

Catalogue no. 75-001-XPE

# PERSPECTIVES

## ON LABOUR AND INCOME

**SPRING 2010**

Vol. 22, No. 1

- Canada's employment downturn
- Immigrant low-income rates: The role of market income and government transfers
- The financial impact of student loans
- Employer top-ups
- Immigrants working in regulated occupations



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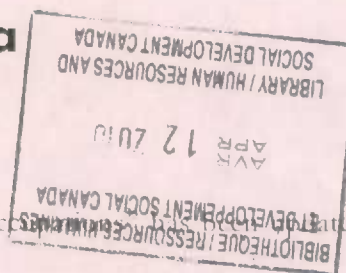
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# Errata



## Note to readers

The print version of "Immigrants working in regulated occupations" has been updated with revised data. The following table and figures have been changed:

- Table 3
- Two percentages appearing in the article pertaining to Table 3 (referring to dentists and teaching)

**Table 3 Match rates of employed foreign-educated immigrants working in the corresponding occupation, by immigrant type**

	Canadian-born		Foreign-educated immigrants	
	Total	Match rate	Total	Match rate
		%		%
Field of study	937,050	62	284,080	24
Chiropractics	5,745	87	345	84
Occupational therapy	9,345	82	560	65
Medicine	31,040	92	12,865	56
Nursing	78,880	73	13,150	56
Pharmacy	18,760	84	6,020	45
Physiotherapy	12,310	82	2,165	44
Dentistry	10,465	90	3,750	44
Optometry	2,760	95	340	38
Veterinary medicine	6,580	83	2,225	29
Architecture	13,860	56	7,695	26
Accounting	85,410	50	29,445	24
Teaching	408,795	62	35,860	20
Diet/Nutrition	3,225	60	435	20
Engineering	167,260	42	157,930	19
Law	82,615	69	11,295	12

Source: Statistics Canada, Census of Population, 2006.

Among the health professions, veterinary medicine had one of the lowest match rates for immigrants—29%, compared to 83% for the Canadian-born. Of the Canadian-born who studied dentistry, 90% worked as dentists compared to 44% of immigrants.

The match rate also varied by regulated occupation for which an individual had studied. Immigrants with fields of study in health professions had higher match rates than those who studied to be teachers, engineers and lawyers. While match rates for foreign-educated doctors and nurses were both 56%, the rate was much lower for those who studied teaching (20%), and was lower still for those who studied engineering (the most common field of study among foreign-educated immigrants) at 19%. Immigrants who were law graduates had the lowest match rate of all fields of study at 12%.





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## 5 Canada's employment downturn

*Sébastien LaRochelle-Côté and Jason Gilmore*

The Canadian labour market recently experienced its worst downturn since the recession of the early 1990s. Since employment last peaked in October 2008, employment declined by 2.3%, or 400,000 individuals. This article uses data from the Labour Force Survey to examine changes in employment levels from October 2008 to October 2009 across a variety of personal and job characteristics. Comparisons are also made with earlier recessions and the U.S. labour market.

## 13 Immigrant low-income rates: The role of market income and government transfers

*Garnett Picot, Yuqian Lu and Feng Hou*

The decline in earnings among immigrants over the past quarter century is well-documented, but its impact on various segments of the immigrant population is less well-known. This study examines long-term trends in the incidence of low income among working-age immigrants, immigrant seniors and the children of immigrants. The study looks at two main factors that contribute to the incidence of low income: market income and government transfers.

## 29 The financial impact of student loans

*May Luong*

The student borrowing rate among postsecondary graduates increased between 1995 and 2005, with borrowers differing little from non-borrowers in terms of employment rates and total personal income. However, borrowers were less likely to have savings or investments, or own their own homes. Total debt for borrower and non-borrower graduates age 20 to 29 was similar, while borrowers had lower assets and net worth than non-borrowers.

**Perspectives on Labour and Income** (Catalogue no. 75-001-X) is also available in French: *L'emploi et le revenu en perspective*, n° 75-001-XPF (au catalogue) is published quarterly by authority of the Minister responsible for Statistics Canada. ©Minister of Industry 2010. ISSN: 0840-8750.

PRICE: CAN \$20.00 per issue, CAN \$63.00 for a one-year subscription.

## Shipping charges outside Canada:

	Single issue	Annual subscription
United States	CAN \$ 6.00	CAN \$24.00
Other countries	CAN \$10.00	CAN \$40.00

All prices exclude sales taxes.

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Indexed in the *Canadian Index*, *Canadian Periodical Index*, *P.A.I.S. International*, *Sociological Abstracts*, *Econlit*, *Canadian Business and Current Affairs* and *Employee Benefits InfoSource*. Also indexed in French in *L'Index de l'Actualité* and *Point de Repère*.

# PERSPECTIVES

ON LABOUR AND INCOME

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- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

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## 43 Employer top-ups

Katherine Marshall

To compensate for earnings lost by employees on leave, some employers provide parents with a Supplemental Unemployment Benefit (SUB), also known as a top-up. The SUB is a government initiative that employers use as a means of reducing the net earnings loss of their employees on leave. This article examines who is likely to receive a top-up and whether the benefit influences mothers' return-to-work behaviour.

## 51 Immigrants working in regulated occupations

Danielle Zietsma

This study focuses on university graduates whose studies would normally lead to employment in a regulated occupation such as medicine, law or education. It uses the 2006 Census to compute the proportion—or match rates—of such graduates working in the occupations for which they studied. The match rates for immigrants are then compared to similar groups of the Canadian-born. The study also compares the types of jobs held by immigrants and the Canadian-born not working in occupations for which they studied.

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## Perspectives on Labour and Income

*The quarterly for labour market and income information*

# Highlights

*In this issue*

## ■ Canada's employment downturn

... p. 5

- Since employment last peaked in October 2008, employment declined by 2.3%, or 400,000 individuals. Losses were concentrated among low-pay and short-tenure jobs, recent immigrants, youth, workers with lower levels of education, and lone mothers.
- Employment also fell for those in the manufacturing sector, in permanent positions, and for those with longer hours.
- Employment declined faster during the first few months of the downturn than in previous recessions, but employment levels stabilized sooner this time. As a result, the losses after 12 months were similar in proportion to those in the early 1990s downturn and proportionately smaller than those in the early 1980s downturn.
- Contrary to what happened in the previous downturns, the U.S. unemployment rate spiked earlier and higher than the Canadian rate. This was the first time since 1982 that the U.S. unemployment rate surpassed the Canadian rate.

## ■ Immigrant low-income rates: The role of market income and government transfers ... p. 13

- Between 1980 and 2005, the after-transfer, before-tax low-income rate rose among immigrants from 17% to 22%, while it fell among the Canadian-born.
- The rise in the low-income rate among immigrants is primarily due to falling family earnings. The market income-based low-income rate rose from 24% in 1980 to 33% in 2005.

- Low-income rates are also influenced by government transfers. Among all immigrants, the transfer system reduced the low-income rate by 29% in 1980 and by 34% in 2005. But this increased effect was not sufficient to prevent low-income rates from rising among immigrants.

- Low-income rates are higher among immigrant children than children with Canadian-born parents and the gap is increasing. These differences are again largely related to differences in the market income of their parents.

- Unlike the situation among other immigrant groups, low-income rates fell among immigrant seniors over the past quarter century. This reduction was the result of both increasing family market income and the transfer system's increased tendency to reduce low income over time.

## ■ The financial impact of student loans

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- In the past 20 years, average university tuition fees have more than doubled. At the same time, the proportion of postsecondary graduates with student loan debt and the average amount of their debt increased modestly. However, a small but rapidly growing proportion was carrying a high debt load at graduation, generating interest in the longer-term financial situation of student loan borrowers.
- Among postsecondary graduates age 20 to 45, student loan borrowers were less likely to have savings or investments compared to non-borrowers. A statistical model that accounts for personal and job characteristics estimated that 42% of borrowers and 52% of non-borrowers held savings or investments.



- Similarly, the likelihood of owning a home among postsecondary graduates was also lower for borrowers compared to non-borrowers: 53% and 60% respectively.
- Among graduates age 20 to 29, student loan borrowers have, on average, lower assets and correspondingly lower net worth than non-borrowers. Total debt was similar for borrowers and non-borrowers with postsecondary education.
- Student loan borrowers and non-borrowers who completed their postsecondary education did not differ significantly in terms of employment rates, total personal income and likelihood of having a retirement pension plan.

### Employer top-ups

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- In 2008, among mothers with paid jobs who received federal (EI) or Quebec (QPIP) maternity and parental leave benefits after birth, 20% reported collecting employer 'top-up' payments.
- Top-up payments averaged \$300 per week and lasted an average of 19 weeks—suggesting that most employer plans cover only the maternity leave portion of public benefits.
- Public sector employees were significantly more likely to receive a top-up and for a longer average period of time (48% and 22 weeks) than those in the private sector (8% and 12 weeks).
- Working for a company with a staff of over 500, being employed in Quebec and having an hourly wage of \$20 or more were also associated with the receipt of employer top-ups.
- Almost all mothers (96%) with top-up benefits returned or planned to return to their same employers within 18 months of birth, compared with 77% of mothers with EI/QPIP benefits only and 46% of mothers with no benefits.

### Immigrants working in regulated occupations

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- Immigrants who studied for work in a regulated occupation outside Canada were less likely to be working in that occupation in 2006 than either immigrants who had studied in Canada, or those who were born in Canada.

- In 2006, 24% of foreign-educated immigrants with fields of study that would normally lead to work in a regulated occupation were working in the associated profession. This compares to a 62% match rate among the Canadian-born.
- While foreign-educated immigrants were less likely to work in the regulated occupations for which they studied, this discrepancy narrowed with time spent in Canada. However, this discrepancy was still evident after immigrants had been in Canada for more than 10 years.
- The match rate of immigrants into regulated occupations varied by field of study. Immigrants with fields of study in health professions had higher match rates than those who studied to be teachers, engineers and lawyers.
- Among immigrants who were not working in the regulated occupation for which they studied, many had higher levels of education than normally required for the jobs they held in 2006. More than 1 in 10 worked in jobs that normally require no formal schooling.

### What's new?

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Quality of employment in the Canadian immigrant labour market  
Canada's employment downturn

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Growing up in a recession  
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# Canada's employment downturn

*Sébastien LaRochelle-Côté and Jason Gilmore*

**F**or an extended period of time until October 2008, employment levels were at an all-time high and unemployment rates were near historic lows in Canada. In the months that followed, a sudden downturn in the world economy caused widespread employment losses for the first time since the 1990/92 recession. Since many of these jobs were lost in the early months of the recession, many observers were concerned about the severity of the recession.

One year later, the perspective changed somewhat. Employment losses moderated in the second half of the year with declines in some months offset by gains in other months. Still, questions remained about the effects of the downturn on some specific groups.

This report examines year-over-year changes in employment levels (between October 2008 and October 2009) across demographic groups, various types of families, and associated job characteristics. It also compares how this 12-month period stacks up against the first 12 months of the Canadian recessions of the early 1980s and early 1990s (see *Data source and definitions*). The employment situations in Canada and United States are also compared.

Results indicate that not all groups were equally affected by employment losses and that some groups even reported gains. Comparisons with earlier recessions indicate that although job losses were steep in the early months of the downturn, employment levels stabilized earlier than in previous recessions.

## **Net loss of 400,000 jobs since October 2008**

In October 2009, employment in Canada was down 400,000 from the peak in October 2008, a loss of 2.3% in seasonally adjusted figures.<sup>1</sup> During the same period, the unemployment rate rose from 6.3% to

### **Data source and definitions**

This study uses data from the Labour Force Survey (LFS). The LFS is conducted every month to collect information about the labour market activities of the population at least 15 years of age, excluding residents of collective dwellings, persons living on reserves and other Aboriginal settlements, and full-time members of the Canadian forces. Employed individuals are defined as those who had a job during the reference week of the survey.

According to the Labour Force Survey, employment peaked in October 2008 in Canada. In the LFS, employment estimates for some demographic groups and job characteristics are not seasonally adjusted. A detailed study of employment changes since the peak therefore had to wait until the release of October 2009 data because year-over-year variations are less likely to be affected by the seasonal adjustment process.

Employment 'changes' cannot be interpreted as the total number of jobs lost during the recession. LFS employment changes should be interpreted as **net** changes in employment levels since they represent the differences between all losses and gains over the period.

8.6%. Previous monthly releases have shown important variations across age groups, industries and regions.

One key feature of the downturn is that younger individuals and men from age 25 to 54 have been more affected by job losses (Table 1). Between October 2008 and October 2009, employment declined by 10.8% among young men under 25, and by 6.5% among women in the same age group. Men in their prime working years (25 to 54) were also affected as employment declined by 3.3% over the period for men in this age group. However, gains were seen among those 55 and over, especially for women, among whom employment increased by 6.0%.

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**Table 1 Employment changes across age groups**

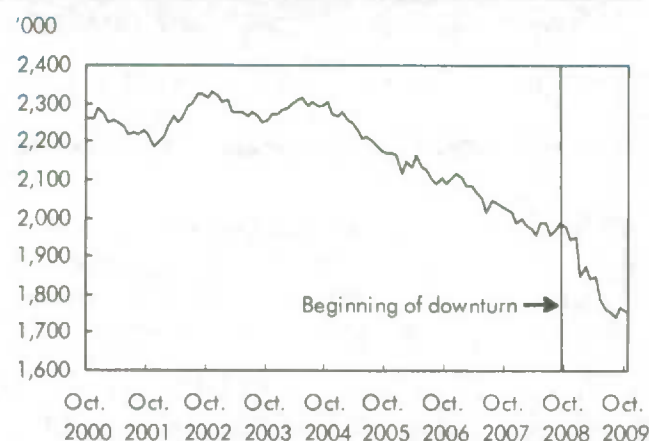
	October 2008	October 2009	Change	
		'000		%
<b>Both sexes</b>	<b>17,194.7</b>	<b>16,794.8</b>	<b>-399.9</b>	<b>-2.3</b>
<b>Men</b>				
15 to 24	1,318.9	1,176.3	-142.6	-10.8
25 to 54	6,244.0	6,038.0	-206.0	-3.3
55 and over	1,496.1	1,525.0	28.9	1.9
<b>Women</b>				
15 to 24	1,281.7	1,199.0	-82.7	-6.5
25 to 54	5,659.9	5,591.0	-68.9	-1.2
55 and over	1,194.2	1,265.5	71.3	6.0

Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

Another well-known feature of this recession is that some industrial sectors—particularly manufacturing, construction, natural resources, transportation and warehousing, and retail and wholesale trade—have been more affected than others. Manufacturing industries, in particular, declined by 218,000 between October 2008 and October 2009, accounting for over one-half of the net decline in employment over the period.

Manufacturing has received more attention than some other industries for reasons other than the scale of the job losses. First, the declines in this sector began much earlier. Manufacturing employment fell by 555,900 between 2004 and 2009. Thus the current downturn merely accelerated a long-term trend in that industry (Chart A). Second, while losses in most other industries were concentrated in the first five months of the recession, employment declines in manufacturing continued into subsequent months.<sup>2</sup> This complements the findings of other studies focusing on the manufacturing sector (Bernard 2009).

The effects of the downturn varied across the country (Table 2). With a decline of 205,900 (or -3.1%) over the 12 months, the province of Ontario experienced the greatest absolute employment losses, a fact likely associated with the higher concentration of manufacturing industries in that province. Proportionately, however, Alberta experienced the largest losses (-3.3%). In contrast, employment declined much more

**Chart A Manufacturing employment**

Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

modestly in the Atlantic provinces (-0.8%) and remained relatively stable in Manitoba and Saskatchewan over the period. Losses in Quebec (-1.6%) were slightly below the Canadian average, and British Columbia (-2.2%) had employment declines similar to Canada as a whole.

While the age, geographic and industrial dimensions of the downturn are well-known, questions remain about the impact on other population groups. In previous economic cycles, specific demographic groups and types of jobs were more affected by downturns.

**Table 2 Employment changes across regions**

	October 2008	October 2009	Change	
		'000		%
<b>Canada</b>	<b>17,194.7</b>	<b>16,794.8</b>	<b>-399.9</b>	<b>-2.3</b>
Atlantic	1,114.7	1,105.9	-8.8	-0.8
Quebec	3,890.2	3,828.1	-62.1	-1.6
Ontario	6,719.0	6,513.1	-205.9	-3.1
Manitoba and Saskatchewan	1,126.6	1,123.2	-3.4	-0.3
Alberta	2,035.2	1,967.2	-68.0	-3.3
British Columbia	2,309.0	2,257.2	-51.8	-2.2

Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

## Employment changes across individual characteristics<sup>3</sup>

Previous studies have shown that higher levels of education have been associated with more stable employment during previous economic cycles (Picot and Heisz 2000). The current downturn is no exception.

Between October 2008 and October 2009, core working-age men with a high school education or less experienced the greatest employment losses (-5.2%), since many were previously employed in industries like manufacturing and construction (Table 3). Women with a high school education or less also experienced relatively high job losses (-3.6%).

As previous studies indicate, the number of employees was more stable among workers with higher educational attainment. Some job gains were seen among women with a college education (+0.9%) and small losses were observed among men and women with university degrees (-0.6% and -1.2% respectively).

Recent reports have documented the relative deterioration in the economic outcomes of immigrants, especially recently landed immigrants (see Picot 2008 for a review of these studies). The situation is similar in this downturn as employment declined faster for immigrants who landed within the last five years (-12.9%) than for the Canadian-born (-2.2%). Again, the bulk of the losses for these immigrants occurred in the manufacturing industry. On the other hand, immigrants who had been in Canada for more than five years experienced much smaller losses than the Canadian-born over the 12-month period.

**Table 3 Employment changes across individual characteristics**

	October 2008	October 2009	Change	
		'000		%
<b>Total</b>	<b>17,270.7</b>	<b>16,909.4</b>	<b>-361.3</b>	<b>-2.1</b>
<b>Highest educational attainment</b>				
Men				
High school or less	2,300.8	2,181.8	-119.0	-5.2
Postsecondary certificate or diploma	2,364.6	2,316.2	-48.4	-2.0
University degree <sup>2</sup>	1,637.6	1,627.5	-10.1	-0.6
Women				
High school or less	1,746.0	1,682.8	-63.2	-3.6
Postsecondary certificate or diploma	2,232.5	2,253.5	21.0	0.9
University degree <sup>2</sup>	1,724.6	1,703.4	-21.2	-1.2
<b>Immigration status<sup>3</sup></b>				
Immigrant, landed within past 5 years	444.1	386.6	-57.5	-12.9
Immigrant, landed 5 to 10 years earlier	483.5	475.0	-8.5	-1.8
Immigrant, landed 11 years earlier or more	1,570.8	1,589.0	18.2	1.2
Canadian-born	9,253.9	9,049.6	-204.3	-2.2
<b>Aboriginal<sup>3, 4</sup></b>				
Aboriginal	225.8	216.7	-9.1	-4.0
Non-Aboriginal	11,725.9	11,505.9	-220.0	-1.9

1. Population age 25 to 54.

2. At least a bachelor's.

3. Based on a 3-month moving average.

4. Aboriginals living off-reserve only.

Source: Statistics Canada, Labour Force Survey, not seasonally adjusted.

Among Aboriginal peoples age 25 to 54 (excluding those living on reserves), the pace of employment losses during this 12-month period was double that of the non-Aboriginal population (-4.0% vs. -1.9%). Worthy of note is the fact that Aboriginal peoples living off-reserve continue to have higher unemployment rates and lower employment rates than non-Aboriginal peoples.

The effects of the downturn also differed by family type (Table 4). Youth employment in all families was particularly affected by this

downturn. Two-parent families with younger children were notably affected over this 12-month period, as employment fell by 2.5% among mothers and 2.4% among fathers in two-parent families with at least one child under age 18. In the first 12 months of the previous two downturns, the fathers of young children experienced more significant declines in employment than mothers.

Single mothers with younger children also experienced high rates of losses as their employment levels fell by 6.8%. Conversely, single



**Table 4 Employment changes by economic family type**

	October 2008	October 2009	Change	
		'000		%
<b>Total</b>	<b>17,270.7</b>	<b>16,909.4</b>	<b>-361.3</b>	<b>-2.1</b>
<b>Unattached individuals</b>	2,802.7	2,761.9	-40.8	-1.5
<b>Husband-wife family</b>				
Youngest child age 0 to 17	5,841.7	5,632.4	-209.3	-3.6
Father	2,751.1	2,685.6	-65.5	-2.4
Mother	2,306.7	2,249.4	-57.3	-2.5
Other family member	784.0	697.5	-86.5	-11.0
Youngest child age 18 to 24	1,683.1	1,618.6	-64.5	-3.8
Father	269.5	252.4	-17.1	-6.3
Mother	248.0	239.2	-8.8	-3.5
Other family member	1,165.5	1,126.9	-38.6	-3.3
<b>Single-parent family</b>				
Youngest child age 0 to 17	757.7	722.7	-35.0	-4.6
Father	120.8	126.3	5.5	4.6
Mother	453.4	422.6	-30.8	-6.8
Other family member	183.5	173.8	-9.7	-5.3
Youngest child age 18 to 24	362.0	358.0	-4.0	-1.1
Father	45.7	49.9	4.2	9.2
Mother	119.3	128.6	9.3	7.8
Other family member	196.9	179.5	-17.4	-8.8
Husband-wife family with youngest child age 25 and over	646.0	613.2	-32.8	-5.1
Husband-wife family with no own children	4,131.1	4,066.1	-65.0	-1.6
Other economic families	1,046.4	1,136.5	90.1	8.6

Source: Statistics Canada, Labour Force Survey, not seasonally adjusted.

fathers with younger children had an employment gain of 4.6% over the period.<sup>4</sup> These recent changes in employment for both single mothers and single fathers are consistent with what occurred during the first 12 months of the previous two downturns.

Employment growth among individuals in 'other economic families' (e.g., adult siblings living together, an older parent living with an older child) was influenced by an increase in the number of individuals joining such families over this one-year period.

### Employment changes across job characteristics

Other studies have shown that a period of employment downturn is typically associated with compositional changes in job type. One such example is self-employment, which tends to increase during periods of economic hardship (Picot and Heisz 2000).

Since October 2008, the number of those who were self-employed in their main job increased by 3.9%, spurred by significant growth after the first seven months of the

downturn (Chart B).<sup>5</sup> Conversely, main-job employment among both private sector and public sector employees fell at roughly the same pace during the first few months of the downturn. In the seven months since then, the number of public sector employees remained stable while private sector employment continued to fall. The private sector trend reflects continuing difficulties in manufacturing, construction, transportation and warehousing.

The extent of employment losses also varied considerably by hours of work, tenure, job status, unionization and wage category (Table 5).<sup>6</sup>

From the beginning of the downturn, losses in full-time employment were significant (-2.2%), and larger than among part-timers (-1.6%). Declines among those with longer hours—that is, 40 or more hours (-4.6% and -4.5% respectively) were especially significant. Conversely, the number of employees with a shorter full-time schedule—between 30 and 34 hours—rose over the period (+8.2%). This decline in longer hours and growth in shorter full-time schedules is consistent with changes in hours during the first 12 months of the previous two downturns. These changes may not be exclusively the result of job losses, as they could also be the result of reduced work hours among employed workers.

Employment losses were also concentrated among permanent employees. From October 2008 to October 2009, the number of permanent employees declined by 3.8%, while the number of temporary employees increased by 0.7%.



**Chart B Index of employment by class of worker**

Index (October 2008=100)



Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

Workers with short employment tenure were also significantly affected by the downturn, as employment declined by 662,700 (-17.8%) among those who had a tenure of one year or less. Conversely, there was an increase (+4.2%) in the number of workers among workers who had 1 to 5 years in their current jobs, and little change in the number of workers with more than 5 years in their current jobs. The extent of the losses likely reflects both the loss of employment among short-tenured positions and the lack of hiring.

Non-unionized workers were proportionately more affected by employment declines (-4.0%) than unionized workers (-1.7%) between October 2008 and October 2009. This reflects the concentration of union jobs in the more stable public sector.

Studies have shown that periods of economic decline can alter the distribution of earnings (Heisz et al. 2002). Employees earning less than

\$10 per hour saw the largest decline in employment over the period (-24.8%), followed by those who earned \$10.00 to \$19.99 per hour (-2.2%). Among those earning less than \$10, employment losses were largely concentrated in manufacturing, wholesale and retail trade, and accommodation and food services. The large loss of low-wage and short-tenured jobs is consistent with the particular difficulties noted for younger workers and very recent immigrants since they are overrepresented in these types of jobs.

Meanwhile, the number of employees who earned \$30 or more per hour grew—especially those earning at least \$40 per hour (+12.9%). Women accounted for two-thirds of the increase in those earning at least \$40 per hour, particularly those working in industries such as health care and social assistance, educational services, and public administration, as well as finance, real estate, rental and leasing.

