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PERSPECTIVES

ON LABOUR AND INCOME

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■ Articles

5 Consumption patterns among aging Canadians

Amélie Lafrance and Sébastien LaRochelle-Côté

Previous studies of older Canadians' well-being have focused on changes in income as individuals age and leave the workforce. However, little has been published on the extent to which consumption levels change in this transitional period. This study uses data from the Survey of Family Expenditures and the Survey of Household Spending to develop a synthetic cohort approach to determine how the consumption patterns of households headed by those born in the late 1930s changed from middle age (in the early 1980s) to retirement (in the late 2000s).

15 Retiring with debt

Katherine Marshall

It is often assumed that over the life course most older workers will pay off their debts and save for retirement. However, research from the United States suggests that an increasing number of seniors who are in pre-retirement or are retired are now struggling with debt. This article uses the 2009 Canadian Financial Capability Survey to look at the proportion, type and level of debt among Canadian retirees age 55 and over. It examines the socio-economic and demographic factors influencing the likelihood of carrying any debt in retirement. The financial circumstances of indebted retirees are also examined, including three indicators of financial security.

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- ^e use with caution
- ^f too unreliable to be published

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25 The distribution of mortgage debt in Canada

Raj K. Chawla

Mortgages consistently account for two-thirds of Canadians' household debt. This study uses the Survey of Household Spending to examine the characteristics of mortgagees and the size of their payments. It focuses on mortgage payments expressed as a percentage of disposable income—the mortgage-liability ratio. This analysis highlights differences in personal characteristics, and spending and saving patterns among households with higher and lower mortgage-liability ratios.

35 Measuring voluntary interhousehold transfers in Canada

Jackson Chung

Some households provide money, goods and services directly to help other households: these interhousehold transfers add up to a sizeable flow of economic resources between households. While measured by Statistics Canada surveys, voluntary interhousehold transfers are not included in the recipient household's total income. This article examines the conceptual and measurement issues related to voluntary interhousehold transfers, and provides a profile of voluntary interhousehold transfers in Canada. It uses recent data on interhousehold transfers from income, expenditure and wealth surveys.

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Perspectives on Labour and Income

The quarterly for labour market and income information

Highlights

In this issue

■ Consumption patterns among aging Canadians ... p. 5

- Changes in consumption patterns before and after retirement comprise a key indicator of seniors' well-being. This study uses a series of cross-sectional surveys to estimate the consumption of households headed by someone born in the late 1930s—from middle age (in the early 1980s) into the senior years (in the late 2000s).
- After adjusting for changes to the number of people in the household, consumption changed little as the head of the household aged. In contrast, household income (including implicit income from home ownership) declined by about 15%.
- While the total varied little by age, households in this cohort spent proportionately more on food, clothing and care items when they were younger and proportionately more on residence and housing items when they were older.
- As their household heads aged, the proportion of households that consumed more than they earned increased, from 22% to 44%. This confirms that older households rely more on savings to finance their consumption.
- Inequality in consumption levels among households was relatively stable over the period, even though income inequality did change. However, spending on residences and housing became more unequal among older households, while spending on food, clothing and personal care items became more equal.

■ Retiring with debt ... p. 15

- In 2009, one-third of retired individuals age 55 and over, whether single or in a couple, held mortgage or consumer debt.
- The median amount owing for retirees with debt was \$19,000.
- The likelihood of having debt was significantly higher among younger retirees, homeowners, the divorced, those with a higher household income and those with a lower net worth.
- Questions on financial self-assessment show that about 80% of retirees have a positive view of their financial situation.
- Factors that significantly lower financial self-assessment include having any level of debt, being divorced, being an immigrant, and having a relatively low income and net worth.

■ The distribution of mortgage debt in Canada ... p. 25

- From 1982 to 2008, household debt in current dollars increased more than eight-fold. Throughout that period, mortgages accounted for approximately two-thirds of household debt while consumer debt comprised the other third.
- Rising real estate prices played a part in the increase in mortgage debt. In current dollars, average housing prices increased from \$71,800 in 1982 to \$303,500 in 2008. Over the same period, the average mortgage carried by households increased from \$41,200 to \$176,200.

- Since it takes time to pay off a mortgage, mortgagees were much younger, on average, than mortgage-free homeowners. In 2008, more than 80% of households under age 45 became homeowners in the 10 preceding years.
- In 2008, Canadians spent an average of 17% of their disposable income on mortgage payments—the ‘mortgage-liability ratio.’
- The mortgage-liability ratio varied across households. Nearly 4 in 10 mortgagees spent at least 20% of their disposable income on mortgage payments. Another 4 in 10 spent between 10% and 19%, while 2 in 10 had a mortgage-liability ratio of less than 10%.
- The average mortgage-liability ratio also varied across regions, from a high of 20% of household income in British Columbia to a low of 14% in Atlantic Canada.
- The proportion of mortgagees age 45 to 54 spending at least 20% of their disposable income on mortgage payments remained relatively stable over the 2000s at a level that was lower than in the late 1990s. The increase in recent years was mainly concentrated among mortgagees under 45 and from 55 to 64.
- Households spending 20% or more of their disposable income on a mortgage had different spending patterns than those with a lower mortgage-liability ratio. In addition to having higher shelter costs, they spent more on food, clothing and transportation, and saved less than mortgage-free homeowners.

■ Measuring voluntary interhousehold transfers in Canada

... p. 35

- Some Canadians receive assistance in money, goods or services from other households to support their current consumption. Such transfers are not usually included in the recipient’s income. This article examines the conceptual and measurement issues related to voluntary interhousehold transfers in Canada using data from income, expenditure and wealth surveys.

- In 2008, Canadian households received an estimated \$8.5 billion in voluntary interhousehold transfers. This amount is twice as large as court-ordered alimony and child support payments and is similar in magnitude to social assistance or child tax benefits.
- About 7% of households received voluntary interhousehold transfers in 2008. The median transfer received was \$2,500—equivalent to 5% of recipients’ median household income.
- After adjusting for inflation, the amount of voluntary interhousehold transfers sent increased by 46% between 1998 and 2008. In comparison, household income increased by 33% and charitable donations by 32% in the same period.
- The incidence and amount of interhousehold donations increased with household income, both more than doubling from the bottom to the top quartile. The pattern of receipt was much less clear cut: households in the bottom and top quarters were somewhat more likely to receive transfers than those in the middle two quartiles.

■ What’s New?

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Consumption patterns among aging Canadians

Amélie Lafrance and Sébastien LaRochelle-Côté

Adapted from and published simultaneously as *Consumption Patterns Among Aging Canadians: A Synthetic Cohort Approach*, by Amélie Lafrance and Sébastien LaRochelle-Côté, Economic Analysis Research Paper Series, Statistics Canada Catalogue no. 11F0027M – No. 067, Ottawa.

The financial well-being of Canadian seniors has been the subject of many recent studies. In particular, the adequacy of retirement savings has been widely discussed, notably by Mintz (2009) and through a series of reports on the Canadian income security system. Many of these studies focus on the replacement rate—the extent to which income is replaced during the retirement years—and find that current cohorts of Canadian retirees typically achieve replacement rates in excess of 70% (LaRochelle-Côté et al. 2010, and Ostrovsky and Schellenberg 2009). Moreover, the replacement rate is even higher when the benefits of owned housing are taken into consideration (Brown et al. 2010).

Income, on the other hand, is of interest mainly because it enables consumption. Consumption is thus an alternative, and, in some sense, a more direct measure of seniors' well-being. Some studies that have examined differences across age groups on a cross-sectional basis have shown that older households consumed significantly less than younger households (Chawla 2005). However, little is known about the evolution of consumption among Canadians as they age.

The study of consumption over the life cycle is complicated by the fact that expenditure and consumption information is typically collected on a cross-sectional basis. One way around this challenge is to use a synthetic cohort approach, whereby a number of key social and economic characteristics known for varying across cohorts can be taken into account (LaRochelle-Côté et al. 2010). This approach is based

on the assumption that people, say, 70 years of age in a survey collected in 2010, are deemed representative of those age 40 in a similarly designed survey in 1980. This study uses a synthetic cohort approach to generate information about the consumption patterns of a cohort of aging Canadians (see *Data source and selection of a synthetic cohort*). This paper also discusses consumption changes in relation to changes in household income, and examines whether consumption became more or less unequal as the cohort aged.

Expenditures and consumption

Expenditures and consumption are two separate concepts. In the Survey of Family Expenditures (FAMEX) and the Survey of Household Spending (SHS), total household expenditures are the sum of four separate components:

- **gifts**, which can be broadly defined as money transfers to charities and individuals outside of the household (e.g., children studying elsewhere, seniors' parents living in a nursing home, family members outside the country)
- **personal security**, including public and private pension plans, employment insurance, annuities, insurance payments, and similar items (excluding registered retirement savings plan [RRSP] contributions and contributions to other registered savings plans)
- **taxes**, including consumption and property taxes paid
- **consumption** itself, which can be defined as goods and services that can be bought or sold on the market for use by one or several members of the household.

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The last category—consumption—represents the largest portion of expenditures for the most Canadian households. Items in this category include expenditures on durables (e.g., house, furniture and automobiles) and non-durables (e.g., food, clothing and recreation).

Reporting on durable goods can vary since some people pay lump sums while others make regular payments. For residences and automobiles, in particular, the amount actually paid might not be representative of the usage (utility, in economic terms) of the item over the course of the period. One solution is to derive a consumption flow for these items that is more closely associated with their ongoing usage (Pendakur 1998). In this paper, consumption expenditures are imputed for two categories of durables: housing expenditures for homeowners and vehicles (see *Imputing consumption flows for housing and automobile expenditures*).

The size of the household also matters since consumption rises with the number of people. However, many household facilities—kitchens and living areas, for example—are shared by all members of the household. Thus consumption does not rise by the same

amount for each additional person. In order to account for these economies of scale, a standard practice in the literature is to divide overall consumption by the square root of household size⁵ (Pendakur 1998 and Lise 2001). As an illustration, this method assumes that a family of four consumes twice as much as someone living alone, while a couple consumes 1.4 times as much. This technique is especially relevant to the study of aging households because children are typically leaving the nest as their parents are approaching retirement.⁶

All consumption and expenditure figures are expressed in 2002 constant dollars.

Expenditures

In the early 1980s, this cohort of households spent an average of \$36,600 annually (on a per-adult basis) when it was in its late 40s. Nearly 3 out of every 4 dollars were spent on consumption (\$26,700). Taxes were the second-largest expenditure item, accounting for nearly 20% of expenditures (\$7,100). Expenditures on personal

Data source and selection of a synthetic cohort

The main source of consumption information is the Survey of Household Spending (SHS). The SHS has been conducted on an annual basis since 1997, collecting detailed information on the income and expenditures of 10,000 to 20,000 households, depending on the year. Before 1997, consumption information came from another survey: the Survey of Family Expenditures (FAMEX). Although FAMEX and the SHS differ in some respects, similarly defined consumption and expenditure categories can be obtained at the aggregated level with both surveys.¹ Because FAMEX and the SHS cover nearly four decades of expenditure information among Canadian households, it was possible to derive a synthetic cohort of aging households categorized on the basis of the reference person's age.²

One problem often encountered with synthetic cohorts is the small sample size of surveys for a given age group. To increase the sample size, age groups covering several years were selected instead of just those born in the same year. In addition, survey years were combined to further boost the sample size. Hence, FAMEX observations collected in 1982 and 1984 were combined, as well as those collected in 1990 and 1992. Similarly, SHS observations were combined for 1997 and 1998, 2002 and 2003, and 2007 and 2008.³ The resulting samples range from of 750 to 1,600 observations for five points in the life cycle: the late 40s, mid-50s, early 60s, late 60s, and early 70s. Table 1 describes the sample characteristics.⁴

Table 1 Sample characteristics

	Survey	Age	Sample size	Total sample
Early 70s	SHS 2008	71 to 74	481	1,089
	SHS 2007	70 to 73	608	
Late 60s	SHS 2003	66 to 69	751	1,416
	SHS 2002	65 to 68	665	
Early 60s	SHS 1998	61 to 64	760	1,605
	SHS 1997	60 to 63	845	
Mid-50s	FAMEX 1990	53 to 56	235	750
	FAMEX 1992	55 to 58	515	
Late 40s	FAMEX 1982	45 to 48	634	919
	FAMEX 1984	47 to 50	285	

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Imputing consumption flows for housing and automobile expenditures

Housing

One commonly used approach is to compute 'imputed rents' for homeowners.¹⁴ This can be done by estimating a semi-log equation with measures of location and quality for the dwelling (for instance, number of rooms) as independent variables, very much in the spirit of Brown and Lafrance (2010):

$$\ln(\text{rent})_i = \alpha + \beta \text{rooms}_i + \delta \text{bathrooms}_i + \gamma \text{type}_i + p_i + \varepsilon_i$$

where *rent* is the value of annual serviced rental payments incurred by the renter, which includes 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.¹⁵ The total consumption flow from transportation is then equal to this imputed car purchase consumption flow, plus automobile operation expenses (e.g., gas, batteries and tires) and public transportation expenses.

security (\$1,700) and gifts (\$1,100) together represented about 8% of overall expenditures (Table 2).

Total expenditures increased to \$40,000 as the cohort reached its mid-50s. This is not a surprise, since many people are in their peak earning years at this point in the life cycle. As the cohort aged further, expenditures eventually fell by almost \$10,000, with most of the decline happening between the mid-50s and early 60s.

The decline in overall expenditures was primarily due to a drop in taxes paid. For individuals between their late 40s and early 70s, taxes paid declined by more than \$3,000, thereby representing 58% of the overall decline in expenditures. Lower taxes are consistent with declining incomes during the retirement period (LaRochelle-Côté et al. 2008 and 2010).

Table 2 Average expenditures¹ among a cohort of aging households

	Late 40s	Mid-50s	Early 60s	Late 60s	Early 70s
			\$		
Total expenditure	36,600	40,000*	33,600	32,400*	31,100*
Consumption	26,700	27,300	24,800*	24,900*	25,300
Personal security	1,700	2,200*	1,300*	800*	700*
Gifts	1,100	1,600*	1,000	1,800	1,300
Taxes	7,100	8,800*	6,600	5,100*	3,900*
			%		
Total expenditure	100.0	100.0	100.0	100.0	100.0
Consumption	72.9	68.3	73.7	76.6	81.4
Personal security	4.8	5.6	3.8	2.4	2.1
Gifts	2.9	4.0	2.9	5.4	4.0
Taxes	19.4	22.1	19.6	15.6	12.4

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.

1. Adjusted for family size. All dollar values were rounded to the nearest 100.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

In comparison, consumption fell by a smaller amount. Although it declined by about \$2,000 between individuals' late 40s and early 60s, consumption recovered somewhat to reach \$25,300 among households in their early 70s. This result is consistent with U.S. studies based on longitudinal data finding that retirement is associated with negligible decreases in consumption in most population groups (see, for example, Hurd and Rohwedder 2008).⁷

Although it was relatively small compared to overall consumption, spending on personal security declined from \$1,700 to \$700 over the period. This is expected since older households make fewer payments on pensions and employment insurance as they move into retirement. Finally, the amount dedicated to gifts remained more or less stable, amounting to just above \$1,000 during most of the period.

Consumption

Consumption can be broken down into its components to determine how much households' spending on particular items changes over time. Four categories were used:

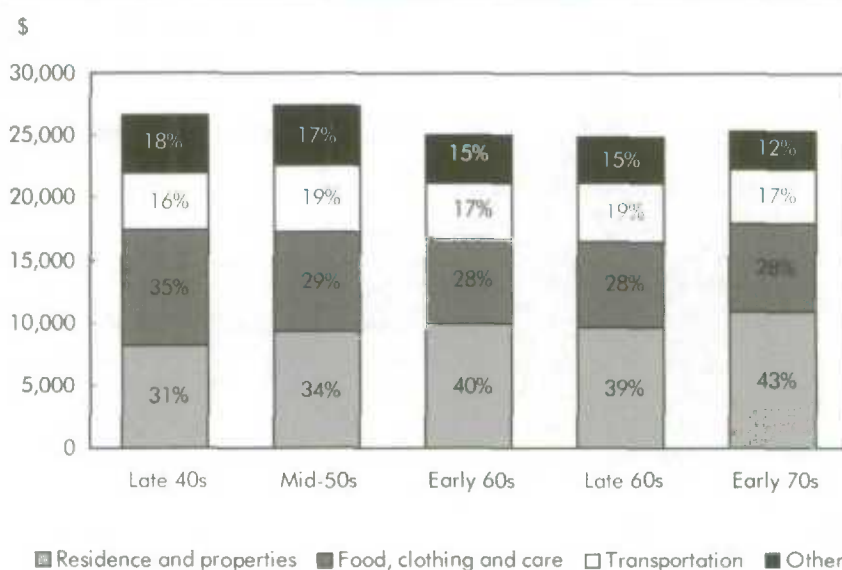
- **residences and properties:** including all expenditures related to home and property ownership, rental, maintenance, utilities, and household operations
- **transportation:** including vehicle expenses, car repairs and maintenance, and all spending on public transportation (public transit, train, plane, etc.)
- **food, clothing and care:** the sum of money spent on food (including restaurants), clothing, personal care, and health care (except public health care spending)
- **other items:** mainly comprising items that may be less essential for the health, safety or security of household members (spending on recreation, reading and printed material, tobacco and alcohol, and miscellaneous expenses are included in this category).

Although overall consumption did not change much over the period, the relative contribution of each category did (Chart A). When households were in their late 40s, expenses on food, clothing and care represented more than one-third of consumption. Spending on residences and properties amounted to just over 30%, while transportation and other consumption items accounted for 16% and 18%, respectively.

As households aged, they had a higher proportion of consumption expenses on residences and properties (43%) and a lower proportion on food, clothing and care (28%), and on other consumption items (12%).⁸ Since many older homeowners stay in their homes as they age (Hou 2010), it is not surprising to see an increase in the relative size of housing expenses. Since housing expenses have been imputed for homeowners, they must be understood as a kind of dividend representative of the utility that homeowners derive from their homes rather than actual expenses.⁹

It is also possible to examine the sources of changing consumption patterns in more detail (Table 3). The increased spending on residences and properties mostly

Chart A Relative contribution of each consumption category¹



1. Adjusted for family size.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Table 3 Detailed consumption patterns¹

	Late 40s	Early 70s	Difference
		\$	
Residence and properties	8,200	10,900*	2,700
Shelter	4,900	8,000*	3,100
Other accommodation	500	600	100
Household operations	1,400	1,500	100
Furnishings and equipment	1,400	800*	-600
Transportation	4,400	4,400	0
Purchased automobiles	1,500	1,700*	200
Automobile operations	2,400	2,300	-100
Public transportation	500	400	-100
Food, clothing and care	9,300	7,000*	-2,300
Food	5,500	3,800*	-1,700
Clothing	2,400	1,100*	-1,300
Personal care	700	600*	-100
Health	700	1,500*	800
Others	4,800	3,100*	-1,700
Recreation	1,800	1,500	-300
Reading and printed material	200	200	0
Tobacco and alcohol	1,300	600*	-700
Miscellaneous	1,500	800*	-700

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.

1. Adjusted for family size. All dollar values were rounded to the nearest 100.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

U.S. data, which showed that work-related expenses (particularly food and clothing) tend to decline during retirement years (Hurd and Rohwedder 2006, and Hurst 2007). That said, the decline in food and clothing spending took place as spending on health care increased.

Health

Households in their early 70s spent \$800 more on health care on a per-adult basis than households in their late 40s. Although all categories of health care spending increased over the period (Table 4), about one-half of the increase was due to medicine and pharmaceuticals (\$400) and one-quarter to health care supplies and services (\$200). Health expenditures increased from 3% to 6% over the period as a proportion of overall consumption.

