services	251	57.6	62.4	262	55.8	62.1
Child care and home support	200	45.4	48.4	186	47.2	48.8
Travel and accommodation	1,272	25.6	27.0	1,313	26.3	28.0
Trades, transport and equipment operators	1,968	35.4	37.4	2,058	35.5	37.4
Contractors and supervisors	138	29.0	30.9	141	29.8	32.6
Construction trades	283	35.7	37.2	284	39.0	40.6
Other trades	760	37.7	40.0	803	36.6	38.3
Transportation equipment operators	484	37.0	38.7	520	36.2	38.1
Helpers and labourers	303	29.5	32.2	311	31.1	32.8
Unique to primary industry	241	14.6	15.9	260	14.6	16.0
Unique to processing, manufacturing and utilities	736	31.3	33.2	758	33.4	35.4
Machine operators and assemblers	590	30.7	32.6	609	33.1	35.2
Labourers	146	33.6	35.3	149	34.5	36.4
Workplace size						
Under 20 employees	4,806	13.4	14.7	4,782	13.1	14.5
20 to 99 employees	4,707	29.8	32.0	4,819	30.1	32.3
100 to 500 employees	2,949	41.1	43.5	3,024	40.5	42.8
Over 500 employees	1,797	53.7	56.5	1,882	53.1	56.0
Job tenure						
1 to 12 months	2,855	16.0	18.0	3,077	15.7	17.6
Over 1 year to 5 years	4,936	24.3	26.1	4,758	24.1	25.9
Over 5 years to 9 years	2,012	31.6	33.6	2,101	32.1	34.0
Over 9 years to 14 years	1,657	36.5	38.2	1,757	38.4	40.2
Over 14 years	2,798	47.4	49.9	2,815	47.1	49.8
Job status						
Permanent	12,434	30.0	31.9	12,600	29.9	31.9
Non-permanent	1,824	27.3	29.7	1,907	28.0	30.5

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.

2010 annual averages

Approximately 4.2 million employees (29.5%) belonged to a union in 2010 and another 293,000 (2.0%) were covered by a collective agreement (Table 2).

The public sector, which consisted of government, Crown corporations, and publicly funded schools or hospitals, had 71.4% of its employees belonging to a union. This was more than four times the rate for the private sector (16.0%).

Approximately one-third of full-time employees belonged to a union, compared with just under one-fourth of the part-time. Also, 30.0% of permanent employees were union members, compared with 26.2% of the non-permanent.

Unionization rates also varied by age group with 36.3% of those aged 45 to 54 being members of a union as compared to 14.3% of those aged 15 to 24. High unionization rates were also found among those with a university degree (33.7%) or a post-secondary certificate or diploma (33.2%); in Newfoundland and Labrador (37.3%) and in Quebec (36.0%); as well as in public administration (68.7%), educational services (66.7%), and utilities (64.7%); and health care occupations (61.3%). Low unionization rates were recorded in Alberta (22.6%); in agriculture (2.8%) and professional, scientific and technical services (4.5%); and in wholesale occupations.(5.2%).

Table 2 Union membership, 2010

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Both sexes	**14,371**	**4,240**	**29.5**
Men	7,175	2,023	28.2
Women	7,196	2,217	30.8
Sector[2]			
Public	3,511	2,507	71.4
Private	10,860	1,733	16.0
Age			
15 to 24	2,362	338	14.3
25 to 54	9,892	3,177	32.1
25 to 44	6,407	1,911	29.8
45 to 54	3,485	1,266	36.3
55 and over	2,117	725	34.2
Education			
Less than Grade 9	272	69	25.3
Some high school	1,295	263	20.3
High school graduation	2,851	721	25.3
Some postsecondary	1,219	268	21.9
Postsecondary certificate or diploma	5,127	1,704	33.2
University degree	3,607	1,216	33.7
Province			
Atlantic	959	288	30.0
Newfoundland and Labrador	197	74	37.3
Prince Edward Island	59	18	30.3
Nova Scotia	392	111	28.4
New Brunswick	312	85	27.4
Quebec	3,369	1,214	36.0
Ontario	5,593	1,481	26.5
Prairies	2,626	710	27.0
Manitoba	530	189	35.7
Saskatchewan	423	143	33.9
Alberta	1,674	377	22.6
British Columbia	1,824	547	30.0
Work status			
Full-time	11,683	3,621	31.0
Part-time	2,688	619	23.0
Industry			
Goods-producing	3,049	812	26.6
Agriculture	113	3	2.8
Mining, quarrying, oil and gas	284	57	20.2
Utilities	148	96	64.7
Construction	852	257	30.2
Manufacturing	1,652	398	24.1
Service-producing	11,322	3,428	30.3
Trade	2,391	307	12.8
Transportation and warehousing	664	275	41.4
Finance, insurance, real estate and leasing	900	76	8.4
Professional, scientific and technical	819	37	4.5
Business, building and other support	506	73	14.5
Education	1,153	769	66.7
Health care and social assistance	1,793	953	53.2
Information, culture and recreation	645	164	25.5
Accommodation and food	973	71	7.3
Other	523	46	8.9
Public administration	956	657	68.7