**Table 5 Employment changes by characteristics of main job**

	October 2008	October 2009	Change	
		'000		%
<b>Total</b>	<b>17,270.7</b>	<b>16,909.4</b>	<b>-361.3</b>	<b>-2.1</b>
<b>Part-time workers</b>	3,275.5	3,221.7	-53.8	-1.6
01 to 14 hours	1,069.1	1,051.3	-17.8	-1.7
15 to 29 hours	2,206.4	2,170.4	-36.0	-1.6
<b>Full-time workers</b>	13,995.2	13,687.8	-307.4	-2.2
30 to 34 hours	1,173.9	1,269.7	95.8	8.2
35 to 39 hours	3,666.5	3,680.4	13.9	0.4
40 hours	6,557.8	6,257.6	-300.2	-4.6
Over 40 hours	2,597.0	2,480.1	-116.9	-4.5
<b>Current job tenure</b>				
1 year or less	3,723.4	3,060.7	-662.7	-17.8
More than 1 to 5 years	5,447.3	5,674.6	227.3	4.2
More than 5 years	8,099.9	8,174.2	74.3	0.9
<b>Permanent job<sup>1</sup></b>	12,808.5	12,318.9	-489.6	-3.8
<b>Temporary job<sup>1</sup></b>	1,806.8	1,820.0	13.2	0.7
<b>Union coverage<sup>1</sup></b>	4,549.7	4,471.3	-78.4	-1.7
<b>No union coverage<sup>1</sup></b>	10,065.5	9,667.6	-397.9	-4.0
<b>Hourly wages<sup>1</sup></b>				
Less than \$10.00	1,671.7	1,256.8	-414.9	-24.8
\$10.00 to \$19.99	6,027.4	5,895.4	-132.0	-2.2
\$20.00 to \$29.99	3,896.9	3,816.0	-80.9	-2.1
\$30.00 to \$39.99	1,921.9	1,931.7	9.8	0.5
\$40.00 and over	1,097.3	1,239.1	141.8	12.9

1. Paid employees only.

Source: Statistics Canada, Labour Force Survey, not seasonally adjusted.

### Comparisons with earlier recessions

In this section, recent employment trends are compared with two previous downturns (based on seasonally adjusted figures). More specifically, the number of jobs just before the downturn is indexed to 100 and then tracked for the first 12 months of the three most recent employment downturns: June 1981 to June 1982, April 1990 to April 1991, and October 2008 to October 2009.

Employment declined much faster in the early months of the current downturn compared with the first few months of the 1981 and 1990 recessions (Chart C). Five months after the October 2008 peak, employment had fallen by 2.1%, compared with 0.8% in 1981 and 0.6% in 1990.

On the other hand, employment levels began to stabilize after the first 5 months of the current recession, while employment losses after the peak lasted 17 months in 1981/82 and 11 months in 1990/91. As a result, the job losses after 12 months were similar in proportion to the previous recession of the 1990s (-2.3%), and proportionately smaller than the recession of the 1980s (-3.9%). Even though such results might suggest that the labour market is getting back on track faster than in earlier recessions, history indi-

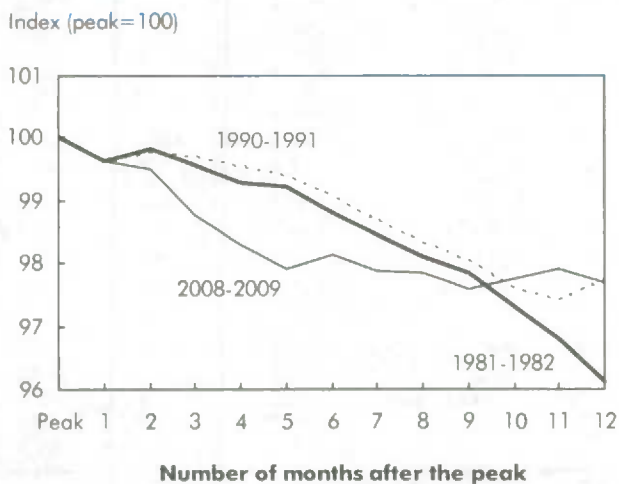
cates that employment recovery is not always a smooth upward path. For example, in the downturn of the early 1990s, the first 11 months of employment declines were followed by 6 months of modest growth, only to be followed by another 7 months of declines.

### Canada-U.S. comparisons

Comparisons with employment losses sustained by Canada's major trading partner, the United States, are also of interest due to the high volume of trade between the two countries. Employment estimates from the two countries cannot be directly compared because of differences in survey design, but some comparisons can be made using unemployment rates<sup>7</sup> (Chart D). Since employment in the United States last peaked in December 2007, conceptually comparable unemployment rates for both countries are examined for the period between December 2007 and October 2009.

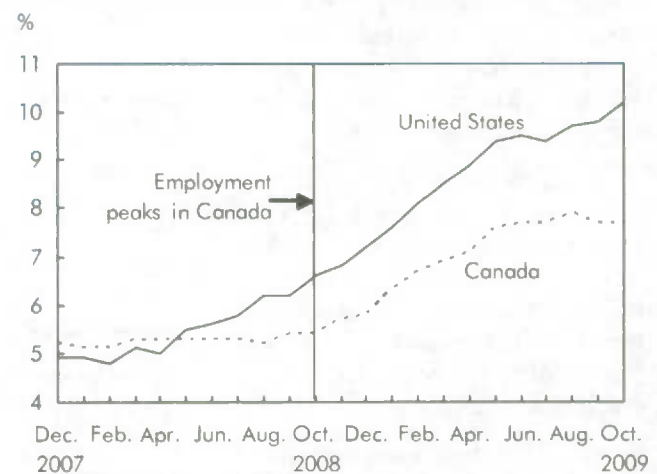
During the first six months of 2008, Canadian and American unemployment rates were almost at parity. Shortly thereafter—and for the first time since 1982—the U.S. unemployment rate surpassed the rate in Canada as the recession began to have a strong impact

**Chart C Index of employment for last three downturns, the first 12 months**



Source: Statistics Canada, Labour Force Survey, seasonally adjusted data.

**Chart D Unemployment rate in Canada and the United States**



Source: Statistics Canada, Labour Force Survey, adjusted to U.S. concepts; U.S. Census Bureau, Current Population Survey, seasonally adjusted data.

on the U.S. labour market. Since the beginning of the downturn in Canada, the unemployment rate also increased in Canada, but at a slightly slower pace than the United States. As a result, the Canadian rates have remained consistently below American figures since May 2008. During the previous two recessions, the Canadian labour market experienced the larger increase in unemployment rates.

It should be noted that the higher U.S. rate is related to greater job losses in financial, professional and business industries. According to the U.S. Current Employment Statistics (CES) survey, the financial and business sector accounted for nearly 25% of all job losses south of the border between October 2008 and October 2009.<sup>8</sup> In comparison, the number of jobs in these industries rose in Canada during that period, albeit modestly.

## Summary

For the first time since the 1990/92 recession, employment declined by significant margins in Canada. Since employment last peaked in October 2008, it subsequently declined by 2.3%, or 400,000 individuals. While many facts about the recession are relatively well-known—including larger employment declines among youth, men and workers in manufacturing industries—a series of questions remain about employment losses among other groups of workers and types of jobs.

Since the last employment peak in October 2008, it is now possible to examine annual variations in employment levels for a wider variety of population groups without having to deal with seasonal variation issues. In this report, year-over-year changes in employment levels were examined across a variety of personal, family and job characteristics. Comparisons with previous downturns and with the recent evolution of the U.S. labour market were also presented.

Employment losses in the current downturn were concentrated at the low end of the pay and tenure scale, thus disproportionately affecting those who tend to hold these jobs. Heavy employment losses were noted for very recent immigrants, young workers and those with lower levels of education. Other demographic groups were also proportionately more affected by losses: lone mothers, parents of younger children and non-unionized workers.

Despite the concentration of employment losses at the bottom of the pay scale, jobs typically not seen as 'vulnerable' were also disappearing. For example, employment declined faster among individuals working more than 40 hours per week and among permanent workers. And the loss of manufacturing employment that began in 2004 accelerated in the 12-month period from October 2008 to October 2009. On the other hand, the number of jobs with very high rates of pay increased over this period.

Results also indicate that this downturn differs from the previous ones in at least two ways. First, even though employment declined faster during the first few months than in previous downturns, it stabilized sooner in the current recession. As a result, employment losses after 12 months were similar in proportion to those in the early 1990s downturn and proportionately smaller than those in the early 1980s downturn. Second, the U.S. labour market was affected earlier, and continues to be in a deeper slump compared to Canada. In May 2008, the U.S. unemployment rate surpassed the Canadian rate for the first time since 1982 and that gap has yet to close.

## Perspectives

### Notes

1. Data not seasonally adjusted declined by 2.1%, or 360,000.
2. Losses have been particularly significant in transportation equipment manufacturing, furniture and related product manufacturing, fabricated metal product manufacturing, computer and electronic product manufacturing, and paper manufacturing.
3. In this section, employment changes are examined for prime-age workers only because overall results for personal characteristics tend to be disproportionately affected by the age composition of individuals within groups. The data have not been adjusted for seasonal variations. Although this affects absolute employment variation figures, changes in percentage terms are barely affected.
4. The sample size for lone fathers is relatively small.
5. Chart B is based on seasonally adjusted figures.
6. The numbers in Table 5 are not seasonally adjusted.



7. The Canadian unemployment rates have been adjusted to ensure that they are based on the same population covered by the Current Population Survey, the American equivalent of the Labour Force Survey.
8. The CES collects information about non-farm employment on a monthly basis. Results for October 2009 are based on preliminary data.

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# Immigrant low-income rates: The role of market income and government transfers

Garnett Picot, Yuqian Lu and Feng Hou

**T**he decline in earnings among immigrants over the past quarter century is well documented. Previous studies have identified several factors underlying immigrants' deteriorating labour market outcomes. The first is the shift in immigrant source countries from Europe and the United States to Asia and Africa, and the associated change in related characteristics, for example proficiency in official languages, perceived or real differences in educational systems, and cultural differences that may influence labour market outcomes. The second factor is the general decline in labour market entry earnings during the 1980s and 1990s that affected both 'recent' immigrants and the Canadian-born alike. The third set of factors relates to the decline in earnings returns to foreign work experience and other immigrant specific characteristics (Picot and Sweetman 2005, Reitz 2007, and Picot 2008).

Census data suggest that, in 1980, 'very recent' male immigrants (in Canada five years or less) earned on average about 85% that of the comparable Canadian-born. By 2005, this number had fallen to around 65%. As their relative earnings at entry declined, immigrants arriving since the 1980s needed more time to achieve earnings parity with Canadian-born workers. The earnings of immigrants entering Canada in the late 1970s approached those of the comparable Canadian-born after 15 to 20 years. However, the earnings of immigrants entering during the late 1980s and 1990s will likely take much longer to converge with those of the Canadian-born (Frenette and Morissette 2005).

But these are trends in *average* earnings. Less well-known is the fact that the earnings decline was greater at the bottom of the earnings distribution than at the top (Lemieux 2008). This phenomenon had a significant effect on trends in low-income rates among immigrants since they were more concentrated at the

bottom of the earnings distribution than Canadian-born workers. Picot and Hou (2003) found a significant rise in low-income rates among both entering immigrants and those who had been in Canada for many years.

Trends in low-income rates provide an important measure of family economic welfare at the bottom of the income distribution. Since low-income rates are based on total family income, which includes government transfer payments and investment and pension income, as well as employment earnings, they provide a more inclusive picture of the economic resources available to families than studies of earnings alone. And the vast majority of studies on the economic integration of immigrants are based on individual earnings only, rather than total family income. Moreover, this study uses the economic family concept which includes extended family living arrangements that are more common among immigrants.

This article provides an overview of the trends in low-income rates among immigrant groups and the Canadian-born population (see *Data source and definitions*). The main issue is whether the change in low-income rates was associated primarily with changes in market income (mostly income from employment) or the social transfer system (for example, Employment Insurance [EI] benefits, social assistance, and child benefits). Analysis is conducted for immigrants as a whole, and separately for immigrant children and immigrant seniors.

## Low-income rates increasing among immigrants relative to Canadian-born

Between 1980 and 2000, the after-transfer, before-tax low-income rate rose among immigrants from 17% to 20%, while it fell among the Canadian-born from

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### Data source and definitions

This study is based on 1981, 1986, 1991, 1996, 2001 and 2006 Census data. Immigrants who came to Canada in the census year or the year prior to the census year are excluded because the annual income information is either unavailable or incomplete.<sup>1</sup> Immigrant children are defined as persons age 0 to 17 and who were born abroad to non-Canadian parents, or those who are born in Canada in families where the person with the highest income is an immigrant.<sup>2</sup> Immigrant seniors are those age 65 or over.

Statistics Canada's **low-income cut-offs** (LICOs, 1992 base, after government transfers and before income taxes) were used to determine low-income status. The LICOs are 'fixed' low-income cut-offs, adjusted only for the changes in the Consumer Price Index (CPI). Low-income rates are based on economic family income after transfer and before tax because, prior to the 2006 Census, information on income tax paid was not collected in the census. Other low-income measures (LIMs)—like fixed-base LIMs<sup>3</sup>—are quite close to the LICOs and are very unlikely to produce substantively different trends.

A person is defined as in low income if his economic family income is below the LICO. An 'economic family' refers to a group of two or more persons who live in the same dwelling

and are related to each other by blood, marriage, common-law relationship or adoption. Individuals living alone or with unrelated persons are treated as 'one-person families.' All individuals in the same economic family will have the same low-income status. Thus, an individual's low-income status is affected by the income of all family members. Although multi-generational families are not common in general, they are more prevalent among some immigrant groups. Therefore, low-income rates of elderly immigrants are more likely to be affected by earnings of adult children with whom they live.

In this study, family income is split into two components: **market income** and **government transfers**. **Market income** includes employment income, investment income, private retirement pensions, superannuation and annuities and other money income. **Government transfer payments** include Employment Insurance (EI), Old Age Security (OAS), Guaranteed Income Supplement (GIS), Canada or Quebec Pension Plan, and child benefits, as well as other government transfers (including social assistance and workers' compensation).

17% to 14% (Table 1).<sup>4</sup> This tendency towards rising rates among immigrants and falling rates among the Canadian-born continued during the more recent 2000 to 2005 period. In 2005, about 22% of immigrants were in low income.

There are some exceptions to this general trend. First, the low-income rate trends among immigrants in Canada for more than 20 years have resembled those of the Canadian-born. This group consists primarily

**Table 1 Low-income rates by immigration status, 1980 to 2005**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>After-transfer, before-tax low-income rate</b>				%				
1980	17.1	17.2	17.0	24.6	18.7	14.4	14.7	16.7
1985	18.7	18.5	19.3	34.2	26.0	19.8	15.9	16.5
1990	15.5	15.1	17.1	31.3	24.2	19.0	15.2	12.6
1995	19.1	17.6	24.7	47.0	35.3	27.2	22.1	15.5
2000	15.6	14.3	20.2	35.8	28.3	22.7	19.1	13.3
2005	15.3	13.3	21.6	36.0	28.0	25.8	21.5	13.3
<b>Low-income rates relative to the Canadian-born</b>								
1980	...	...	1.0	1.4	1.1	0.8	0.9	1.0
1985	...	...	1.0	1.8	1.4	1.1	0.9	0.9
1990	...	...	1.1	2.1	1.6	1.3	1.0	0.8
1995	...	...	1.4	2.7	2.0	1.6	1.3	0.9
2000	...	...	1.4	2.5	2.0	1.6	1.3	0.9
2005	...	...	1.6	2.7	2.1	1.9	1.6	1.0

Note: The sample size for the smallest cell in this table is 67,000.

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

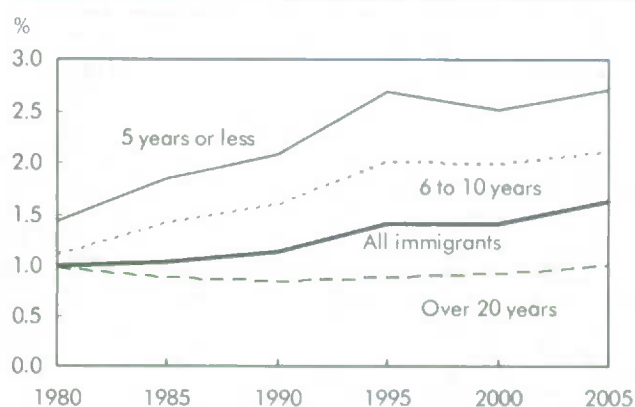
of immigrants from the developed nations of Europe who arrived before 1980. In addition, there may be groups within the Canadian-born whose low-income rates have risen, counter to the general downward trend. Low income is concentrated among five groups: lone parents, off-reserve Aboriginal peoples,<sup>5</sup> persons age 45 to 64 and not in families, those with work-limiting disabilities, and recent immigrants (Hatfield 2003). Of these groups, only recent immigrants experienced significant low-income rate increases between 1989 and 2006. The rate declined significantly among lone mothers and was stable among the remaining groups (Picot and Michaud 2007).

Of course, low-income rates rise in economic recessions and fall in expansions. Such cyclical variations can mask long-term trends. Hence, a better way to report trends is to focus on *relative* low-income trends among immigrants, that is to say their low-income rate relative to that of the Canadian-born. Any fluctuation in the rates associated with the business cycle is likely to affect the trends for the Canadian-born as well as for immigrants. Therefore the comparison with the Canadian-born provides a rough control for business cycle effects.<sup>6</sup> In 1980, immigrants had a low-income rate that was roughly equal to that of the Canadian-born. This relative rate remained roughly constant until 1990, and then rose to 1.4 by 1995, and 1.6 by 2005. In other words, the low-income rate was 60% higher for immigrants than for the Canadian-born in 2005.

Another important factor that affects low-income rates is the number of years immigrants have been in Canada. Earnings rise with years spent in Canada. Thus, low-income rates are highest among very recent immigrants (in Canada for five years or less). In 1980, very recent immigrants had low-income rates that were 1.4 times higher than those of the Canadian-born, while immigrants in Canada between 11 and 15 years posted relative rates below 1.0—lower than the rate for the Canadian-born.

Relative low-income rates generally rose among most immigrant groups over the 1980 to 2005 period (Chart A). In 2005, the after-transfer/before-taxes low-income rate among very recent immigrants was 2.7 times higher than that of the Canadian-born. Among immigrants in Canada for 11 to 15 years, it was 1.9 times higher.

**Chart A Relative (to Canadian-born) low-income rates among immigrants by years since immigration**



Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

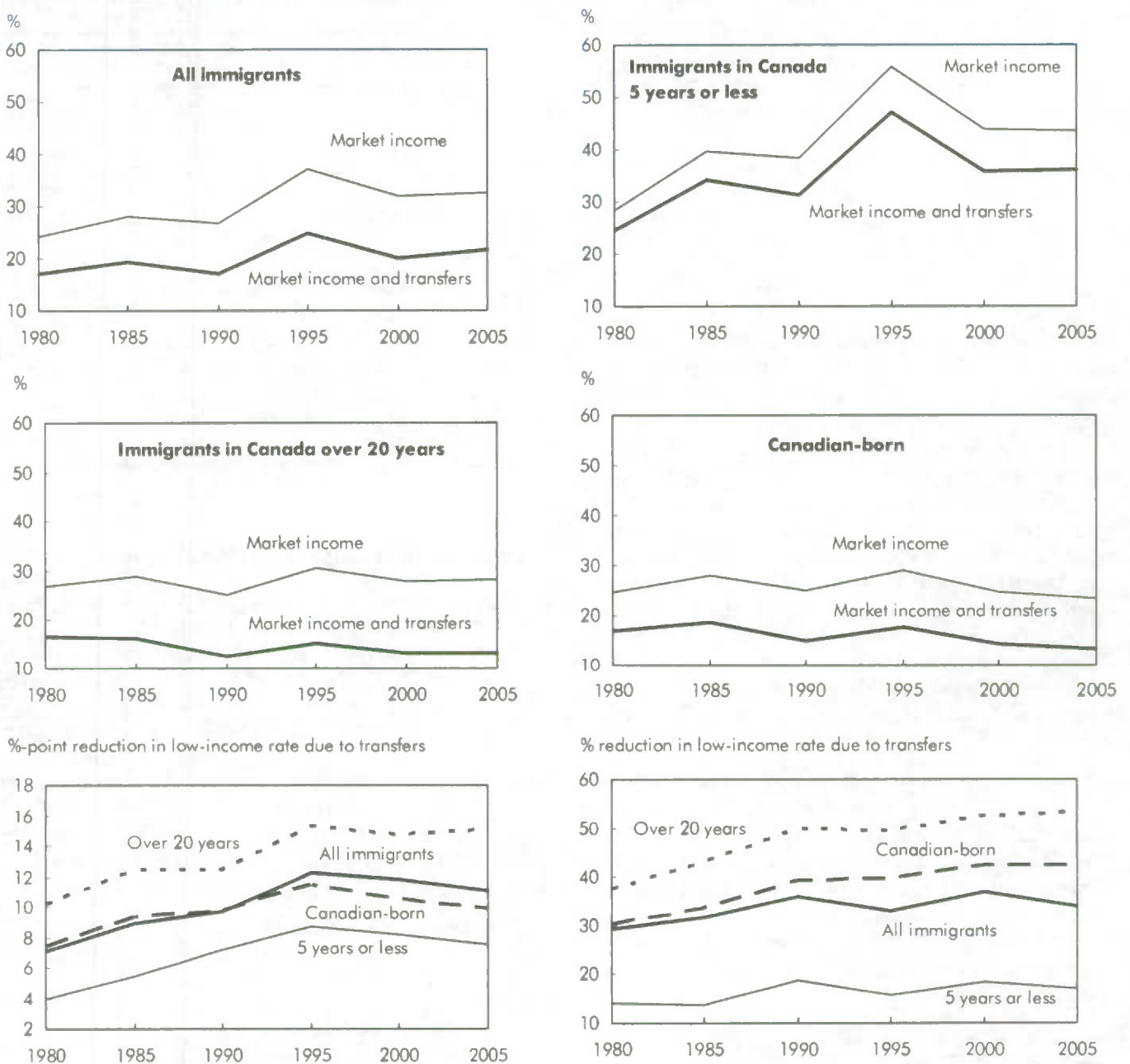
### Factors affecting low-income rates

There are three major factors that influence aggregate low-income rates: the labour market, through employment and earnings; the government, through direct and indirect effects of transfer programs;<sup>7</sup> and demographic change, like the increase in the number of single-parent families, which can cause the aggregate rate to rise. This section focuses on market income and the direct effect of transfers.<sup>8</sup> Immigrant low-income rates may have risen because market income (mainly employment income) fell among immigrants, the transfer system reduced the low-income rate to a lesser extent in 2005 than in 1980, or for both reasons.

To determine the relative importance of these two factors, low-income rates are first computed based on market income. This calculation indicates how many families would be in low income based on market income only, thus providing a direct measure of the extent to which the rise in low-income rates was related to changes in family market income. Transfer income is then added to family market income and low-income rates are recomputed.<sup>9</sup> The difference between the low-income rates before and after transfers provides a measure of the direct effect of the transfer system on low-income rates.



**Chart B Market-based and after-transfer low-income rates, all age groups**



Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

This analysis examines the relative role that market income and transfers played in the change of low-income rates among immigrants.<sup>10</sup> To examine longer-

term trends, this study focuses on 1980, 1990, 2000 and 2005, years that are roughly comparable with respect to the business cycle.



The situation for all immigrants is straightforward. The market income-based low-income rate rose significantly over the period, from 24% in 1980 to 33% in 2005, a 36% increase (Chart B). Hence, declining family market income resulted in a significant rise in the rate. The after-transfer low-income rate is lower, as transfers increase family income and reduce the number of people in low income. The after-transfer rate rose from 17% to 22% over the period, a 27% increase (Table 4). Since the increase in the rate was lower after transfers than before transfers, this implies that the transfer system increasingly offset market-based low income over the 1980 to 2005 period.

The transfer system offset can be seen more directly by measuring the percentage-point reduction in the low-income rate due to transfers. This distance between immigrants and the Canadian-born was larger in 2005 (11 percentage points) than in 1980 (7 percentage points). This same effect of the transfer system on rate reduction is also shown on a percentage basis rather than a percentage-point basis. The transfer system reduced the low-income rate by 29% in 1980,<sup>11</sup> 36% in 1990, 37% in 2000, and 34% in 2005. Whether calculated on an absolute percentage-point basis or a percent-reduction basis, the transfer system reduced the immigrant low-income rate more in 2005 than in 1980. Most of this change took place during the 1980s.