Consumption and income replacement

As noted earlier, a number of studies have examined the issue of income replacement rates among Canadian seniors. The general

came from an increase in spending on shelter—in fact, were it not for a significant decline in the money spent on furniture and equipment, the increase in the overall spending on residences and properties would have been even higher. Conversely, the decline observed among ‘other’ items was primarily due to significant reductions in the amount spent on tobacco and alcohol, and miscellaneous items.

Finally, spending on food, clothing and care declined primarily because of declines in food and clothing expenses. This is consistent with the findings of some studies based on

Table 4 Detailed consumption patterns¹

	Late 40s	Early 70s	Difference
		\$	
Total health spending	700	1,500*	800
Medicine and pharmaceuticals	100	500*	400
Eye and dental care	300	400*	100
Health care supplies and services	100	300*	200
Insurance premiums	300	400*	100

* Statistically different from the late-40s group at the 5% level of significance. When available, bootstrap weights were used for significance testing. Otherwise, a jackknife procedure was used.

1. Adjusted for family size. All dollar values were rounded to the nearest 100.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

consensus is that the Canadian retirement system is achieving relatively high replacement rates. Studies focusing on more specific populations, such as those who were strongly attached to the labour market (LaRochelle-Côté et al. 2008 and Denton et al. 2009), those who did or did not contribute to a registered pension plan (Ostrovsky and Schellenberg 2009), and those who experienced a change in their marital status (LaRochelle-Côté et al. forthcoming) all reached similar conclusions. However, the evolution of income replacement rates has rarely, if ever, been studied in conjunction with consumption replacement rates.

In FAMEX and the SHS, household income is defined as the sum of wages and salaries, self-employment income, government transfers, and miscellaneous income (comprising income from retirement pensions, registered retirement savings plans [RRSPs] and retirement income funds [RIFs], and purchased annuities), minus taxes paid. Since housing investments also generate a source of implicit income for homeowners (Brown et al. 2010), the measure of household income used in this paper is adjusted to take this implicit income into account.¹⁰ This measure of income is then used to calculate an index that can be compared to an index of consumption. As was done for expenditures, all income figures are expressed in 2002 constant dollars and have been adjusted to reflect changes in household size.

Within this cohort, the income of households rose by about 8% between their late 40s and mid-50s, and then declined to 84% of income earned in their late 40s by the time they were in their early 70s. Households in their early 70s therefore had income levels that were 16% lower than those of the cohort in their late 40s (Chart B). This profile is similar to those reported in studies of income replacement mentioned earlier.¹¹

Since consumption levels remained relatively stable over the period, the cohort had consumption levels that were just 5% lower in their early 70s than in their late 40s (a decline that was not statistically different from zero).

The maintenance of consumption while income falls fits with a standard economic model. Life-cycle theory suggests that individuals choose a consumption path to maximize lifetime utility, determined by a lifetime budget constraint. According to this theory, individuals smooth their consumption patterns over the life cycle through borrowing and repayment, based on expectations about their income increasing during their prime working years and declining during their retire-

ment years.¹² Since consumption follows a smoother trajectory than income, many individuals appear to be following this model of behaviour.

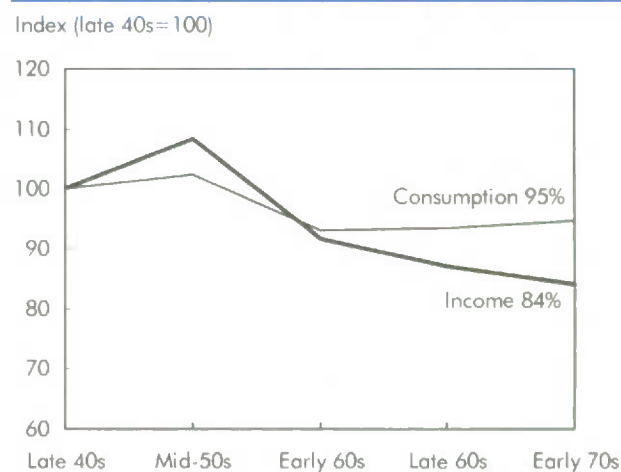
Consumption-to-income ratio

Consumption can be also expressed as a ratio of income. This ratio should not be interpreted as an indicator of financial stress, since housing expenditures are imputed for homeowners in our measure of consumption. Rather, it provides an indicator of the extent to which annual income—including income obtained from housing services—contributes to financing household consumption.

Income levels were sufficient to cover consumption expenses throughout the period (Table 5). However, the consumption-to-income ratio increased significantly over time. For every dollar of income, households in their late 40s spent 82 cents on consumption items, leaving 18 cents for other expenses and financial savings. Conversely, households in their early 70s spent 92 cents of every dollar of income on consumption.

Of households in their late 40s, almost one-quarter had consumption levels that exceeded their income level (22%). Among these, the median gap between their

Chart B Index of consumption and income patterns among senior Canadians¹



1. Adjusted for family size.
Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

Table 5 After-tax income and consumption statistics¹

	Late 40s	Mid-50s	Early 60s	Late 60s	Early 70s
Average consumption-to-income ratio	0.817	0.771	0.827	0.877	0.920
Households with income less than consumption (%)	22.3	27.3	37.4	44.8	44.1
Median income gap (\$)	4,700	5,200	5,300	5,000	6,100

1. Adjusted for family size. All dollar values were rounded to the nearest 100.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

income level and their consumption was \$4,700, indicating that income was not meeting overall consumption levels for a number of households, even among those in their late 40s.

The proportion of households for whom consumption exceeded income increased steadily over the period, from 22% among those in their late 40s to about 45% among those in their late 60s and early 70s. This suggests that many seniors rely on accumulated savings to finance their consumption, as life-cycle theory suggests. However, the typical income gap among those who consumed more than they earned remained relatively stable during most of the period, except between their late 60s and early 70s, when it increased from \$5,000 to \$6,100.

Consumption and income variation

Up to this point, this study has concentrated mainly on reporting averages. Looking at averages, however, says little about the dispersion of consumption and income around the typical household. Simply put, dispersion meas-

ures show the extent to which consumption (or income) became more or less unequal over the period. Income dispersion is known to decline among older individuals (LaRochelle-Côté et al. 2008), but little is known about the evolution of consumption dispersion. If, as economic theory suggests, consumption remains similar over the life cycle, then dispersion of consumption should also remain similar across the life cycle.

The dispersion of income and consumption can be measured in different ways. A widely used measure of dispersion, the P90/P10, is the ratio of the consumption (or income) of the household located at the 90th percentile divided by the consumption (or income) of the household located at the 10th percentile. A P90/P10 ratio of 3.0, for instance, would indicate that a household located at the 90th percentile consumes 3 times as much as a household located at the 10th percentile. A similar measure, the P75/P25, uses households located at the 75th and 25th percentiles. A third measure, the mean absolute deviation (MAD), is the typical deviation, in percentage terms, of a

household's consumption from the average consumption level. For instance, if a MAD of 0.2 is found, this means that households typically deviated from the mean by 20%.

By almost any measure, the dispersion in consumption remained quite stable as households aged (Table 6). Taking the mean absolute deviation as an example, household consumption deviated from the household mean by between 28% and 32% throughout the period. Other measures yielded similar results. Households at the 75th percentile had consumption levels that were 1.6 times above that of households at the 25th percentile and that ratio remained relatively stable over

Table 6 Consumption and income dispersion measures¹

	Consumption	Income
P90/P10		
Late 40s	2.7	3.4
Mid-50s	2.7	4.2
Early 60s	2.9	4.9
Late 60s	2.6	3.5
Early 70s	2.4	3.2
P75/P25		
Late 40s	1.6	1.9
Mid-50s	1.7	2.1
Early 60s	1.7	2.1
Late 60s	1.6	2.0
Early 70s	1.6	1.9
Mean absolute deviation		
Late 40s	0.313	0.400
Mid-50s	0.318	0.442
Early 60s	0.321	0.484
Late 60s	0.281	0.385
Early 70s	0.290	0.380

1. Adjusted for family size.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

time. The P90/P10 declined from 2.7 to 2.4 between their late 40s and early 70s. By this measure, consumption became a bit more equal as the cohort aged.

In comparison, income dispersion varied much more over the period. Households in their late 40s typically diverged from the group mean by 40% (as opposed to a 31% deviation in consumption). Income dispersion increased to 48% among those in their early 60s before the stabilizing effect of pension income brought dispersion back to the high 30% range in their late 60s and early 70s. Although the P75/P25 measure varied less, the P90/P10 also increased among households until they were in their early 60s, and then it declined. Hence, not only did consumption vary less than income at any point of the life cycle, but consumption inequality fluctuated less over time than did income inequality.

Even if consumption variance did not change over the period, the sources of that variance might have changed—especially in view of the changing consumption patterns reported earlier. Using a simple decomposition technique, the variance in total consumption can be expressed as a weighted sum of the variance in every consumption item plus a series of covariance items.¹³ The results can then be expressed as a share of the total variance to show the extent to which the overall variance was due to each consumption category.

When households were in their late 40s, 11% of the total consumption variance came from spending on residences and properties, 15% from spending on food, clothing and care, and 68% from covariance items (Table 7). Very little of the overall variance across households came from the other two major consumption categories (transportation and 'other' items).

However, the share of the variance attributed to differences in housing increased substantially over the period, while the variance due to differences in spending on food, clothing and care declined. When households were in their early 70s, nearly one-third of the total variance in consumption could be attributed to variations in residence and property expenses, while only 7% was due to variations in spending on food, clothing and care. The share due to covariance items also

declined slightly, from 68% to 59%. This suggests that even if the total variance changed little over the period, the sources of that variance differed over time. It is also consistent with the fact that spending on housing occupied a larger portion of consumption among older households.

Summary

Previous research indicated that many retired Canadians had incomes in excess of 70% of their income in their working years after adjusting for changes in household size. However, little was known about the consumption trajectories of aging Canadians. Using a synthetic cohort approach, this paper examined the consumption patterns of a cohort that was in its late 40s at the beginning of the 1980s, until its early 70s in the late 2000s.

When controls were introduced for the declining size of aging households, consumption levels remained relatively stable as households aged. Indeed, households in their early 70s consumed 95% of the level measured for the same cohort in its late 40s.

Although consumption varied little over time, the composition of consumption did change. Among older households, a larger share of overall consumption was devoted to housing expenditures. Conversely, they spent less on food, clothing and personal care items. Spending on health care increased over the period but still represented a relatively small portion of consumption.

Differences across households in terms of consumption also changed little over the period. In contrast, income differences reached a peak when households

Table 7 Variance decomposition of consumption¹

	Late 40s	Mid- 50s	Early 60s	Late 60s	Early 70s
	%				
Total variance in consumption	100.0	100.0	100.0	100.0	100.0
Residence and properties	10.9	13.5	23.9	25.9	32.1
Transportation	1.0	2.3	0.7	1.8	0.9
Food, clothing and care	15.4	12.0	6.1	9.8	6.8
Others	4.7	5.0	2.1	2.3	1.0
Covariance items	67.9	67.2	67.1	60.2	59.2

1. Adjusted for family size.

Sources: Statistics Canada, Survey of Family Expenditures (FAMEX), 1982 to 1992; Survey of Household Spending (SHS), 1997 to 2008.

were in their early 60s, and then declined substantially. However, even though the overall variance of consumption changed little over the period, the source of that variance did change. Households diverged in spending on residences and properties, while spending on food, clothing, and personal care items converged.

Perspectives

■ Notes

1. One significant difference between the two surveys is the treatment of housing expenses (Statistics Canada 2000). This study deals with it by imputing housing expenses for homeowners (as in Brown et al. 2010).
2. The use of synthetic cohorts raises the issue of attrition, as some individuals in their late 40s could die or leave the country by the time they reach their mid-70s. Conversely, some households in their early 70s might not be entirely representative of households taken out of the 1982 to 1984 FAMEX in their late 40s—for instance because of immigration. While the issue of attrition through death has been minimized by restricting the end of the study period to a sample of households in their early 70s, little can be done about representativeness issues since both surveys provide a limited (or inconsistent) number of sociodemographic variables.
3. The 1984 and 1990 surveys were only conducted in 15 major cities. To construct a nationally representative sample for all pairs of years, the weights for respondents in each survey were divided by two except for respondents living outside the 15 cities in 1982 and 1992.
4. Comparisons with a younger cohort of individuals yielded very similar results. More precisely, results obtained for the four first timelines described in Table 1 were checked against the following samples: households age 45 to 48 and 47 to 50 in the 1984 and 1986 FAMEX (late 40s); those age 51 to 54 and 53 to 56 in the 1990 and 1992 FAMEX (mid-50s); those age 60 to 63 and 61 to 64 in the 1999 and 2000 SHS (early 60s); and those age 65 to 68 and 66 to 69 in the 2004 and 2005 SHS (late 60s).
5. Alternative definitions of 'per adult' consumption were tested and did not significantly alter the results.
6. Within our sample of households, 62% in their late 40s had children whereas only 6% in their early 70s still had children living in their homes.
7. The same authors (Hurd and Rohwedder 2006) report that some of the decrease in consumption can be accounted for by the substitution of non-market for market activities—for example, home-cooked meals as opposed to dining out—particularly among lower income groups.
8. Although extended care and similar institutions are excluded from the sample of households, it is possible that services, like meals and medical care, may be included in the rent of some older seniors.
9. Actual housing expenses were calculated and followed essentially the same path as imputed expenses.
10. An implicit measure of income derived from housing services can be calculated by using estimates of the balance owing on a mortgage. Since this measure is not always available in consumption data, these estimates are determined by using percentages obtained by year and age group as reported in Brown and Lafrance (2010). According to that study, the implicit source of earnings coming from investments increased income by 13% on average among those age 60 to 69, and by an even larger amount among those at least 70.
11. When housing services are excluded from the definition of household income, the income replacement rate is almost exactly the same as the one reported for a similarly aged cohort of individuals (LaRoche-Côté et al. 2010).
12. These theories have long been a part of economic literature and were first discussed by Modigliani and Brumberg (1954) and Friedman (1957).
13. More formally, if all four major consumption items are represented by the terms X_1 to X_4 , the variance of total consumption can be expressed as follows: $\text{Var}(Z) = C_1^2 \text{Var}(X_1) + C_2^2 \text{Var}(X_2) + C_3^2 \text{Var}(X_3) + C_4^2 \text{Var}(X_4) + \text{covariance terms}$ where the terms c_1 to c_4 represent the shares of each consumption item in total consumption.
14. It was not necessary to impute a housing value for renters as annual rental expenditures declared by renters in survey data are considered to be annual housing consumption.
15. Independent variables used for the ordinary least squares (OLS) regression were the same as those used for the probit model. Other family characteristics, like immigration, could also have an impact on predicted probabilities but FAMEX and the SHS do not consistently report this information in all years.

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Retiring with debt

Katherine Marshall

Debt is most often associated with younger adults, as they borrow to finance their education and purchase housing and vehicles. However, research from the United States suggests that an increasing number of people, both in pre-retirement and retired, are now struggling with debt, as both the percentage with debt and debt levels have risen for those age 55 and over (Copeland 2009, and Draut and McGhee 2004). This paper investigates the debt-holding situation of older Canadians.

With funding for retirement shifting onto the individual,¹ most Canadians believe they must take an active role in planning for the event. Indeed, among those age 25 to 64, 81% reported they were preparing financially for their retirement. However, only 46% of those preparing for retirement knew how much savings they would need to maintain their standard of living (Schellenberg and Ostrovsky 2010).

Debt management is a recurring theme in retirement planning literature. Debt may be problematic for older workers if not paid off before retirement since repayment can be more difficult on a reduced income. On the other hand, carrying debt into retirement may not necessarily be an issue if repayment is manageable and the household is financially sound.

Financial planning is particularly important for women for several reasons. Compared with men, women have a longer life expectancy and they usually retire having spent fewer years in the labour

market with less earned and saved (Glass and Kilpatrick 1998, and Marshall 2000). Divorce or widowhood during this period can also affect economic well-being.

The 2009 Canadian Financial Capability Survey (CFCS) provides information on the income, wealth and debt of retired Canadians, combined with self-assessments of their financial situation and indicators of financial literacy. This article examines the proportion, type, and level of debt among almost 5 million retirees age 55 and over (see *Data source and definitions*). Logistic regression is used to examine the personal, demographic and economic factors that influence the likelihood of carrying consumer or mortgage debt in retirement. The financial situation of indebted retirees is also examined along with three indicators of financial security among retirees.

Chart A One-third of retired individuals age 55 and over have some form of debt

With household debt (%)



1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

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Data source and definitions

The Canadian Financial Capability Survey (CFCS), a new survey conducted between February and May 2009, collected information from Canadians age 18 and over in the 10 provinces. The content focuses on the financial situation of individuals and households as well as their financial knowledge, ability and behaviours concerning money management, budgeting and general financial planning and decisions. One of the goals of the survey is to understand Canadians' use of financial services and their knowledge of programs aimed at facilitating financial planning for retirement.

The **target population** for this article includes all respondents age 55 and over and who, when asked about their employment status, reported themselves to be "retired." Those who reported themselves to be not working and not looking for work and with no employment income in the past year were also counted as retired. If the respondent was part of a couple, his or her spouse would also have to report being retired in order to be considered living in a fully retired household. Approximately 3,730 respondents fit this definition, representing a weighted count of 4,869,000.

As noted above, **retired** is derived from self-reported information regarding employment status. Although households may report some of their income in the previous 12 months came from employment, for the purpose of this study their main activity remains "retired."

Respondents are considered to be in a **couple** relationship if they are currently married or in a common-law relationship and living with a partner, whereas **single** includes those who are divorced (including separated) or widowed, or those who never married, and are not living with a partner.

Assets are the monetary value of all personal or business goods owned, including, for example, real estate, vehicles, jewellery, stocks and bonds, registered retirement savings plans and savings in the bank. Unlike the Survey of Financial Security, the value of registered pension plans is not included among the assets. Respondents were asked to provide a total value for each type of asset and the combined total refers to a household's total assets. If just one of the individual asset questions is marked as "don't know," then the total household asset figure is marked as "not stated." For this reason, upwards of 50% of the total asset variable is unknown, which is a limitation of the survey. However, all calculations made using the asset, debt and net worth variables only use valid responses.

Debt is the amount the respondent and other family members still owe on mortgages; student, payday or other loans; outstanding balances on credit cards or lines of credit; or any other unpaid debt or liability. Although respondents were asked to identify different types of debt, only the value of all debts combined was collected. Debt was collected for the family as a whole since it cannot easily be assigned to just one person in the family. While most respondents knew

whether they owned money, many were not able to provide a dollar figure for their total debt. Among the retired population, 21% of those with debt did not know the total value of their indebtedness.

Net worth is calculated by subtracting total debt from total assets. Since both the asset and debt variables had considerable proportions of "not stated" responses, more than one-half of the responses for the net worth variable are unknown.

The following three questions on financial self-assessment, appropriate for retirees and included in the CFCS, were selected to assess household finances and were used as **indicators of financial security**:

1. "Compared to your expectations before you retired, how would you describe your financial standard of living in retirement?"
(Much better than expected; Better than expected; As expected; Not as good as expected; Much worse than expected)
2. "Is your retirement income sufficient to comfortably cover your monthly expenses?"
(Yes; No)
3. "Again, thinking of the last 12 months, which one of the following statements best describes how well you and your family have been keeping up with your bills and other financial commitments?"
(Keeping up with all bills and commitments without any problems; Keeping up with all bills and commitments, but it is sometimes a struggle; Having real financial problems and falling behind with bills or credit commitments; Don't have any bills or credit commitments)

The survey also included a 14-question section to objectively assess an individual's **financial knowledge**. Scores were calculated by adding up the number of correct answers.