Differences between the sexes

For the seventh year in a row, the unionization rate for women in 2010 surpassed that of men (30.8% versus 28.2%). The gap widened slightly by 0.1 percentage points, as compared to that in 2009.

Among men, part-time employees had a much lower rate than full-time employees (18.3% versus 29.5%). Among women, the gap was narrower (25.1% versus 32.8%) (data not shown). The unionization rate for women in the public sector (73.2%) 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 12.5% of women were unionized, compared with 19.0% 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 (39.5%), reflecting unionization in occupations like health care and teaching.

Among those in permanent positions, the rate for men (28.7%) was lower than that for women (31.3%). The gap was slightly more among those in non-permanent positions, (27.6% for women versus 24.8% for men).

Table 2 Union membership, 2010 (concluded)

	Total employees	Union member[1]	
		Total	Density
	'000	'000	%
Occupation			
Management	1,005	86	8.6
Business, finance and administrative	2,764	685	24.8
Professional	410	69	16.9
Financial and administrative	754	191	25.4
Clerical	1,601	424	26.5
Natural and applied sciences	1,092	253	23.1
Health	956	586	61.3
Professional	104	44	42.1
Nursing	286	226	79.2
Technical	228	135	59.3
Support staff	339	181	53.3
Social and public service	1,414	777	54.9
Legal, social and religious workers	715	262	36.7
Teachers and professors	700	515	73.6
Secondary and elementary	471	404	85.9
Other	229	110	48.1
Art, culture, recreation and sport	347	97	28.1
Sales and service	3,722	762	20.5
Wholesale	386	20	5.2
Retail	1,078	141	13.1
Food and beverage	533	52	9.7
Protective services	253	145	57.4
Child care and home support	184	80	43.6
Travel and accommodation	1,288	325	25.2
Trades, transport and equipment operators	2,048	719	35.1
Contractors and supervisors	142	41	29.0
Construction trades	297	110	36.9
Other trades	781	290	37.1
Transportation equipment operators	499	182	36.4
Helpers and labourers	330	97	29.5
Unique to primary industry	274	40	14.4
Unique to processing, manufacturing and utilities	750	236	31.4
Machine operators and assemblers	608	189	31.0
Labourers	141	47	33.2
Workplace size			
Under 20 employees	4,832	645	13.3
20 to 99 employees	4,756	1,408	29.6
100 to 500 employees	2,961	1,210	40.9
Over 500 employees	1,822	977	53.6
Job tenure			
1 to 12 months	2,975	464	15.6
Over 1 year to 5 years	4,876	1,176	24.1
Over 5 years to 9 years	2,023	637	31.5
Over 9 years to 14 years	1,673	615	36.8
Over 14 years	2,824	1,347	47.7
Job status			
Permanent	12,449	3,735	30.0
Non-permanent	1,922	505	26.2

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 2010 (Table 3). This held true for both full-time employees ($26.72 versus $22.71) and part-timers ($22.09 versus $14.02). Unionized part-time employees not only had higher hourly earnings, but they also worked more (19.1 hours versus 16.7). This led to a larger gap in weekly earnings ($427.26 versus $240.39).