The rise in the low-income rate among all immigrants is due primarily to falling family earnings.<sup>12</sup> The situation is similar for most other immigrant populations examined, including very recent immigrants and those in Canada for over 20 years.

### Low-income trends among immigrant children

Analysts often focus on low-income rates among children because growing up in low-income families may affect future opportunities for these children. Immigrant children are defined as those born to two immigrant parents or born in a family where an immigrant parent is the highest income earner.

The low-income rate among immigrant children is higher than that among other immigrants and the Canadian-born, and has been increasing at a more rapid rate. Immigrant children had a low-income rate of 27% in 2005, compared with 22% for immigrants of all ages, and 15% for children of Canadian-born parents. Immigrant children's low-income rate increased from 16% in 1980, to 25% in 2000, and to 27% in 2005—an increase of 66% over the period, compared with 27% for immigrants as a whole. This rise occurred while the rate among Canadian-born children was falling (Table 2).

**Table 2 Low-income rates among children age 0 to 17 by immigration status<sup>1</sup>**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>After-transfer, before-tax low-income rate</b>				%				
1980	19.1	19.8	16.5	28.0	21.2	16.1	16.3	12.2
1985	20.7	20.9	19.8	39.5	28.5	22.0	17.3	13.5
1990	17.5	17.1	19.0	37.4	27.2	21.8	17.2	10.4
1995	22.1	20.0	30.2	55.8	40.7	32.0	25.8	16.0
2000	17.6	15.5	24.9	41.9	34.2	27.3	22.1	13.1
2005	18.0	14.8	27.4	42.4	31.7	31.0	25.3	14.2
<b>Low-income rates relative to Canadian-born</b>								
1980	...	...	0.8	1.4	1.1	0.8	0.8	0.6
1985	...	...	0.9	1.9	1.4	1.1	0.8	0.6
1990	...	...	1.1	2.2	1.6	1.3	1.0	0.6
1995	...	...	1.5	2.8	2.0	1.6	1.3	0.8
2000	...	...	1.6	2.7	2.2	1.8	1.4	0.8
2005	...	...	1.9	2.9	2.1	2.1	1.7	1.0

1. Based on the immigration status of the highest earner in the family.

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

The low-income rate is highest among children whose parents recently came to Canada, and falls with time spent in Canada. The rate among children in families who recently arrived in Canada (during the previous 5 years) was 42% in 2005, up from 28% in 1980.

### Relative roles of family market income and transfers

In 2005, the low-income rate among immigrant children was higher than that for children with Canadian-born parents or working-age immigrants (age 18 to 59) (Chart C). This difference was entirely associated with lower market income among immigrant families with children. Market-based low-income rates were 14 percentage points higher among immigrant children than Canadian-born children in 2005, at 36% versus 22% (Table 5). The transfer system reduced these rates by 9 percentage points among immigrant children, and 8 among the Canadian-born. Transfers reduced the low-income gap between these two groups to a limited extent.

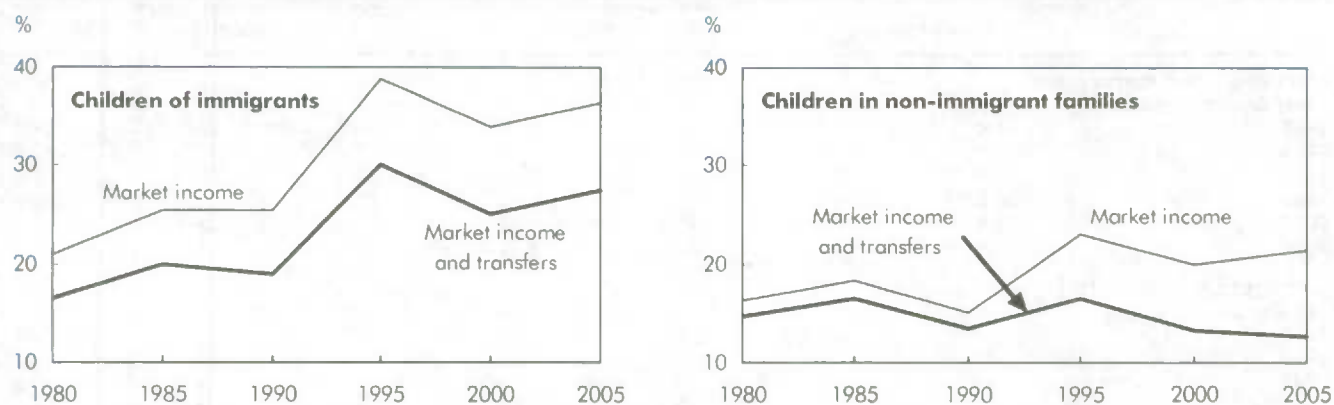
A similar situation emerges when immigrant children are compared with working-age immigrants. The 2005 market-based low-income rate was 35% (or 10 percentage points) higher among immigrant children than among immigrants age 18 to 59. After transfers are included, this difference is reduced to 30% (or 6 per-

centage points). In that year, transfers reduced the low-income rate more among children in immigrant families (9 percentage points) than among the working-age immigrant population (6 percentage points) (Table 6). The difference between the low-income rate for children and the working-age population is associated with differences in family earnings.

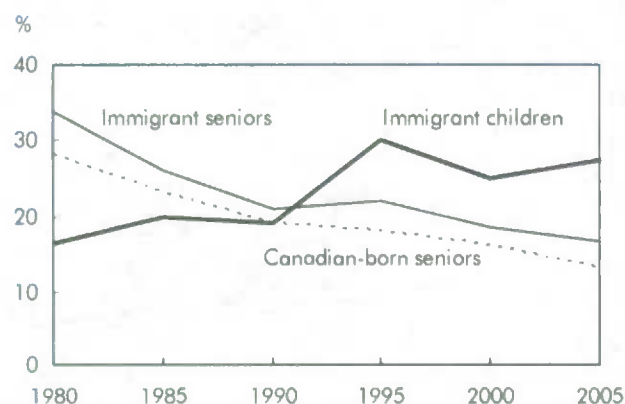
### Low-income trends among immigrant seniors

While the low-income rate has been rising among the immigrant population as a whole, and immigrant children in particular, it has been falling among immigrant seniors. This downward trend is not restricted to immigrant seniors—the rate also fell among Canadian-born seniors. Since the 1970s, the low-income rate has fallen faster among seniors than for any other population group. And internationally, Canada went from having one of the highest low-income rates for seniors among Western nations in the late 1970s to one of the lowest by the 2000s (Smeeding 2003, Picot and Myles 2005). This trend was related to changes in transfer programs, the maturation of the Canada and Quebec Pension Plans (CPP/QPP), and increasing private pension income (Myles 2000). Low-income rates also fell for immigrant seniors (Chart D), but for somewhat different reasons.

**Chart C Market-based and after-transfer low-income rates, children age 0 to 17<sup>1</sup>**



1. Immigrants status was that of the highest earning in the economic family with children age 0 to 17.  
Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

**Chart D Low-income rates among immigrant children and seniors**

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

The low-income rate was cut in half between 1980 and 2005 among immigrant seniors, from 34% to 17% (Table 3). The rate in 2005 was only marginally higher among immigrant seniors than among Canadian-born seniors (13%). The relative rate (relative to the Cana-

dian-born of the same age) has changed little. It stood at 1.2 times that of the Canadian-born of the same age in 1980, and 1.3 in 2005.

The decline in low-income rates was heavily concentrated among elderly immigrants in Canada for over 20 years: the rate fell by 58% among this group between 1980 and 2005, and by 13% among very recent immigrant seniors. Very recent immigrants age 65 or over have seen their relative (to the Canadian-born) rate increase from around 1.1 in 1980 to 2.0 in 2005 (although their actual rates fell). In 2005, immigrant seniors in Canada for less than 20 years had low-income rates, at around 28%, significantly higher than Canadian-born seniors, at 13%.

The low-income rate among immigrant seniors fell both because the economic families in which they lived had higher market income, and because transfers increasingly reduced seniors' low-income rates. However, the effect of rising market income was larger.

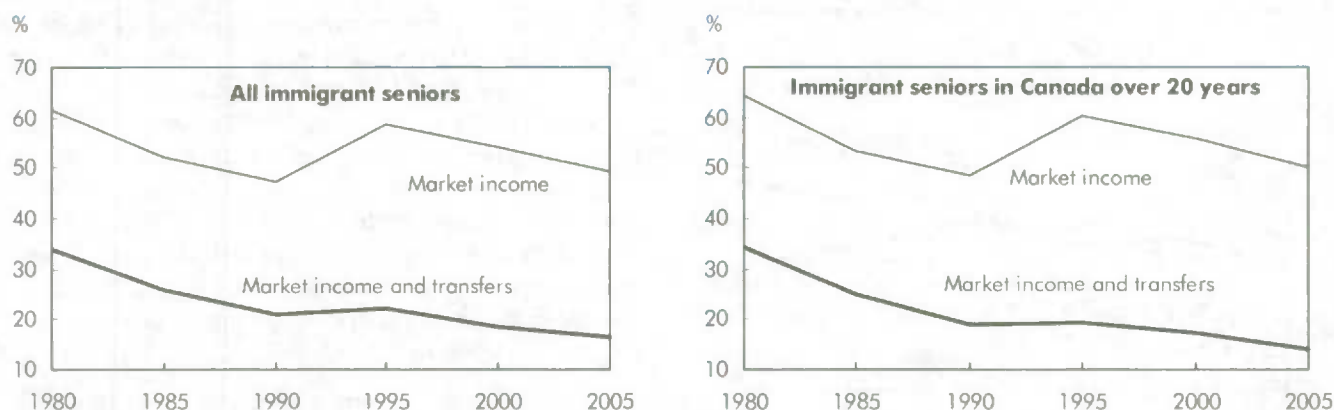
The market-based low-income rate among immigrant seniors fell by 20% (from 62% to 49%) over the past quarter century as a result of increased family market income (Chart E). In particular, it fell by almost 10% between 2000 and 2005. This trend runs counter to that for all other groups of immigrants, among whom market-based low-income rates increased. Market

**Table 3 Low-income rates by immigration status for seniors age 65 or over**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>After-transfer, before-tax low-income rate</b>				%				
1980	29.8	28.1	33.8	31.5	32.3	29.0	32.7	34.2
1985	23.8	23.0	26.0	34.7	38.6	27.4	25.9	24.9
1990	19.4	18.9	20.8	28.8	33.5	27.7	24.8	19.0
1995	19.2	18.1	22.1	38.1	36.7	29.5	29.5	19.5
2000	16.8	16.0	18.6	27.0	21.9	23.7	25.0	17.5
2005	14.3	13.3	16.6	27.2	29.9	27.7	27.6	14.2
<b>Low-income rates relative to Canadian-born</b>								
1980	...	...	1.2	1.1	1.1	1.0	1.2	1.2
1985	...	...	1.1	1.5	1.7	1.2	1.1	1.1
1990	...	...	1.1	1.5	1.8	1.5	1.3	1.0
1995	...	...	1.2	2.1	2.0	1.6	1.6	1.1
2000	...	...	1.2	1.7	1.4	1.5	1.6	1.1
2005	...	...	1.3	2.0	2.3	2.1	2.1	1.1

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.



**Chart E Market-based and after-transfer low-income rates, population age 65 and over**

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

income rose among economic families in which seniors lived, and fell among all other immigrant age groups. This may have as much to do with the formation of an increasing number of intergenerational immigrant families, in which a younger member of the family is working, as with the employment trends among immigrant seniors themselves.

### Immigrant seniors and the transfer system

Increases in government transfers have also tended to reduce the low-income rate among immigrant seniors, just as they did among the Canadian-born. In 1980, transfers reduced the low-income rate by 28 percentage points among immigrant seniors and by 33 percentage points in 2005 (Table 7). Hence, both increased market income and rising transfers contributed to the decline in the low-income rate among immigrant seniors. However, market income played a larger role. Of the 17 percentage-point decline in the low-income rate over the past quarter century, 12 percentage points were associated with market income effects and 5 percentage points with the direct effect of transfers. This result is particularly evident in the recent past. Between 2000 and 2005, the market-based rate fell by 10%, but transfers reduced the rate less in 2005 than in 2000.

Low-income rates are based on the total income of the economic family in which seniors live. The earnings and income sources of other family members are included. If, for example, immigrant seniors were more likely to live in multi-generational economic families with more younger earners in 2005 than in 1980, this would be reflected in the rising market income available to seniors. Differences through time in the ethnic composition of immigrant seniors and their tendency to live in multi-generational families could result in such an outcome.

There is some evidence to suggest that such a change in the living arrangements of seniors did take place. One-quarter of immigrants 65 or older were living in an economic family with a member in the 25 to 59 age group (and hence likely to be employed) in 1980. By 2005, one-third of immigrant seniors were in such families. And among very recent immigrant seniors, the proportions were much higher: 69% in 1980, rising to 76% in 2005.<sup>13</sup>

The family situation of immigrant seniors is important since the less time they have been in Canada, the lesser the effect of the transfer system on their low-income rates.

Transfer payments received by many immigrant seniors during their first 10 years in Canada are influenced to some extent by the eligibility rules associated with 3 major sources of transfers for seniors—Old Age Security (OAS), Guaranteed Income Supplement (GIS), and social assistance. The transfer system reduces the low-income rate comparably to Canadian-born seniors only among those in Canada for more than 20 years.

The OAS is generally not available to individuals who have been in Canada for less than 10 years and is prorated until they have spent 40 years in the country.<sup>14</sup> The GIS is available to augment the OAS, even in the event of a partial OAS pension, but again usually after 10 years in Canada. And finally, the ‘sponsorship agreement’ accepted by those sponsoring family-class immigrants does not allow immigrant seniors to collect social assistance during their initial years in Canada<sup>15</sup> (see Baker et al. 2009 for a description of these rules and their effects).

The longer immigrant seniors stay in Canada, the more the transfer system reduces their low-income rate. In 2005, the transfer system reduced the low-income rate by 9 percentage points for immigrant seniors in Canada for 5 years or less, and by 15 percentage points for immigrants in Canada for 6 to 10 years, compared with 39 percentage points for Canadian-born seniors, and 36 percentage points for immigrant seniors in Canada for more than 20 years.

## Summary

Over the past quarter century, low-income rates have been rising among immigrants and falling among the Canadian-born. In most cases, the differing trends for immigrants and the Canadian-born are determined primarily by differences in family labour market income. The falling relative earnings of immigrants are the subject of numerous studies (see Picot and Sweetman 2005 and Reitz 2007 for reviews).

Low-income rates are also influenced by government transfers. In Canada, the direct effects of the income transfer system reduced the low-income rate more in 2005 than in 1980 for both the Canadian-born and immigrants. Most of this change took place during the 1980s. But among immigrants, this increased effect was not sufficient to prevent low-income rates from rising (except among immigrant seniors), since the ‘amount of work’ the transfer system had to do also increased significantly as earnings fell.

Low-income rates are higher among immigrant children than other immigrant age groups and children with Canadian-born parents. Furthermore, low-income rates have been rising faster among immigrant children than other groups of immigrants. This has been occurring while rates have been falling among their Canadian-born counterparts. These differences are again largely related to differences in the market income of their parents.

The reduction in the low-income rate among seniors in Canada has been well documented. This trend is also observed among immigrant seniors, but for different reasons. Unlike the situation among other immigrant groups, low-income rates fell among immigrant seniors over the past quarter century. This reduction was the result of both increasing family market income and the transfer system’s increased tendency to reduce low income over time. However, the market-income effect was larger—most of the decline was associated with lower market-based low-income rates among immigrant seniors.

Among immigrant seniors in Canada for 10 years or less, low-income rates declined only slightly. And their rates relative to Canadian-born seniors doubled over the past quarter century. The rate-reducing effect of transfers is much less for this group of immigrant seniors than for long-term immigrant seniors.

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## Perspectives

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**Table 4 Direct effect of transfer system on market income-based low-income rates, all ages**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>Market income-based low-income rate</b>				%				
1980	24.5	24.6	24.1	28.5	22.7	18.4	19.3	26.9
1985	28.0	28.0	28.2	39.7	31.8	25.6	21.2	28.9
1990	25.3	24.9	26.7	38.5	31.1	26.2	21.1	25.1
1995	30.7	29.1	37.0	55.7	44.2	37.2	31.3	30.8
2000	26.3	24.7	32.0	44.0	37.7	31.7	28.2	28.1
2005	25.5	23.2	32.7	43.4	35.2	34.3	29.4	28.4
<b>Market-based rates relative to Canadian-born</b>								
1980	...	...	1.0	1.2	0.9	0.7	0.8	1.1
1985	...	...	1.0	1.4	1.1	0.9	0.8	1.0
1990	...	...	1.1	1.5	1.2	1.1	0.8	1.0
1995	...	...	1.3	1.9	1.5	1.3	1.1	1.1
2000	...	...	1.3	1.8	1.5	1.3	1.1	1.1
2005	...	...	1.4	1.9	1.5	1.5	1.3	1.2
<b>Percent decline in market-based rates after transfers introduced</b>								
1980	-30.0	-30.2	-29.3	-13.9	-17.7	-21.3	-24.2	-37.8
1985	-33.3	-33.7	-31.6	-13.8	-18.2	-22.6	-25.0	-43.1
1990	-38.6	-39.3	-36.0	-18.7	-22.3	-27.5	-28.2	-49.7
1995	-38.0	-39.6	-33.1	-15.6	-20.1	-26.7	-29.3	-49.7
2000	-40.9	-42.3	-37.0	-18.6	-24.9	-28.6	-32.2	-52.6
2005	-40.0	-42.6	-33.8	-17.2	-20.6	-24.8	-26.9	-53.2
				% point				
<b>Percentage point decline in market-based rates after transfers introduced</b>								
1980	-7.3	-7.4	-7.0	-4.0	-4.0	-3.9	-4.7	-10.2
1985	-9.3	-9.4	-8.9	-5.5	-5.8	-5.8	-5.3	-12.5
1990	-9.8	-9.8	-9.6	-7.2	-6.9	-7.2	-6.0	-12.5
1995	-11.7	-11.5	-12.2	-8.7	-8.9	-9.9	-9.2	-15.3
2000	-10.8	-10.5	-11.8	-8.2	-9.4	-9.1	-9.1	-14.8
2005	-10.2	-9.9	-11.1	-7.5	-7.2	-8.5	-7.9	-15.1

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.



**Table 5 Direct effect of transfer system on market income-based low-income rates for children age 0 to 17**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>Market income-based low-income rate</b>				%				
1980	24.6	25.6	20.9	33.3	26.0	20.3	21.2	16.2
1985	27.2	27.6	25.5	46.2	35.1	28.1	22.8	18.4
1990	24.3	24.0	25.3	46.0	35.1	29.3	23.2	15.1
1995	30.4	28.0	38.8	65.8	50.4	42.1	35.2	23.0
2000	25.5	23.0	33.9	51.8	45.0	37.6	31.8	20.0
2005	25.9	22.4	36.3	51.9	41.1	41.1	34.8	21.3
<b>Market-based rates relative to Canadian-born</b>								
1980	...	...	0.8	1.3	1.0	0.8	0.8	0.6
1985	...	...	0.9	1.7	1.3	1.0	0.8	0.7
1990	...	...	1.1	1.9	1.5	1.2	1.0	0.6
1995	...	...	1.4	2.3	1.8	1.5	1.3	0.8
2000	...	...	1.5	2.2	2.0	1.6	1.4	0.9
2005	...	...	1.6	2.3	1.8	1.8	1.6	0.9
<b>Percent decline in market-based rates after transfers introduced</b>								
1980	-22.3	-22.5	-21.1	-16.1	-18.5	-20.4	-23.3	-24.9
1985	-23.8	-24.2	-22.1	-14.6	-18.9	-21.6	-23.9	-26.8
1990	-28.0	-28.8	-24.9	-18.8	-22.6	-25.6	-26.0	-31.3
1995	-27.1	-28.8	-22.3	-15.2	-19.2	-23.8	-26.6	-30.5
2000	-30.9	-32.8	-26.5	-18.9	-23.9	-27.3	-30.6	-34.3
2005	-30.6	-34.0	-24.4	-18.4	-22.8	-24.6	-27.1	-33.3
				% point				
<b>Percentage point decline in market-based rates after transfers introduced</b>								
1980	-5.5	-5.8	-4.4	-5.4	-4.8	-4.1	-5.0	-4.0
1985	-6.5	-6.7	-5.6	-6.7	-6.6	-6.1	-5.5	-4.9
1990	-6.8	-6.9	-6.3	-8.6	-7.9	-7.5	-6.0	-4.7
1995	-8.2	-8.1	-8.7	-10.0	-9.7	-10.0	-9.4	-7.0
2000	-7.9	-7.5	-9.0	-9.8	-10.7	-10.3	-9.7	-6.9
2005	-7.9	-7.6	-8.8	-9.5	-9.4	-10.1	-9.4	-7.1

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

**Table 6 Direct effect of transfer system on market income-based low-income rates for population age 18 to 59**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>Market income-based low-income rate</b>				%				
1980	18.3	18.7	16.2	25.6	19.8	15.5	15.8	12.9
1985	22.0	22.3	20.9	37.0	28.3	22.5	18.3	15.7
1990	19.1	19.0	19.5	35.2	27.0	21.7	17.4	13.1
1995	24.5	23.1	30.2	52.1	40.4	32.0	26.0	18.8
2000	19.8	18.5	24.8	40.7	33.6	26.9	22.8	15.3
2005	19.6	17.6	26.8	40.3	31.8	29.4	24.4	16.7
<b>Market-based rates relative to Canadian-born</b>								
1980	...	...	0.9	1.4	1.1	0.8	0.8	0.7
1985	...	...	0.9	1.7	1.3	1.0	0.8	0.7
1990	...	...	1.0	1.8	1.4	1.1	0.9	0.7
1995	...	...	1.3	2.3	1.7	1.4	1.1	0.8
2000	...	...	1.3	2.2	1.8	1.5	1.2	0.8
2005	...	...	1.5	2.3	1.8	1.7	1.4	0.9
<b>Percent decline in market-based rates after transfers introduced</b>								
1980	-21.0	-21.8	-16.6	-10.5	-14.1	-16.4	-18.0	-20.7
1985	-24.8	-25.6	-21.0	-13.4	-18.4	-20.5	-22.0	-25.9
1990	-28.6	-29.4	-24.6	-18.2	-22.4	-25.3	-25.2	-30.4
1995	-27.5	-29.0	-22.8	-15.4	-19.9	-24.2	-26.2	-31.1
2000	-27.3	-28.3	-24.1	-17.3	-22.0	-25.3	-27.4	-30.3
2005	-26.1	-28.0	-21.3	-16.5	-18.6	-22.0	-23.4	-28.3
				% point				
<b>Percentage point decline in market-based rates after transfers introduced</b>								
1980	-3.8	-4.1	-2.7	-2.7	-2.8	-2.6	-2.8	-2.7
1985	-5.5	-5.7	-4.4	-5.0	-5.2	-4.6	-4.0	-4.1
1990	-5.5	-5.6	-4.8	-6.4	-6.0	-5.5	-4.4	-4.0
1995	-6.7	-6.7	-6.9	-8.0	-8.0	-7.7	-6.8	-5.8
2000	-5.4	-5.3	-6.0	-7.0	-7.4	-6.8	-6.2	-4.6
2005	-5.1	-4.9	-5.7	-6.7	-5.9	-6.5	-5.7	-4.7

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.