Logistic regression models were used to examine the probability of the retired having mortgage and/or consumer debt and the probability of giving a positive response to each of three questions pertaining to financial security. In order to retain as large a sample as possible, dummy "not stated" categories were created for any values missing from the annual household income and household net worth variables. Multicollinearity diagnostic tests were run for all models. Although test statistics indicate some correlation between household income and net worth, both were left in the models because of the problem with missing values. Alternative models were estimated, each including only wealth or income. The results remained the same when the variables were included separately in the models or when they were both in the models together. The entire analysis used 250 bootstrap weights to adjust for the survey design and produce a more accurate variance estimation.

1 in 3 retirees holds some form of debt

Debt can include mortgages; student, payday or other loans; outstanding balances on credit cards or lines of credit; or any other unpaid debt or liability. Among those age 55 and over, one-third of the retired and two-thirds of the not-yet-retired report having some form of debt (Chart A). The proportion holding debt in retirement is about one-third for both fully retired couples (where both partners are retired) and for people living on their own. The proportion of couples with debt is higher when one spouse is retired (61%) or when neither spouse is retired (75%). Research has found that dual-earner couples tend to have higher average debt per person, relative to income—possibly due to their sense of security from having two incomes (TD Economics 2010).

Retirees with debt owe less than their non-retired counterparts

Those retired and in debt owe a median amount of \$19,000 compared with their non-retired counterparts who owe \$40,000² (Chart B). Retired singles owe less than fully retired couples—\$13,000 versus \$20,000. Not-retired couples were the most likely to have some form of debt and they also had the highest median value owing (\$50,000).

Chart B Retired couples with debt owe a median of \$20,000



1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

Over one-half of indebted retirees owe less than \$25,000

The remainder of the paper focuses on retired individuals and couples where both partners are retired. Of those owing money, the type and level of debt varies little between those in a couple and those on their own. Roughly 60% of retired couples and singles carry consumer debt only, with the remaining 40% almost equally split between those with mortgage debt only and those with both forms of debt (Table 1).

Among retirees, average debt was \$60,000, while the median (the value where half owe more and half owe less) was \$19,000. This large difference between the median and the mean is characteristic of a skewed distribution: one wherein a small group carries a high debt load while most owe smaller amounts.

Of retirees with debt, 1 in 4 owes less than \$5,000. Debt in this range may simply be related to using credit as a convenience or as promotional financing. For example, some big-ticket items can be purchased on credit with no payments or interest for up to one year.³ One-third of households with debt owe between \$5,000 and \$24,999, and another one-quarter owe between \$25,000 and \$99,999. The remaining 17% of households carry a debt of \$100,000 or more.

Who's likely to hold debt in retirement?

This section assesses which socioeconomic and demographic factors are associated with the likelihood of carrying mortgage or consumer debt. Age is a primary factor since it reflects the evolution of personal finances over the life cycle. Level of education, sex, family and immigrant status, urban living and region are included as they may be associated with different housing choices and costs, as well as variations in personal financial behaviours. Finally, income, net worth and home ownership may also be linked to the incidence of debt, either positively, as income and collateral enable further borrowing, or negatively, since they may allow individuals to pay down debt faster or avoid it altogether.⁴

Table 1 Retired individuals age 55 and over by type and level of debt

	Retired, 55 and over	In a couple	Single ¹		
			Total	Men	Women
			'000		
Total retired individuals	4,869	2,959	1,910	522	1,388
			%		
Total	100	100	100	100	100
No debt	66	65	68	66	69
Debt	34	35	32	34	31
Total with debt	100	100	100	100	100
Mortgage only	20	21	19	25	17
Consumer only	57	56	58	60	58
Both types of debt	23	24	23	F	26
			\$		
All debt					
Average dollars	60,150	69,300	44,830	43,540	45,440
Median dollars	19,000	20,000	13,000	18,000	11,000
			%		
Range of all debt	100	100	100	100	100
Less than \$5,000	25	22	31	25	33
\$5,000 to \$24,999	32	33	30	32	29
\$25,000 to \$99,999	26	27	25	27	24
\$100,000 or more	17	19	15	F	F

1. Includes widowed, separated and divorced, and never-married individuals.
Source: Statistics Canada, Canadian Financial Capability Survey, 2009.

In order to determine which factors better predict the incidence of holding debt, the variables mentioned above are included in a logistic regression model. This technique estimates the relationship of each variable with the probability of having debt while holding all other variables constant. Descriptive statistics and regression results of the explanatory variables appear in Table 2.

The likelihood of debt falls with age

One possible factor associated with holding debt in retirement is age. The further along the life cycle, the more time someone has had to repay any outstanding debts. Indeed, among retirees age 75 and

over, only 20% had some form of debt, compared with 48% of those age 55 to 64 (Table 2). Older retirees were found to be significantly less likely to carry debt even after controls for other factors in the regression model were applied.

Higher education positively linked with having debt

As the level of schooling goes up, so does the incidence of holding debt. While 26% of those with less than a high school diploma had some form of debt, 36% or more with at least a high school diploma had debt. The regression results indicate that only the difference between retirees without a high school education and those

with high school or some postsecondary schooling was statistically significant. Other research has shown that higher education is associated with an open or positive attitude towards borrowing (Lee et al. 2007).

As a person's financial knowledge score increases, so does the likelihood of having debt (scores were calculated by adding the number of correct answers reported on a 14-question financial knowledge quiz). Understanding of financial concepts may be associated with borrowing to finance investments or smooth consumption.

Divorced most at risk of debt

Of the almost 5 million retirees in the study, 3.0 million lived with a spouse, 1.2 million were widowed, 500,000 were divorced and 300,000 had never married. Divorcees, at 43%, had the highest rate of holding debt followed by 35% for couples, 30% for the never-married and 28% for widows/widowers. Retired divorcees were found to be significantly more likely (1.3 times) to carry debt than those living in a couple after controls for other factors were applied. The financial cost of divorce, including legal fees, the division of properties and assets, and the setting up of separate households, has short-term economic consequences for both partners, which likely contributes to increased borrowing.⁵

Home ownership and higher income linked to having debt

Among retirees, 8 in 10 own a home. Homeowners are 1.4 times more likely to hold debt than non-owners, but not simply because of a mortgage. Overall, 37% of

Table 2 Socio-economic and demographic characteristics of retired individuals age 55 and over showing percentage with household debt and predicted probability of debt

	Retired		With debt	Ratio of predicted probability
	'000	%	%	
Total	4,869	100	34	...
Age				
55 to 64	1,166	24	48	ref.
65 to 74	1,934	40	37	0.84*
75 and over	1,769	36	20	0.47*
Men	2,012	41	36	ref.
Women	2,857	59	32	1.10
Level of education				
Less than high school	1,742	36	26	ref.
High school or some postsecondary	1,485	31	36	1.21*
University degree	1,621	33	39	1.15
Financial knowledge (continuous score from 0 to 14)	...	...	...	1.04*
Family status				
Widowed	1,152	24	28	1.06
Divorced	465	10	43	1.26*
Never married	294	6	30	0.85
In a couple, both retired	2,959	61	35	ref.
Extra household members¹				
Yes	898	18	49	1.49*
No	3,971	82	30	ref.
Homeowner	3,637	78	37	1.43*
Non-owner	1,020	22	23	ref.
Annual household income				
Less than \$25,000	719	15	29	ref.
\$25,000 to \$49,999	889	18	42	1.32*
\$50,000 to \$74,999	533	11	46	1.39*
\$75,000 or more	466	10	46	1.37*
Not stated	2,261	46	26	0.88
Net worth (assets minus debts)				
Less than \$75,000	530	11	31	ref.
\$75,000 to \$399,999	648	13	43	0.80
\$400,000 or more	772	16	38	0.55*
Not stated	2,919	60	31	0.76*

* significant difference from the reference group (ref.) at the 0.05 level. The logistic regression model also controlled for immigrant status and residence by Census Metropolitan Area (CMA) and region.

1. Single or couple households with additional household members.

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

nificant and positive factor in the probability of holding consumer debt" (Lee et al. 2007, p. 316). Although houses can be expensive to maintain, homeowners have invested in a valuable, often-appreciating asset. Furthermore, there are financial gains in mortgage-free home ownership since rent does not have to be paid.

Individuals in households with an annual income of less than \$25,000 were less likely to hold some form of debt compared with those in higher income groups. However, high net worth was also associated with a lower probability of debt.⁶ After controls for other factors were applied, retirees with a household net worth of \$400,000 or more were found to be less likely to hold debt than the reference group with a net worth of less than \$75,000.

Several other demographic and geographic factors were not significantly related to debt among retirees, including immigrant status, region and Census Metropolitan Area.

Holding debt is often assumed to affect financial security. One way to determine perceptions of financial well-being is to assess responses to questions about personal finances. The next section examines the personal and financial characteristics of all retirees in conjunction with indicators of financial security (see *Data source and definitions*).

Most retirees feel finances meet pre-retirement expectations

From a subjective point of view, the vast majority of retirees give a positive report when asked about their economic well-being. Almost 8 in 10 believe that their financial

homeowners carry some debt, including 9% who have only a mortgage, 18% who have only consumer debt, and 10% who have both a mortgage and consumer debt. Overall, 28% of homeowners have some consumer debt compared with 23% of non-owners. A similar association was found among older Americans: "As expected, having mortgage debt was a sig-

Table 3 Financial security indicators of retired population age 55 and over by personal and financial characteristics

	Financial situation better than or as expected before retirement	Ratio of predicted probability		Retirement income is sufficient for monthly expenses	Ratio of predicted probability		Keeping up with bills and other financial commitments not a problem	Ratio of predicted probability	
	%	Model 1	Model 2	%	Model 1	Model 2	%	Model 1	Model 2
Total	78	...	...	86	...	...	82	...	...
Age									
55 to 64	76	ref.	ref.	84	ref.	ref.	77	ref.	ref.
65 to 74	75	1.03	1.04	84	1.04	1.08	80	1.07*	1.08
75 and over	83	1.22*	1.32*	89	1.14*	1.26*	89	1.19*	1.30*
Men	77	0.94	0.90	86	0.98	0.96	83	1.00	1.03
Women	79	ref.	ref.	86	ref.	ref.	82	ref.	ref.
Level of education									
Less than high school	74	ref.	ref.	83	ref.	ref.	80	ref.	ref.
High school or some postsecondary	79	1.06	1.06	87	1.06*	1.10	84	1.08*	1.12
University degree	81	1.13*	1.11	87	1.09*	1.12	84	1.10*	1.11
Family status									
Widowed	78	0.86*	0.93	84	0.87*	0.89	81	0.89*	0.95
Divorced	65	0.71*	0.81*	75	0.77*	0.80*	70	0.76*	0.89
Never married	77	0.92	1.00	86	0.95	1.00	85	0.98	1.09
In a couple, both retired	80	ref.	ref.	88	ref.	ref.	84	ref.	ref.
Immigrant	75	0.89*	0.85*	79	0.82*	0.71*	76	0.85*	0.75*
Canadian-born	79	ref.	ref.	88	ref.	ref.	84	ref.	ref.
Debt	70	...	...	79	...	...	68	...	...
Less than \$5,000	69	...	0.69*	79	...	0.79*	67	...	0.52*
\$5,000 to \$24,999	68	...	0.59*	82	...	0.79*	70	...	0.50*
\$25,000 to \$99,999	68	...	0.57*	82	...	0.73*	68	...	0.41*
\$100,000 or more	73	...	0.73*	78	...	0.71*	67	...	0.49*
No debt	82	...	ref.	89	...	ref.	89	...	ref.
Annual household income									
Less than \$25,000	65	...	ref.	75	...	ref.	68	...	ref.
\$25,000 to \$49,999	76	...	1.20*	85	...	1.16*	78	...	1.23*
\$50,000 to \$74,999	90	...	1.49*	93	...	1.33*	91	...	1.49*
\$75,000 or more	88	...	1.41*	93	...	1.30*	90	...	1.50*
Not stated	78	...	1.15*	86	...	1.15*	85	...	1.29*
Net worth (assets minus debts)									
Less than \$75,000	63	...	ref.	72	...	ref.	65	...	ref.
\$75,000 to \$399,999	76	...	1.13	87	...	1.18*	77	...	1.18*
\$400,000 or more	86	...	1.29*	91	...	1.21*	92	...	1.44*
Not stated	79	...	1.10	86	...	1.13	84	...	1.21*

* significant difference from the reference group (ref.) at the 0.05 level. The logistic regression models also controlled for financial knowledge, extra household members, home ownership and residence by Census Metropolitan Area (CMA) and region.

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

situation is as expected or better than before they retired; similarly, 86% say their income is sufficient to cover monthly expenses; and 82% report that keeping up with bills and other financial commitments is not a problem (Table 3). When all personal and financial characteristics of retirees are considered together in logistic regression models, certain variables consistently increase or decrease the positive response rate to at least two, and usually all three, financial security questions.

Positive view of financial security increases with age

Retirees age 75 and over are significantly more likely to report positively on their economic situation than those age 55 to 64 even after controls for variables such as level of income and debt are applied. For example, 83% of the older cohort felt they were financially as well off as or better than expected before retirement compared with 76% of the younger group. Similarly, the older cohort is 1.3 times more likely than the younger one to say their income is sufficient for their expenses. These findings may be related to the change in consumption and spending patterns as people age (Chawla 2005).

Divorce related to financial insecurity

Family status is also a factor related to financial security. As opposed to those who never married or are widowed, the divorced are the only group to be significantly less likely than couples to say their income is sufficient for monthly expenses. Their relatively lower reporting of financial security may be associated with their overall financial situation. Although all categories of individuals not living with a partner were financially less well-off than couples, the divorced had the lowest median annual income and lowest median net worth (see *Wealth, income and debt indicators*). The findings suggest that marital dissolution by divorce may have a long-term negative effect on financial security in retirement. "Whether divorce interrupts the savings process or destroys assets, it is unlikely that most individuals will be able to save enough in later life to overcome the loss" (Fethke 1989, p. S121).

Any level of debt may increase financial insecurity

Overall, 82% of retirees without debt report their financial situation to be as expected or better than before retirement, whereas only 70% of those with

debt report the same outcome. Similarly, 89% of debt-free retirees claim that their income is sufficient for monthly expenses, compared to 79% or less for those with any level of debt. Also, keeping up with bills and other financial commitments is not a problem for 89% of debt-free retirees, a figure that falls to 68% for those with any amount of debt.

Wealth, income and debt indicators

The Canadian Financial Capability Survey also collected information on the wealth of respondents, although the rate of non-response was high (see *Data source and definitions*). This box presents information on the subpopulation of retirees with debt.

Overall, retirees with debt have a median annual household income of \$42,000, a median net worth of \$295,000, and a median debt of \$19,000 (Table 4). Other indicators that help put household debt in perspective include the median debt-to-income ratio (D/I ratio) and the median debt-to-assets ratio (D/A ratio). The overall D/I for retirees is 0.47 and the D/A is 0.07. Households with high D/I ratios may have higher debt repayments, relative to income, compared with households with low D/I ratios.⁸ On the other hand, those with low D/A ratios are assumed to be more financially secure than those with high ratios.

Noteworthy findings from the financial indicators table include:

- There are no significant differences in annual income, net worth and debt levels by the age and sex of retirees, although women have lower D/I and D/A ratios than men.
- Compared with all other groups, the divorced have the lowest annual median income (\$28,000) and net worth (\$126,500).
- Although median income and net worth are roughly the same between immigrants and Canadian-born retirees, immigrants have significantly higher median debt and D/I and D/A ratios.
- Homeowners have higher debt levels than non-homeowners, but their median income and net worth are also higher.
- Higher household income is associated with higher levels of net worth and debt, but lower D/I and D/A ratios. Those with annual incomes of less than \$25,000 have the highest D/I and D/A ratios at 0.58 and 0.16, respectively.
- As net worth increases so does annual income and median debt, however, only the D/A ratio falls as net worth rises.
- Those with higher median debt also tend to have higher annual incomes and net worth. However, those with high debt also have significantly higher D/I and D/A ratios.

Table 4 Financial indicators of retired population age 55 and over with debt

	Median annual household income	Median net worth	Median debt	Median debt-to- income ratio	Median debt-to- assets ratio
	\$	\$	\$		
Total	42,000	295,000	19,000	0.47	0.07
Age					
55 to 64 (ref.)	48,000	305,000	20,000 ^E	0.53 ^E	0.09 ^E
65 to 74	40,000	287,000	18,000	0.44	0.06
75 and over	35,000	F	15,000 ^E	F	F
Men (ref.)	45,000	310,000	22,000 ^E	0.59	0.09
Women	41,000	282,000 ^E	15,000	0.36 ^{*E}	0.06 [*]
Level of education					
Less than high school (ref.)	32,000	125,000 ^E	13,000 ^E	F	0.11
High school or some postsecondary	42,000 [*]	287,000 [*]	F	0.45	0.06 ^{*E}
University degree	55,000 [*]	454,800 [*]	20,000 [*]	0.49 ^E	0.07 [*]
Family status					
Widowed	32,000 [*]	F	F	0.44 ^E	F
Divorced	28,000 [*]	126,500 [*]	F	0.50	F
Never married	33,000 ^{*E}	166,500 ^{*E}	10,000 [*]	0.58 ^E	F
In a couple, both retired (ref.)	50,000	360,000	20,000	0.44	0.07 ^E
Immigrant (ref.)	42,000	295,000 ^E	35,000 ^E	0.80 ^E	0.14 ^E
Canadian-born	42,000	297,000	15,000 [*]	0.40 [*]	0.07 [*]
Homeowner	50,000 [*]	369,500	24,000 [*]	0.57	0.07
Non-owner (ref.)	25,000	F	4,000 ^E	F	F
Annual household income					
Less than \$25,000	18,000 [*]	F	10,000 [*]	0.58	0.16 [*]
\$25,000 to \$49,999 (ref.)	35,000	236,000	18,000 ^E	0.49	0.08 ^E
\$50,000 to \$74,999	60,000 [*]	470,000 [*]	25,000 ^E	0.42 ^E	0.05 ^E
\$75,000 or more	100,000 [*]	690,000 ^{*E}	F	0.33 ^E	0.05 ^E
Not stated	..	F	F	..	..
Debt level					
Less than \$5,000	35,000	158,000 ^{*E}	1,500 [*]	0.04 [*]	F
\$5,000 to \$24,999 (ref.)	44,000	285,000	12,000	0.26	0.05
\$25,000 to \$99,999	50,000	369,500 ^E	43,000 [*]	1.00 [*]	0.11 [*]
\$100,000 or more	62,000	440,000	170,000 [*]	2.86 [*]	0.26 [*]
Net worth (assets minus debts)					
Less than \$75,000	24,000 [*]	F	8,000 [*]	0.47	0.63 [*]
\$75,000 to \$399,999 (ref.)	38,500	207,500	20,000	0.49	0.09
\$400,000 or more	65,000 [*]	704,000 [*]	30,000 ^E	0.50 ^E	0.04 [*]
Not stated	42,000	..	15,000 ^E	F	..

^{*} significant difference from the reference (ref.) group at the 0.05 level
Source: Statistics Canada, Financial Capability Survey, 2009.

Moreover, all levels of debt appear to significantly affect perceptions of financial vulnerability. Debt repayment amounts vary depending on repayment schedules and interest rates, and can be independent

of the total amount owing. In other words, it is not necessarily the size of debt that has the potential to strain a monthly budget, but the repayment amount in relation to other expenses and income. However, even

if debt repayments are manageable, the monthly financial obligation and outstanding balance may increase the perception of financial insecurity.