Table 3 Average earnings and usual hours by union and job status, 2010

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
		$			hours	
Both sexes	22.53	24.04	15.96	35.1	39.2	17.3
Union member	26.04	26.72	22.09	35.6	38.4	19.1
Union coverage[1]	26.04	26.74	21.93	35.6	38.5	18.9
Not a union member[2]	20.92	22.71	14.02	34.9	39.6	16.7
Men	24.33	25.54	15.02	37.7	40.4	16.4
Union member	26.92	27.41	20.79	38.0	39.6	17.9
Union coverage[1]	26.96	27.48	20.70	38.0	39.7	17.7
Not a union member[2]	23.18	24.63	13.58	37.5	40.8	16.1
Women	20.74	22.26	16.38	32.6	37.8	17.6
Union member	25.24	25.97	22.51	33.4	37.2	19.5
Union coverage[1]	25.18	25.93	22.34	33.4	37.2	19.4
Not a union member[2]	18.59	20.30	14.23	32.2	38.1	17.0
Atlantic	19.70	20.76	14.21	36.5	40.2	17.2
Union member	24.42	24.68	22.01	37.5	39.4	20.1
Union coverage[1]	24.48	24.77	21.95	37.5	39.5	19.8
Not a union member[2]	17.49	18.71	12.31	36.0	40.6	16.6
Quebec	21.13	22.44	15.60	34.2	38.0	17.8
Union member	24.10	24.56	21.29	35.0	37.5	19.6
Union coverage[1]	23.94	24.43	20.97	35.0	37.5	19.4
Not a union member[2]	19.30	21.01	13.44	33.6	38.4	17.1
Ontario	23.22	24.96	15.64	35.1	39.3	17.0
Union member	27.49	28.51	21.34	35.7	38.6	18.3
Union coverage[1]	27.50	28.56	21.20	35.7	38.7	18.2
Not a union member[2]	21.57	23.47	14.12	34.9	39.6	16.6
Prairies	23.72	25.12	17.00	36.1	40.1	17.2
Union member	26.78	27.37	23.60	36.0	39.1	19.2
Union coverage[1]	26.98	27.59	23.55	36.1	39.2	19.2
Not a union member[2]	22.37	24.06	14.71	36.2	40.5	16.5
British Columbia	22.78	24.37	16.91	34.7	39.3	17.4
Union member	26.33	26.97	23.42	35.2	38.7	19.2
Union coverage[1]	26.45	27.12	23.38	35.2	38.7	19.1
Not a union member[2]	21.09	23.02	14.56	34.4	39.6	16.8

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.

On average, full-time unionized women earned 95% as much per hour as their male counterparts. In contrast, those working part-time earned 8% more.

Wage settlements, inflation and labour disputes

The wage rate increase in 2010 was lower as compared to that in the previous year (1.8 versus 2.4%) (Table 4). In 2010 the increase in wages was equal to the rate of inflation. For the first time in 5 years, the wage gain in the private sector exceeded that in the public sector (2.1% versus 1.6%). This trend continued in the first three months of 2011 whereby the gains stood at 2.2% in the private sector and 1.2% in the public sector.

Table 4 Major wage settlements, inflation and labour disputes

	Average annual increase in base wage rates[1]				Labour disputes and time lost[2]			
Year	Public sector employees[3]	Private sector employees[3]	Total employees	Annual change in consumer price index[1]	Strikes and lockouts[4]	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1999	1.9	2.7	2.2	1.8	412	159	2,434	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	3.3	3.3	2.2	206	66	1,771	0.05
2008	3.5	2.5	3.2	2.3	188	41	876	0.02
2009	2.5	1.8	2.4	0.3	158	67	2,169	0.06
2010	1.6	2.1	1.8	1.8	175	57	1,209	0.03
2011[5]	1.2	2.2	1.3	1.0	..	..	..	..

1. Involving 500 or more employees.
2. Involving 1 worker or more.
3. 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.
4. Minimum of ten person-days not worked.
5. 2011 data refer to January to March only.

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

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. The proportion of estimated working time lost due to strikes and lockouts decreased to 0.01% in 2011 from 0.03% in 2010.

Perspectives

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