**Table 7 Direct effect of transfer system on market income-based low-income rates for population age 65 and over**

	Total	Canadian-born	Immigrants	Years since immigration				
				5 or less	6 to 10	11 to 15	16 to 20	Over 20
<b>Market income-based low-income rate</b>				%				
1980	61.1	60.9	61.7	36.1	38.6	47.7	53.6	64.3
1985	54.0	54.7	52.0	40.3	45.5	45.2	44.4	53.6
1990	50.6	51.8	47.4	37.1	42.6	45.3	44.8	48.4
1995	61.3	62.3	58.7	49.0	50.4	54.2	56.3	60.2
2000	57.5	58.8	54.3	43.6	44.6	49.4	50.9	55.8
2005	51.2	52.0	49.3	36.4	44.5	49.4	49.9	50.0
<b>Market-based rates relative to Canadian-born</b>								
1980	...	...	1.0	0.6	0.6	0.8	0.9	1.1
1985	...	...	1.0	0.7	0.8	0.8	0.8	1.0
1990	...	...	0.9	0.7	0.8	0.9	0.9	0.9
1995	...	...	0.9	0.8	0.8	0.9	0.9	1.0
2000	...	...	0.9	0.7	0.8	0.8	0.9	0.9
2005	...	...	0.9	0.7	0.9	0.9	1.0	1.0
<b>Percent decline in market-based rates after transfers introduced</b>								
1980	-51.2	-53.8	-45.2	-12.8	-16.3	-39.3	-39.1	-46.8
1985	-56.0	-58.0	-50.0	-13.8	-15.2	-39.3	-41.5	-53.6
1990	-61.6	-63.4	-56.0	-22.4	-21.3	-38.8	-44.7	-60.7
1995	-68.7	-71.0	-62.3	-22.4	-27.2	-45.6	-47.6	-67.6
2000	-70.8	-72.7	-65.7	-38.1	-50.9	-51.9	-50.9	-68.7
2005	-72.1	-74.5	-66.3	-25.4	-32.9	-44.0	-44.8	-71.7
				% point				
<b>Percentage point decline in market-based rates after transfers introduced</b>								
1980	-31.3	-32.8	-27.9	-4.6	-6.3	-18.7	-21.0	-30.1
1985	-30.2	-31.7	-26.0	-5.6	-6.9	-17.8	-18.4	-28.7
1990	-31.2	-32.8	-26.5	-8.3	-9.1	-17.6	-20.0	-29.4
1995	-42.1	-44.3	-36.6	-11.0	-13.7	-24.7	-26.8	-40.7
2000	-40.7	-42.8	-35.7	-16.6	-22.7	-25.6	-25.9	-38.3
2005	-37.0	-38.8	-32.7	-9.3	-14.7	-21.7	-22.4	-35.9

Source: Statistics Canada, Census of Canada, 20% sample microdata files, 1981 to 2006.



## ■ Notes

1. Collective dwelling residents and residents of Yukon, the Northwest Territories and Nunavut, and those on Indian reserves are excluded since the low-income cut-offs are not defined for these regions in census microdata files.
2. If every person in the economic family has zero income, the immigrant status of the oldest person is used.
3. The LIM is a low-income measure set at one-half the median income. If the LIM is rebased every year, it is a purely relative measure: across the board increases in income would not affect the rate. To avoid this situation, the LIM can be fixed at a point in time and moved forward by the Consumer Price Index.
4. Low-income rates rise and fall with the business cycle (economic conditions). Hence, to observe longer-term trends, rather than short-term fluctuations in rates due to recessions and expansions, the focus is on years that are roughly in the same position in the business cycle. Here, that means focusing on 1980, 1990, 2000 and 2005, years roughly at the peak of the business cycle. Using these years will provide a reasonable estimate of longer-term trends. The increases in low-income rates in 1985 and 1995 did not really reflect longer-term trends, but rather fluctuations associated with downturns in the business cycle.
5. On-reserve First Nations people were not included in this analysis because of data issues.
6. This comparison can basically be made in two different ways. The first method, and the one used in this paper, is a simple comparison of the aggregate rate observed in the raw data for immigrants (or any particular group of immigrants) with that of all of the Canadian-born. The second method is to compute relative low-income rates that take other differences between the groups into account (a multivariate approach). This approach was used in an earlier paper (Picot and Hou 2003), which examined trends over the 1980 to 2000 period. It found that compositional changes accounted for up to one-half of the rise in the low-income rate among recent immigrants in the 1980s, but were less important thereafter. In this study, the simpler approach is used to focus on the relative roles of market earnings and government transfers on low-income rates.
7. The direct effect of transfers refers to the extent to which the dollars received from the programs such as the Spouses's Allowance, EI and child tax credits move families from below to above the low-income cut-offs. This study does not account for indirect effects. Government transfers may have work-disincentive effects: people may be less likely to seek employment if they are receiving transfers, as compared with the hypothetical case where no transfer system existed. Hence, the market income-based low-income rate computed here is not the rate that would exist if no transfers were received by families.
8. Other calculations test whether changes in family status, either among immigrants or the Canadian-born, significantly affected the basic findings reported here, and indicate that they do not (results available upon request).
9. The same low-income cut-offs (LICOs) are used for the calculations using market-based and after-transfer family income.
10. This is not a comprehensive examination of the transfer system used by immigrants. It does not account for transfers received by families with market incomes above the low-income cut-off or families with very low market incomes for which transfers received leave them below the cut-off.
11. This percentage is simply the difference in the rate before and after transfers (7.3 percentage points in 1980) divided by the rate based on market income (24.5) times 100, i.e. 30%.
12. Family earnings can change because of changes in the number of people working, the number of hours worked by those employed, or because of changes in hourly wage rates. Census data do not allow differentiation between these factors.
13. The increasing proportion of multi-generational families could also reduce the low-income rate in the absence of any change in income since the LICO assumes that economies of scale can be achieved as economic family size increases.
14. Immigrants age 65 or older who have lived in Canada for less than 10 years may still qualify for OAS if their country of origin has an international social security agreement with Canada. To date, Canada has signed 51 social security agreements and, of these, 49 are in force (Elgersma 2007).
15. There is evidence to suggest, however, that many family-class immigrants receive Spousal Allowance benefits during the first 10 years (see Thomas 1996). Immigrant low-income rates: The role of market income and government transfers Garnett Picot, Yuqian Lu and Feng Hou

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# The financial impact of student loans

May Luong

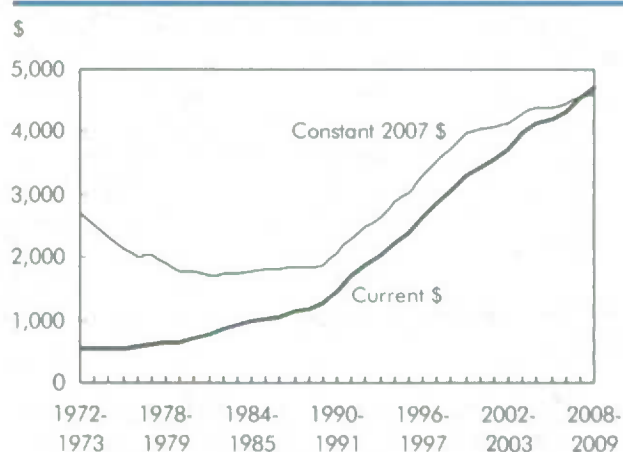
Interest in student loan debt heightened in the early 1990s when the average tuition fees jumped by 10% two years in a row. While the rate of tuition increase subsequently fell back to single digits, between 1989/1990 and 2008/2009 tuition fees more than doubled in constant dollars (Chart A).<sup>1</sup> The rise in tuition fees in most provinces brought increased attention to levels of student borrowing and associated debt loads. One study found that between 1982 and 1995, the proportion of bachelor's graduates with student loan debt rose from 45% to 47% for men and from 39% to 44% for women. Average loan amounts at graduation for those with a bachelor's degree also rose during this period by 121% for men and 145% for women (Finnie 2002).

The rise in average tuition fees is the result of a substantial shift in the funding of postsecondary education (PSE), a change requiring students to pay proportionally more while governments pay proportionally less (Schwartz and Finnie 2002). Between 1989 and 2009, average tuition fees as a percentage of total revenues for universities and colleges more than doubled, rising from 10% to 21% while funding from government fell from 72% to 55%.<sup>2</sup>

Although the cost of postsecondary education has increased for students, most individuals interested in pursuing studies are able to do so,<sup>3</sup> whether through personal savings, parental contributions or government-sponsored student loans (see *Canada Student Loans Program*). For those not eligible for government-sponsored programs, loans through private institutions are also available.

It is widely accepted that borrowing for postsecondary education is a long-term financial investment. Individuals spend time and money on their education to increase the chances of obtaining meaningful, higher-

**Chart A Average tuition fees for full-time undergraduate university students**



Source: Statistics Canada, Tuition and living accommodation costs for full-time students at Canadian degree-granting institutions, 1972/1973 to 2008/2009.

paid employment (Keeley 2007). In addition to financial gains, it has been found that students acquire other skills and experiences through higher education. These include more opportunities for self-accomplishment, social interaction and independence (Oreopoulos and Salvanes 2009).

Although costs may not deter most students from obtaining a postsecondary education, the debts accrued may be substantial. Moreover, the average benefits of a postsecondary education will not be realized by all graduates—some will do better, others worse. Thus the accumulation of student debts may have lasting effects for some portion of graduates.

To date, the majority of the research relating to the rise in tuition fees has been focused on access to postsecondary education (Frenette 2009, Finnie and Mueller 2008, Frenette 2008, Frenette 2007, Frenette

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and Zeman 2007, Christofides et al. 2006, Frenette 2006, Finnie et al. 2005, and Frenette 2004). Research in the area of student loans has been focused on trends in student loan borrowing and characteristics of student loan borrowers (Kapsalis 2006 and Finnie 2002). Little research has been directed at exploring the impact that student loans may have on individuals' financial position after graduation. The key question is "How does the financial situation of student loan borrowers compare to the situation of their non-borrowing counterparts?"

This article examines the financial position of student loan borrowers compared to non-borrowers after they have left school and uses the Survey of Labour and Income Dynamics (SLID) and the Survey of Financial Security (SFS). It begins with a contextual look at recent trends in student borrowing and default rates using the National Graduates Survey (NGS) (see *Data sources and definitions*). It then examines personal income, savings and investments, the presence of a retirement pension plan, home ownership and the presence of a mortgage, and total assets, debts and net worth for student loan borrowers and comparable groups.

## Trends in incidence of borrowing and debt level

Government-sponsored student loans comprise one option for postsecondary students without enough savings or income to cover all their education-related costs. Government-sponsored loans are usually the first option considered since, in most cases, interest does not accrue on these loans until the student leaves school (see *Canada Student Loans Program*). Borrowing directly from financial institutions or relatives may be another option if the individual does not qualify for government student loans.<sup>4</sup> Students may also use a combination of loans from the government student loans program and from other sources (i.e., financial institutions, parents, other relatives, etc.) in cases where the cost of their postsecondary education exceeds their personal resources and the amount provided by the government student loans.

Data from the NGS indicate that the proportion of graduates who had borrowed money from any source (i.e., government-sponsored programs, banks, family members, etc.) to finance their postsecondary education increased from 49% to 57%<sup>5</sup> between 1995 and 2005 (Chart B).<sup>6</sup> Among borrowers, the proportion with only a government-sponsored loan decreased

### Canada Student Loans Program

The Canada Student Loans Program (CSLP) was created in 1964 under the *Canada Student Loans Act* (HRSDC 2009a). Prior to the year 2000, loans to postsecondary students were directly provided by financial institutions while the interest portion was paid by the government. Upon graduation, students consolidated their loans and began repayment. Loans typically had a fixed ten-year amortization period, regardless of the size of the loan or the individual's financial situation. However, no restriction was placed on how quickly the loan had to be repaid.

On August 1, 2000, the program was significantly changed and the Government of Canada started to directly finance loans to postsecondary students. This was done by forming the National Student Loans Service Centre (NSLSC), which provides the funds and manages the repayment. While most provinces participate in the CSLP, Quebec, the Northwest Territories and Nunavut continue to operate their own student financial assistance programs.

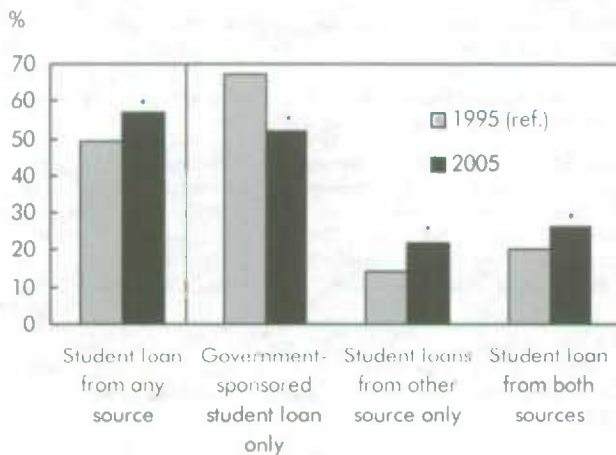
Although the CSLP is considered a national program, loan eligibility is determined by the provinces through their own needs assessment. Several factors are included in the assessment such as direct educational costs (for example tuition and books), living costs, expected savings through summer jobs, fewer work-related expenses, presumed parental contributions, scholarships, bursaries, and other financial resources. A loan certificate is issued (up to a certain maximum) if expected expenses exceed expected financial resources. Additional provincial loans and grants are then added (up to a certain maximum) to cover the remaining shortfall (Finnie 2002).

The government does not charge interest on loans for full-time students until after they have completed their studies or left school. While payments are not required until six months thereafter, interest starts to accumulate the month after the student leaves school. Part-time students are charged interest while they are in school and must make interest payments. Payment toward principal and interest is required once the student ceases his/her studies (Government of Canada 2009).

during this period from 67% to 52% while the proportion with only loans from other sources increased from 14% to 22%, and those with student loans from both government-sponsored programs and other sources increased from 20% to 26%.

As the proportion of graduates with student loans has risen over time, so too has the amount owed for those graduating with debt. Between 1995 and 2005, the average amount owing on government loans at graduation<sup>7</sup> increased from \$14,700 to \$16,600.<sup>8</sup> When student loans borrowed from other sources are factored in, the figures increased to \$15,200 and \$18,800 respectively.<sup>9</sup>



**Chart B Student loan sources**

\* significantly different from the reference group (ref.) at the 0.05 level  
 Note: Sample of students who ever borrowed for school is 20,457 representing 145,100 weighted individuals from the class of 1995 and 23,012 representing 200,700 weighted individuals from the class of 2005.

Source: Statistics Canada, National Graduates Survey, 1995 and 2005.

The increase in the average total student loan at graduation between 1995 and 2005 was much lower than the increase in tuition fees during this period. For example, the average total tuition for a 1995 graduate of a four-year program was \$10,300. The average student graduating a four-year program in 2005 paid \$16,900.<sup>10</sup> So typical tuition fees increased \$6,600, while average government-sponsored student loan debt increased by \$1,900 and total student loan debt increased by \$3,600.

While the average student loan amount is one indication of the level of debt that graduates are accumulating, it is also important to examine the distribution of student loan debt. In 1995, the proportion of student loan borrowers that owed \$25,000 or more at graduation was 17%,<sup>11</sup> and this proportion increased to 27% by 2005.<sup>12</sup> Moreover, the proportion owing \$50,000 or more has tripled from 2% to 6% (Table 8). Consequently, in 2005, Canada not only had more individuals graduating with student loans, but also an increasing proportion graduating with larger debt loads than in the past.

Although debt loads have increased somewhat, the repayment period after graduation has not increased substantially. On average, the number of years that stu-

dents expected to take to repay their loans did not differ significantly between 1995 and 2005 (7.2 and 7.4 years respectively). Similarly, the proportion of students who expected to take more than 10 years to repay their loans did not increase significantly (from 18% to 20%).

Finally, default rates have also not risen with rising debt levels. The total default rate among all CSLP borrowers for the 2005/2006 school year was reported as 15%, which actually fell from the 2003/2004 default rate of 28%<sup>13</sup> (HRSDC 2009b). Evidence from previous research suggests that inability to pay is the most important cause of default (Schwartz 1999). Other correlates of default include borrowers' lack of knowledge and confusion regarding repayment obligations, and that some borrowers simply refuse to pay (Ibid.).

### Student borrowers and comparison groups

The findings so far provide a context on trends in student borrowing. This section uses data from the 2007 cross-sectional file of the Survey of Labour and Income Dynamics to examine whether there are differences in the employment status, total personal income, investments, registered retirement savings plans, home ownership, and presence of mortgage for student loan borrowers and non-borrowers.

The focus of this study is to compare borrowers with non-borrowers. However, the group of non-borrowers includes a large proportion of those who did not enrol in PSE, while borrowers would have at least some PSE. Since education level is highly correlated with individuals' financial situation, it is important to separate this group into those who have PSE and those who do not. As noted earlier, postsecondary graduation is associated with long-term monetary and non-monetary rewards (Orcopoulos and Salvanes 2009). Since these rewards are the result of both learning and non-random selection bias, graduates should be treated separately from non-graduates. Thus the primary comparison is between postsecondary graduates with or without student loans: shortened to PSE borrowers and PSE non-borrowers for brevity. Further controls will be introduced for type of institution—university versus non-university—and degree level for university graduates.

Although comparing graduates to graduates is the most obvious comparison, it has the potential to put the financial situation of graduate borrowers in a relatively negative light that doesn't adequately reflect the



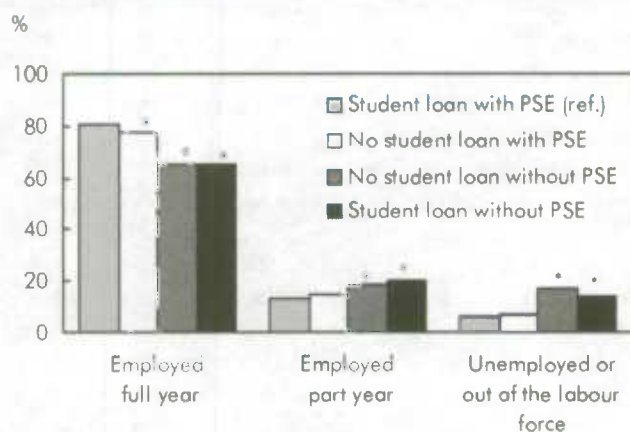
labour market advantages of postsecondary graduates vis-à-vis non-graduates. Thus our secondary comparison group is non-graduates in the same age ranges. Since this group also includes individuals with incomplete postsecondary studies, it is also possible to compare borrowers and non-borrowers without postsecondary education (borrowers without PSE and non-borrowers without PSE). Further controls distinguish those with some PSE from high school graduates and those with less than a high school education.

In each case, the target population includes those who are between the ages of 20 and 45 and who are no longer attending school.

### Education level is the strongest correlate of employment and income levels

The SLID data reaffirm the labour market returns to postsecondary education. Overall, 74% of all respondents age 20 to 45 were employed full year in 2007, with approximately 16% employed part year.<sup>14</sup> The remaining 10% were unemployed or out of the labour force. Among student loan borrowers with PSE, a significantly higher proportion were employed full year (81%) than all other groups (Chart C). However, the difference in the proportion of workers employed

**Chart C Employment status by level of education and student debt**



\* significantly different from the reference group (ref.) at the 0.05 level  
 Note: Sample size is 14,353 observations representing almost 8.6 million individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

### Models

While descriptive statistics can provide information on relationships among several variables, regression analysis can take many factors into account at once that may also influence the dependent variable. Below are two types of regression models used in this study.

The **linear regression model** uses the method of ordinary least squares (OLS) and is expressed as a linear combination of the explanatory variables. The linear regression model is used in estimating the predicted level of net worth since the dependent variable is continuous and consists of positive and negative values. The model takes the form

$$Y_i = \beta_1 + \beta_2 x_{i1} + \dots + \beta_p x_{ip} + \varepsilon_i \quad i = 1, \dots, n$$

where  $Y_i$  is the dependent variable,  $x_{ip}$  are the independent variables or covariates,  $\beta_p$  are the estimated coefficients, and  $\varepsilon_i$  is the disturbance term.

Regression models of wage determination typically take the form of a **log-linear model** estimated by ordinary least squares using the logarithm of the dependent variable. However, in the **generalized linear model** (GLM) framework (McCullagh and Nelder 1989), this log-linear model can be estimated by maximum likelihood methods without having to transform the dependent variable. The GLM takes the form

$$Y_i = \exp(\beta_1 + \beta_2 x_{i1} + \dots + \beta_p x_{ip} + \varepsilon_i), \quad i = 1, \dots, n.$$

The **logit model** is used when the dependent variable is dichotomous, taking the values of 0 and 1. Therefore, the logit model is used when estimating the probability of having investments, having a retirement pension plan, home ownership, and presence of a mortgage. The logistic function takes the form

$$P_i = 1 / (1 + e^{-Z_i}) = e^Z / (1 + e^Z)$$

where  $Z_i = \beta_1 + \beta_2 x_{i1}$  and  $P_i$  is the predicted probability. As  $Z_i$  ranges from  $-\infty$  to  $+\infty$ ,  $P_i$  ranges between 0 and 1.

full year between borrowers and non-borrowers with PSE was minimal (a 3 percentage point difference), while the difference between the borrowers with PSE and the two non-PSE groups was much larger (16 percentage points). Moreover, a larger proportion of borrowers and non-borrowers without PSE were unemployed or not active in the labour force (14% and 17% respectively) when compared with the two PSE groups.<sup>15</sup>

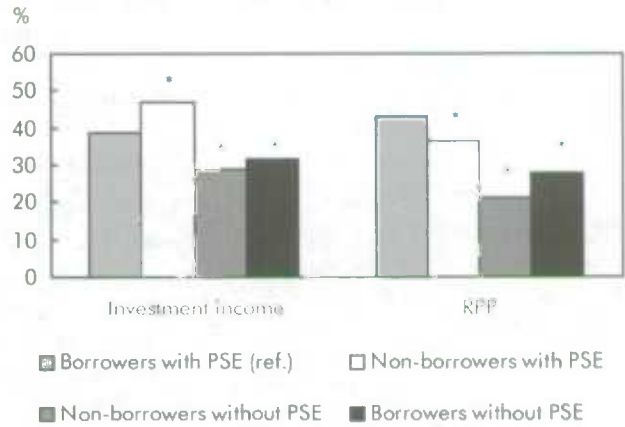
Regression analysis is used to control for observable factors that may have an influence on total personal income before taxes. The effect of other variables on income is estimated using a generalized linear model (GLM)<sup>16</sup> in the log-linear form (see *Models*). The sample of individuals with PSE is estimated separately

from those without PSE. By separating the sample into PSE and non-PSE, the regression models are also able to control for education level while simultaneously accounting for the interaction effect between student loan status and PSE status. Both models indicate that student loan status does not have a statistically significant relationship with total personal income.<sup>17</sup>

Some other results are worth noting: in the PSE model, graduates with a non-university postsecondary education, on average, have personal income that is approximately 0.73<sup>18</sup> of those with a bachelor's degree (Table 1). In other words, non-university postsecondary graduates have about 27% lower personal incomes than graduates with a bachelor's degree. And those with a graduate degree have almost 1.3 times the personal income of those with a bachelor's degree. However, education level within the non-PSE group is not significantly related to total income.

Overall, the results suggest that having a student loan does not affect individuals' income levels relative to other graduates. Among PSE graduates, educational attainment is positively associated with personal income. However, the total income of postsecondary

**Chart D Proportion with investment income and registered pension plans**



\* significantly different from the reference group (ref.) at the 0.05 level  
 Note: Sample size is 14,353 observations representing almost 8.6 million individuals age 20 to 45 who were not students in 2007.  
 Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2007.

**Table 1 Results of generalized linear model on total personal income before taxes**

	Model 1 with PSE <sup>1</sup> Baseline \$79,500		Model 2 without PSE Baseline \$42,000	
	Estimated coefficient	Ratio	Estimated coefficient	Ratio
Intercept	11.283	...	10.646	...
<b>Student loan status</b> (ref. non-borrower)				
Borrower	-0.016	0.984	-0.109	0.897
<b>Highest education level</b> (ref. some postsecondary)				
Some high school	...	...	-0.201	0.818
High school graduate	...	...	-0.083	0.921
(ref. bachelor's degree)				
Non-university postsecondary	-0.321*	0.726*	...	...
Graduate degree	0.223*	1.250*	...	...

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size for Model 1 is 8,578 observations representing over 5 million individuals.

Model 2 is 5,256 observations representing over 3 million individuals. The target sample is those age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

non-finishers is not significantly different from the income of high school graduates and those who did not complete high school.

### Student loan borrowers less likely to have savings and investments

Between 2002 and 2007, non-borrowers with PSE had the highest proportion of individuals with savings and investments (47%).<sup>19</sup> This is followed by borrowers with PSE (39%) and the two non-PSE groups (both less than 33%) (Chart D).<sup>20</sup>

Results from logit models<sup>21</sup> estimating the probability of having investment income yield similar results (see *Models*). In the PSE model, results show that borrowers had a significantly lower probability of having investments

compared to non-borrowers (42% versus 52%) (Table 2).<sup>22</sup> However, results from the non-PSE group show that borrowers were not significantly different from non-borrowers in their probability of having investments. Once again, education level also seems to make a difference. For instance, among those with PSE, those with a non-university postsecondary diploma or certificate were 17 percentage points less likely to have investments when compared with those holding a bachelor's degree. Similarly, in the non-PSE group, those who did not graduate from high school were 10 percentage points less likely to have investments than those who had some postsecondary education. However, high school graduates were not significantly different than those with some postsecondary education in their likelihood of having invest-

ments. Overall, the results show that the difference in the probability of having investments is only significant for borrowers in the PSE group. For this group, individuals with student loans are less likely to put money towards savings and investments.