Relatively low income and net worth reduce sense of financial security

Retirees with less than \$25,000 in annual household income are significantly less likely than those with higher incomes to give positive responses to the three financial security questions. After controls were applied for net wealth, having a lower income (whether with or without debt) was found to increase the perception of financial insecurity. For example, 75% of those with a household income of less than \$25,000 say their income is sufficient to cover monthly expenses compared with 85% of those in the \$25,000 to \$49,000 income range.

Similarly, retirees with a household net worth of under \$75,000 are not as likely to express a high rate of financial security as those with higher levels of net worth.

Conclusion

Using data from the Canadian Financial Capability Survey, this study found that, in 2009, 1 in 3 retired individuals age 55 and over, whether single or in a couple, held mortgage or consumer debt. Since retirement usually coincides with a drop in income and an increased reliance on savings, debt management is a frequently cited component of retirement planning.

The median amount owing for retirees with debt was \$19,000. At the high end of the debt scale, 17% owed \$100,000 or more. The likelihood of holding debt decreased with age but increased with household income and financial knowledge. Individuals with some postsecondary education were more likely to hold debt than those with less schooling, while households with a high net worth were less likely to have debt. Being divorced was a strong correlate of holding debt among retirees.

The majority of retirees report that their finances are what they had expected them to be prior to retirement, that their income is sufficient to cover expenses, and that they are able to stay on top of bills and keep up with their financial commitments. After controls for personal and financial factors were applied, those with any level of debt were found to be more likely to

respond negatively to these questions. For example, while 9 in 10 retirees without debt reported they had no trouble keeping up with bills and other financial commitments, 7 in 10 with debt reported this to be the case.

Roughly 1 in 10 retirees was divorced. This group had lower positive response rates for all three financial security questions, even after controls were applied for other factors, including debt. For example, 65% of the divorced reported that their financial situation was as good as or better than they expected before retirement, compared with rates of 77% or greater for those who were in a couple, were widowed or never married. The substantially lower-than-average income and net worth of the divorced coincide with their poorer perception of their financial condition.

Immigrants, as well as those having relatively low income or net worth, also report lower perceptions of financial security.

The incidence and level of debt among the pre-retired population age 55 and over were higher than among retirees. Two-thirds of pre-retirees carry mortgage or consumer debt with a median value of \$40,000.

Perspectives

■ Notes

1. For example, defined benefit pension coverage fell from 41% in 1991 to 30% in 2006 (Gougeon 2009).
2. The vast majority of respondents knew whether they had any debt but about 1 in 5 did not know the amount owed. These non-response cases were excluded from the level of debt calculations (see *Data source and definitions*).
3. In fact, 92% of those who owe less than \$5,000 report having only consumer debt.
4. Since there were relatively high rates of non-response for income and net wealth questions, "not stated" categories for these variables were included in the model to maintain the maximum sample size.
5. American research using longitudinal data found that remarriage can offset the negative financial impact of divorce as newly formed couples begin to rebuild wealth (Wilmoth and Koso 2002). In this study, the marital history of respondents is unknown.
6. Net worth "not stated" was also associated with a lower probability of debt.

7. Although the sample size does not allow for a detailed analysis by sex, the results show similar trends for both men and women by marital status.
8. A better indicator of a household's ability to cover the cost of servicing its debt would be the ratio of its monthly debt repayment to its disposable income; however, these two figures were not collected in the survey.

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The distribution of mortgage debt in Canada

Raj K. Chawla

Many Canadians borrow in order to purchase homes or consumer goods or make financial investments. Credit can be used to shift day-to-day expenses in the short-run. In the long-run, debt can smooth consumption over peoples' life cycle, allowing them to invest in education and housing when they are young and pay down debt as their earnings and equity rise (Modigliani and Brumberg 1954, and Friedman 1957).

However, an overreliance on debt can lead to stress and reduced savings. Moreover, if a high debt load is combined with other adverse shocks, like the loss of a job, household assets may be put at risk.

It has been widely reported that household debt is growing. A number of factors have contributed to the increase in household debt: the long-term decline in interest rates; low and stable inflation; housing demand associated with the ripple effect of the baby boom generation; the growth of two-income households; and a "self-perpetuating cycle" whereby increased housing and financial wealth provide collateral for further borrowing (TD Economics 2010).

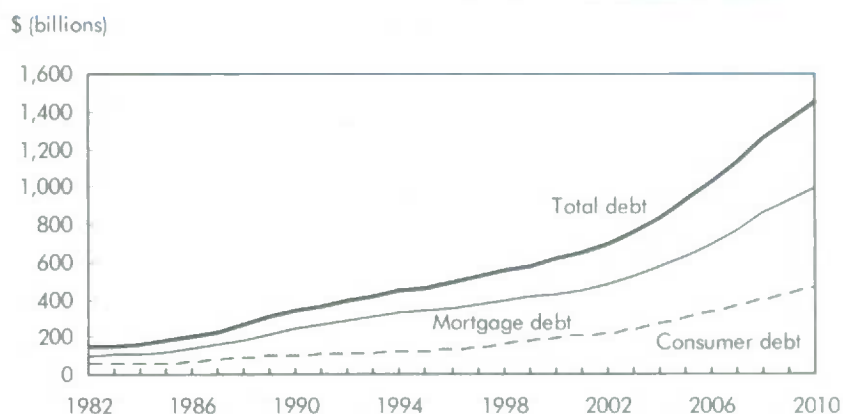
This article begins with a look at recent trends in total debt, residential mortgages and consumer debt.¹ Since mortgage debt comprises two-thirds of household liabilities, this article focuses primarily on providing a more in-depth look at homeowners with a mortgage. The Survey of Household Spending

(SHS) offers a perspective on the distribution of mortgage debt that is unavailable in macro-economic series. The SHS provides information on the characteristics of mortgage-holders, the size of their mortgage liability, and spending on other types of goods and services. Since the survey concepts have remained constant since 1997, changes in characteristics and mortgage liability over time are also presented.

Trends in household debt

Total household debt is the sum of mortgage debt and consumer debt. Consumer debt is not necessarily secured by collateral and includes outstanding debt on credit cards, bank and other loans, personal and home-equity lines of credit, and unpaid bills. In contrast, mortgage debt is generally linked to collateral (most

Chart A Trends in consumer, mortgage and total debt



Sources: Bank of Canada, CANSIM vectors v36408 (total debt), v122698 (consumer debt) and v122736 (mortgage debt), 1982 to 2010.

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often a house). Housing investment supported by a mortgage generally leads to an increase in net wealth through home equity (value minus outstanding mortgage debt) that contributes to financial security² (Brown et al. 2010 and Hou 2010).

Between 1982 and 2010, mortgage debt grew from \$99 billion to \$994 billion (in current dollars), while consumer debt increased from \$48 billion to \$460 billion (Chart A). Over this period, their respective shares of total debt remained fairly stable, with mortgage debt accounting for two-thirds of total household debt.

Mortgage debt tied to price of real estate

One key factor behind the increase in residential mortgages has been the rising values of owner-occupied homes. The average market value of an owned dwelling

quadrupled, from \$71,800 to \$303,500 (current dollars) between 1982 and 2008. Since the amount of mortgage taken out on a dwelling is tied to its purchase price, the average mortgage loan more than quadrupled in the same period, from \$41,200 to \$176,200.³

During the period from 1982 to 2009, new houses became more expensive relative to those on the resale market. This means that more mortgage debt, on average, was required to buy a new dwelling compared to a resale: 38% more in 1982; 48% more in 2008; and 51% more in 2009. Nonetheless, the average mortgage approved for both types of dwellings followed the same pattern, rising from \$52,000 to \$262,000 for new dwellings and from \$37,700 to \$173,000 for existing ones (Chart B).

Mortgagees and mortgage-free homeowners

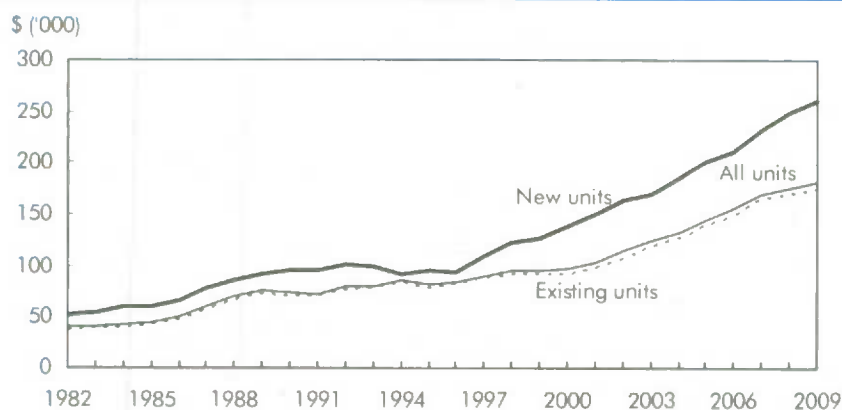
According to the 2008 Survey of Household Spending, there were 13 million households in Canada, of which about 65% owned a home (see *Data source and definitions*). Among homeowners, 57% made a mortgage payment in 2008 and the remaining 43% were mortgage-free. The mean age of persons⁴ with a mortgage was 45 compared with 62 for those without a mortgage. Hence, on average, mortgagees are much younger than mortgage-free homeowners.

Among mortgagees in 2008, 67% had purchased their homes in the 10 previous years, compared with 71% in 1997. In other words, mortgagees in 1997 were slightly more likely to have bought in the preceding decade, compared with mortgagees in 2008, even though market conditions varied considerably between the two periods.

The aging of the population is mirrored in the distribution of mortgagees who have been in their current homes for less than 10 years. In 1997, 72% of these relatively recent purchasers were under 45 compared with 64% in 2008 (Table 1). At the same time, the proportion of recent buyers from 45 to 64 increased from 26% to 33%—similar to trends noted by Hou (2010).

The average value of a home varied across areas with differing population sizes and by region (Table 2).⁵ In areas with a population of 500,000 or more (referred to as large metropolitan areas), the mean value of a home

Chart B Trends in average mortgages for new and existing dwellings



Source: Canada Mortgage and Housing Corporation, CANSIM table 027-0017, 1982 to 2009.

Data source and definitions

The macroeconomic series relating to household debt is based on national accounts data for the household sector, which are available via the CANSIM database. Annual data compiled by Canada Mortgage and Housing Corporation (CMHC) on mortgage loans approved for new and existing dwellings are also included.

The analysis of mortgage-holders (or households who made a regular mortgage payment during the survey reference year) is drawn from the Survey of Household Spending (SHS) conducted by Statistics Canada on an annual basis since 1997 (previously such data were collected via the Family Expenditure Survey, which was conducted periodically at the national level). The 2009 SHS collected information on components of 2008 expenditures from a sample of approximately 9,800 private households in the 10 Canadian provinces, representing 13.2 million households. Of these, about two-thirds (8.4 million households) were homeowners. All financial data presented are in current dollars since the amount of debt incurred and paid back is all in current dollars, and to provide a glimpse of how prices of homes, mortgages, incomes, and expenditures have changed over time.

Household: A person or group of persons occupying one dwelling unit. The number of households equals the number of occupied dwellings.

Reference person: The household member being interviewed chooses which household member should be listed as the reference person after hearing the following definition: The household reference person is the member of the household mainly responsible for its financial maintenance (e.g., pays the rent, mortgage, property taxes and utilities). This person can be either male or female. When all members of the household share equally, any member may be shown as the reference person. This person must be a member of the household at the time of the interview.

Pre-tax household income: Sum of incomes before taxes and other deductions received during the reference calendar year by all members of the household. Sources include wages and salaries, net income from self-employment, rental and investment income, government transfers (Employment Insurance, Child Tax Benefit, Goods and Services Tax credits, provincial tax credits, social assistance, Old Age Security, Guaranteed Income Supplement, Canada Pension Plan and Quebec Pension Plan), private and employer pension plans, scholarships, alimony, and child support payments. Income-in-kind, windfall gains, capital gains and capital losses are excluded from this definition of income.

Disposable income: Pre-tax income less federal and provincial income tax less premiums/contributions paid on components pertaining to security (such as Employment Insurance, life insurance, Canada Pension Plan, Quebec Pension Plan, and other government and non-government work-related pension plans). Contributions to registered retirement savings plans and tax-free savings accounts are excluded from these deductions.

Expenditures collected: The SHS includes spending on all goods and services received during the 2008 reference calendar year. All expenses attributable to an owned business are excluded. On the other hand, taxes such as the Goods and Services Tax, provincial sales tax, duties, and customs and excise on all goods and services purchased are included in expenditures.

Total expenditure: Sum of expenditure on current consumption of goods and services, federal and provincial income tax paid, payments pertaining to security, and gifts and contributions made.

Current consumption (also referred to as total consumer spending): Includes expenditure on broad components including food, shelter, household operation, household furnishings and equipment, clothing, transportation, health, personal care, recreation, reading material and other printed matter, education, tobacco products and alcoholic beverages, and miscellaneous (for example, union dues and games of chance). For a detailed breakdown of these components and other details about the survey, see Statistics Canada (2009).

Total debt comprises mortgages on owner-occupied homes and other real estate, and all secured and unsecured consumer debt.

Mortgage debt is a debt taken under a legal contract to purchase a property including a home, vacation home and other real estate. It may also be taken by re-mortgaging a property to raise funds for other needs. Mortgage debt is repaid on legally agreed-upon terms including its amortization period, varying or fixed-term interest rates, frequency of payments, and any extra payments to pay off the principal or penalties for missed payments and other foreclosures.

Consumer debt including other secured and unsecured personal loans is debt owed on credit cards issued by chartered banks, department stores, oil companies and other institutions, loans to purchase vehicles and other goods and services, student loans, other secured and unsecured bank loans, personal and home-equity lines of credit, loans from other finance and payday loan companies, loans for any personal unincorporated businesses, and amounts outstanding on unpaid bills.

Mortgage-liability ratio refers to the regular mortgage payment (principal and interest) paid by the household during the reference year expressed as a percentage of its disposable income in that year. Conceptually, this is similar to the concept of debt-to-service ratio (DSR) used in financial literature and by institutions like the Bank of Canada. The only difference is that the DSR includes the payment for total debt rather than for mortgage on the home only.

Years owned a home or the number of years of residence at current dwelling is derived as 2009 minus the year moved into that dwelling as reported by a household.

Saving rate is defined as pre-tax household income less its expenditure as a percentage of disposable income.

Average expenditure (income) per household is calculated as the estimated total expenditure (income) of all households divided by the estimated number of households. A similar approach was used to calculate averages by components of expenditure. The denominator used is all households including those who may have had reported zero values for a given component.

Mean value of dwelling is the mean of current market prices of dwellings as reported by home-owning households in the 2008 SHS. In other words, it is the aggregate value of dwellings owned in current market prices divided by the estimated number of homeowners.

Table 1 Profile of homeowners who made a mortgage payment by years of residence¹ and selected characteristics

	1997				2008			
	Under 10 years	10 years or more	Total	Households owning a home less than 10 years	Under 10 years	10 years or more	Total	Households owning a home less than 10 years
					%			
Total	100.0	100.0	100.0	70.8	100.0	100.0	100.0	67.2
Age								
Under 45	72.1	36.1	61.6	82.9	64.0	24.2	50.9	84.4
45 to 64	25.6	55.3	34.3	52.9	32.6	65.6	43.4	50.4
65 or more	2.3	8.6	4.1	F	3.4	10.2	5.6	F
Area of residence								
Metropolitan								
Population 500,000 or more	50.2	44.3	48.5	73.4	51.3	44.9	49.2	70.0
Population 100,000 to 499,999	17.9	20.2	18.6	68.3	17.0	22.4	18.8	60.9
Other	16.1	14.5	15.6	72.9	19.7	17.9	19.1	69.2
Rural	15.8	21.0	17.3	64.6	11.9	14.8	12.9	62.3
Region								
Atlantic	6.3	10.4	7.5	59.7	6.6	9.2	7.5	59.5
Quebec	20.6	27.4	22.6	64.7	21.7	22.8	22.0	66.0
Ontario	39.7	37.2	39.0	72.1	38.7	39.5	39.0	66.7
Prairies	18.2	13.8	16.9	76.2	18.9	16.9	18.3	69.7
British Columbia	15.2	11.3	14.1	76.6	14.1	11.6	13.3	71.3
Sample size	4,013	1,769	5,782	...	2,333	1,262	3,595	...
Number of households ('000)	2,757	1,135	3,893	...	3,312	1,620	4,932	...

been in their homes less than 10 years, compared with \$10,800 for those who bought before 1999.⁷

Mortgage payments varied less across age groups. Younger mortgagees made somewhat higher payments than their older counterparts. Mortgage holders under age 45 paid \$13,200 on average, compared with \$12,200 among those from 45 to 64. However, as noted earlier, there is a much higher percentage of mortgage-free homeowners in the over-45 group.

Since mortgage payments alone provide little indication of the financial burden imposed by a mortgage, they must be related to disposable income (i.e., income after federal and provincial income taxes and other social security deductions like contributions, for example, toward Canada Pension Plan, Quebec Pension Plan, Employment Insurance, and pensions). Such a 'mortgage-liability ratio'⁸ can be calculated by divid-

ing average mortgage payments by average disposable income. On average, households with a mortgage paid 17 cents of each income dollar on mortgage payments in 2008.

Homeowners who purchased their homes between 1999 and 2008 spent a higher proportion of their disposable income on mortgage payments than those who purchased before 1999—18 cents of every dollar compared with 15 cents. Again, households with a reference person under 45, and those living in large metropolitan areas paid a larger proportion of their disposable income on mortgages compared with other groups. On a regional level, households in British Columbia paid 20 cents of every dollar on mortgage payments compared with 18 cents in Ontario and 14 cents in the Atlantic region.

Table 2 Mean value of dwelling, mortgage payment and disposable income of homeowners with a mortgage by years owning a home and selected characteristics

	Mean value of dwelling			Mean mortgage payment			Mean disposable income		
	Under 10 years	10 years or more	Total	Under 10 years	10 years or more	Total	Under 10 years	10 years or more	Total
	\$								
Total	309,000	292,800	303,700	13,400	10,800	12,500	73,800	72,600	73,400
Age									
Under 45	302,200	268,900	297,000	13,500	11,500	13,200	72,200	79,400	73,300
45 to 64	330,000	299,800	315,000	13,500	10,900	12,200	79,500	73,800	76,700
65 or more	F	304,000	275,700	F	8,200	8,300	F	48,700	48,600
Area of residence									
Metropolitan									
Population 500,000 or more	358,000	358,000	358,000	15,500	11,800	14,400	79,700	79,800	79,700
Population 100,000 to 499,999	306,400	264,200	289,900	12,900	11,500	12,400	74,800	73,700	74,400
Other	226,800	227,500	227,000	10,200	8,600	9,700	66,600	62,400	65,300
Rural	237,700	217,000	229,900	10,100	9,200	9,800	59,000	61,300	59,900
Region									
Atlantic	180,000	155,500	170,100	9,400	7,800	8,700	61,400	58,200	60,100
Quebec	220,800	213,800	218,400	10,100	8,500	9,600	62,900	60,600	62,100
Ontario	324,500	312,700	320,600	15,100	12,300	14,200	78,200	78,400	78,300
Prairies	318,100	298,600	312,200	13,400	10,000	12,400	81,900	78,600	80,900
British Columbia	450,100	480,700	458,900	15,400	13,600	14,900	73,400	79,300	75,100

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

Table 3 Distribution of homeowners by size of mortgage payment relative to disposable income and selected characteristics

	All home- owners	Home- owners without a mortgage	Mortgage-liability ratio			Total	Home- owners with a mortgage
			Under 10%	10% to 19%	20% or more		
							%
Sample size	6,840	3,245	820	1,614	1,158	3,595	...
Estimated number of households ('000)	8,601	3,669	945	2,109	1,872	4,932	57.3
				%			
Distribution of households	100.0	100.0	100.0	100.0	100.0	100.0	...
Age of reference person							
Under 45	33.6	10.3	46.1	47.6	57.1	50.9	86.9
45 to 64	45.1	47.3	48.2	46.8	37.3	43.4	55.2
65 and over	21.3	42.4	5.7	5.7	5.6	5.6	15.1
Number of years dwelling owned							
Under 10	47.1	20.2	61.5	61.6	76.2	67.2	81.7
10 or more	52.9	79.8	38.5	38.4	23.8	32.8	35.6
Area of residence							
Metropolitan							
Population 500,000 or more	46.7	43.4	39.3	47.6	56.0	49.2	60.4
Population 100,000 to 499,999	18.3	17.7	20.4	19.6	17.0	18.8	58.7
Other	19.1	19.0	26.0	19.3	15.6	19.1	57.5
Rural	15.8	19.8	14.3	13.5	11.4	12.9	46.6
Region							
Atlantic	8.3	9.5	10.6	8.4	4.9	7.5	51.4
Quebec	21.9	21.8	24.3	25.3	17.1	22.0	57.7
Ontario	37.5	35.6	33.0	36.5	44.9	39.0	59.5
Prairies	18.3	18.3	22.0	18.9	15.7	18.3	57.3
British Columbia	14.0	14.9	10.1	10.9	17.4	13.3	54.5
Overall mean							
Age of reference person (years)	52.2	61.8	45.7	45.7	44.1	45.1	...
Years dwelling owned	14.8	23.0	9.2	9.6	7.6	8.7	...
Value of dwelling (\$)	303,500	303,400	263,500	297,700	330,500	303,700	...
Mortgage payment (\$)	...	...	6,300	11,400	17,000	12,500	...
Mean years dwelling owned by age				years			
Under 45	6.3	11.6	5.7	6.0	4.9	5.5	...
45 to 64	15.6	20.5	11.9	12.1	10.8	11.6	...
65 or more	26.7	28.6	14.9	18.0	13.6	15.7	...
Mean value of dwelling by age				\$			
Under 45	300,900	326,700	237,000	301,900	316,300	297,000	...
45 to 64	319,700	325,400	291,500	296,000	358,000	315,000	...
65 or more	273,500	273,100	240,800	277,200	292,000	275,700	...
Mean mortgage payment by age							
Under 45	...	...	6,100	11,800	17,400	13,200	...
45 to 64	...	...	6,800	11,300	17,100	12,200	...
65 or more	...	...	3,500	7,900	11,200	8,300	...

Note: Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.

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

The distribution by size of mortgage liability provides further information on those with relatively high mortgage burdens. Three groups are defined: those who spent 20% or more of their disposable income on mortgage payments; those who spent between 10% and 19%; and those who spent less than 10%. Overall, 38% of homeowners paid 20% or more of their disposable income on mortgage payments in 2008; 43% paid 10% to 19%; and the remaining 19% paid less than 10% (Table 3).

Life-cycle theory suggests that mortgage liability should drop as the number of years in the residence increases or as the homeowner ages. Moreover, disposable income is higher among prime-age households than younger households. These patterns are evident in the data—households who spent 20% or more of their disposable income were more likely to be under 45 (57%, as opposed to 46%, among those who spent less than 10%) and more likely to have bought in the past 10 years (76%, as opposed to 62%, among those who spent less than 10%).

Households living in large or small metropolitan areas and households in Ontario and British Columbia were also more likely to have higher mortgage-liability ratios. Of all households with a high mortgage liability (20% or more), 62% were living in these two provinces compared with 51% of all homeowners. These households made average mortgage payments of \$17,000 compared with \$6,300 for those who paid less than 10% of their income on mortgage payments. In other words, homeowners with a high mortgage liability paid \$900 more per month than those with a lower liability.

Changes in mortgage-liability ratio

The recent increase in mortgage debt translated into a larger share of households paying more than 20% of their disposable income on mortgages in 2008 than in 2001. The proportion paying more than this threshold increased from 32% in 2001 to 38% in 2008, while the proportion paying from 10% to 19% declined (Table 4). However, the proportion of households who spent 20% or more of their income on mortgages was 40% in 1997—the beginning of the recent increase in prices. So the burden of mortgage payments in 2008 remained within recent norms.

Still, trends may vary across age groups. The proportion in the two youngest age groups putting 20% or more of their income toward a mortgage increased markedly between 2001 and 2008. However, 2001 represented a low point for both the under-35 group and 35-to-44 group such that the 2008 proportions with relatively high mortgage liabilities were similar to those experienced by their counterparts in the late 1990s.

This contrasts with the trend among older age groups. The proportion of mortgagees from 45 to 54 spending at least 20% of their disposable income on mortgage payments remained relatively stable over the

Table 4 Distribution of households with a mortgage by size of mortgage liability and age, selected years

	Mortgage-liability ratio			Total
	Under 10%	10% to 19%	20% or more	
	%			
All households				
1997	17.8	42.3	39.8	100.0
2001	18.7	49.8	31.5	100.0
2008	18.7	43.2	38.1	100.0
Under 35				
1997	15.4	41.9	42.8	100.0
2001	19.4	47.9	32.7	100.0
2008	20.2	34.5	45.3	100.0
35 to 44				
1997	14.7	43.3	42.0	100.0
2001	16.8	51.0	32.1	100.0
2008	15.2	43.8	41.1	100.0
45 to 54				
1997	22.1	43.2	34.7	100.0
2001	20.8	51.3	27.9	100.0
2008	21.5	48.7	29.8	100.0
55 to 64				
1997	21.8	39.7	38.5	100.0
2001	17.1	51.5	31.4	100.0
2008	19.6	42.3	38.2	100.0

Note: Respective sample sizes were too small to show reliable distributions for households 65 and over.

Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.

Sources: Statistics Canada, Survey of Household Spending, 1997, 2001 and 2008.

2000s at a level that was lower than in the late 1990s. Among mortgagees in the pre-retirement age group (55 to 64) in 2008, 38% had a higher mortgage liability and 20% a lower liability—the remaining 42% spent between 10% and 19% of their income on mortgage payments.

Spending differs among those with a higher mortgage-liability ratio

For a given dollar of disposable income, those without a mortgage spent 81 cents on consumption of goods and services, 4 cents on gifts and contributions and saved the remaining 15 cents (Table 5). The corresponding shares for households with a mortgage were 94 cents, 2 cents and 4 cents, respectively.⁹ Households without a mortgage spent relatively more

on gifts and contributions and saved more. They also spent relatively more on food and out-of-pocket health expenses. Of course, the key difference between the two groups is shelter, as households with a mortgage spent 2.6 times more on housing-related costs than their counterparts without a mortgage. When mortgage payments were excluded, both groups spent almost the same amount on other shelter-related expenses (e.g., property taxes, utilities and repairs/renovations). This reflects the nearly equal average value of their homes: \$304,000 for those with a mortgage, \$303,000 for those without.

Households spending 20% or more of their disposable income on mortgage payments had different spending patterns than those with a lower mortgage-liability ratio. For every dollar of their disposable income, they

Table 5 Mean disposable income and its disbursement by component of current consumption of homeowners and by size of mortgage liability

	All homeowners	Home-owners without a mortgage	Mortgage-liability ratio			Home-owners with a mortgage
			Under 10%	10% to 19%	20% or more	
			\$			
Disposable income	66,600	57,000	96,200	76,800	59,200	73,700
			disbursement of disposable income (%)			
Food	12.6	13.4	10.0	12.4	13.4	12.1
Shelter	24.6	14.9	20.0	26.8	43.6	30.2
Household operation	5.9	5.7	5.5	5.9	6.7	6.0
Household furnishings and equipment	3.6	3.4	3.9	3.6	3.9	3.7
Clothing	4.9	4.7	4.9	5.0	5.2	5.1
Transportation	17.6	17.7	16.9	17.5	18.3	17.6
Health	3.6	4.5	2.7	3.1	3.2	3.0
Personal care	2.0	2.0	1.9	2.0	2.1	2.0
Recreation	7.4	7.5	7.7	7.4	7.3	7.4
Reading material and other printed matter	0.5	0.5	0.4	0.4	0.4	0.4
Education	2.1	1.8	1.9	2.3	2.4	2.2
Tobacco products and alcoholic beverages	2.3	2.3	2.2	2.4	2.3	2.3
Miscellaneous	2.4	2.7	2.3	2.0	2.3	2.2
Total consumption	89.5	81.0	80.1	90.8	111.1	94.4
Gifts and contributions	2.9	4.3	2.7	1.8	1.9	2.1
Savings (pre-tax income less expenditure)	7.6	14.7	17.2	7.3	-13.0	3.5
Disposable income	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	6,840	3,245	820	1,614	1,158	3,595
Number of households ('000)	8,601	3,669	945	2,109	1,872	4,932

Note: Mortgage-liability ratio is mortgage payment expressed as a percentage of disposable income.

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

spent 44 cents on housing, followed by transportation (18 cents) and food (13 cents). Overall, expenditures exceeded their disposable income by 13%. Among those spending less than 10% on mortgage payments, 20 cents of every dollar were spent on housing, 17 cents on transportation, and 10 cents on food. These households also saved 17% of their disposable income. Thus households with a high mortgage-liability ratio allocate more money to overall consumption and less to savings. However, since there is an investment component to mortgage payments, in most cases they lead to increased wealth and lower housing costs as the mortgage is paid off.

Summary

The indebtedness of Canadian households increased from \$147 billion in 1982 to \$1,454 billion by 2010—in current dollars. Two-thirds of the increase between 1982 and 2010 occurred between 1999 and 2010—a period characterized by relatively low interest and inflation rates. Residential mortgages accounted for two-thirds of overall household debt, with consumer debt accounting for the other third. The split of total household debt along these two key components remained stable over this period.

Mortgage debt increased in lock step with housing prices. The average price of a dwelling rose from \$71,800 in 1982 to \$303,500 in 2008, while the average mortgage per dwelling increased similarly from \$41,200 to \$176,200.

Mortgagees are younger and more likely to be recent home purchasers than mortgage-free households. Recent purchasers also tend to have higher mortgage payments than those who have been in their homes longer. Payments are higher, on average, in large metropolitan regions than smaller centres. On a regional level, British Columbia and Ontario mortgage-holders have the highest average payments.

This article examined the financial burden of homeowners by calculating mortgage payments as a proportion of disposable income, referred to as the mortgage-liability ratio. Although debt liability increased over the 2000s, mortgage debt was also relatively high at the end of the 1990s. However, the proportion of households spending at least 20% of their disposable income on mortgages increased faster among younger households in recent years.

Households with a larger mortgage-liability ratio—spending 20% or more of their disposable income on a mortgage—spent more on housing and saved less than households who spent less than 10% of their disposable income on mortgage payments. This group was mainly comprised of younger households and recent purchasers, who typically make larger mortgage payments at this point in their life cycle.

Perspectives

■ Notes

1. Unless otherwise stated, all financial numbers are expressed in current dollars as financial transactions that relate to borrowing and repayments are made in current dollars. The interest charged on borrowed funds (i.e., the cost of borrowing) is designed not only to protect the loss of purchasing power of funds, but also to cover the lender's cost of capital, service charges and profit intake.
2. Home equity provides ongoing consumption of housing services equivalent to the rental value of the home after adjustments for other costs of ownership are made (primarily property taxes and utilities that would normally be included in rent payments).
3. These numbers are based on CMHC data on loan approvals, which are available via CANSIM (Table 027-0017).
4. In the Survey of Household Spending, a reference person for the household is defined as the household person who is primarily responsible for household finances (see *Data source and definitions*). The age of the reference person should therefore be representative of the homeowner(s).
5. The value of the home is estimated by the reference person.
6. The differences discussed above were statistically significant at the 5% level.
7. The difference between these two groups was statistically significant at the 5% level.
8. The mortgage-liability ratio differs from the debt-service ratio published by the Bank of Canada, which divides all consumer and mortgage debt payments by disposable income. Families are considered financially vulnerable if they spend at least 40% of their disposable income on debt payments (Faruqui 2008). It also differs from Canada Mortgage and Housing Corporation's shelter cost-to-income ratio, which divides all shelter costs by pre-tax income. Affordable housing costs less than 30% of pre-tax income.

9. Note that owner-occupied housing may also be treated as an asset that produces rent-equivalent income. See, for example, Brown et al. (2010).

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Measuring voluntary interhousehold transfers in Canada

Jackson Chung

For the most part, those who live together in households provide for their own well-being. However, there are some situations in which people in one household monetarily support people in other households. Such situations would include parents supporting students who are away at school, immigrants sending money to family members in their home countries or someone helping out a friend who has fallen on hard times. Each of these examples represents an interhousehold transfer.

Interhousehold transfers are a flow of economic resources between households. They are money, goods or services that a household sends to other households with the intention of supporting the recipients' current consumption, without an expectation of repayment. As a result, the recipients' economic well-being is improved by the additional economic resources from the donor.

Data indicate that the overall magnitude of interhousehold transfers is similar to social assistance and about double the level of alimony and other court-ordered payments.¹ Despite their size and potential impact on the economic well-being of Canadian households, few studies have been published on interhousehold transfers and those published have concentrated on immigrant remittances abroad (Houle and Schellenberg 2008).

This article discusses the concepts and measurement issues related to voluntary interhousehold transfers in Canada (see *Data sources and definitions*). It starts by examining the conceptual issues of such transfers. It then estimates the size of and recent trends in interhousehold transfers in Canada, followed by an analysis of the relationship between the value of interhousehold transfers and total household income. A summary and discussion of the results completes the article.

Defining interhousehold transfers

Despite efforts to integrate transfers into a comprehensive framework of household income (Canberra Group 2001), no standard, internationally recognized measure of interhousehold transfers currently exists. Transfers thus remain one of the most difficult aspects of measuring household income. What should or should not be included in the definition of income involves judgments about various aspects of the transfers. While some statistical agencies like Eurostat (Eurostat 2007) and the Australian Bureau of Statistics (Australian Bureau of Statistics 2006) closely follow the Canberra Group's recommendations, others adapt them to suit their own needs. This is perhaps not surprising given the number of concepts involved in defining interhousehold transfers.

Efforts to define interhousehold transfers must take a number of factors about the donor household, recipient household and nature of the transfers into account. The specific aspects to be addressed include whether the transfers are regular or irregular, voluntary or involuntary; whether they are between family members or others; whether they cross international boundaries or should be deducted from the donor's disposable income; and whether they should include in-kind (non-monetary) transfers, loans or repayments.

Loans and repayments

One of the defining characteristics of an interhousehold transfer is that it is given with no expectation of repayment. The International Conference of Labour Statisticians thus recommends that loan repayments be excluded from the definition of interhousehold transfers. The assumption is that a loan and subsequent repayment would result in no net transfer from one household to another (International Labour Organization 2004).

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Data sources and definitions

Three separate Statistics Canada surveys—the Survey of Labour and Income Dynamics (SLID), the Survey of Household Spending (SHS) and the Survey of Financial Security (SFS)—measure voluntary interhousehold transfers, each survey measuring them somewhat differently.

SLID is carried out in the 10 provinces annually, and 70,000 individuals or from 26,000 to 28,000 households responded in a particular year. The questions on voluntary interhousehold transfers were introduced in 2006.³ In SLID they are defined as the amount of money sent or received by family members not living in the respondent's household, plus regular bill payments paid on the recipient's behalf. From 2006 to 2008, between 791,000 and 880,000 households received voluntary interhousehold transfers, and between 1.4 million and 1.6 million households sent them in a particular year.⁴

The SHS collects data on annual household spending. It is carried out in all 10 provinces each year and in the 3 territories every second year. The number of households that responded varied from 13,900 to 17,200 between 1997 and 2007.⁵ The question on voluntary interhousehold transfers was not asked separately before 1998,⁶ and it is not possible to identify the amount received with the SHS. A voluntary interhousehold transfer in the SHS is defined as a gift of money sent to any non-household member. From 1998 to 2008, between 3.6 million and 5.4 million households sent these transfers in a particular year.⁷ SHS data make it possible for this paper to examine the trend of voluntary interhousehold transfers sent by Canadian households in the last 11 years. They also allow for the examination of the concept, definition and scope of such transfers, and their comparison with those in SLID and the SFS.

The SFS collects information on the net worth (wealth) of Canadian families, including assets, debts, employment, income and education. It is an occasional cross-sectional survey, most recently conducted in 2005,⁸ carried out in all 10 provinces, with approximately 5,300 economic families responding in 2005. The 2005 SFS asked questions on the amount of voluntary interhousehold transfers, and restricted the scope of senders and recipients to family members. According to that definition, 839,000 households received voluntary transfers in 2005, while 1.8 million households sent such transfers. SFS data allow for the examination of the relationship between the amounts of voluntary interhousehold transfers sent and received, and the net worth of economic families.

The purpose of each survey is different, therefore the information collected on interhousehold transfers also varies. For example, SHS data are a primary source of input for the Consumer Price Index while SLID is primarily concerned with household economic well-being. As such, the SHS requires detailed reporting of expenditure items (including transfers), while SLID respondents may give a best estimate.

Wording differences across surveys also contribute to differing estimates. The SHS measures 'money gifts' and the transfers have no usage restrictions, SLID measures money sent or received plus the regular payments paid on the recipient's behalf, and the SFS measures the money sent to support the living expenses of the recipients.

The surveys also define the scope of voluntary interhousehold transfers differently. While the SHS requires that respondents state the amount of money gifts sent to people who are not household members, SLID and the SFS measure the amount of money sent to or received from *family members* not living with the respondents. Thus SLID and the SFS exclude a greater portion of voluntary interhousehold transfers beyond the family relationship than the SHS does. A summary of interhousehold transfer information collected by each survey can be found in Table 5.

In terms of the number of donors that sent voluntary interhousehold transfers, the SHS has about three times as many households as SLID and the SFS, while total dollars sent are in the same order of magnitude for all three surveys (Table 1). With regard to recipients, SLID and the SFS have similar numbers of households receiving voluntary interhousehold transfers, but the total amounts received by households in SLID are twice those in the SFS.

Table 1 Households that sent and received voluntary interhousehold transfers, and dollar amounts of the transfers

	SHS 2008	SLID 2008	SFS 2005 ¹
		'000	
Households sent voluntary interhousehold transfers	5,362	1,647	1,771
Households received voluntary interhousehold transfers	...	880	839
		\$ (millions)	
Total amount sent by Canadian households	10,390	10,859	8,111
Total amount received by Canadian households	...	8,526	4,045

1. SFS figures are for economic families (household-level figures are not available).

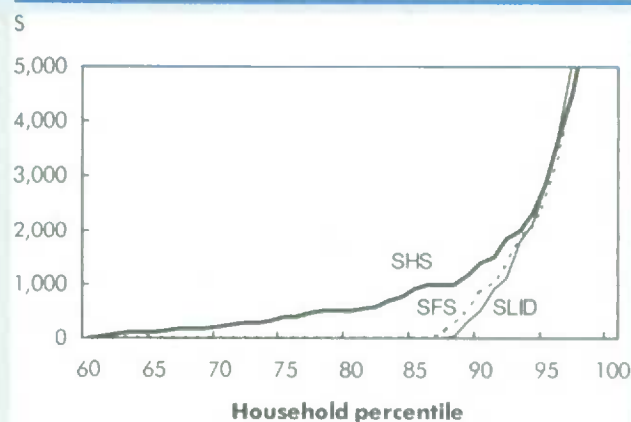
Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008; Survey of Household Spending (SHS), 2008; and Survey of Financial Security (SFS), 2005.