### Registered pension plans

The accumulation of retirement assets is another important component of personal wealth and financial well-being. One type of retirement asset is the registered pension plan (RPP), which is typically available in either unionized settings or highly skilled jobs associated with higher levels of education. RPPs may be funded by both the employee and the employer. Therefore, RPP contribution<sup>23</sup> is an indication that the respondent has an employer retirement pension plan. Between 2002 and 2007, bor-

rowers with PSE had the largest proportion of individuals with an RPP (43%) followed by non-borrowers with PSE (36%). Both of these groups are more likely to have an RPP than non-borrowers without PSE (21%) and borrowers without PSE (28%) (Chart D).

Logit models are used to estimate the probability of having an RPP while controlling for other related factors (*see Models*).<sup>24</sup> Once education levels and other factors are controlled for in the models, the differences in the likelihood of having an RPP are no longer significant between borrowers and non-borrowers (Table 3). On the other hand, level of education is a significant factor associated with the likelihood of having an RPP. Model 1 shows that those with a non-university postsecondary certificate have a lower predicted probability of having an RPP when compared with those holding a bachelor's degree (36% versus 42%). Similarly, Model 2 indicates those who did not graduate from high school are less likely to have RPP than non-finishers with some postsecondary education (24% versus 34%).

Overall then, the probability of having an RPP increases with education, but does not differ significantly between borrowers and non-borrowers.

### Student loan borrowers with PSE less likely to be homeowners than other graduates

Home ownership is a long-term investment and is the largest asset for many younger adults. In 2007, 71% of borrowers with PSE were homeowners, just below the rate for non-borrowers with PSE (74%) (Chart E).<sup>25</sup> The proportion

**Table 2 Probability of receiving investment income**

	Model 1 with PSE <sup>1</sup>		Model 2 without PSE	
	Estimated coefficient	Predicted probability (%)	Estimated coefficient	Predicted probability (%)
Intercept	0.093	52	-0.615	35
<b>Student loan status</b> (ref. non-borrower)				
Borrower	-0.396*	42	-0.035	34
<b>Highest education level</b> (ref. some postsecondary)				
Some high school	...	...	-0.488*	25
High school graduate	...	...	-0.026	33
(ref. bachelor's degree)				
Non-university postsecondary	-0.721*	35	...	...
Graduate degree	0.223	58	...	...

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size of Model 1 is 9,118 observations representing almost 5.5 million weighted individuals. Model 2 is 6,121 observations representing over 3.6 million weighted individuals. Samples for both models include individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2007.



**Table 3 Probability of having a registered pension plan**

	Model 1 with PSE <sup>1</sup>		Model 2 without PSE	
	Estimated coefficient	Predicted probability (%)	Estimated coefficient	Predicted probability (%)
Intercept	-0.315	42	-0.675	34
<b>Student loan status</b> (ref. non-borrower)				
Borrower	0.102	45	-0.025	35
<b>Highest education level</b> (ref. some postsecondary)				
Some high school	...	...	-0.531*	24
High school graduate	...	...	-0.059	34
(ref. bachelor's degree)				
Non-university postsecondary	-0.266*	36	...	...
Graduate degree	-0.238	37	...	...

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size of Model 1 is 8,606 observations representing almost 5.1 million weighted individuals. Model 2 is 5,283 observations representing over 3 million weighted individuals. Samples for both models include individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2002 to 2007.

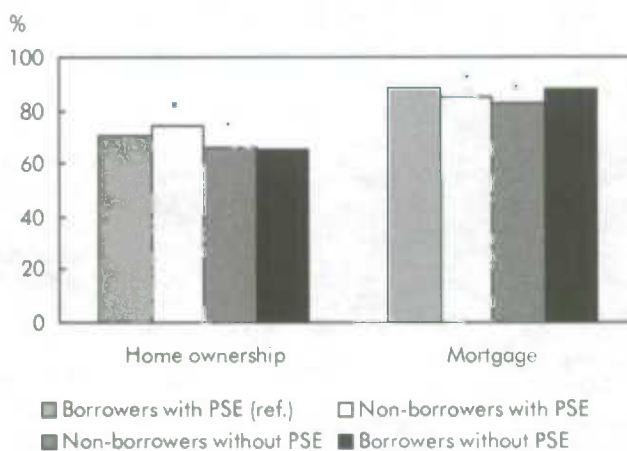
were one of the least likely to own their homes, they were also the least likely to have a mortgage (82%). Results from logit models<sup>27</sup> estimating the probability of homeowners having a mortgage for those with PSE indicate that borrowers were significantly more likely to have a mortgage than non-borrowers (Table 5). However, the actual difference in the predicted probability of having a mortgage between borrowers and non-borrowers was quite small (2 percentage points). Mortgage holding in the non-PSE group did not differ significantly between borrowers and non-borrowers.

Overall, the results show that borrowers with PSE are less likely to own their homes, and when they do, are slightly more likely to have

of homeowners among non-borrowers without PSE (66%) is significantly lower than borrowers with PSE, but not significantly different from borrowers without PSE (65%).

Similar results were found when controlling for other related factors using the logit model.<sup>26</sup> In the PSE model, the probability of being a homeowner for borrowers is significantly lower than for non-borrowers (53% versus 60%) (Table 4). A similar gap between borrowers and non-borrowers is estimated in the non-PSE model, but is not statistically significant. Similar to the previous models, educational attainment is positively and significantly associated with the likelihood of home ownership.

While home ownership may suggest an accumulation of assets, most homes are financed through mortgages. Given home ownership, are student loan borrowers more or less likely to have repaid their mortgage compared to non-borrowers? Given the age group of the target population (20 to 45), the majority of homeowners had a mortgage in 2007. Overall, student loan borrowers, both with and without PSE, had the highest proportion of homeowners with a mortgage (88%) (Chart E). And although non-borrowers without PSE

**Chart E Home ownership and presence of mortgage**

\* significantly different from the reference group (ref.) at the 0.05 level  
Note: Sample size is 13,631 observations representing over 7.9 million individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

**Table 4 Probability of owning a home**

	Model 1 with PSE <sup>1</sup>		Model 2 without PSE	
	Estimated coefficient	Predicted probability (%)	Estimated coefficient	Predicted probability (%)
Intercept	0.417	60	0.924	72
<b>Student loan status</b> (ref. non-borrower)				
Borrower	-0.307*	53	-0.358	64
<b>Highest education level</b> (ref. some postsecondary)				
Some high school	...	...	-0.641*	57
High school graduate	...	...	-0.268	66
(ref. bachelor's degree)				
Non-university postsecondary	-0.355*	52	...	...
Graduate degree	-0.288	53	...	...

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size of Model 1 is 8,476 observations representing over 4.9 million weighted individuals. Model 2 is 5,140 observations representing almost 3 million weighted individuals. Samples for both models include individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

loan borrowers and non-borrowers. The target population here is restricted to those age 20 to 29 in order to minimize selection bias (see *Data sources and definitions*). In general, student loan borrowers with a postsecondary education are not statistically different in their average total debts but have lower average assets and net worth than their non-borrowing counterparts. The average amount of assets of borrowers with PSE is \$60,700 compared to \$106,300 for non-borrowers with PSE (Table 6). With similar debt levels between student loan borrowers and non-borrowers with PSE, the overall average net worth of student loan borrowers with PSE is significantly lower than that for non-borrowers with PSE (\$17,500 and \$61,900 respectively).

a mortgage compared to non-borrowers with PSE. Since most mortgages are based on the debt service capacity of the applicant, student loan debt may well impede the home purchase decision for some borrowers. Given home ownership, borrowers still making student loan payments will have fewer resources available to pay down their mortgages. On the other hand, those without PSE, whether they are borrowers or not, show no statistical difference in their probability of owning their homes and having a mortgage.

### Wealth of student loan borrowers significantly below their non-borrowing counterparts

The 2005 Survey of Financial Security enables an examination of the overall wealth levels of student

**Table 5 Probability of having a mortgage**

	Model 1 with PSE <sup>1</sup>		Model 2 without PSE	
	Estimated coefficient	Predicted probability (%)	Estimated coefficient	Predicted probability (%)
Intercept	2.419	92	2.326	91
<b>Student loan status</b> (ref. non-borrower)				
Borrower	0.335*	94	0.460	94
<b>Highest education level</b> (ref. some postsecondary)				
Some high school	...	...	0.091	92
High school graduate	...	...	0.138	92
(ref. bachelor's degree)				
Non-university postsecondary	0.101	93	...	...
Graduate degree	-0.514*	87	...	...

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size of Model 1 is 6,683 observations representing over 3.7 million weighted individuals. Model 2 is 3,559 observations representing over 2 million weighted individuals. Samples for both models include individuals age 20 to 45 who were not students in 2007.

Source: Statistics Canada, Survey of Labour and Income Dynamics, 2007.

## Data sources and definitions

The **National Graduates Survey** (NGS) examines the labour market experiences of graduates from Canadian public postsecondary institutions such as universities, CEGEPs, community colleges and trade/vocational programs. The survey focuses on employment, type of occupation and the relationship between jobs and education. The target population of the NGS consists of all graduates from a recognized public postsecondary Canadian institution who completed the requirements of an admissible program or obtained a diploma some time in 2005, and who were living in Canada or the United States at the time of the survey (with the exception of American citizens living in the United States at the time of the survey). To date, six graduating classes have been surveyed: 1982, 1986, 1990, 1995, 2000 and 2005. This study compares the results from the classes of 1995 and 2005.

The **Survey of Labour and Income Dynamics** (SLID) is a longitudinal survey composed of six-year panels with a cross-sectional component. A new panel is introduced every three years, so two panels always overlap. Each panel consists of roughly 15,000 households—about 30,000 adults—and covers all individuals in the 10 provinces, excluding persons living on Indian reserves and residents of institutions. This study mainly uses the 2007 cross-sectional component of SLID.<sup>30</sup> All data presented are weighted<sup>31</sup> and bootstrap weights are used for significance testing. In 2005, SLID started providing information on individuals' student loan status. Specifically, all respondents are asked whether they ever received a student loan. If the answer is 'yes' then they are asked the total amount borrowed and the current amount owing. The student loan questions were only asked of respondents age 16 to 45. Since a very small percentage of respondents under the age of 20 had finished their postsecondary education, only those age 20 to 45 were included in the analysis presented in this section. In addition, respondents who reported attending school either full time or part time in 2007 were excluded since the objective of this paper is to examine the financial position of non-students.

The **Survey of Financial Security** (SFS) collects information from 9,000 households on their income, education, employment, assets, debts, as well as student loans. It thus provides information on the net worth (wealth) of Canadian families. Excluded are those living on Indian reserves and crown lands, residents of the territories, members of religious and other communal colonies, members of the Armed Forces living in military camps, and those living in institutions and residences for seniors.

This study uses the 2005 cycle of the SFS. A limitation of the SFS for this study is that it only screens in student loan respondents who reported outstanding debt on their student loans in the reference year. Therefore, individuals who had previously paid off their student loans would be incorrectly categorized as not having had a student loan and would have been screened out of the student loan questions. Those who had previously paid off their student loans are also likely to be more financially well-off, which potentially leads to a selection effect. In order to minimize this selection effect, only respondents age 20 to 29 who were the major income earner or the spouse/common-law partner were included in this section.<sup>32</sup>

The **target population** for student loan borrowers varied for this study depending on the survey. For contextual information and recent trends, the analysis using the 1995 and 2005 NGS included all respondents in the survey (graduates from the classes of 1995 and 2005), regardless of age. The total sam-

ple for the 1995 NGS is approximately 43,000 respondents, representing almost 300,000 graduates. For the 2005 NGS, the total sample is approximately 39,600, representing more than 350,000 graduates. The target population using SLID included those age 20 to 45 in 2007, since those over the age of 45 are not asked the student loan questions. The sample in SLID is approximately 15,300 respondents, representing over 9 million individuals. Finally, the analysis using the SFS included only those age 20 to 29 in 2005 to minimize selection bias. The total sample is about 500 respondents, representing almost 1.7 million individuals.

**Investment income** is used as a proxy for savings and investments. SLID defines investment income to include actual amount of dividends (not taxable amount), interest, and other investment income, like net partnership income and net rental income.

### Total assets include

- Total non-pension financial assets;
- Subtotal of non-financial assets (principal residence, other real estate and other non-financial assets);
- Total of asset value of pension, major retirement funds and less common retirement savings instruments;<sup>33</sup>
- Accumulation of value of all businesses operated by the family unit.

### Total debts include

- Mortgage on principal residence, final value;
- Mortgages on other real estate in Canada and the mortgage associated with the non-farmhouse portion of the principal residence if it is a farm;
- Accumulation of debt value of mortgages on real estate outside Canada;
- Accumulation of debt value of major credit cards;
- Accumulation of debt value of other credit cards;
- Accumulation of debt value of other deferred payment and instalment plans;
- Accumulation of debt value of student loans;
- Accumulation of debt value of car, truck and van loans;
- Accumulation of debt value of other vehicle loans;
- Accumulation of debt value of home equity line of credit;
- Accumulation of debt value of other than home equity line of credit;
- Accumulation of debt value of other loans from financial institutions;
- Accumulation of debt value of other money owed.

**Some postsecondary** includes university and non-university postsecondary.

**Bachelor's degree** includes bachelor's degree and university diploma or certificate above bachelor's and below master's.

**Non-university postsecondary** includes non-university postsecondary certificate and university certificate below bachelor's degree.

**Graduate degree** includes master's degree, degree in medicine, dentistry, veterinary medicine, optometry or first professional degree in law, and doctorate.



**Table 6 Average total assets, debts and net worth**

	Total assets	Total debts	Net worth
	Estimated coefficient (\$)		
Student loans with PSE <sup>1</sup> (ref.)	60,700	43,300	17,500
No student loans with PSE	106,300*	44,400	61,900*
No student loans without PSE	52,000	24,000*	28,000
Student loans without PSE	36,000	38,800	-2,700*

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Sample size is 533 observations representing over 1.8 million weighted counts. Total assets, debts, and net worth are related to the family unit where the major income earner in the family was between the ages of 20 and 29 in 2005.

Source: Statistics Canada, Survey of Financial Security, 2005.

The results of a linear model,<sup>28</sup> which controls for other factors<sup>29</sup> affecting net worth, supports these results. While the two non-PSE groups are not significantly different from borrowers with PSE, non-borrowers with PSE have significantly higher estimated net worth (Table 7). Non-borrowers with PSE have, on average, \$39,200 more in net worth than borrowers with PSE.

Leaving school with debt will understandably slow down the initial accumulation of wealth, but the reward of higher education will often pay off over the long term. Nevertheless, deeper debt is likely to extend the turnaround period in which student loan borrowers are able to start accumulating wealth.

## Summary

With increasing postsecondary education costs, more students are relying on student loans to help finance their postsecondary education. Between 1995 and 2005, the student borrowing rate among graduates increased from 49% to 57%, as did the average debt from

**Table 7 Results of linear model for net worth**

	Estimated coefficient (\$)
Intercept	59,400
<b>Student loans</b> (ref. loans with PSE <sup>1</sup> )	
No loan with PSE	39,200*
No loan without PSE	13,200
Loan without PSE	-21,400
<b>Age</b>	
Centred at 25	3,000*
Centred square	1,100
Women (ref. men)	-19,300*
<b>Marital status</b> (ref. married)	
Separated, divorced, widowed	F
Single, never married	-43,800*

\* significantly different from the reference group (ref.) at the 0.05 level

1. Postsecondary education.

Note: Other variables included in the model but not reported as they are not statistically significant include province of residence, area size of residence, mother tongue, activity limitation, major activity, and occupation. Sample size is 532 observations representing over 1.8 million individuals age 20 to 29 in 2005. Total assets, debts, and net worth are related to the family unit where the major income earner in the family was between the ages of 20 and 29 in 2005.

Source: Statistics Canada, Survey of Financial Security, 2005.

student loans (\$15,200 and \$18,800). A small but growing proportion of borrowers are graduating with debt loads of \$25,000 or more.

Among postsecondary graduates, borrowers did not differ significantly from non-borrowers with PSE in terms of employment rates, total personal income and likelihood of having an RPP. But borrowers were less likely to have savings and investments, or own their homes. Among graduates age 20 to 29, total debt was similar for borrowers and non-borrowers—not surprising since their capacity to service debt, as evidenced by total income, was nearly equal. On the other hand, borrowers with PSE have, on average, lower assets and correspondingly lower net worth than non-borrowers with PSE.

The study also examined the small population who had accumulated student debt during an incomplete course of postsecondary study. Although many of the results for this group were imprecise due to the small sample size, the average net worth of borrowers without PSE was significantly lower when compared with other borrowers with PSE.

The results suggest that while student debt continues to affect individuals' finances for years after graduation, borrowers who complete their postsecondary education are receiving similar labour market returns to their education as non-borrowers. Moreover, both groups of graduates fare much better in the labour market compared to those with less education—including those with partial postsecondary studies.

**Table 8 Recent trends in student loans, classes of 1995 and 2005**

	1995 (ref.)				2005		
	Both sexes <sup>1</sup>	Men	Women		Both sexes	Men	Women
<b>Population of graduates<sup>2</sup></b>	298.2	129.3	168.6	'000	354.2	148.9*	205.3*
<b>Graduates</b>	100	43	57	%	100*	42*	58*
With student loan from any source	49	49	49		57*	55*	58*
<b>Borrowers</b>							
with only government student loan	67	65	68		52*	49*	55*
with only loan from other sources	14	15	13		22*	24*	20*
with student loan from government and other sources	20	21	19		26*	27*	26*
Repaid government student loan by graduation	8	8	9	\$	17*	17*	17*
Average government student debt at graduation <sup>3</sup>	14,700	14,100	15,100		16,600*	16,100*	17,000*
Average student debt from all sources <sup>3,4</sup>	15,200	14,800	15,400		18,800*	18,600*	19,000*
				%			
Owing \$25,000 or more <sup>5</sup>	17	16	17		27*	26*	27*
Owing \$50,000 or more <sup>5</sup>	2	2	2		6*	5*	6*
				years			
Average years expected to repay student loan	7.2	6.6	7.6		7.4	7.1*	7.5
				%			
Expected to take more than 10 years to repay loan	18	13	22		20	18*	21

\* significantly different from the reference group (1995) at the 0.05 level

1. Some 248 weighted respondents had missing values for their gender.

2. The population in the NGS includes graduates from Canadian postsecondary institutions. This study examines graduates from the classes of 1995 and 2005.

3. Average estimates of student debt at graduation exclude those who reported "don't know, refusal, or not applicable."

4. The average amount of student debt from all sources is likely underestimated for 1995 as the variable for the amount of loan owing from other sources at graduation is not available for 1995. Instead, the amount of loan owing from other sources now (two years after graduation) is used. Since some students may have fully repaid or reduced the amount owed to other sources within the two-year period, this number would likely be underestimated, which means the difference between the 1995 and 2005 amounts is likely overestimated.

5. Proportion owing estimated at graduation and for those who had positive and non-zero student debts.

Source: Statistics Canada, National Graduates Survey, 1995 and 2005.

## ■ Notes

- While Chart A represents the average tuition fees across all provinces in Canada, Quebec tuition fees have been frozen since the late 1990s and are currently less than one-half the national average.
- Consolidated Government Revenue and Expenditure. The remaining proportion of government revenues comes from other sales of goods and services, investment income, and other sources of revenue.

- Frenette (2007) found that only 12% of the total gap in university attendance between youth from the top and bottom income quartiles is related to financial constraints.
- Grants and bursaries are also another option. Grants and bursaries in effect during the period from 1995 to 2005 include the Millennium Bursary Program, the Millennium Access Bursary Program, and the Canada Access Grant for Students from Low-income Families. However, a detailed analysis of the grants and bursaries programs is beyond the scope of this study.

5. Includes money borrowed from the government-sponsored student loans program, banks and institutions, and parents or other relatives.
6. See Table 8 for statistics broken down by sex. Overall, means and proportions by sex were not much different from the overall numbers.
7. Only borrowers who had a positive loan amount were included in estimating the average, while those who had paid back their loans in full were excluded. In 1995, 8% of student loan borrowers from the government-sponsored program had repaid their loans in full prior to graduation. This proportion increased to 17% in 2005.
8. Unless otherwise stated, all dollar values in this study are in 2007 constant dollars.
9. The combined 1995 figure is likely underestimated as the NGS only asked about the amount that respondents owed to other sources at the time of the survey, which was two years after graduation. Therefore, it is likely that some of the loans had been paid down during this time. Nevertheless, the combined 2005 figure does reflect the amount owed at the time of graduation, which indicates that loan amounts from other sources make up a considerable portion of the total student loan amount.
10. The average tuition fee in 2007 constant dollars from all postsecondary programs is used. This is to keep the comparison to borrowing levels consistent since average borrowing amounts also include all postsecondary programs.
11. As previously noted, the amount of student loans from other sources upon graduation is not available for 1995. Therefore, this figure may be underestimated.
12. All values are calculated in 2007 constant dollars.
13. The CSLP considers a borrower to have defaulted when the loan is in arrears for more than 270 days (about 9 months of payments).
14. Approximately 16% of the sample reported being self-employed in 2007. Only borrowers without PSE were significantly less likely to be self-employed when compared with the reference group of borrowers with PSE (12% versus 17%).
15. The proportion of full-time workers in 2007 was between 88% and 89% for all groups.
16. The sample for this model excludes those who were not employed full year. Those who worked part year were included. The model controls for student loan status, education, age group, full-year full-time experience, marital status, family characteristics, immigrant status, visible minority status, disability status, parental education, province, area size of residence, and occupation.
17. Models for annual earnings were also estimated and results were similar to the income models. Total income models are presented since they include returns to capital which might differ between non-borrowers and borrowers (who are assumed to be more credit-constrained).
18. Ratios were calculated using the post-estimation e-form option in STATA. Specifically, it takes the form of  $\exp(\beta)$  to calculate the ratio between a dummy variable and its reference category.
19. Individuals are considered to have savings or investments if they reported investment income that includes actual amount of dividends (not taxable amount), interest, and other investment income, like net partnership income and net rental income. Since investments may not yield a return every year, in order to minimize incorrectly categorizing individuals who may have made investments but did not receive a return, a respondent is flagged to have investment income if he or she received investment income for any year between 2002 and 2007.
20. All means and proportions are age standardized.
21. Factors controlled for include age, education, number of years of full-year full-time experience, marital status, family characteristics, immigrant status, visible minority status, gender, parental education, province and area size of residence, and occupation.
22. It is possible that those in the older age groups of the sample (35 to 45) have a higher likelihood of receiving income from inheritance which may give them more opportunities to invest and/or save. To see if this is the case, the model was rerun excluding those age 35 to 45. The results did not indicate any substantial differences between the full model and the restricted model, suggesting that inheritance income was not a major contributor to the likelihood of having investment income.
23. Respondents are categorized as having an RPP if they made any RPP contributions between 2002 and 2007.
24. Factors controlled for include age, education, number of years of full-year full-time experience, marital status, family characteristics, immigrant status, visible minority status, gender, parental education, province and area size of residence, and occupation.
25. SLID asks whether the dwelling is owned by a member of the household. In order to increase the likelihood that the dwelling is owned by the respondent, only those who reported themselves to be the major income earner or the spouse/partner are included in this section. Those excluded represent 11% of the sample.
26. Factors controlled for include age, years since last degree or certificate was completed, marital status, family characteristics, immigrant status, visible minority status,



- gender, parental education, province and area size of residence, occupation, and average annual total income before tax and its square to allow for a nonlinear relationship.
27. Factors controlled for include age, years since last degree or certificate was completed, marital status, whether the respondent was living with children or parents, immigrant status, visible minority status, gender, parental education, province and area size of residence, occupation and income.
  28. Because of a large number of records with negative values, a linear model is used rather than a log-linear model (see *Models*).
  29. Variables with a significant effect on net worth include age, sex and marital status. Other variables that are also in the model but not reported as they are not statistically significant include province, area size, occupation, mother tongue, activity limitation, and major activity.
  30. The longitudinal component is used in rare incidences like when the proportion of individuals who made contributions to an RPP between 2002 and 2007 was calculated.
  31. The survey weight ILBWT26 is used.
  32. According to SLID, only 26% of respondents age 20 to 29 had paid off their student loans in 2005. In addition, the average student loan for those within this age range and who had repaid their loans was only \$8,600, compared to \$14,500 for those who had not repaid their loans.
  33. These include RRSPs, LIRAs and RRIFs, current pensions, deferred pensions and pensions in pay, deferred profit-sharing plans, executive and foreign pension plans, and annuities. Current pension plans in this subtotal are valued on termination basis.
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# Employer top-ups

Katherine Marshall

Although 'priceless' in many ways, there are financial costs to having children. One factor is earnings lost from employment absences after childbirth. Most mothers are employed before birth and most of those receive benefits from either the federal or Quebec maternity and parental leave programs. However, since these benefits replace only a proportion of insurable earnings—up to 75% in Quebec and 55% outside Quebec—most households experience a reduction in household income during the work absence (see *EI and QPIP*).

The costs of parental leave can go beyond short-term income losses. Birth-related employment absences may result in missed training opportunities, promotions and the accumulation of work experience, which might explain some of the persistent earnings gap between women with and without children. Long career interruptions of three or more years have been shown to be a significant factor linked to the "motherhood earnings gap" (Zhang 2009).

To compensate for earnings lost by employees on leave, some employers provide parents with a Supplemental Unemployment Benefit (SUB), also known as a top-up. The SUB is a government initiative that employers use as a means of reducing the net earnings loss of their employees on leave (see *The SUB Program*). Employer top-ups are only available to those already entitled to Employment Insurance/Quebec Parental Insurance Plan (EI/QPIP) benefits. Payments cover some or all of the difference between what parents receive from EI/QPIP and their regular earnings. The earnings replacement rate, duration of payment and coverage (mothers, fathers and adoptive parents) vary among companies. Top-ups could also indirectly enhance long-term earnings since they often stipulate a return to employment within a specified time, thus encouraging job continuity.

By providing a higher level of overall earnings replacement, employer top-ups may enable more parents to remain on leave for a longer period. EI maternity and parental benefits comprise a core element of the National Children's Agenda designed to help parents better manage the demands of employment and infant care (HRSDC 2005). Starting in January 2001, EI shareable parental benefits increased from 10 to 35 weeks. It is unclear whether employer top-up plans have expanded to the same degree as the public benefit programs.

Although top-ups have become a well-known discretionary employer benefit, little is known about which employees are covered. Findings from *Canada's Top 100 Employers* suggest "there has been a distinct surge in the availability of parental leave top-up payments, particularly for adoptive parents and fathers" (Yerema 2007). This study uses the Employment Insurance Coverage Survey (EICS) to examine first-time information on the trends in the proportion of mothers with a paid job who receive a maternity or parental leave benefit top-up from their employers.<sup>2</sup> By way of descriptive and regression analysis, it also addresses the question of who is likely to receive an employer top-up and whether that receipt influences the rate of returning to work, average time off, and rate of return to the previous employer (see *Data source and definitions*).

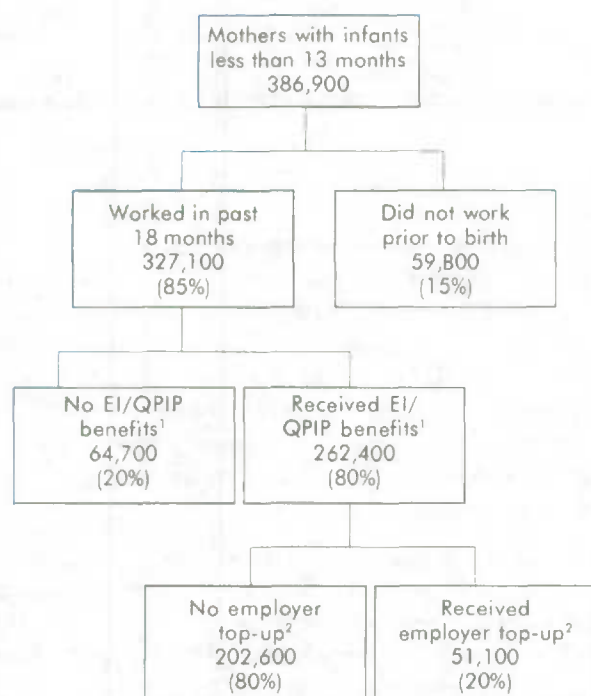
## One in five mothers has an EI/QPIP employer top-up benefit

Of all new mothers in 2008, 327,000 (85%) were employed before giving birth (Chart A). Of this group, 262,000 (80%) reported receiving paid maternity and/or parental leave benefits (EI/QPIP), and 51,000 received an employer top-up to these benefits—representing one in five EI/QPIP beneficiaries.<sup>3</sup> In

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**Chart A Financial compensation of new mothers in 2008**

1. Federal- or Quebec-paid maternity or parental leave; includes the self-employed.

2. Excludes the self-employed and unpaid family workers.

Source: Statistics Canada, Employment Insurance Coverage Survey.

2008, top-ups lasted for an average of 19 weeks with average payments of \$300 per week, such that employers collectively paid out more than \$290 million towards supplementary benefits for mothers (Table 1).

From 2000 to 2006, approximately three-quarters of previously employed mothers were in receipt of EI/QPIP benefits after birth. Those without benefits during this period included the self-employed, those without enough insurable hours of employment, and those who did not apply. With the introduction of QPIP in 2006 and the subsequent inclusion of the self-employed along with the more lenient qualifying rules, the benefit coverage rate of mothers in Quebec rose to 9 in 10 for 2007 and 2008, which also pushed up the overall national coverage rate.

### The SUB Program

The federal Supplemental Unemployment Benefit (SUB) Program was introduced in 1956 with the goal of subsidizing employees with Employment Insurance (EI) benefits while they were temporarily laid-off. With EI replacing only 55% of previous earnings, a SUB payment helps to further reduce the net loss of earnings. Under the current program, employers are encouraged to create and register SUB plans that cover not only temporary work stoppages, but training, illness and injury or quarantine. Registered plans must meet the requirements of article 37 of the *Employment Insurance Regulations* set by Service Canada (Service Canada 2009). The program helps increase employees' level of earnings replacement during work absences, but the payments are not counted as insurable and as such EI benefits are not reduced. Employers are meant to gain from this program since employees are enticed to return to the same employer, which helps retain experienced employees and reduce retraining or new hiring. Financing of the plans is the sole responsibility of the employer. At the end of 2008, roughly 3,000 employers had approved SUB plans covering more than 885,000 employees (Service Canada 2008).

SUB plans can also supplement EI or QPIP maternity or parental benefits and EI compassionate care benefits, but they do not need to be registered. Although employers with maternity and parental leave SUB plans, also known as 'top-ups,' do not have to obtain formal approval from Human Resources and Skills Development Canada, records must be kept and two conditions regarding the supplementary payments must be met. First, top-ups must not exceed an employee's normal weekly earnings, and second, the payment must not reduce other accumulated employment benefits such as banked sick leave, vacation leave, or severance pay.<sup>1</sup>

A study of the maternity and parental leave SUB plans found in major collective agreements, including those covering more than 200 employees in sectors under federal jurisdiction or more than 500 employees under provincial jurisdiction, indicates that most have a number of standard conditions. For example, most plans restrict top-up payments to employees with a minimum number of weeks or months of service, employees must prove they are eligible for EI/QPIP benefits, and coverage is usually offered to full-time regular staff only (HRSDC 2007). Furthermore, most employees must sign an agreement committing to returning to work within a set period of time and for a minimum period of time and acknowledge that failure to do so results in their indebtedness to the company for the amount of benefit received. A 93% income replacement rate of combined EI/QPIP benefits and top-up payments is assumed to equal the usual full salary, due to tax and other advantages. However, the agreements offer a range of different replacement rates, and the offered number of weeks of top-up payments is even more variable (Ibid.).

Among EI/QPIP benefit recipients, the proportion also receiving an employer top-up (around 1 in 5) has remained stable over the nine-year period, as has the average duration of the top-up benefit payments (around 18 weeks). Although parental leave benefits

**Table 1 Receipt of paid maternity and parental leave benefits and employer top-ups among previously employed mothers**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>All mothers with infants less than 13 months</b>	<b>231</b>	<b>252</b>	<b>278</b>	<b>274</b>	'000 <b>292</b>	<b>328</b>	<b>311</b>	<b>322</b>	<b>327</b>
<b>Receipt of EI/QPIP benefits<sup>1</sup></b>					%				
Total	73	75	74	77	79	74	75	78	80
Quebec	F	F	79	80	78	73	83	93	90
Outside Quebec	F	F	72	76	79	74	72*	72*	76*
<b>Receipt of top-up for those with EI/QPIP<sup>2</sup></b>									
Total	20	17	18	19	19	27	16	24	20
Quebec	F	F	F	24	F	32	25 <sup>†</sup>	27 <sup>†</sup>	28
Outside Quebec	F	F	18	17	19	25	13*	22	17*
<b>Average weeks of top-up</b>					weeks				
Total	16	17	18	17	17	18	16	18	19
Quebec	F	F	F	19	F	19	17	17	22
Outside Quebec	F	F	18	16	16	18	16	19	18
<b>Average top-up payment<sup>3</sup></b>	F	F	F	F	per week (current \$) 270	320	260	330	300

\* significantly different with Quebec at the 0.05 level; tests done for 2004/2008 as bootstrap weights available for these years, allowing for a more accurate calculation of standard errors

1. Federal Employment Insurance or Quebec Parental Insurance.

2. Excludes the self-employed.

3. Based on valid responses of \$800 or less; the variable contains a high percentage of 'not stated.'

Source: Statistics Canada, Employment Insurance Coverage Survey.

increased from 10 to 35 weeks starting in 2001, there was no corresponding increase in the duration of top-ups. Many employers may not top-up extended parental leave benefits because of the cost or terms imbedded in collective bargaining agreements (HRSDC 2007).

The top-up payment period averaged between 16 and 19 weeks,<sup>4</sup> or about four months, suggesting that most women receive a top-up to their paid maternity leave only: 15 weeks for women outside Quebec and 18 weeks for women in Quebec (as of January 1, 2006). Some companies also cover the two-week waiting period: "...a number of collective agreements also stipulate that the employer will provide employees on maternity leave with an allowance to offset the two-week waiting period for EI benefits" (Ibid. 2007).

Most mothers, 80% in 2008, reported receiving payments for less than six months—further evidence that most top-up benefits do not cover the entire paid leave period (Chart B). However, as will be shown,

**Chart B Most mothers with an employer top-up receive benefits for under six months**

Source: Statistics Canada, Employment Insurance Coverage Survey, 2008.

most new mothers eligible for EI/QPIP benefits are on leave for almost one year. Therefore, with only a minority of women receiving top-up payments for six months or longer, the reality is that relatively few mothers are on paid leave with full earnings replacement—EI/QPIP plus an employer top-up—for the duration of their time off.

### One-half of public sector employees are in receipt of an employer top-up

More mothers with paid jobs in Quebec reported having an employer top-up to their EI/QPIP benefits in 2008 than did mothers outside Quebec—28% versus 17% (Table 2). When several employer attributes are controlled for in a logistic regression model—such as firm size, sector and rate of unionization—Quebec employees are 2.7 times more likely to receive a maternity or parental leave top-up from their employers than are those living elsewhere. Research has shown that Quebec was one of the first provinces to include paid maternity leave in collective agreements. Also, the first major SUB plan for maternity leave was implemented in 1979 in Quebec by a group of public sector unions (Moloney 1989).

With a top-up rate of 39%, working in a unionized job appears to be strongly associated with this employer benefit. However, regression results indicate that unionization is not a key factor. Two workplace characteristics that do significantly increase the chances of receiving a top-up include working for a larger versus smaller company, and working in the public versus the private sector. Large companies of over 500 employees, whether unionized or not, often have the human and financial resources to use incentives, such as top-up plans and other discretionary benefits, to recruit and retain employees. Not only do larger companies have a greater ability to oversee and pay for such benefits, but their large workforce also allows for savings through economies of scale. “By spreading liability over a large number of participants, premiums are lower. Larger firms need more people and, especially in labor-short boom times, need incentives to recruit. They also tend to have more employees who are covered by collective bargaining contracts” (SocialRank 2009).

Since the SUB Program is a government-initiated program, public sector workplaces are more likely to participate. The public sector includes, for example, employees in all levels of public administration, Crown corporations, public schools, universities, and hospi-

**Table 2 Personal and job characteristics of mothers with paid jobs in receipt of an employer top-up to their maternity or parental benefits**

	Mothers with EI/QPIP <sup>1</sup>	Received top-up	Odds ratios <sup>2</sup>
	'000	%	
<b>All mothers<sup>3</sup></b>	<b>254</b>	<b>20</b>	<b>...</b>
<b>Province of residence</b>			
Quebec	74	28	2.7**
Outside Quebec (ref.)	180	17	1.0
<b>Education</b>			
University degree	85	30	n.s.
Less than university degree (ref.)	169	15	1.0
<b>Union status</b>			
Unionized (ref.)	86	39	1.0
Non-unionized	168	11	n.s.
<b>Job tenure</b>			
Less than 3 years (ref.)	106	11	1.0
3 to 5 years	64	22	n.s.
6 years or more	81	31	n.s.
<b>Size of company</b>			
1 to 500 employees (ref.)	93	10	1.0
Over 500 employees	118	35	2.9***
Unknown	43	F	n.s.
<b>Sector</b>			
Public	81	48	5.7***
Private (ref.)	154	8	1.0
Unknown	19	F	n.s.
<b>Hourly earnings</b>			
Less than \$20.00 (ref.)	137	9	1.0
\$20.00 to \$24.99	43	30	2.7*
\$25.00 or more	71	36	2.3*

1. Employment Insurance or Quebec Parental Insurance benefits.
2. This regression calculation indicates whether certain variables significantly increase or decrease the odds of having an employer top-up, n.s. not significantly different from reference group (1.0), \* significant at the 0.05 level, \*\* at the 0.01 level and \*\*\* at the 0.001 level.
3. Individual variable categories may not add to the total due to non-response.

Source: Statistics Canada, Employment Insurance Coverage Survey, 2008.

tals (see *Data source and definitions*). One in two mothers (48%) working in the public sector received an employer top-up to their EI/QPIP benefits—making them 5.7 times more likely to do so than their counterparts in the private sector. While one-quarter of public sector employees are not unionized, 40% of this group still received a top-up.



### Data source and definitions

The Employment Insurance Coverage Survey (EICS), a supplement to the Labour Force Survey, is conducted four times per year and collects information about coverage under the Employment Insurance (EI) program. In 2000, women at home with infants under 13 months began being interviewed regarding access to maternity, parental and adoption benefits. Questions in this section relate to additional payments from employers, private insurance or other benefits while mothers are on leave from a job following the birth of a child. Respondents are asked to report on the number of weeks payments were received and the payment amounts. It is not possible to determine the percentage of total weekly earnings replaced by the payments. More than one-quarter of respondents did not know the amount they received. Finally, outliers with values of more than \$800 per week were excluded from the calculations (representing 1% of records in 2008).

The **target population** for this article includes all mothers with children age 0 to 12 months. In 2008, approximately 1,250 mothers were interviewed, representing a weighted count of 387,000.

The **firm size** refers to the total number of employees found at all locations of the mother's employer.

The **public sector** refers to those employed in federal, provincial or municipal public administration, Crown corporations, liquor control boards, public primary and secondary schools, universities, hospitals and public libraries, and other government institutions. The **private sector** consists of all other employees.

A **logistic regression model** is used to examine the probability of receiving an employer top-up among all previously employed mothers with paid jobs and who were in receipt of EI/QPIP benefits. Bootstrap estimation techniques were employed to adjust for the complex sampling design of the survey.

Finally, having a wage of at least \$20 per hour significantly increases the likelihood of receiving an employer top-up compared with those with lower wages. The top-up rate among those earning less than \$20 was 9%, compared with 30% for those with a \$20 to \$24.99 hourly wage, and 36% for those who earn \$25 per hour or more. Those with high earnings are more likely to be in professional or skilled jobs and are more costly to replace for companies. Employers use various forms of non-wage compensation to recruit and retain employees—and top-ups may be one such benefit. Other research indicates that higher quality jobs are associated with both better wages and better benefits (Marshall

2003a). Conversely, those with low wages are the least likely to receive supplementary benefits.

### Duration of payments similar for most employees

Although women in Quebec are more likely to receive an employer top-up than those in other provinces, the duration of payments is not significantly longer—22 versus 18 weeks, respectively (Table 3). The only job characteristic to have a strong significant influence on the number of weeks of top-up payments received is the sector of employment. Mothers employed in the public sector received payments for an average of 22 weeks compared with 12 weeks for those in

the private sector. This is further indication that employer top-ups are a common and substantial benefit mainly for public sector employees.

### Almost all women with top-ups return to work and to the same employer

Most employers offering a top-up do so on condition that the mother return to her job within a fixed period of time and remain with the employer for a period of time or

**Table 3 Average weeks of payments for mothers with employer top-ups**

	Weeks
<b>All mothers</b>	<b>19</b>
<b>Province of residence</b>	
Quebec (ref.)	22
Outside Quebec	18
<b>Education</b>	
University degree (ref.)	21
Less than university degree	18
<b>Union status</b>	
Unionized (ref.)	21
Non-unionized	16
<b>Job tenure</b>	
Less than 3 years (ref.)	17
3 to 5 years	17
6 years or more	22*
<b>Size of company</b>	
1 to 500 employees (ref.)	18
Over 500 employees	20
<b>Sector</b>	
Public (ref.)	22***
Private	12
<b>Hourly earnings</b>	
Less than \$20.00 (ref.)	20
\$20.00 to \$24.99	18
\$25.00 or more	20

\* significantly different from the reference group (ref.) at the 0.05 level, \*\*\* at the 0.001 level

Source: Statistics Canada, Employment Insurance Coverage Survey, 2008.

## EI and QPIP

Starting in January 2006, the Quebec Parental Insurance Plan (QPIP) replaced the federal Employment Insurance (EI) program for the administration of paid benefits associated with birth or adoption for parents in Quebec. Below is a summary of the benefits and rules for the two programs in 2009. More detailed information on the two programs can be found on the respective government websites (<http://www.rqap.gouv.qc.ca/> and <http://www.servicecanada.gc.ca/>).

EI	QPIP (basic plan) <sup>1</sup>
<b>Birth mothers</b> <ul style="list-style-type: none"> <li>■ 15 weeks of maternity leave</li> <li>■ 55% of average earnings up to a maximum of \$42,300 in 2009 (\$447 per week)</li> <li>■ Two-week waiting period</li> <li>■ Requires 600 hours of paid work in past year</li> <li>■ Self-employed excluded</li> <li>■ Non-flexible</li> </ul> <b>Birth fathers</b> <ul style="list-style-type: none"> <li>■ Not applicable</li> </ul> <b>All parents (birth and adoptive)</b> <ul style="list-style-type: none"> <li>■ 35 weeks of parental leave</li> <li>■ Taken by one or shared by both parents</li> <li>■ Same rules as maternity leave but no second waiting period required</li> </ul>	<b>Birth mothers</b> <ul style="list-style-type: none"> <li>■ 18 weeks of maternity leave</li> <li>■ 70% of average earnings up to a maximum of \$62,000 in 2009 (\$835 per week) (adjusted every year)</li> <li>■ No waiting period</li> <li>■ Requires at least \$2,000 of earnings in past year</li> <li>■ Covers salaried and self-employed</li> <li>■ Some flexibility<sup>1</sup></li> </ul> <b>Birth fathers</b> <ul style="list-style-type: none"> <li>■ 5 weeks of paternity leave</li> </ul> <b>All parents (birth and adoptive)</b> <ul style="list-style-type: none"> <li>■ 32 weeks parental leave for birth parents, 37 weeks parental leave for adoptive parents</li> <li>■ Taken by one or shared by both parents</li> <li>■ Same rules as maternity leave except for benefit rate: 7 weeks at 70%, rest at 55% for birth parents; 12 weeks at 70%, rest at 55% for adoptive parents</li> </ul>

1. Parents can choose between the basic and the special plan. For all types of benefits (maternity, paternity, parental or adoption), the special plan offers fewer benefit weeks (15, 3, 25 and 28, respectively) at an income-replacement rate of 75%.

she must repay the benefits (see *The SUB Program*). Therefore employer top-ups act as a strong incentive for women to not only return to the paid workforce, but also to stay with the same employer. In 2008, of all mothers with a paid job before childbirth, 96% with a top-up returned to the same employer compared with 77% of mothers with EI/QPIP benefits and no top-up, and 46% of mothers without any benefits (Table 4). Furthermore, where virtually all mothers with top-ups returned or planned to return to employment within 18 months, 85% of those with EI/QPIP benefits but no top-up stated they would return to work, compared with 71% of mothers without benefits. These findings align with research show-

ing that women's labour market attachment is strongest in countries where women have access to extended paid leave programs, public day care facilities and other family support programs (Rønsen and Sundström 2002). Whether it's the risk of repayment or the desire to re-enter the labour force—women with top-ups are not only more likely to go back to work, but back to their previous jobs.

Of the mothers who had returned or planned to return to work, those with EI/QPIP benefits, with or without an employer top-up, were on leave for an average of 46 to 48 weeks. This is significantly longer than for women without paid leave benefits, who returned after an average of 34 weeks. Although longer

**Table 4 Mothers with infants less than 13 months who were employed in a paid job before birth**

	Mothers employed before birth	Received EI/QPIP <sup>1</sup>		No paid benefits
		and employer top-up benefits	and no employer top-up benefits	
<b>All mothers</b>	<b>299,000</b>	<b>51,100</b>	<b>203,500</b>	<b>44,400</b>
		%		
<b>Returned or plans to return to same employer</b>	100	100	100	100
Yes	76	96	77*	46*
No	10	F	9 <sup>E</sup>	25 <sup>E</sup>
Will not return within 18 months	15	F	15	29
		weeks		
<b>Mothers with a spouse</b>				
Average weeks off for returning mothers	45.5	47.8	46.3	34.3*
Average weeks claimed by fathers <sup>2</sup>	1.9	2.6 <sup>E</sup>	1.6	F
Average weeks off by couple	47.4	50.3	48.0*	37.1*
		%		
Couple will claim all available EI/QPIP benefits	91	88	93	F

\* significantly different from those with EI/QPIP and top-up at the 0.05 level

1. Employment Insurance or Quebec Parental Insurance benefits.

2. Averaged over all couples. The average weeks for fathers who claimed benefits was seven.

Source: Statistics Canada, Employment Insurance Coverage Survey, 2008.

leave may impose some costs for employers, the high return-to-work rate equates to positive employee retention.

An employer top-up may lessen the financial impact of childbirth, but since it generally lasts for less than six months, it may not influence the total leave time a mother takes. Most women experience some income loss while on leave since EI/QPIP replaces a maximum of 55% to 75% of previous earnings. However, this level of compensation, with or without an employer top-up, appears to enable most women to remain at home for most of the benefit period. Mothers eligible for EI/QPIP must claim and use the benefits or forfeit them. The results

suggest that the opportunity to be at home during the first year of an infant's life outweighs the net earnings loss. Indeed, among couples where at least the mother is entitled to EI/QPIP benefits, 9 in 10 report that the family will claim all benefits available—with no significant difference between those with or without an employer top-up. Of couples who do not claim all available benefits, 50% report the reason for not doing so as either work-related or their own preference to return to work.

### Conclusion

With 85% of women working at a paid job before giving birth, employers must regularly manage the short-term absences of new

mothers, and, increasingly, of new fathers too. Paid maternity and parental leave programs allow parents time away from the job to care for their newborns with some level of earnings replacement. The federal Employment Insurance (EI) and Quebec Parental Insurance Plan (QPIP) programs allow parents to take up to one year of combined benefits, and under all provincial and territorial labour codes, they are guaranteed employment with their previous employer upon return to work (Baker and Milligan 2005).

With most parents in the labour force, some employers offer policies to help employees manage their work and family responsibilities.<sup>5</sup> Some employers offer a Supplemental Unemployment Benefit, a plan that tops up EI/QPIP maternity benefits and, in certain instances, parental leave benefits. The program is regulated by Human Resources and Skills Development Canada but is financed by employers. Payment level and duration varies from company to company. In 2008, 1 in 5 mothers who received EI/QPIP benefits after birth also received an employer top-up. The average weekly top-up for these mothers, which lasted for an average of 19 weeks, was \$300. This implies that many employer top-ups cover only the maternity leave portion of public benefits.

Working for a public sector employer significantly increases the chances of a mother receiving a top-up and the length of the payment period: 48% of mothers in the public sector received a top-up for an average of 22 weeks compared with 8% and 12 weeks for those in the private sector. Working for a company with a staff of



more than 500, being employed in Quebec and having an hourly wage of \$20 or more were also associated with the receipt of employer top-ups.

Of mothers with an employer top-up, only 1 in 5 received payments for six months or more. Therefore only a fraction of all mothers receive full-earnings replacement for the entire period they are on leave. Whether or not the top-up replaces full-earnings or lasts the full EI/QPIP benefit period, the program influences career continuity such that 96% of mothers with a top-up returned to the same employer.