Data sources and definitions (concluded)

A distributional analysis indicates that the SHS is likely better at identifying smaller transfers than the other surveys. The median interhousehold transfer sent is \$2,200 in SLID, \$2,000 in the SFS and \$500 in the SHS (Chart A). In the SHS, 40% reported sending voluntary interhousehold transfers compared to less than 15% for SLID and SFS respondents. However, the top 10% sent similar donations in all three surveys.

All three curves also show that most dollar amounts for voluntary interhousehold transfers are sent by a small percentage of households—less than 5% of all households sent over \$5,000 in the reference year. This means the total dollar estimates for such transfers are disproportionately affected by a small number of households. It is possible that some of these households could be misreporting inheritances and bequests as current transfers rather than capital transfers. A maximum limit of \$200,000 is set for interhousehold transfers in the SLID questionnaire. Meanwhile, no such limitation exists in the SHS or the SFS.

Chart A Average monetary value of voluntary interhousehold transfers sent, by household percentile



Note: Before the 60th percentile, the average amount was zero. All households are sorted by the amount of voluntary interhousehold transfers sent in the reference year, with households at the 100th percentile giving the largest amount. Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008; Survey of Household Spending (SHS), 2008; and Survey of Financial Security (SFS), 2005.

Regular versus irregular

This characteristic of a transfer relates to a recipient's likely use of the funds. If the funds are spent on goods and services for immediate or near-term use, they are considered an addition to income. If they are saved or invested in capital, they are an addition to wealth. The Canberra Group suggests that current transfers should be amounts that are comparatively small, often made regularly and relied upon by the recipients (Canberra Group 2001). Meanwhile large, unexpected and one-time transfers are considered capital transfers since the money is more likely to be saved than spent. However, it can be argued that some irregular or large transfers conform to the definition of current transfer, as long as the funds are used for final consumption in the same period. For example, households can provide occasional financial support to non-household members in need, like the temporarily unemployed. Thus it is very difficult in practice to use rules of thumb on the regularity and amount of transfers to determine

whether they are capital or wealth transfers. It would be preferable to ask respondents directly whether the transfer was used for current consumption.

Voluntary versus involuntary

In this article, a voluntary interhousehold transfer is defined as not legally enforced, direct cash payments between households. The amount of interhousehold transfers sent by donors is not deducted from donors' income in the analysis of economic well-being and household income. This paper's analysis is limited by the lack of a data source that combines detailed information on consumption and the amount of interhousehold transfers received, and no data exist on interhousehold transfers received from non-family members.

While some interhousehold transfers are mandatory—that is, the result of a legally binding agreement—others are voluntary. For survey purposes, the Canberra Group suggests that legally binding

interhousehold transfers, for example alimony and child support payments, should be considered regular and predictable, as there are legal consequences to senders who fail to remit these payments. In comparison, voluntary interhousehold transfers can be regular or irregular, subject to whether the interhousehold transfers are made regularly and can be relied upon by the recipients (Canberra Group 2001).

To track *involuntary* transfers, like alimony and child support payments by court order or written agreement, Statistics Canada has been using tax data, and the receipt of these transfers has been accounted for in the recipient's total income. In addition, several studies have investigated the payment characteristics of alimony and child support, and how recipients have benefited from these payments (Galarneau 1992 and Robinson 2009). However, the *voluntary* transfers people receive were not measured until questions on interhousehold transfers were introduced in the Survey of Labour and Income Dynamics (SLID) in 2006.

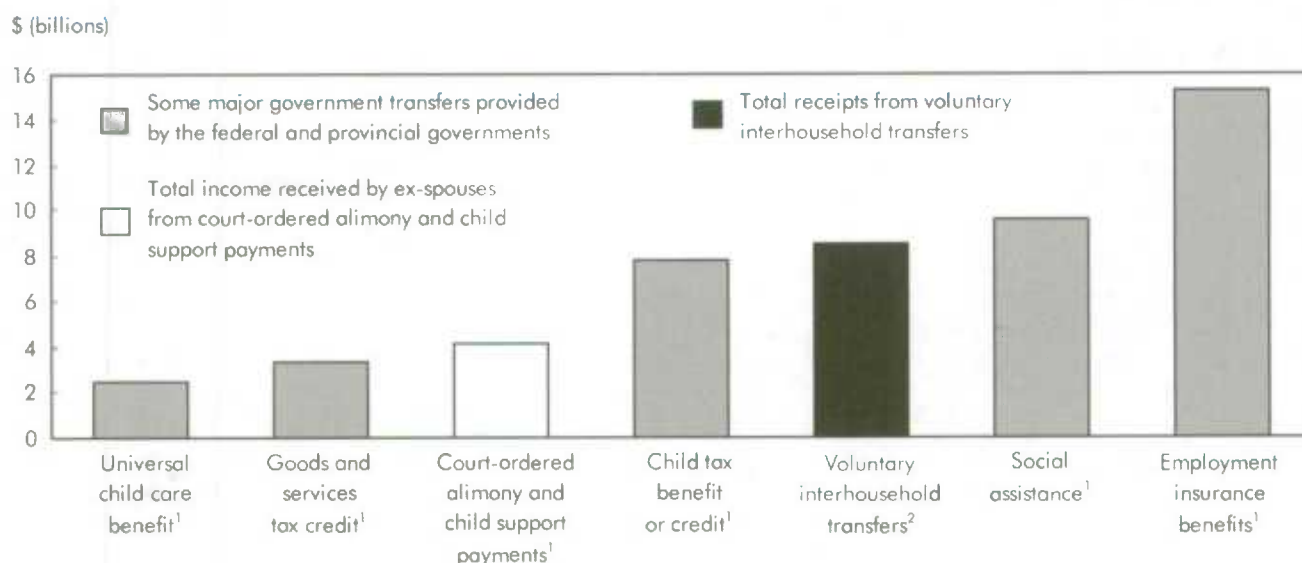
Family member versus any person

One would expect that most interhousehold transfers are received by donors' family members, and some Statistics Canada surveys only ask questions on interhousehold transfers between family members. However, non-family members would also benefit from interhousehold transfers with an increased ability to consume. Thus a comprehensive survey instrument would include interhousehold transfers not only between family members, but also between any persons not living with the respondent.

Inside country versus outside country

Some households send interhousehold transfers to relatives outside Canada. Since these transfers represent a significant source of foreign revenue in developing countries, tracking remittances is essential in order to understand the macro-economies of these countries (Houle and Schellenberg 2008).

Chart B Total dollars received by households from voluntary interhousehold transfers, court-ordered alimony and child support payments, and major government transfers, 2008



1. Included in the definition of total income at Statistics Canada.

2. SLID started collecting data on voluntary interhousehold transfers in 2006. Currently not regarded as part of total income at Statistics Canada. Source: Statistics Canada, Survey of Labour and Income Dynamics (SLID), 2008.

Deduction of interhousehold transfers from donor's disposable income

There are at least three alternate views on how the deduction of interhousehold transfers from a donor's disposable income should be treated. First, to avoid double-counting at the aggregate level, the Canberra Group recommends that the donor deduct the transfer from his or her disposable income (Canberra Group 2001). Alternately, Becker (1974) suggests that the relevant characteristics of a person's social environment,² like the welfare of a family member, can be important to an individual's utility function, and, to some extent, his or her economic well-being. From this viewpoint, sending interhousehold transfers to improve the economic well-being of a recipient can provide a positive utility to the donor. Therefore, not deducting the amount of interhousehold transfers from the donor's disposable income might be suggested, since it provides the same utility to the donor as would other spending. A third opinion differentiates between compulsory and voluntary transfers, and recommends only deducting the amount of interhousehold transfers with a compulsory or quasi-compulsory nature. This was adopted in a resolution of the Seventeenth International Conference of Labour Statisticians (International Labour Organization 2004). However, what qualifies as a quasi-compulsory interhousehold transfer remains subject to debate.

In-kind payments and expenditure transfers

In-kind payments in the form of gifts and services provide economic benefits to recipients and, in theory, should be included as income. Unlike monetary transfers, there is no consistent and accurate method of valuation for measuring in-kind payments. The Seven-

teenth International Conference of Labour Statisticians suggests that most operational definitions of income exclude such transfers until widely accepted methods for valuing them are available (International Labour Organization 2004). Currently, most in-kind payments are excluded from Statistics Canada surveys.

Size and trend of transfers

In 2008, Canadian households received \$8.5 billion in voluntary interhousehold transfers from other households (Chart B). This is twice the dollar amount of court-ordered alimony and child support payments received by Canadian households. It is also comparable in size to major government social programs, like social assistance and child tax benefits.

Both the number and proportion of households that sent transfers increased between 1998 and 2008 (Table 2). The number of households that sent voluntary interhousehold transfers increased by 51% from 3.6 million households in 1998 to 5.4 million households in 2008. The proportion of households that sent transfers increased from 31% to 41% in the same period.⁹

Although year-to-year changes are quite volatile,¹⁰ the total amount of interhousehold transfers trended upwards from 1998 to 2008 (Chart C). After adjustments were made for inflation, Canadian households were found to have sent 46% more in voluntary interhousehold transfers in 2008 than 1998 (Statistics Canada 2011). In comparison, real household income increased 33% and charitable donations increased 32% over the same period.

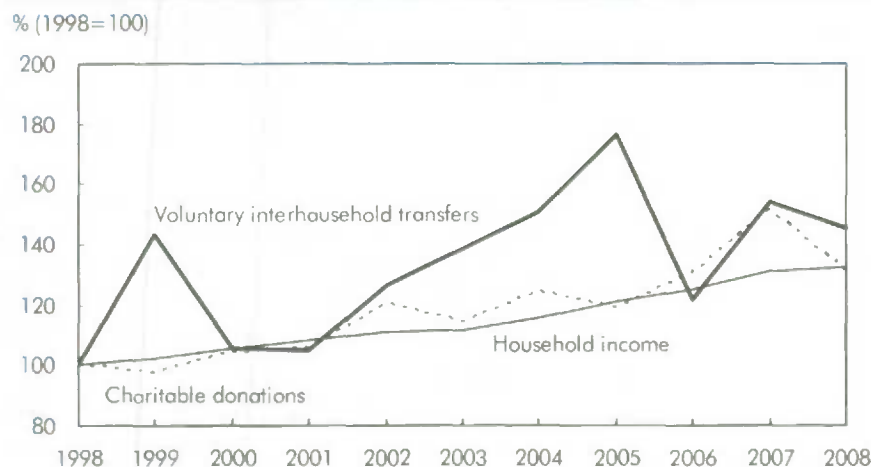
Voluntary interhousehold transfers thus represent a sizeable flow of funds between households and an important addition to income in many recipient households.

Table 2 Households that sent interhousehold transfers from 1998 to 2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
						'000					
Number of households	3,555	3,771	3,320	3,613	3,781	3,895	4,176	4,272	4,834	5,183	5,362
						%					
Percentage of all households	31	33	29	31	32	32	34	34	38	40	41

Source: Statistics Canada, Survey of Household Spending.

Chart C Change in real terms in the amount of interhousehold transfers sent, charitable donations, and household income received, 1998 to 2008



Source: Statistics Canada, Survey of Household Spending.

Relationship with income and wealth

SLID's information on interhousehold transfers sent and received provides the opportunity to examine transfers in relation to the income of donors and recipients.¹¹ Similarly, the wealth of donors and recipients can be studied using the 2005 SFS. Since these two surveys likely under-represent smaller transfers (see *Data sources and definitions*), the results are more indicative of large transfers than small transfers.

Both the incidence and amount of voluntary interhousehold donations increased with income (Table 3). About 7% of all households in the bottom quartile sent such transfers, with a median amount of approximately \$1,500. More households sent voluntary interhousehold transfers as household income increased. The donation rate reached

18% in the top income quartile and the median donation more than doubled to \$3,500. The relationship between income and the receipt of interhousehold transfers was less clear. If it were the inverse

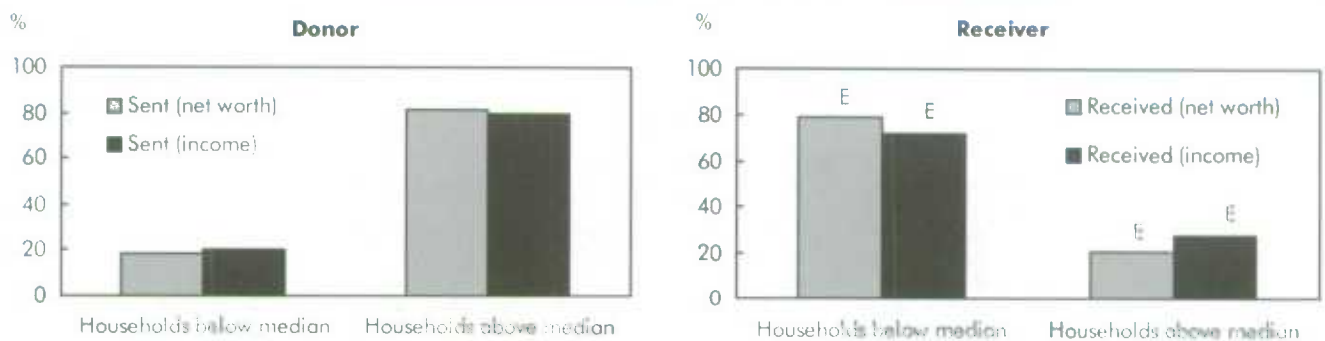
of the donation pattern, the incidence and amount received would be highest in the bottom quartile and decline in each ascending quartile. Although the percentage of households receiving such transfers was highest in the bottom quartile, the incidence varied much less across quartiles than did the incidence of donation, and was higher in the top quartile than the middle two quartiles. Moreover, the median amount received was higher in the top two income quartiles than the bottom two.

Interhousehold transfers generally flow from more economically well-off households to less economically well-off households (Chart D).¹² Approximately 80% of aggregate interhousehold transfers sent are from households with income or wealth above the median. Conversely, the vast majority of aggregate interhousehold transfers are received by households with income or wealth below the median. However, a slightly higher proportion of aggregate interhousehold transfers are

Table 3 Incidence of households sending and receiving voluntary interhousehold transfers and its average amount by household income group, 2008

Household income group	Donor		Receiver	
	Incidence	Median amount	Incidence	Median amount
	%	\$	%	\$
Bottom quartile	7.0	1,500 ^E	8.4	2,000 ^E
Second quartile	10.3	2,000	5.9	2,400 ^E
Third quartile	14.0	2,400	5.1	3,200 ^E
Top quartile	18.1	3,500	7.0	3,000 ^E
Total	12.3	2,400	6.6	2,500

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2008

Chart D Shares of voluntary interhousehold transfers sent and received by top and bottom half of income distribution and household net worth distribution

Note: SFS figures are for economic families (household-level figures are not available).
 Source: Statistics Canada, Survey of Financial Security (SFS), 2005.

received by households with income above the median than by households with wealth above the median.

Interhousehold transfers as a proportion of income

The size of interhousehold transfers in relation to the income of donating and recipient households is an indicator of the relative level of resources being transferred. The relative importance of the transfers would likely be greater for recipients than donors. Voluntary transfers have not been subtracted from the income of donors or added to the income of recipients in these calculations.

Among interhousehold transfer donors, the median household sent 3% of its household income (Table 4). Among all households that received such transfers, the median received an amount equivalent to 5% of its household income.

Most donors sent a relatively small portion of their household income as voluntary interhousehold transfers, with approximately four-fifths of donors sending less than 10%. However, a small number of donors (just under 2%) reported sending more than they earned in 2008. This small group of donors accounted for about 15% of the total value of voluntary interhousehold transfers in 2008.

Among recipients, approximately two-thirds of households reported receiving transfers equivalent to less than 10% of their household income. On the other hand, about 7% of all recipient households received transfers that were greater than their household income.¹³ The median ratio for households that received more than 100% of their household income was 3.2 times their household income. These transfers accounted for 37% of the value of voluntary interhousehold transfers received in 2008.

Summary

This paper examined the conceptual and measurement issues related to voluntary interhousehold transfers. Although international practice varies, both the Canberra Group (Canberra Group 2001) and the Seventeenth International Conference of Labour Statisticians (International Labour Organization 2004) recommended measuring and including both voluntary and involuntary interhousehold transfers in the definition of total income. Since 2006, Statistics Canada has been measuring both the voluntary and involuntary components of interhousehold transfers in a single survey. However, voluntary interhousehold transfers continue to be excluded from the definition of total income.

Table 4 Households that sent and received voluntary interhousehold transfers, by amount of voluntary interhousehold transfer in relation to household income, 2008

	House- holds	Median household income	Share of voluntary interhousehold transfers sent	Median ratio of voluntary interhousehold transfers to household income
	'000	\$	%	ratio
Donor				
All donor households	1,647	77,000	100.0	0.03
Sent less than 5% of household income	1,036	85,000	18.1	0.02
Sent 5% to 10% of household income	287	68,000	15.6	0.07
Sent 10% to 50% of household income	255	62,000	33.5	0.16
Sent 50% to 100% of household income	F	F	F	0.66
Sent more than 100% of household income	28 [†]	F	14.8 [†]	1.68 [†]
	House- holds	Median household income	Share of voluntary interhousehold transfers received	Median ratio of voluntary interhousehold transfers to household income
	'000	\$	%	ratio
Receiver				
All recipient households	880	53,000	100.0	0.05
Received less than 5% of household income	433	72,000	6.7	0.01
Received 5% to 10% of household income	129	46,000	6.4	0.07
Received 10% to 50% of household income	209	45,000	28.3	0.18
Received 50% to 100% of household income	47 [†]	F	F	0.86
Received more than 100% of household income	62 [†]	F	37.1 [†]	3.20 [†]

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2008

In 2008, the amount of voluntary interhousehold transfers received by Canadian households was twice the total value of alimony and child support payments. It is also in the same order of magnitude as some government transfer programs. Data indicate that both the incidence of transfers and total amount transferred increased substantially from 1998 to 2008.

Although the total amount transferred from donor to recipient households was fairly consistent across surveys, the estimated incidence of donations varied widely, ranging from 12% to 40%. Differing question sequences and treatment of non-response likely explain most of the discrepancy. A distributional analysis indicated that the Survey of Household Spending, the source of the 40% estimate, was much more likely to pick up small interhousehold transfers than the Survey of Labour and Income Dynamics and the Survey of Financial Security.

The incidence and amount of interhousehold donations increased with household income, with both more than doubling from the bottom to the top quartile. The incidence of transfer receipt varied much less by income quartile, with those in the bottom and top income quartiles more likely to receive transfers than those in the second and third quartiles.

Overall, donors sent a median of 3% of their income to other households, while recipients received a median transfer equivalent to 5% of their income. About 7% of recipients reported receiving transfers greater than their income. In addition, just under 2% of donors reported transferring more than their household income.

In summary, voluntary interhousehold transfers represent a sizeable flow of economic resources between households. A better understanding of the dynamics of such transfers would help provide a more complete picture of the economic well-being of households.

Perspectives

Table 5 Data availability on interhousehold transfers in four Statistics Canada surveys

	Survey of Labour and Income Dynamics	Survey of Household Spending	Survey of Financial Security 2005	Survey of Financial Security 1999
Reference period available	2006 ¹ to 2008	1998 ² to 2008	2005 for assets 2004 for income and transfers	1999 for assets 1998 for income and transfers
Voluntary interhousehold transfers	data availability			
Household/family count				
Sent	Yes ³	Yes ³	Yes ⁴	Yes ⁴
Received	Yes ³	Unable to disentangle	Yes ⁴	Yes ⁴
Dollar amount				
Sent	Yes ³	Yes ³	Yes ³	No
Received	Yes ³	Unable to disentangle	Yes ³	No
Other dimensions⁵				
Domestic/international transfer	Yes ³	Yes ⁴	No	No
Relationship with receiver/donor	No	No	No	Yes ⁴
Payment frequency	No	No	No	Yes ⁴
Counted as receiver/donor	Family members that live outside the household	Any persons that live outside the household	Family members that live outside the household	Family members that live outside the household
Unit of analysis	Households/ individual	Households	Economic families	Economic families
Alimony, separation allowance and child support payments⁶				
Dollar amounts sent	Yes ³	Yes ⁴	Yes ⁴	No
Dollar amounts received	Yes ³	Yes ⁴	Yes ⁴	No

1. SLID 2006 did not ask respondents age 66 and over questions about interhousehold transfers.

2. The 1997 SHS was not used, since involuntary interhousehold transfers such as alimony, separation allowance and child support payments were included as one question on interhousehold transfers.

3. Data that are available and used in this study.

4. Data available from surveys.

5. Listed for comparison.

6. Alimony, separation allowance and child support payments by court order or written agreement are considered involuntary interhousehold transfers and are included for comparison.

Sources: Statistics Canada, Survey of Labour and Income Dynamics (SLID); Survey of Household Spending (SHS); and Survey of Financial Security (SFS) questionnaires.

■ Notes

1. Based on calculations from the 2008 Survey of Labour and Income Dynamics.
2. As suggested in his concept of 'social income,' defined as the sum of a person's own income and the monetary value to him of the relevant characteristics of others (Becker 1974).
3. SLID has had data on alimony and child support payments since 1998.

4. Bootstrap weights developed by Statistics Canada for SLID have been applied for the measurement of variance and standard errors in the 2006, 2007 and 2008 Survey of Labour and Income Dynamics.
5. The sample size was reduced by 28% in 2008.
6. Before 1998, the question on voluntary interhousehold transfers was combined with the question on alimony, separation allowance and child support payments.

7. Bootstrap weights developed by Statistics Canada for the SHS from 2002 to 2008 have been applied for the measurement of variance and standard errors.
8. The information on assets, debts and net worth are based on data collected in the 2005 reference period. The income-related questions are based on 2004 data.
9. Bootstrap weights for the SHS have been applied for the available reference years.
10. Tests indicate that the volatility is concentrated at the top of the distribution. The increase over the period is similar in magnitude, but smoother, when the top 1%, 5% and 10% of remitters are trimmed.
11. The SLID income concept includes involuntary transfers like alimony and excludes voluntary transfers.
12. SFS figures are for economic families, as household-level figures are not available.
13. Voluntary interhousehold transfers with amounts over 100% of the recipient's household income may indicate a strong dependency on money sent by non-household members or capital transfers misreported by respondents.

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What's new?

Recent reports and studies

■ From Statistics Canada

■ *Apprenticeship programs: who continues, who quits*

Between 1995 and 2007, the number of registered apprentices increased by 120%. Yet, only 43% completed their training. Using the 2007 National Apprenticeship Survey, this study addressed some of the factors associated with the behaviours of Canadians in registered apprenticeship programs between 2002 and 2004.

Results indicate several factors negatively impact results, including the lack of consistency in program design, the lack of compulsory training or wage incentives in some trades, physical limitations, and the cost of programs to employers.

Factors contributing to graduation from apprentice to journeyman include being married, having fewer children, belonging to a union, having a high school education, and having a trained journeyman present during training.

For more information, see *The Completion of Registered Apprentices: Who Continues, Who Quits, and Who Completes Programs*, Analytical Studies Branch Research Paper Series, Statistics Canada, March 2011.

■ *Consumer Price Index*

Canadian Consumer prices rose 3.3% in the 12 months to March. The most significant contributors to the largest year-over-year increase since September 2008 were energy prices. Gasoline prices increased 18.9% in March, while prices for fuel oil and other fuels increased 31.3%. Electricity prices rose 4.3%.

Among the eight major components of the CPI, transportation had the largest increase as prices rose 6.6% in the 12 months to March, after advancing 5.1% in February.

Excluding energy, the the Consumer Price Index (CPI) rose 2.4% in the 12 months to March. Prices for food purchased from stores rose 3.7% in March, the largest year-over-year increase since August 2009. Other items bearing significant increases were travel services, clothing, and the purchase of passenger vehicles.

On a year-over-year basis, prices increased in all major components of the CPI in March. Except for alcoholic beverages and tobacco products, prices rose at a faster rate in March than in February.

For more information, see the April 19, 2011 issue of *The Daily* on Statistics Canada's website (www.statcan.gc.ca).

■ *Education following job loss*

The half-million Canadian job losses of the 2008 economic downturn renewed interest in the fate of displaced workers; this study uses the Longitudinal Worker File to look at the effectiveness of post-secondary training following job displacement on their earnings outcomes.

Workers who participated in post-secondary training within a year of job-loss had increased earnings of almost \$7,000 more than displaced workers who did not take similar training. Characteristics by sex, age, marital status, and union coverage indicate significant differences in benefits.

Despite the benefit of training on worker incomes, however, the study found that job displacement had only a modest effect on the uptake of post-secondary training for all groups examined.

For more information, see the *Long-term Earnings Impact of Post-secondary Education Following Job Loss* in the Analytical Studies Branch Research Paper Series, Statistics Canada, March 2011.

■ *Seeking success in Canada and the United States: children of immigrants*

This paper reviews recent research on the labour market outcomes of the children of immigrants in Canada and in the United States. The children of immigrants and the children of domestic-born parents represent a large portion of both countries' populations. In 2006, a third of the Canadian population was composed of immigrants or their children. In Toronto, they account for three-quarters of the population.

In both Canada and the United States, the labour market outcomes of the children of immigrants are equal to, or better than, those of children of domestic-born parents. Children of immigrants tend to have higher earnings and are more likely to be employed in professional occupations than their counterparts with domestic-born parents.

At the same time, there is considerable variation in outcomes by ethnic group or source region. Those from visible-minority groups tend to have higher education levels, which is reflected in more positive labour market outcomes. However, children whose parents came from developed European countries tend to do better in the labour market.

For more information, see *Seeking Success in Canada and the United States: The Determinants of Labour Market Outcomes Among the Children of Immigrants* in the Analytical Studies Branch Research Paper Series, Statistics Canada, March 2011.

■ *Working at home*

Using the General Social Survey from 2000 to 2008, this study looks at changes in the proportions of employees working at home. The characteristics of workers most likely to work at home and their reasons for this choice are addressed. In addition, the impact of the place of residence and distance from work is assessed on the incidence of working at home.

In general, the proportion of people working at home increased from 17% to 19%. This was a result of a slight increase for employees and a more substantial increase for the self-employed.

Characteristics of the employed and self-employed groups who worked at home differed. In 2008, the highest proportions of employees who worked at home include university graduates (22%), profession-

als (23%) and managers (23%). For the self-employed, women (67%), university graduates (69%), technical occupations and professionals (72%) had the largest proportions (71%).

Some of the most common reasons cited for working at home include job requirement (25% of employees), better working conditions (23%), and that home was their usual place of work (18%).

Finally, the farther away a person lives from work, the more likely he or she is to work at home. However, those who live outside urban areas are less likely to work at home.

For more details, see *Working at home: An update*, Canadian Social Trends, Statistics Canada, December 2010.

■ From other organizations

■ *Doing better for families*

Canada posted average scores across a set of key family indicators used by the Organization of Economic Cooperation and Development (OECD). Canadian fertility rates (1.7%), gender pay gaps (20%), and child poverty (15%) are close to the OECD average. However, formal childcare enrollment lags at 40% compared to the average of 56%.

Poverty rates are produced for all OECD countries, and employment is found to be negatively-related to the incidence of poverty.

For more on this subject, see *Doing Better for Families*, at www.oecd.org/social/family/doingbetter.

■ *Persistence of high unemployment*

The average unemployment rate across OECD countries remains near the historical peak reached during the recent recession. Persistently high levels of unemployment is a main concern of countries that were most severely affected by the downturn as it can lead to widespread deterioration of human capital, discouragement, and labour market withdrawal.

Those at greatest risk are the young and low-skilled. This report discusses the role of policies in accelerating the return to work. Unemployment insurance, training, and employment protection regulations are also addressed.

This study can be found in the *OECD Economic Outlook*, Volume 2011/1, May 2011.

■ *Unpaid work around the world*

Unpaid work refers to goods and services produced by family members that is not sold on the market. Time-use surveys across OCED countries are used to shed light on the importance of unpaid work as a well-being indicator.

In general, people across OECD countries average 3.4 hours of unpaid work per day which represents 14% of their day. Canada falls within this average. In terms of both paid and unpaid work, people spend about one-third of their time working.

Routine household work such as cooking, cleaning, gardening, and home maintenance dominate unpaid work. On average, people spend two hours and eight minutes per day on housework. Canada comes in just under that at 2 hours.

Men and women do different types of unpaid work. Nevertheless, women in all countries continue to do more unpaid work than men, while men tend to do more market work.

For more on this subject, go to www.oecd.org/els/social/indicators/SAG.

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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 % 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.

■ Immigrant self-employment

This study traces trends in self-employment among immigrants and the Canadian-born, using census and Labour Force Survey data. Differing attitudes of immigrants and natives towards self-employment are highlighted with data from the 2000 Survey of Self-employment.

■ Immigrant educational outcomes

Making use of longitudinal administrative data, this study compares the labour market outcomes of immigrants who have studied in Canada since their arrival with other immigrants who have not undertaken such studies.

■ Income with savings and spending among the self-employed

Using several data sources, this article examines various income, wealth and spending indicators among the self-employed and compares them with the same indicators for paid employees.

■ Working low-income families

Using the 2009 Canadian Financial Capabilities Survey, this study examines the financial situation of employed families living in low income and compares it with non-employed families living in low income and employed families not living in low income.

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Work absences in 2010

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

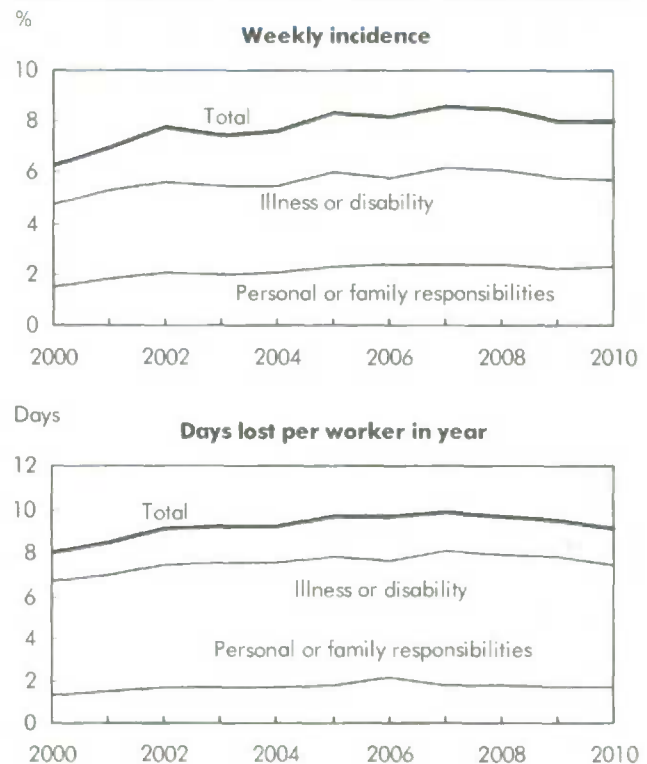
Absenteeism, a term used to refer to absences that are avoidable, habitual and unscheduled, is a source of irritation to employers and co-workers. Such absences are disruptive to proper work scheduling and output, and costly to organizations and the economy as a whole. Although absenteeism is widely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

Recent trends—2000 to 2010

In the first half of the decade, both the incidence and the number of days lost for personal reasons (illness or disability, and personal or family responsibilities) trended upwards. In the latter half of the decade, the rates were flat or declined slightly. As a result, absence rates were somewhat higher in 2010 than in 2000.

In an average week in 2000, excluding women on maternity leave,¹ 6.3% of all full-time employees holding one job were absent from work for all or part of the week for personal reasons. By 2010, the figure had risen to 8.0% (879,000) (Table 1). Total work time missed also rose, from 3.2% of the scheduled week in 2000 to 3.6% in 2010; this was slightly down from 2009. Extrapolated over the full year, work time lost for personal reasons increased from the equivalent of 8.0 days per worker in 2000 to 9.1 days in 2010.

Chart Work absence rates, 2000 to 2010



Source: Statistics Canada, Labour Force Survey.

Variations in absence rates in 2010

Absence for personal reasons differs among various worker groups. Several factors are responsible, principally working conditions (physical environment, degree of job stress, employer-employee relations, collective agreement provisions and work schedules); adequacy and affordability of community facilities like child care centres and public transportation; family circumstances, especially the presence of preschool children or other dependent family members; and physical health of the worker, a factor closely related to age. Measuring the effects of these and other contributing factors is not easy since many are not captured by the LFS. However, some insight is gained

by examining personal absences in 2010 by selected demographic characteristics, occupation and industry, and other attributes like union and job status.

Demographic differences

In 2010, excluding women on maternity leave and men on parental leave, an estimated 8.0% of full-time employees missed some work each week for personal reasons: 5.7% for own illness or disability, and 2.3% for personal or family responsibilities (Table 2). As a result, full-time employees lost 3.6% of their work time each week.

On average, each full-time employee lost 9.1 days in 2010 for personal reasons (7.4 for own illness or disability plus 1.7 for personal or family demands). This amounted to an estimated 100 million work days for all full-time employees. Men lost fewer days than women—7.6 (6.2 for illness or disability plus 1.4 for personal or family demands) versus 11.0 (8.9 plus 2.1).

The presence of preschool-age children exerts a strong influence on work absences for personal or family responsibilities. In 2010, full-time employees in families with at least one preschool-age child lost an average of 3.1 days, compared with only 1.4 for those in families without children.

Work days missed because of illness or disability tended to rise with age, from an average of 4.7 days for youth (15 to 19) to 11.2 for full-time employees age 55 to 64.

Industry and sector

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

Full-time employees in the public sector (more likely unionized or female) lost more work time (11.8 days) in 2010 for personal reasons than their private-sector counterparts (8.2 days).

At the major (2-digit) industry level, the most work days were missed by employees in health care and social assistance (13.4 days), public administration (11.8) and transportation and warehousing (10.8).

The lowest averages were recorded by full-time workers in professional, scientific and technical services (5.4), primary industries (7.0) and construction (7.3).

Occupation

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

The most days lost in 2010 were recorded for full-time employees in health occupations (13.9) and occupations unique to production (11.1). Workers in management (5.8), natural and applied sciences (6.5), and culture and recreation (6.7) recorded the fewest days lost.

Union coverage, job status, workplace size and job tenure

Full-time workers who belonged to unions or were covered by collective agreements missed more work days on average in 2010 for personal reasons than their non-unionized counterparts (12.9 versus 7.3) (Table 5).

Workers with permanent jobs (more likely to be unionized) lost more work days (9.3) than those whose jobs were not permanent (6.7).

Days lost tended to rise with workplace size, increasing from a low of 7.3 in workplaces with fewer than 20 employees (firms more likely to have low union rates) to 11.1 in workplaces with more than 500 employees (firms likely to have high union rates).

Days lost tended to rise with job tenure, with almost all the differences arising from illness and disability. Employees with tenure of up to one year lost 6.2 days, while those with over 14 years lost 11.3 days (the latter group was also likely older).

Province and CMA

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

Full-time employees in Newfoundland and Labrador (11.0) lost the most work time in 2010, followed by those in New Brunswick, Quebec and Manitoba (10.4 each). Those in Alberta (8.1) and Ontario (8.2) lost the least.

Data source and definitions

The data in this article are *revised*⁶ annual averages from the **Labour Force Survey** (LFS). They refer to full-time employees holding only one job. Part-time, self-employed and unpaid family workers are excluded because they generally have more opportunities to arrange their work schedules around personal or family responsibilities. Multiple job holders, too, are excluded because it is not possible, using LFS data, to allocate time lost, or the reason for it, to specific jobs. Women on maternity leave are also excluded. However, men using paid paternity (in Quebec only) and parental leave are included in the calculation until 2006.

Some human resource practitioners exclude persons on long-term illness or disability leave (exceeding one year) from their attendance management statistics. Such persons are, however, included in Statistics Canada's work absence estimates if they count themselves as employed (that is, they continue to receive partial or full pay from their employers). In 2010, the number of employed persons on such long-term illness or disability leave averaged 28,100 in a typical week. Their exclusion would have reduced the weekly work absence incidence for illness or disability from 5.7% to 5.4%, the inactivity rate from 2.9% to 2.7%, and days lost per worker that year from 7.4 to 6.7.

Personal reasons for absence are split into two categories: 'own illness or disability' and 'personal or family responsibilities' (caring for own children, caring for elder relative, and other personal or family responsibilities). Absences for these two types of reasons represented 27% of all time lost by full-time paid workers each week in 2010. Vacations, which accounted for 40% of total time away from work, are not counted in this article, nor are statutory holidays, which represented 15%. Maternity/parental leave represented 12% and other reasons, 6%. The **incidence of absence** is the percentage of full-time paid workers reporting some absence in the reference week. In calculating

incidence, the length of work absence—whether one hour, one day, or one full week—is irrelevant.

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

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

Reasons for work absences in the LFS

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

- own illness or disability
- caring for own children
- caring for elder relative (60 years or over)
- maternity leave (women only)
- parental leave (men only and starting in 2007)
- other personal or family responsibilities
- vacation
- labour dispute (strike or lockout)
- temporary layoff due to business conditions
- holiday (legal or religious)
- weather
- job started or ended during week
- working short time (for example, because of material shortages, or plant maintenance or repair)
- other

Personal or family responsibilities include caring for own children, caring for elder relative, and other personal or family responsibilities.

Among the census metropolitan areas, Gatineau (12.9), Thunder Bay (11.5) and Sherbrooke (11.4) lost the most days per full-time worker. Calgary (7.1), Toronto (7.2) and Saskatoon (7.7) lost the least.

Perspectives

For further information, contact Sharanjit Uppal, Labour Statistics Division. He can be reached at 613-951-3887 or sharanjit.uppal@statcan.gc.ca.

Notes

1. Exclusion of maternity leave started in 1997 with the introduction of the revised Labour Force Survey questionnaire.
2. A standard revision has been applied to Labour Force Survey (LFS) estimates, as announced in *The Daily* on January 28, 2011. Beginning with this release, historical comparisons of work absence estimates produced by the LFS must be made with revised historical data. For an overview of these changes, see *Improvements to the Labour Force Survey (LFS) – 2011: The 2011 Revisions of the Labour Force Survey (LFS)* (<http://www.statcan.gc.ca/pub/71f0031x/71f0031x2011001-eng.pdf>).