### Perspectives

#### Notes

1. Further details about SUB plans for maternity and parental leave can be found on Service Canada's website (<http://www.servicecanada.gc.ca/eng/ei/employers/supplements.shtml>).
2. The Employment Insurance Coverage Survey does not collect information on top-ups for fathers. Moreover, the participation rate and average time off for fathers is still substantially less than for mothers (Marshall 2008).
3. Self-employed are excluded.
4. The median number of weeks also ranged between 16 and 18 for the 2000 to 2008 period.
5. Research shows that one-third of employees are offered at least one form of non-monetary personal or family support program such as on-site child care, elder care, employee assistance or fitness programs (Marshall 2003b).

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# Immigrants working in regulated occupations

Danielle Zietsma

In 2006, there were 3.6 million immigrants in Canada's labour force, many of whom were highly educated. Education levels of more recent immigrants have risen in recent years such that, by 2006, 42% of immigrants who had landed in Canada since 2001 had a university degree. At the same time, 16% of the Canadian-born had university degrees. In addition to high levels of education, many of these immigrants also came with foreign work experience.

One of the principal goals of Canadian immigration policy is to fill gaps in the labour market. With the aging of the baby boomers, a number of occupational shortages have emerged in the Canadian labour market, particularly in health care professions (such as physicians, nurses and pharmacists) and in management occupations. Shortages are projected to continue as boomers exit the labour market (Human Resources and Skills Development Canada 2007). Some projections imply that immigrants could account for nearly all labour force growth as soon as 2011 (Statistics Canada 2003).

Despite their high levels of educational attainment, many recent immigrants struggle in the labour market. In 2006, immigrants who had been in Canada for less than 10 years had higher unemployment rates and lower employment rates than those born in Canada. Furthermore, many of these immigrants were unable to find jobs in their chosen fields. And, in recent years, immigrants have become more likely to be in low income (Picot, Hou and Coulombe 2007).

New immigrants to Canada indicate that they faced a number of challenges in the Canadian labour market, most importantly: not enough Canadian job experience, lack of connections in the job market and foreign credentials not being recognized (Schellenberg and Maheux 2007). Others suggest that newcomers may lack knowledge about getting their skills recog-

nized, employers may lack knowledge about foreign credentials, and there may be real differences in the quality of foreign credentials relative to domestic qualifications (Kustec, Thompson and Xue 2007).

For many occupations, hiring is based on the employer's decision that the candidate has an acceptable combination of education and experience to do the job. For those seeking work in regulated occupations, another hurdle is added. Regulated occupations are governed by provincial regulatory bodies and/or professional associations and have very specific requirements regarding the credentials necessary to practice the occupations. This study focuses on the regulated occupations since a clear relationship exists between educational credentials and the ability to meet the requirements of the occupation.

Many occupations for which immigrants have trained are regulated occupations. These include engineering, medicine, nursing and teaching. For immigrants who wish to work in a regulated occupation, practicing that occupation outside Canada is not considered sufficient and they must prove that their foreign credentials meet Canadian standards.

In 2006, of the 1.5 million university-educated, working-age immigrants (15 years of age and over), 41% had studied in fields that would typically place them in regulated occupations compared to 39% of Canadian-born university graduates.

This study examines the extent to which immigrants in 2006 with a field of study that typically leads to a regulated occupation were working in that occupation (see *Data source and definitions*). For example, how likely are immigrants with engineering degrees to find work as an engineer? It then examines how this match rate varies across provinces and by the immigrants' source countries, and the amount of time they spent in Canada. Finally, it looks at the type of work performed by those not working in the occupations for which they studied.

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## 1.8 million graduates from fields of study leading to regulated professions

In 2006, there were 1.8 million university degree holders in Canada from fields of study that would typically lead to work in a regulated occupation. Of these, 208,700 were immigrants educated in Canada, while 403,900 were immigrants who were foreign-educated (Table 1).

Immigrants with a degree in a regulated field of study who studied outside Canada had an unemployment rate that was much higher than that for Canadian-educated immigrants with similar degrees. In 2006, foreign-educated immigrants from regulated fields of study had an unemployment rate of 7.0%, while immigrants with Canadian degrees in regulated fields of study had an unemployment rate of 4.2%, a gap of 2.8 percentage points.

**Table 1 Labour force activity of university graduates with regulated field of study, by immigrant status and location of study**

	Total	Canadian-born	Immigrants	
			Studied in Canada	Studied outside Canada
			'000	
Population	1,819.8	1,207.2	208.7	403.9
Labour force	1,437.0	961.2	170.3	305.5
Employed	1,384.3	937.1	163.2	284.1
Unemployed	52.7	24.1	7.1	21.4
Not in labour force	382.8	246.0	38.3	98.4
			%	
Participation rate	79.0	79.6	81.6	75.6
Unemployment rate	3.7	2.5	4.2	7.0
Employment rate	76.1	77.6	78.2	70.3

Source: Statistics Canada, Census of Population, 2006.

## Data source and definitions

Unless otherwise stated, all data are from Statistics Canada's 2006 Census of Population. Since census data are randomly rounded to the nearest 0 or 5, not all numbers will reflect totals and there may be slight differences among tables.

### Who's included in this study?

Immigrants and persons born in Canada who meet all of the following criteria:

- non-institutional resident
- age 15 or over
- university degree holder
- have a field of study that typically leads to a notionally regulated occupation
- employed
- immigrant who obtained university credentials outside Canada
- not a senior manager (since no skill level information is available for this group)

### Occupations that are regulated in all Canadian provinces and chosen for study:

Architects	Optometrists
Accountants	Pharmacists
Chiropractors	Doctors
Dentists	Physiotherapists
Dietitians/Nutritionists	Registered Nurses
Engineers	Teachers
Lawyers	Veterinarians
Occupational Therapists	

**A note on regulated occupations:** Occupations that are regulated either by the provinces or by professional associations are generally regulated because they have a responsibility either for public health or to protect consumers/clients. For this reason, educational and any additional requirements are clearly defined and licensure cannot be obtained unless requirements are clearly met.

For the regulated occupations selected for this study, detailed occupational requirements are in Appendix I. Some nationally regulated occupations have been excluded from the study due to small numbers of immigrants studying and/or working in those fields.

While a small number of the Canadian-born may have studied abroad (fewer than 150,000 out of over 3 million), these people have been left in the Canadian-born group since they are few in number and do not affect the overall results.

The main indicator employed in this study is the '**match rate**'—the total number of people working in the selected regulated occupations divided by the total number of employed people from the fields of study that would typically lead them to work in those occupations.<sup>1</sup> (See Appendix II for a list of the fields of study that constitute a match with NOC occupations as defined by Human Resources and Skills Development Canada.)



**Table 2 University graduates of fields leading to regulated occupations, by location of study**

	Canadian-born	Immigrants		Canadian-born	Immigrants	
		Studied in Canada	Studied outside Canada		Studied in Canada	Studied outside Canada
<b>Field of study</b>	<b>1,207,220</b>	<b>208,675</b>	<b>403,910</b>	<b>100</b>	<b>100</b>	<b>100</b>
Architecture	16,390	4,140	11,115	1	2	3
Accounting	100,235	27,220	40,050	8	13	10
Chiropractics	6,455	450	420	1	0	0
Dentistry	12,965	3,770	5,735	1	2	1
Diet/Nutrition	4,630	635	720	0	0	0
Engineering	209,300	74,440	211,825	17	36	52
Law	96,865	10,955	18,165	8	5	4
Occupational therapy	10,550	1,115	810	1	1	0
Optometry	3,350	340	440	0	0	0
Pharmacy	23,295	4,965	8,890	2	2	2
Medicine	36,050	9,405	19,980	3	5	5
Physiotherapy	14,190	1,725	2,880	1	1	1
Nursing	101,210	13,225	19,030	8	6	5
Teaching	563,945	55,150	60,710	47	26	15
Veterinary medicine	7,790	1,140	3,140	1	1	1

Source: Statistics Canada, Census of Population, 2006.

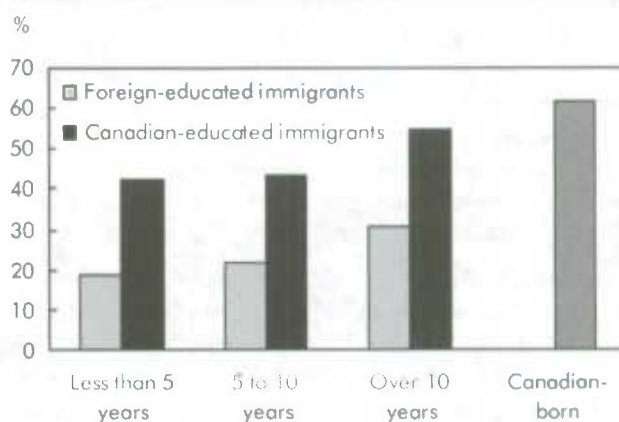
### Engineering graduates most numerous among immigrants

In 2006, the field of study distribution differed between immigrants and those born in Canada. Among immigrants from a field of study that typically leads to a regulated occupation, over one-half (52%) of foreign-educated graduates had engineering degrees (Table 2). Among the Canadian-born, education was the number one field of study (47%), while engineering was the second at 17%.

### Foreign-educated immigrants less likely to work in their fields of study

Foreign-educated immigrants with fields of study that typically lead to regulated professions were less likely to work in these professions compared to the Canadian-born. Among those employed in 2006, 62% of the Canadian-born were working in the regulated profession for which they trained compared to only 24% of foreign-educated immigrants.

Both the length of time spent living in Canada and where they studied had an impact on immigrants' ability to find work in the regulated profession for which they studied. In 2006, regardless of how long immigrants had been in Canada, those who had studied in

**Chart A Match rates by immigrant type, location of study and period of landing**

Source: Statistics Canada, Census of Population, 2006.

Canada had much higher match rates than immigrants who had studied abroad (Chart A). Those who landed in Canada in 1996 or earlier and held a Canadian degree had match rates that were twice as high as their

foreign-educated counterparts. In fact, with more time in Canada, the match rates for both foreign- and Canadian-educated immigrants increased.

While the differences in match rates between Canadian- and foreign-educated immigrants with the same landing period show that Canadian-educated immigrants do not face the obstacle of foreign credential recognition (and are less likely to have foreign work experience), they also reflect other factors. For example, the differences might also indicate that these immigrants are more likely to speak an official language with greater ease, have more knowledge of the Canadian labour market, and have more established networks through which to find employment.

To focus on the recognition of foreign credentials, immigrants who obtained their university degrees in Canada have been excluded from the sample for the remainder of the study.

### Foreign-educated immigrants less likely to find work in their trained professions

Canadian-born and foreign-educated immigrants in regulated health occupations generally had the highest match rates (Table 3). These included medicine, occupation therapy, chiropractics and nursing. While these fields had high match rates for the Canadian-born, the same was not always true for foreign-educated immigrants. Immigrants who trained as chiropractors had a match rate that was comparable to the Canadian-born match rate (84% versus 87%). Immigrants who trained as nurses and occupational therapists had match rates that were lower than that for their Canadian-born counterparts, (56% versus 73% for nurses and 65% versus 82% for occupational therapists), but nevertheless had some of the highest match rates among foreign-educated immigrants.

Among the health professions, veterinary medicine had one of the lowest match rates for immigrants—29%, compared to 83% for the Canadian-born. Of the Canadian-born who studied dentistry, 82% worked as dentists compared to 44% of immigrants.

Immigrants who studied law outside Canada had the lowest match rates of all fields of study leading to a regulated occupation. While 69% of the Canadian-born who studied law worked as lawyers, the corresponding figure was 12% for immigrants, making the Canadian-born with law degrees almost 6 times as likely as immigrants to be working as lawyers.

**Table 3 Match rates of employed foreign-educated immigrants working in the corresponding occupation, by immigrant type**

	Canadian-born		Foreign-educated immigrants	
	Total	Match rate	Total	Match rate
		%		%
<b>Field of study</b>	<b>937,050</b>	<b>62</b>	<b>284,080</b>	<b>24</b>
Chiropractics	5,745	87	345	84
Occupational therapy	9,345	82	560	65
Medicine	31,040	92	12,865	56
Nursing	78,880	73	13,150	56
Pharmacy	18,760	84	6,020	45
Dentistry	12,310	82	2,165	44
Physiotherapy	10,465	90	3,750	44
Optometry	2,760	95	340	38
Veterinary medicine	6,580	83	2,225	29
Architecture	13,860	56	7,695	26
Teaching	85,410	50	29,445	24
Diet/Nutrition	408,795	62	35,860	20
Accounting	3,225	60	435	20
Engineering	167,260	42	157,930	19
Law	82,615	69	11,295	12

Source: Statistics Canada, Census of Population, 2006.

Engineering was the most common field of study in a regulated occupation for immigrants. Of the 157,900 immigrants who studied engineering and were employed, 30,000 were working as engineers, a match rate of 19%. Slightly more Canadian-born graduates studied engineering (167,300), with a match rate more than double that of immigrants (42%).

While 92% of the Canadian-born who studied medicine were working as doctors in 2006, immigrants with the same field of study were less likely to be working as doctors (56%).

### Match rates by province

While match rates among the Canadian-born were similar from province to province, match rates for foreign-educated immigrants were more varied (Table 4). The provincial match rates for the Canadian-born fell between 59% and 65%, while for immigrants they ranged from a low of 19% in Quebec to a high of 60% in Newfoundland and Labrador.

**Table 4 Match rates of foreign-educated immigrants working in the corresponding occupation, by immigrant type and province**

	Canadian-born	Foreign-educated immigrants
	%	
<b>Province</b>		
Newfoundland and Labrador	63	60
Prince Edward Island	63	37
Nova Scotia	60	40
New Brunswick	62	37
Quebec	59	19
Ontario	62	24
Manitoba	65	26
Saskatchewan	61	38
Alberta	62	31
British Columbia	62	22

Source: Statistics Canada, Census of Population, 2006.

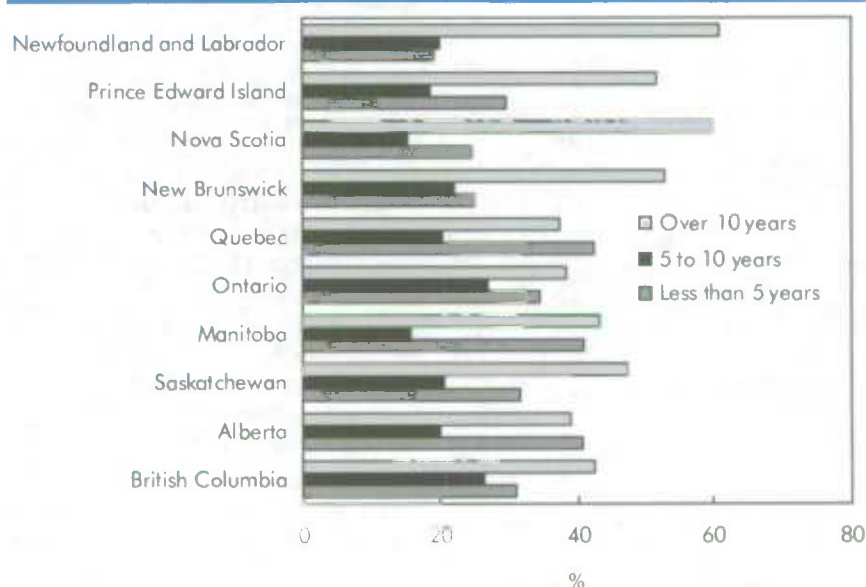
Foreign-educated immigrants living in Canada's most popular immigrant destinations (Ontario, British Columbia and Quebec) had the lowest match rates. Immigrants in Quebec were the least likely to find a career match in their field of study, with 19% of immigrants working in the regulated occupation most commonly associated with their field of study. British Columbia was next with a match rate of 22%, and Ontario's rate was 24%. In all of these provinces, the match rates for immigrants were less than one-half the match rates of the Canadian-born in their respective provinces.

Newfoundland and Labrador had the highest match rate for immigrants at 60%, three percentage points behind the Canadian-born in the province. However, their numbers were small: 605 in total.

While the mix of fields of study can have an impact on overall provincial match rates, other factors, like distribution of immigrants by period of landing, could also affect overall match rates. More specifically, provinces with higher concentrations of more recent immigrants could have lower match rates than those with higher concentrations of immigrants who have been in Canada for longer than 10 years since more recent immigrants are less likely to be working in the regulated occupation for which they trained.

Quebec, with the lowest match rate, also had the highest proportion of immigrants who had studied for regulated occupations (42%) and landed after 2001 (Chart B). Elsewhere the results were less clear cut. In general, the Atlantic provinces had higher proportions of immigrants who had landed prior to 1996. Match rates for immigrants were also above the national average in Saskatchewan and Alberta, regions that had strong labour markets in 2006. Ontario's match rate for foreign-educated immigrants mirrored the national average at 24%. In contrast, Quebec and British Columbia had match rates that were below the national average.

**Chart B Proportion of employed immigrants who studied for work in regulated occupations, by province and time since landing**



Source: Statistics Canada, Census of Population, 2006.



### Immigrants with the highest match rates studied in countries with similar education systems and language of instruction as Canada

Immigrants with the highest match rates studied in English-speaking countries, the official language spoken by the majority of Canadians. In fact, these immigrants had very similar match rates to the Canadian-born. Immigrants who studied in Ireland, New Zealand and South Africa had match rates that were similar to the 62% rate for the Canadian-born, while the match rate for all immigrants was 24%. Immigrants from Australia and the United Kingdom also had match rates that were well above the average (Table 5).

**Table 5 Highest match rates by country where degree earned<sup>1</sup>**

	Foreign-educated immigrants	Match rate
Country where immigrants' highest degree earned		%
Ireland	810	59
New Zealand	575	57
Republic of South Africa	3,790	56
Australia	2,105	50
United Kingdom	17,975	44
Jamaica	605	41
Trinidad and Tobago	270	41
Israel	1,145	39
United States of America	22,225	39
Hungary	790	36

1. Includes only countries of highest degree with at least 200 immigrants who have a field of study that would typically lead them to work in a regulated occupation.

Source: Statistics Canada, Census of Population, 2006.

**Table 6 Lowest match rates by country where degree earned**

	Foreign-educated immigrants	Match rate
Country where immigrants' highest degree earned		%
Ukraine	6,995	14
Algeria	2,750	13
Cuba	1,020	12
South Korea	5,835	12
Haiti	555	12
El Salvador	645	12
Belarus	1,050	10
Morocco	720	9
Republic of Moldova	585	9
Kazakhstan	740	7

Source: Statistics Canada, Census of Population, 2006.

At the other end of the spectrum, immigrants with the lowest match rates often obtained their degrees in developing countries (Table 6). Immigrants who studied in Kazakhstan had the lowest match rate, with 7% working in the associated regulated occupation.

### What are the actual occupations of the unmatched?

The unmatched are university graduates who studied for a regulated occupation but are employed in a different occupation. Based on match rates of 62% for the Canadian-born and 24% for all immigrants, there remains a substantial fraction of both groups who were unmatched. In total, in 2006 there were approximately 365,000 Canadian-born graduates and

216,000 foreign-educated immigrants who were working in occupations to which their studies would not typically lead.

The top two occupations held by unmatched immigrants in 2006 were in professional occupations in natural and applied sciences, followed by technical occupations related to natural and applied sciences, and accounting for 33% of unmatched immigrants (Table 7).

The next two occupations were clerical and sales and service occupations. Twenty-six percent of unmatched immigrants were working in these occupations, which would not normally require a degree.

Among the Canadian-born, the most common occupations among the unmatched in 2006 were 'other managers' (which includes managers outside senior management), followed by teachers and professors. Clerical occupations were in the top 10 for unmatched Canadian-born graduates, with 6% of the Canadian-born falling here. Unmatched immigrants, however, were even more likely to work in clerical occupations, with 16% holding clerical jobs. Sales and service occupations accounted for less than 1% of positions among the Canadian-born working outside their field of study compared to 10% for immigrants.

Thus it appears a much higher proportion of highly qualified immigrants than Canadian-born graduates are working in occupations requiring less education than they have acquired. This hypothesis can be addressed more directly by assigning skill levels to occupations (see, for example, Galarneau and Morissette 2008).

**Table 7 Actual occupations of immigrants with degrees related to regulated occupations, by immigrant type (unmatched)**

Rank		Unmatched immigrant	
		Total	%
1.	Professional occupations in natural and applied sciences	20,460	17
2.	Technical occupations related to natural and applied sciences	19,105	16
3.	Clerical occupations	18,540	16
4.	Sales and service occupations	11,545	10
5.	Specialist managers	9,815	8
6.	Other managers, not elsewhere classified	8,785	7
7.	Teachers and professors	7,975	7
8.	Managers in retail trade, food and accommodation services	7,655	7
9.	Assemblers in manufacturing	7,215	6
10.	Machine operators in manufacturing	6,305	5

Source: Statistics Canada, Census of Population, 2006.

### Are the unmatched Canadian-born more likely to work in highly skilled jobs than unmatched immigrants?

The Department of Human Resources and Skills Development's National Occupational Classification System (NOC) not only classifies occupations, but also includes a skill level associated with each of its occupations. There are four main skill levels: university degree; college or apprenticeship training; high school; and short-work demonstration (for example, a demonstration on how to operate a cash register or how to serve food to customers). University graduates who are working in occupations that require less than a university education are considered 'overqualified' for their positions.

Since all people in the sample have university degrees, the percentage of those working in occupations requiring less than university is the overqualification rate. In 2006, 57% of unmatched Canadian-born graduates were overqualified compared to 77% of immigrants (Table 8).

**Table 8 Distribution of unmatched university degree holders**

Skill level usually required by occupation	Canadian-born	Immigrants
	%	
University degree (any level)	43	23
College or apprenticeship training	34	35
High school	19	31
Short-work demonstration	4	11
Overqualification rate	57	77

Source: Statistics Canada, Census of Population, 2006.

When it came to working in an occupation that required no formal education (known as a short-work demonstration), unmatched immigrants were almost three times as likely to be in these occupations. While 11% of unmatched immigrants were working in these types of jobs in 2006, this was the case for 4% of the unmatched Canadian-born.

### Summary

This study found that, in 2006, immigrants who studied for a regulated occupation outside Canada were less likely to be working in that occupation compared to both immigrants who studied in Canada and those who were born in Canada.

In 2006, there were 284,000 employed foreign-educated immigrants from fields of study that would normally lead to work in a regulated occupation. Of this number, 24% were working in their trained professions. In contrast, 163,000 Canadian-educated immigrants studied for work in a regulated occupation, with a match rate of 53%. The match rate among the Canadian-born was 62%.

While foreign-educated immigrants were less likely to work in the regulated occupations for which they held degrees, this discrepancy narrowed with time spent in Canada. However, even after 10 years in Canada, foreign-trained immigrants trailed the match rate of the Canadian-born by 27 percentage points, while Canadian-educated immigrants trailed by 6 percentage points.

The match rate also varied by regulated occupation for which an individual had studied. Immigrants with fields of study in health professions had higher match rates than those who studied to be teachers, engineers and lawyers. While match rates for foreign-educated doctors and nurses were both 56%, the rate was much lower for those who studied teaching (24%), and was lower still for those who studied engineering (the most common field of study among foreign-educated immigrants) at 19%. Immigrants who were law graduates had the lowest match rate of all fields of study at 12%.

On a provincial level, match rates were highest for immigrants in the East, particularly in Newfoundland and Labrador (with rates similar to the Canadian-born). Match rates for immigrants were also above the national average in Saskatchewan and Alberta, regions that had strong labour markets in 2006. In contrast, Quebec and British Columbia had match rates that were below the national average, while Ontario's match rate mirrored the national average.

Foreign-educated immigrants who were not working in the regulated occupation typically associated with their field of study were often working in professional occupations in natural and applied sciences and technical occupations related to natural and applied sciences. However, large shares of these immigrants were also working in clerical occupations and sales and service occupations despite their high levels of educational attainment.