Table 1 Absence rates for full-time employees by sex, 2000 to 2010¹

	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Both sexes									
2000	6.3	4.8	1.5	3.2	2.7	0.5	8.0	6.7	1.3
2001	7.0	5.3	1.8	3.4	2.8	0.6	8.5	7.0	1.5
2002	7.8	5.6	2.1	3.6	3.0	0.7	9.1	7.4	1.7
2003	7.5	5.5	2.0	3.7	3.0	0.7	9.2	7.5	1.7
2004	7.6	5.5	2.1	3.7	3.0	0.7	9.2	7.5	1.7
2005	8.3	6.0	2.3	3.9	3.1	0.7	9.7	7.8	1.8
2006	8.2	5.8	2.4	3.9	3.0	0.9	9.7	7.6	2.1
2007	8.6	6.2	2.4	4.0	3.2	0.7	9.9	8.1	1.8
2008	8.5	6.1	2.4	3.9	3.2	0.7	9.7	7.9	1.8
2009	8.0	5.8	2.2	3.8	3.1	0.7	9.5	7.8	1.7
2010	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Men									
2000	5.5	4.1	1.4	2.8	2.4	0.4	7.0	5.9	1.1
2001	6.1	4.6	1.6	3.1	2.5	0.5	7.6	6.4	1.3
2002	6.7	4.8	1.9	3.2	2.6	0.6	8.0	6.5	1.6
2003	6.5	4.7	1.8	3.3	2.6	0.6	8.2	6.6	1.5
2004	6.6	4.6	2.0	3.2	2.6	0.7	8.0	6.4	1.6
2005	7.2	5.2	2.1	3.4	2.7	0.7	8.6	6.9	1.7
2006	7.2	5.1	2.1	3.5	2.7	0.8	8.7	6.7	1.9
2007	7.3	5.2	2.1	3.3	2.7	0.6	8.4	6.8	1.6
2008	7.3	5.1	2.2	3.3	2.7	0.6	8.2	6.7	1.6
2009	6.8	4.9	1.9	3.2	2.6	0.6	8.1	6.6	1.5
2010	6.7	4.7	2.0	3.1	2.5	0.6	7.6	6.2	1.4
Women									
2000	7.5	5.7	1.8	3.8	3.2	0.6	9.4	7.9	1.5
2001	8.2	6.2	2.0	3.9	3.2	0.7	9.8	8.0	1.8
2002	9.2	6.7	2.4	4.3	3.5	0.8	10.7	8.7	1.9
2003	8.9	6.6	2.3	4.3	3.5	0.8	10.7	8.8	1.9
2004	8.9	6.6	2.3	4.3	3.6	0.7	10.9	9.0	1.9
2005	9.6	7.0	2.6	4.5	3.7	0.8	11.2	9.2	2.0
2006	9.5	6.8	2.7	4.5	3.5	1.0	11.2	8.8	2.4
2007	10.3	7.5	2.8	4.8	4.0	0.9	12.0	9.9	2.1
2008	10.2	7.3	2.8	4.7	3.8	0.9	11.8	9.6	2.2
2009	9.5	7.0	2.5	4.5	3.7	0.8	11.4	9.3	2.0
2010	9.6	6.9	2.7	4.4	3.6	0.8	11.0	8.9	2.1

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.

Table 2 Absence rates for full-time employees by sex, age, education and presence of children, 2010¹

	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Age									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
15 to 19	6.0	4.4	1.7	2.4	1.9	0.5	5.9	4.7	1.2
20 to 24	6.5	4.5	1.9	2.4	1.8	0.5	6.0	4.6	1.4
25 to 34	7.9	5.3	2.6	3.0	2.3	0.8	7.6	5.7	1.9
35 to 44	8.2	5.6	2.7	3.5	2.7	0.8	8.7	6.8	2.0
45 to 54	7.9	5.9	2.0	3.9	3.3	0.6	9.8	8.4	1.5
55 to 64	9.0	7.0	2.0	5.1	4.5	0.6	12.8	11.2	1.6
65 and over	8.0	5.9	2.1	5.1	4.2	0.9	12.6	10.5	2.1
Men	6.7	4.7	2.0	3.1	2.5	0.6	7.6	6.2	1.4
15 to 19	5.7	4.2	1.6	2.3	1.9	0.5	5.9	4.7	1.1
20 to 24	5.9	4.0	1.8	2.2	1.7	0.5	5.5	4.2	1.3
25 to 34	6.4	4.2	2.2	2.4	1.7	0.6	5.9	4.3	1.6
35 to 44	6.8	4.6	2.2	2.9	2.3	0.6	7.2	5.7	1.5
45 to 54	6.4	4.7	1.7	3.2	2.7	0.5	8.0	6.7	1.2
55 to 64	8.0	6.3	1.7	4.7	4.3	0.5	11.9	10.6	1.2
65 and over	8.0	5.9	2.1	5.2	4.3	0.9	13.1	10.8	2.3
Women	9.6	6.9	2.7	4.4	3.6	0.8	11.0	8.9	2.1
15 to 19	6.5	4.7	1.8	2.4	1.9	0.6	6.1	4.7	1.4
20 to 24	7.3	5.2	2.1	2.7	2.1	0.6	6.6	5.1	1.5
25 to 34	9.9	6.7	3.2	4.0	3.0	0.9	9.9	7.6	2.4
35 to 44	10.0	6.8	3.2	4.3	3.3	1.0	10.7	8.2	2.5
45 to 54	9.5	7.2	2.3	4.8	4.1	0.7	12.1	10.3	1.8
55 to 64	10.1	7.8	2.3	5.6	4.8	0.8	14.1	12.0	2.1
65 and over	8.0	6.0	F	4.7	4.0	F	11.8	9.9	F
Educational attainment									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Less than grade 9	9.0	7.0	2.0	5.4	4.7	0.7	13.5	11.8	1.8
Some high school	8.5	6.3	2.2	4.4	3.7	0.7	11.0	9.3	1.7
High school graduation	7.8	5.8	2.0	3.8	3.2	0.6	9.6	8.0	1.6
Some postsecondary	8.2	6.0	2.2	3.8	3.2	0.6	9.5	8.0	1.6
Postsecondary certificate or diploma	8.4	5.9	2.5	3.9	3.1	0.7	9.7	7.9	1.8
University degree	7.2	4.8	2.4	2.8	2.1	0.7	6.9	5.1	1.7
Presence of children									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
With children	8.4	5.5	2.9	3.6	2.8	0.8	9.1	7.0	2.1
Preschoolers under 5 years	9.7	5.5	4.2	3.8	2.5	1.3	9.5	6.3	3.1
5 to 12 years	8.3	5.5	2.7	3.5	2.7	0.7	8.7	6.9	1.8
13 years and over	7.6	5.6	2.0	3.7	3.0	0.6	9.1	7.6	1.6
Without children	7.7	5.8	1.9	3.6	3.1	0.6	9.1	7.6	1.4

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.

Table 3 Absence rates for full-time employees by industry and sector, 2010¹

	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
All industries	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Public employees	10.2	7.5	2.7	4.7	3.9	0.8	11.8	9.7	2.0
Private employees	7.3	5.1	2.2	3.3	2.6	0.6	8.2	6.6	1.6
Goods-producing	7.2	5.0	2.3	3.4	2.7	0.6	8.5	6.9	1.6
Primary	5.6	3.4	2.2	2.8	2.0	0.7	7.0	5.1	1.9
Agriculture	6.5	3.2	3.3	2.9	1.9	1.0	7.3	4.7	2.6
Other	5.4	3.5	1.9	2.7	2.1	0.7	6.9	5.2	1.7
Utilities	7.2	4.9	2.3	3.5	2.8	0.7	8.7	7.0	1.6
Construction	6.6	4.3	2.2	2.9	2.3	0.7	7.3	5.7	1.6
Manufacturing	8.0	5.7	2.3	3.8	3.2	0.6	9.5	7.9	1.5
Durable	8.0	5.6	2.4	3.7	3.0	0.7	9.2	7.5	1.7
Non-durable	7.9	5.8	2.1	4.0	3.4	0.5	9.9	8.5	1.4
Service-producing	8.2	5.9	2.3	3.7	3.0	0.7	9.3	7.5	1.7
Trade	7.1	5.1	2.0	3.2	2.6	0.6	8.1	6.6	1.5
Wholesale	6.6	4.6	2.1	2.8	2.3	0.5	7.0	5.6	1.3
Retail	7.3	5.3	1.9	3.4	2.8	0.6	8.6	7.0	1.6
Transportation and warehousing	7.5	5.9	1.7	4.3	3.8	0.5	10.8	9.5	1.3
Finance, insurance, real estate and leasing	7.4	5.2	2.3	3.2	2.5	0.7	8.0	6.3	1.6
Finance and insurance	7.6	5.3	2.2	3.3	2.6	0.6	8.2	6.6	1.6
Real estate and leasing	6.9	4.6	2.4	3.0	2.2	0.7	7.4	5.6	1.8
Professional, scientific and technical	6.7	4.1	2.6	2.2	1.5	0.7	5.4	3.8	1.6
Business, building and support services	9.0	6.8	2.2	4.1	3.5	0.6	10.4	8.8	1.6
Educational services	9.2	6.5	2.7	3.8	3.0	0.8	9.5	7.5	2.0
Health care and social assistance	10.2	7.8	2.4	5.3	4.5	0.9	13.4	11.2	2.2
Information, culture and recreation	7.4	5.3	2.1	3.0	2.5	0.5	7.6	6.3	1.3
Accommodation and food services	6.2	4.4	1.9	3.2	2.5	0.7	8.0	6.2	1.8
Other services	6.4	4.2	2.2	2.5	2.0	0.5	6.3	4.9	1.4
Public administration	11.2	7.9	3.2	4.7	3.8	0.9	11.8	9.5	2.4
Federal	13.5	9.2	4.3	5.3	4.1	1.2	13.3	10.2	3.1
Provincial	10.6	7.9	2.7	4.8	4.0	0.8	12.0	10.0	2.0
Local, other	8.4	6.1	2.3	3.8	3.2	0.7	9.6	7.9	1.7

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.

Table 4 Absence rates for full-time employees by occupation, 2010¹

	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
		%			%		days		
All occupations	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Management	5.6	3.8	1.8	2.3	1.8	0.5	5.8	4.5	1.3
Business, finance and administrative	9.1	6.3	2.9	3.8	3.1	0.8	9.5	7.6	1.9
Professional	7.2	4.7	2.5	2.8	2.2	0.6	7.1	5.5	1.6
Financial and administrative	9.1	5.9	3.3	3.6	2.8	0.8	9.0	7.0	2.0
Clerical	9.7	6.9	2.8	4.2	3.4	0.8	10.6	8.6	2.0
Natural and applied sciences	7.3	4.7	2.6	2.6	1.9	0.7	6.5	4.8	1.7
Health	10.2	7.9	2.3	5.6	4.7	0.9	13.9	11.8	2.2
Professional	6.0	3.9	2.1	2.4	1.9	0.5	6.0	4.8	1.2
Nursing	10.8	8.9	1.9	6.3	5.5	0.9	15.8	13.7	2.1
Technical	10.1	7.5	2.6	5.0	4.0	1.0	12.6	10.1	2.5
Support staff	11.2	8.8	2.4	6.5	5.6	0.9	16.3	14.0	2.3
Social and public service	9.1	6.4	2.6	3.7	2.9	0.8	9.2	7.3	1.9
Legal, social and religious	9.3	6.7	2.6	3.9	3.2	0.7	9.7	7.9	1.8
Teachers and professors	8.8	6.2	2.7	3.5	2.7	0.8	8.7	6.7	2.0
High school and elementary	10.2	7.3	3.0	4.0	3.1	1.0	10.0	7.7	2.4
Other	5.3	3.4	1.9	2.3	1.8	0.5	5.7	4.5	1.2
Culture and recreation	8.0	5.2	2.9	2.7	2.0	0.7	6.7	4.9	1.8
Sales and service	7.2	5.4	1.8	3.7	3.1	0.6	9.3	7.7	1.6
Wholesale	6.4	4.2	2.2	2.6	2.0	0.6	6.5	5.0	1.5
Retail	7.2	5.4	1.8	3.6	2.9	0.7	9.1	7.3	1.8
Food and beverage	6.2	4.4	1.8	3.3	2.6	0.7	8.2	6.4	1.8
Protective services	7.7	6.4	1.2	4.5	4.0	0.5	11.2	9.9	1.2
Childcare and home support	9.7	6.6	3.1	4.2	3.1	1.2	10.6	7.7	2.9
Travel and accommodation	7.7	6.1	1.7	4.2	3.6	0.6	10.5	9.1	1.5
Trades, transport and equipment operators	7.5	5.4	2.1	3.7	3.1	0.6	9.3	7.8	1.5
Contractors and supervisors	6.1	3.9	2.2	2.6	2.0	0.6	6.4	5.0	1.4
Construction trades	7.3	5.1	2.2	3.4	2.7	0.7	8.5	6.8	1.7
Other trades	7.3	5.1	2.2	3.4	2.8	0.6	8.5	7.0	1.5
Transport equipment operators	7.5	5.8	1.7	4.6	4.0	0.6	11.4	10.0	1.4
Helpers and labourers	8.8	6.4	2.4	4.0	3.4	0.6	10.0	8.5	1.5
Occupations unique to primary industry	5.9	3.7	2.2	3.1	2.3	0.8	7.7	5.7	2.0
Occupations unique to production	8.8	6.6	2.2	4.5	3.8	0.6	11.1	9.6	1.5
Machine operators and assemblers	8.7	6.4	2.3	4.4	3.7	0.6	10.9	9.3	1.6
Labourers	9.5	7.9	1.6	4.9	4.4	0.4	12.2	11.1	1.1

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.

Table 5 Absence rates for full-time employees by workplace size, job tenure, job status and union coverage, 2010¹

	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities	Total	Own illness or disability	Personal or family responsibilities
	%			%			days		
Workplace size									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Under 20 employees	6.7	4.5	2.2	2.9	2.3	0.7	7.3	5.6	1.7
20 to 99 employees	8.1	5.8	2.3	3.6	2.9	0.7	9.0	7.3	1.7
100 to 500 employees	8.7	6.5	2.2	4.2	3.5	0.7	10.5	8.8	1.7
Over 500 employees	9.2	6.7	2.5	4.4	3.7	0.8	11.1	9.2	1.9
Job tenure									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
1 to 12 months	6.6	4.4	2.2	2.5	1.8	0.6	6.2	4.6	1.6
Over 1 to 5 years	7.6	5.4	2.2	3.3	2.7	0.7	8.3	6.7	1.6
Over 5 to 9 years	8.5	5.8	2.7	3.8	2.9	0.8	9.4	7.4	2.0
Over 9 to 14 years	8.8	6.3	2.5	4.3	3.6	0.7	10.8	8.9	1.9
Over 14 years	8.7	6.6	2.1	4.5	3.9	0.6	11.3	9.7	1.6
Job status									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Permanent	8.1	5.8	2.3	3.7	3.1	0.7	9.3	7.6	1.7
Non-permanent	6.5	4.3	2.2	2.7	2.0	0.7	6.7	4.9	1.8
Union coverage									
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Union member or covered by collective agreement	10.3	7.8	2.5	5.2	4.4	0.8	12.9	10.9	2.0
Non-unionized	6.8	4.6	2.2	2.9	2.3	0.6	7.3	5.7	1.6

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.

Table 6 Absence rates for full-time employees by province, region and census metropolitan area (CMA), 2010¹

Province and region	Incidence ²			Inactivity rate ³			Days lost per worker in year ⁴		
	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities	Total	Illness or disability	Personal or family responsibilities
	%			%			days		
Both sexes	8.0	5.7	2.3	3.6	2.9	0.7	9.1	7.4	1.7
Atlantic	8.4	6.2	2.2	4.1	3.4	0.6	10.2	8.6	1.6
Newfoundland and Labrador	8.4	6.2	2.3	4.4	3.7	0.7	11.0	9.2	1.8
Prince Edward Island	7.6	5.2	2.4	3.7	3.0	0.7	9.2	7.4	1.8
Nova Scotia	8.4	6.1	2.3	3.9	3.3	0.7	9.8	8.1	1.7
New Brunswick	8.5	6.4	2.1	4.2	3.6	0.5	10.4	9.1	1.3
Quebec	8.6	6.2	2.4	4.2	3.6	0.6	10.4	8.9	1.5
Ontario	7.6	5.2	2.4	3.3	2.5	0.7	8.2	6.3	1.9
Prairies	8.0	5.6	2.4	3.5	2.7	0.8	8.8	6.9	1.9
Manitoba	9.1	6.5	2.6	4.1	3.4	0.8	10.4	8.5	1.9
Saskatchewan	8.6	6.0	2.6	3.9	3.0	0.8	9.6	7.6	2.0
Alberta	7.5	5.2	2.2	3.2	2.5	0.7	8.1	6.2	1.9
British Columbia	7.6	5.8	1.8	3.7	3.2	0.6	9.3	7.9	1.4
All CMAs	7.9	5.6	2.3	3.4	2.8	0.7	8.6	7.0	1.7
St. John's	9.3	6.4	2.9	4.3	3.5	0.8	10.9	8.8	2.0
Halifax	8.7	6.3	2.4	3.8	3.1	0.7	9.4	7.7	1.7
Saint John	8.4	6.4	2.0	4.1	3.6	0.5	10.3	9.0	1.3
Moncton	8.1	5.9	2.2	3.5	2.9	0.6	8.8	7.4	1.4
Saguenay	7.9	5.7	F	4.0	3.5	F	9.9	8.6	F
Québec	8.5	6.3	2.2	3.9	3.4	0.5	9.8	8.5	1.3
Montréal	8.4	6.1	2.3	3.8	3.2	0.6	9.5	8.1	1.4
Trois-Rivières	7.6	5.8	F	3.6	3.3	F	9.1	8.1	F
Sherbrooke	8.3	6.2	F	4.6	4.0	F	11.4	10.0	F
Gatineau	12.4	8.7	3.6	5.2	4.2	1.0	12.9	10.4	2.5
Ottawa	9.9	6.4	3.5	3.5	2.6	0.9	8.7	6.4	2.3
Kingston	9.0	6.1	F	3.8	2.9	F	9.5	7.3	F
Barrie	8.7	6.2	2.5	3.8	3.1	0.6	9.4	7.9	1.6
Brantford	7.4	5.1	F	3.2	2.4	F	8.0	5.9	F
Greater Sudbury/Grand Sudbury	8.0	5.5	F	3.4	2.7	F	8.6	6.9	F
Peterborough	8.5	5.4	F	3.8	2.9	F	9.5	7.2	F
Guelph	8.4	5.9	F	4.2	3.3	F	10.4	8.2	F
Toronto	7.0	4.8	2.2	2.9	2.2	0.7	7.2	5.4	1.8
Hamilton	7.3	5.3	2.0	3.5	3.0	0.6	8.8	7.4	1.4
St. Catharines-Niagara	7.5	5.4	2.1	3.7	3.1	0.7	9.4	7.6	1.7
London	7.9	5.9	2.0	3.5	3.0	0.5	8.8	7.6	1.3
Windsor	7.0	4.7	2.3	3.3	2.5	0.8	8.3	6.2	2.1
Kitchener-Waterloo	7.8	5.4	2.4	3.2	2.6	0.7	8.1	6.5	1.7
Oshawa	7.5	5.2	2.3	3.2	2.6	0.7	8.1	6.4	1.7
Thunder Bay	9.6	7.1	F	4.6	3.9	F	11.5	9.8	F
Winnipeg	9.3	6.8	2.5	4.1	3.4	0.7	10.3	8.6	1.7
Regina	9.0	6.5	2.5	3.7	3.0	0.7	9.2	7.4	1.8
Saskatoon	7.3	5.3	2.0	3.1	2.5	0.5	7.7	6.3	1.4
Calgary	6.9	4.9	2.0	2.8	2.2	0.6	7.1	5.5	1.6
Edmonton	8.3	5.9	2.4	3.5	2.8	0.8	8.8	6.9	1.9
Abbotsford	7.5	5.9	F	3.7	3.0	F	9.2	7.6	F
Vancouver	7.1	5.5	1.6	3.4	2.9	0.5	8.5	7.3	1.2
Victoria	9.2	6.7	2.5	4.2	3.4	0.8	10.6	8.6	2.0
Non-CMAs	8.2	5.7	2.5	4.1	3.4	0.8	10.3	8.4	1.9
Population centres	8.2	6.0	2.2	4.0	3.4	0.7	10.1	8.4	1.7

1. Excluding maternity leave. However, men on paid paternity (in Quebec only) or parental leave are included in the calculation until 2006.

2. Absent workers divided by total.

3. Hours absent divided by hours usually worked.

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

Source: Statistics Canada, Labour Force Survey.



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