While all of the unmatched foreign-educated immigrants in the study had university degrees that could

**Table 9 Match rates, immigrants, by country where degree earned**

	Total	Match rate		Total	Match rate
Country of highest degree		%	Country of highest degree (concluded)		%
Ireland (Eire)	810	59	Bangladesh	1,840	23
New Zealand	575	57	Venezuela	850	22
Republic of			Jordan	300	22
South Africa	3,790	56	Argentina	1,140	21
Australia	2,105	50	India	25,915	21
United Kingdom	17,975	44	Armenia	235	21
Jamaica	605	41	Lebanon	1,985	21
Trinidad and Tobago	270	41	Congo, Democratic		
Israel	1,145	39	Republic	285	21
United States			Slovakia	975	21
of America	22,225	39	Turkey	1,290	21
Hungary	790	36	Iraq	1,930	21
Kenya	365	36	Pakistan	8,230	21
Hong Kong,			Syria	970	21
Special Adminis-			Brazil	1,015	20
trative Region	1,810	34	Taiwan	2,560	20
Netherlands	1,040	33	Philippines	39,455	19
Nigeria	935	33	Thailand	345	19
Sweden	385	32	Japan	1,360	19
Belgium	760	32	Bulgaria	2,120	18
Egypt	5,525	30	Colombia	3,115	18
Croatia	815	30	Viet Nam	1,330	17
Poland	7,995	30	Peru	1,275	17
Serbia and			Latvia	365	16
Montenegro	2,200	30	Indonesia	405	16
Czech Republic	970	29	Mexico	2,090	16
Yugoslavia, n.o.s.	2,400	29	Sudan	360	15
Greece	210	29	People's Republic		
Singapore	405	28	of China	32,505	15
Bosnia and			Russian Federation	10,440	15
Herzegovina	1,585	27	Albania	1,505	15
Chile	785	27	Ukraine	6,995	14
Iran	6,705	27	Algeria	2,750	13
France	4,750	26	Cuba	1,020	12
Italy	700	26	South Korea	5,835	12
Sri Lanka	1,435	25	Haiti	555	12
Germany	2,530	24	El Salvador	645	12
Guyana	330	24	Belarus	1,050	10
Romania	13,860	24	Morocco	720	9
Switzerland	520	24	Republic of Moldova	585	9
Macedonia	455	23	Kazakhstan	740	7

Source: Statistics Canada, Census of Population, 2006.

lead to work in a regulated occupation, many of them had considerably more education than what would normally be required for the jobs they did find in 2006. While 57% of the unmatched Canadian-born were overqualified, this was the case for 77% of unmatched immigrants. Foreign-educated immigrants were also more commonly found in low-skill



jobs. In 2006, 11% of foreign-educated immigrants were working in occupations whose skill level required a short-work demonstration and no formal education compared to just 4% of the Canadian-born.

Overall, these results accord with studies that point to some barriers for foreign-trained immigrants intending to work in their chosen occupations in Canada. Results from a survey of Canadian employers by the Public Policy Forum showed that many employers make their hiring decisions based on their perception that the credentials or experience are not equivalent without verifying them (Public Policy Forum 2004). The survey also indicated that many employers—particularly employers in regulated occupations—did not value foreign work experience as much as Canadian work experience. Other research indicates that the lower valuation placed on the foreign work experience of immigrants plays a role in the immigrant-native earnings gap (Green and Worswick 2002).

### Perspectives

#### ■ Notes

1. Match rates among immigrants are related to a number of factors that are beyond the scope of this study: foreign credential recognition, recognition of foreign work experience, personal characteristics, labour market conditions, and personal choices (for example, the desire to re-qualify for a regulated occupation in Canada).

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## Appendix I Employment requirements among NOC occupations regulated in all Canadian provinces<sup>1</sup>

Regulated occupation	Employment requirements
<b>Architects</b>	<ul style="list-style-type: none"> <li>• A bachelor's degree from an accredited school of architecture or Completion of the syllabus of studies from the Royal Architectural Institute of Canada (RAIC) is required.</li> <li>• A master's degree in architecture may be required.</li> <li>• Completion of a three-year internship under the supervision of a registered architect is required.</li> <li>• Completion of the architect registration examination is required.</li> <li>• Registration with the provincial association of architects in the province of work is required.</li> </ul> <p><b>Landscape architect:</b></p> <ul style="list-style-type: none"> <li>• A bachelor's degree in landscape architecture is required.</li> <li>• A master's degree in landscape architecture may be required.</li> <li>• In Ontario and British Columbia, landscape architects require a two-year internship and the successful completion of a provincial registration exam.</li> <li>• In the remaining provinces and territories, landscape architects usually require two years of landscape design experience and an interview by their respective provincial associations to receive association certification.</li> </ul>
<b>Accountants</b>	<ul style="list-style-type: none"> <li>• Chartered accountants require a university degree and completion of a professional training program approved by a provincial institute of chartered accountants and, depending on the province, either two years or 30 months of on-the-job training and membership in a provincial Institute of Chartered Accountants upon successful completion of the Uniform Evaluation (UFE).</li> <li>• Certified general accountants and certified management accountants require a university degree and completion of a training program approved by the Society of Certified General Accountants or Society of Management Accountants and several years of on-the-job training and certification by the Certified General Accountants Association or the Society of Management Accountants.</li> <li>• Auditors require education, training and recognition as indicated for chartered accountants, certified general accountants or certified management accountants and some experience as an accountant.</li> <li>• Auditors may require recognition by the Institute of Internal Auditors.</li> <li>• To act as a trustee in bankruptcy proceedings, auditors and accountants must hold a licence as a trustee in bankruptcy.</li> <li>• Licensing by the provincial or territorial governing body is usually required for accountants and auditors practising public accounting.</li> </ul>

**Additional information:**

- There is limited mobility among the three professional accounting designations (CA, CGA and CMA).
- Progression to auditing or accounting management positions is possible with experience.

**Chiropractors**

- A minimum of two years of university undergraduate studies in sciences and completion of a four- or five-year program at an institution accredited by the Accreditation Commission of the Council on Chiropractic Education and completion of the examinations of the Canadian Chiropractic Examining Board and of the provincial licensing body are required.
- Licensure by a regulatory body is required in all provinces and in the Yukon.

**Dentists**

- One to four years of pre-dentistry university studies, or, in Quebec, completion of a college program in sciences and a university degree from a recognized dental program are required.
- Licensing by a provincial or territorial regulatory body is required.
- Dentists in general practice can move into a specialized practice through advanced training.
- Licensing for specializations is required.

**Dietitians/Nutritionists**

- Dietitians require a master's or bachelor's degree in dietetics, nutrition or a related field such as food and nutritional science or biochemistry and approximately 40 weeks of supervised practicum training.
- Registration with a regulatory body is required in all provinces for dietitians.
- Membership in the national association, Dietitians of Canada, may be required for dietitians to practise.
- Nutritionists usually require the same education and training as dietitians.
- Registration with a regulatory body is required for nutritionists in British Columbia, Alberta, Quebec and (as a registered dietitian-nutritionist) New Brunswick.
- Membership with the national association, Dietitians of Canada, and/or a provincial regulatory body is available for nutritionists who have the same education and practicum training as dietitians.

**Engineers**

- A bachelor's degree in civil engineering or in a related engineering discipline is required.
- A master's degree or doctorate in a related engineering discipline may be required.
- Licensing by a provincial or territorial association of professional engineers is required to approve engineering drawings and reports and to practise as a Professional Engineer (P.Eng.).
- Engineers are eligible for registration following graduation from an accredited educational program, and after three or four years of supervised work experience.



in engineering and passing a professional practice examination.

**Additional information:**

- There is considerable mobility between civil engineering specializations at the less senior levels.
- Engineers often work in a multidisciplinary environment and acquire knowledge and skills through work experience that may allow them to practise in associated areas of science, engineering, urban planning, sales, marketing or management.
- Supervisory and senior positions in this unit group require experience.

**Lawyers**

**Lawyers:**

- Two to three years of undergraduate studies or, in Quebec, completion of college program and a bachelor's degree from a recognized law school and successful completion of the bar examination and completion of a period of articling are required.
- Licensing by the provincial or territorial law society is required.

**Notaries (Quebec):**

- A bachelor's degree from a recognized law school and a Diploma of Notarial Law (D.D.N.) or a master's degree of law with specialization in notarial law and a 32-week vocational training program are required.
- Registration with the Corporation of Notaries is required.

**Additional information:**

- Lawyers wishing to practise in another province may be required to pass examinations set by the provincial law society.

**Judges:**

- Extensive experience as a lawyer or as a professor of law with continuous membership in the bar association is usually required.
- Membership in good standing with a provincial or territorial law society or bar association is required.
- Judges are appointed by federal or provincial cabinet.
- Those appointed to more senior positions in a court, such as chief justice, usually have experience as judges in that court.

**Occupational Therapists**

- A university degree in occupational therapy including supervised fieldwork is required or graduation from an occupational therapy program approved by the World Federation of Occupational Therapists (WFOT) is accepted in some provinces.
- Completion of the national certification examination may be required.
- Licensure with a regulatory body is required in all provinces.
- Membership in the national association, Canadian Association of Occupational Therapists, is required in some provinces.

	<ul style="list-style-type: none"> <li>Occupational therapists may obtain expertise in a particular area through additional training or experience.</li> </ul>
<b>Optometrists</b>	<ul style="list-style-type: none"> <li>One to three years of college or university, with a concentration in mathematics and science courses and a four-year university program in optometry are required.</li> <li>Licensing by the provincial or territorial regulatory governing body is required.</li> </ul>
<b>Pharmacists</b>	<ul style="list-style-type: none"> <li>A bachelor of science degree in pharmacy is required.</li> <li>Pharmacists also require practical training under the supervision of a pharmacist.</li> <li>Licensure is required in all provinces and territories for community and hospital pharmacists.</li> </ul>
<b>Doctors</b>	<p><b>General practitioners and family physicians:</b></p> <ul style="list-style-type: none"> <li>A bachelor's degree or In Quebec, completion of a college program and one year of pre-medicine university studies is usually required.</li> <li>Graduation from an approved medical school and two to three years of family medicine residency training are required.</li> <li>Completion of the qualifying examinations of the Medical Council of Canada and licensing by the provincial or territorial licensing authority are required.</li> </ul> <p>Additional information:</p> <ul style="list-style-type: none"> <li>General practitioners and family physicians may become specialist physicians with additional training.</li> </ul> <p><b>Specialist physicians:</b></p> <ul style="list-style-type: none"> <li>A bachelor of science degree or, in Quebec, completion of a college program and one year of pre-medicine university studies is usually required.</li> <li>Graduation from an approved medical school and specific specialty training are required.</li> <li>Completion of the certifying examinations of the Royal College of Physicians and Surgeons of Canada and licensing by the provincial or territorial licensing authority are required.</li> </ul> <p><b>Specialists in clinical medicine:</b></p> <ul style="list-style-type: none"> <li>Four to five years of specialty residency training are required.</li> <li>Two years of subspecialty training may also be required.</li> </ul> <p><b>Specialists in laboratory medicine:</b></p> <ul style="list-style-type: none"> <li>Four to five years of specialty residency training are required.</li> </ul> <p><b>Specialists in surgery:</b></p> <ul style="list-style-type: none"> <li>Five to six years of specialty residency training are required.</li> <li>Two years of subspecialty training may also be required.</li> </ul> <p><b>Additional information:</b></p> <ul style="list-style-type: none"> <li>Progression to management positions, such as director of laboratory medicine or</li> </ul>

chief of surgery, is possible with experience.

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**Physiotherapists**

- A university degree in physiotherapy and a period of supervised practical training are required.
  - A licence or registration with a regulatory body is required to practise physiotherapy in all provinces.
  - Completion of the Physiotherapy National Exam, administered by the Alliance of Physiotherapy Regulatory Boards, may be required.
- 

**Registered Nurses**

**Head nurses:**

- Completion of a university, college or other approved registered nursing program is required.
- Courses in management studies such as the Nursing Unit Administration Course offered by the Canadian Hospital Association or other degree, diploma, certificate or studies in management or administration may be required.
- Registration as a registered nurse by a provincial or territorial regulatory body or, in Manitoba, Saskatchewan, Alberta and British Columbia, provincial registration as a registered psychiatric nurse is required.
- Clinical experience as a registered nurse is required.

**Registered nurses:**

- Completion of a university, college or other approved registered nursing program is required.
- Additional academic training or experience is required to specialize in a specific area of nursing.
- A master's or doctoral degree in nursing is usually required for clinical nurse specialists, clinical nurses, nursing consultants and nursing researchers.
- Registration with a regulatory body is required in all provinces and territories.

**Nurse practitioners:**

- A master's degree in nursing, or a nursing program or other advanced nurse practitioner diploma program is required.
- Registration with a regulatory body is required in all provinces and territories.
- In Ontario, successful completion of the Extended Class Registration Examination (ECRE) is required for registration as Registered Nurse in the Extended Class RN(EC).

**Registered psychiatric nurses:**

- Completion of a university or college registered psychiatric nursing program is required.
- Registration with a regulatory body is required in Manitoba, Saskatchewan, Alberta and British Columbia.

**Additional information:**

- Nurses trained exclusively as registered psychiatric nurses (RPN) are regulated in



Manitoba, Saskatchewan, Alberta and British Columbia. In all other provinces and territories, registered nurses (RN) may work as psychiatric nurses without separate registration.

- Registered nurses may progress to supervisory and managerial positions with experience.

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## Teachers

### Secondary school teachers:

- Teachers of academic subjects require a bachelor's degree in education which is often preceded by a bachelor's degree in the arts or sciences.
- Teachers of vocational or technical subjects require a bachelor's degree in education which is usually preceded by specialized training or experience in the subject.
- Instructors of trades in Quebec require completion of an apprenticeship training program and industry or trade certification.
- Department heads usually require several years of teaching experience.
- To specialize in special education or English or French as a second language, additional training is required.
- A provincial teaching certificate is required.

### Elementary school teachers:

- A bachelor's degree in education is required.
- Additional training is required to specialize in special education or second- language instruction.
- A provincial teaching certificate is required. Additional certification is required to teach English or French as a second language.

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## Veterinarians

- Two to four years of pre-veterinary university studies or, in Quebec, completion of a college program in health science and a four-year university degree in veterinary medicine and completion of national certification examinations are required.
  - Provincial licensing is required.
  - Entry into research positions may require postgraduate study.
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1. HRSDC National Occupational Classification (NOC) manual.

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**Appendix II Criteria for 'match,' National Occupational Classification (NOC) code and field of study (Classification of Instructional Programs [CIP] code) concordance**

Occupations	NOC	CIP CODE(S)
Architects	2151, 2152	81, 85
Certified General Accountants	1111	1187-1192
Certified Management Accountants	1111	
Chartered Accountants	1111	
Chiropractors	3122	971
Dentists	3113	977-989
Dieticians/Nutritionists	3132	1148, 1149
Civil, electric and electronics, mechanical, chemical, industrial and manufacturing, metallurgical and materials, geological, petroleum, aerospace, computer, and other professional engineers	2131-2134, 2141-2148	310-351
Lawyers	4112	524-536
Occupational therapists	3143	1120
Optometrists	3121	1089
Pharmacists	3131	1096
Physicians	3111, 3112	1059
Physiotherapists	3142	1122
Registered Nurses	3151, 3152	1071-1083, 1085-1088
Elementary school and kindergarten teachers	4142	216-302
Secondary school teachers	4141	
Veterinarians	3114	1128-1140

# What's new?

## *Recent reports and studies*

### ■ From Statistics Canada

#### ■ *Labour productivity in the provinces and territories*

Canadian business sector productivity increased at an annual average rate of 1.3% between 1997 and 2008. Newfoundland and Labrador led the country with 4.5% in annual average growth of business labour productivity, followed by Saskatchewan (2.1%) and Manitoba (1.9%), while Alberta posted the lowest increase (0.6%).

A change in the relative contribution of conventional crude oil extraction to the economies of Newfoundland and Labrador and Alberta played a large role.

The increase in Newfoundland and Labrador occurred as new oil extraction platforms started production during the period. In Alberta, the transition from the traditional oil industry to the more costly oil sands continued. At the same time, Alberta's booming population led to an expansion of the labour-intensive service sector. Both of these changes in Alberta shifted economic activity to sectors with lower average productivity.

Following Alberta, British Columbia was the second province to trail the national average during the period, while Quebec's annual average growth rate was on a par with the national average.

For more information, see the January 27, 2010 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

#### ■ *Impact of H1N1 and seasonal flu on hours worked*

In November 2009, 1.5 million employed people age 15 to 69 reported they were absent from work as a result of the H1N1 or seasonal flu, representing 9.0% of workers in that age group. On average, these absent workers lost 19.6 hours of work each, for a total of 29.5 million hours lost.

In the same month, 600,000 people in the same age group put in 8.6 million extra hours at work as a result of the H1N1 or seasonal flu. The net effect was a loss of 20.9 million hours in November.

The age group most affected was workers age 30 to 44, as nearly 12% of these workers lost hours, on average 18.8 hours each.

Provincially, flu-related absenteeism was highest among workers in Newfoundland and Labrador, where 14.2% of workers reported lost hours. The lowest rate was in Quebec (7.6%).

In terms of average hours lost per absent worker, those in Newfoundland and Labrador lost 24.7 hours, the highest amount. Workers in Prince Edward Island had the fewest lost hours (16.2).

Workers employed in health occupations were the most likely to report working more hours in the month due to the flu; 10.5% did so, for a total of 2.0 million extra hours. The net impact on hours for health workers was a loss of 76,000 hours, the smallest net loss of all occupational groups.

For more information, see the January 15, 2010 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

#### ■ *The changing cyclical behaviour of labour productivity*

The time between the onset of lower output and job losses has shortened, to the point that early in 2008 employment fell before output receded in the United States. In Canada, employers did not reduce labour inputs as fast as output in 2008/2009. As a result, labour productivity in Canada declined for over a year during a recession for the first time in over three decades.

Since the fourth quarter of 2007, labour productivity in Canada fell 1.2% through the third quarter of 2009, despite firms having almost two years to adjust to



lower demand. Over the same period, labour productivity rose 4.9% in the United States; this country has experienced a clear trend towards productivity rising during recessions. In Canada, productivity by the end of most recessions was higher than at the beginning, with the exception of the 2008/2009 downturn.

Severe recessions provoked a range of responses in business sector productivity. In some instances, like Canada in 1981/1982 and the United States in 2008/2009, firms cut jobs rapidly and raised productivity. In others, such as the United States in 1981/1982 and Canada in 2008/2009, the loss of jobs was more muted and productivity declined.

For more information, see the January 14, 2010 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

### ■ **Survey of Household Spending**

Canadian households spent \$71,360 on average in 2008, up 2.0% from 2007. This was slightly below the rate of inflation of 2.3% as measured by the Consumer Price Index. Households in Alberta reported the highest average spending, \$86,910, followed by those in Ontario, where average spending amounted to \$77,310.

The largest increase in average spending per household was in Saskatchewan, where it rose 6.8% to \$68,280. Households in Newfoundland and Labrador reported the lowest average spending (\$57,710). This was up 4.9% over 2007, which was above the national average.

Basics still account for the largest shares of spending. Personal taxes accounted for 20.5% of the average household's budget in 2008, while shelter represented 19.9%, transportation 13.6% and food 10.4%. Provincially, the proportion spent on food was highest in Quebec (12.2%) and lowest in Alberta (8.9%).

Food, shelter and clothing account for over half of spending by the lowest income households. Personal taxes represented 3% of their budget. In contrast, the highest income households allocated about 28% of their budget to food, shelter and clothing, while 29% went to personal taxes.

Spending on cell phones and wireless services is still rising, but spending on reading materials such as books, newspapers and magazines is declining.

For more information, see the December 18, 2009 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

### ■ **Employer pension plans**

The market value of retirement savings held in employer-sponsored pension funds increased 4.5% between the first and second quarters of 2009. This was the first increase since the second quarter of 2008.

Revenues exceeded expenditures in the second quarter for a positive cash flow of \$10.6 billion. This was a reversal from the previous quarter and the first positive cash flow since the second quarter of 2008. The positive cash flow resulted primarily from significant gains on the sale of securities and a 37.2% increase in investment income compared with the first quarter of 2009.

Revenue from employer and employee contributions in the second quarter increased 8.5%, while benefits paid to retirees remained unchanged from the previous quarter.

For more information, see the December 15, 2009 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

### ■ **Labour productivity**

The labour productivity of Canadian businesses fell 0.2% in the third quarter of 2009, after fluctuating between increases and declines of 0.1% since the second quarter of 2008.

In each of the preceding five quarters, real gross domestic product and hours worked declined in tandem, and as a result, there was very little change in productivity during that period.

The decline in overall business productivity was mainly a result of the goods-producing business sector, which fell 0.9% in the third quarter following a 0.8% drop in the second quarter. Nonetheless, productivity in manufacturing recorded a second consecutive quarterly gain. Meanwhile, productivity in services-producing businesses continued to climb (0.2%), though at a much slower pace than in the previous quarter.

Labour costs per unit of production in Canadian dollars edged down 0.1% for Canadian businesses in the third quarter, the first drop since the first quarter of

2002, when it also declined 0.1%. This decrease follows advances of 0.1% in the second quarter and 0.8% in the first quarter of 2009.

For more information, see the December 15, 2009 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

### ■ *Quality of employment in the Canadian immigrant labour market*

In 2008, immigrant wages were lower and rates of involuntary part-time work, temporary employment and over-qualification were higher. For immigrants who landed in Canada more than 10 years ago, however, the indicators of quality of employment more closely resembled those of the Canadian-born.

Over 5% of both employed immigrants and Canadian born were working at more than one job. Immigrants who had multiple jobs worked longer hours overall than their Canadian-born counterparts; they worked an average of 50.0 hours, which was 2.3 hours per week more than Canadian-born multiple-job holders. This gap was particularly evident for those who landed prior to 1998.

Among part-time workers, the share of immigrants who cited working part time involuntarily (38%) was higher than Canadian-born (30%). This gap persisted regardless of period of landing, but it was widest for newly-arrived immigrants. Over 40% of immigrant workers who landed within the previous five years worked part time involuntarily, compared with 30% of Canadian-born workers.

Also, nearly 10% of immigrants were working in temporary positions, slightly more than the 8.3% of Canadian-born employees. The share of immigrants who landed within the previous five years and worked in temporary positions (16%) was nearly double that of their Canadian-born counterparts. However, the share of those who landed more than 10 years earlier in temporary jobs (7.2%) was lower than that for Canadian-born employees.

A wage gap of \$2.28 an hour was observed between Canadian-born employees in the core working-age group (25 to 54) compared with their immigrant counterparts. This gap existed regardless of when the

immigrants landed, but it was widest, at \$5.04, for immigrants who had landed within the previous five years. The gap in wages between immigrant workers and their Canadian-born counterparts was particularly wide among those with university degrees.

Union coverage was lower among immigrant employees compared to the Canadian-born. Immigrants were also more likely to be overqualified: over 40% of immigrant workers had a higher level of education for their job than what was normally required, while 28% of Canadian-born workers were similarly over-qualified.

For more information, see the November 23, 2009 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).

### ■ *Canada's employment downturn*

Between October 2008 and October 2009, total employment fell by 400,000 or 2.3%, and the unemployment rate rose from 6.3% to 8.6%. Among the groups experiencing the heaviest employment losses during the 12-month period were workers in manufacturing and construction, young people, low-paid workers, families with young children, and core working-age immigrants who were recent arrivals in Canada.

Manufacturing and construction also experienced the largest employment declines over the first 12 months of the previous two economic downturns.

Employment among core-working age men (25 to 54) whose highest level of education was at most high school fell 5.2%, as many were employed in manufacturing and construction. Core-working age women with the same educational attainment also experienced employment losses (-3.6%).

The effect of the downturn was also different across family types. Families with children were notably affected. Single mothers with children were hit hard, with a 6.8% employment decline. As well, employment fell by 2.5% among mothers and 2.4% among fathers in two-parent families with at least one child under the age of 18.

For more information, see the November 12, 2009 issue of *The Daily* on the Statistics Canada's website ([www.statcan.gc.ca](http://www.statcan.gc.ca)).



## ■ From other organizations

### ■ *Growing up in a recession*

Using the U.S. General Social Survey data, this paper examines individuals' socioeconomic beliefs and attitudes, with a particular focus on people who grow up during recessions. Individuals who come of age in a recession tend to form lifelong beliefs, including that success in life depends more on luck than on effort.

Recessions have a long-lasting effect on individuals' confidence in government and its role in society. For example, individuals have a significantly lower level of confidence in Congress and the executive branch of the federal government when they experience poor economic conditions while they are coming of age. Individuals' propensity to distrust government institutions after macroeconomic shocks occur is highest when they are between the ages of 18 and 25. However, while recessions substantially decrease the confidence in government institutions, they do not appear to have an effect on the individual's level of generalized trust, i.e. one's trust in others or other sectors of society. For more information, see *Growing up in a Recession: Beliefs and the Macroeconomy*, The NBER Digest, January 2010.

### ■ *Intergenerational social mobility across OECD countries*

Intergenerational social mobility reflects the extent to which individuals move up or down the social ladder compared with their parents. In an economic sense, intergenerational social mobility is defined in terms of the possibility to move up or down the income or wage scale relative to one's parents. Such mobility is closely related to educational achievement, given the direct link between human capital and labour productivity.

Given the strong link between education and income, this analysis focuses on educational and wage mobility. Intergenerational mobility depends on various factors, including innate abilities and factors related to the family and social environment in which individuals grow up. Among environmental factors, some can be affected by policies such as those that shape access to

human capital formation, and redistributive policies such as tax and transfer schemes that may reduce or raise financial and other barriers to accessing higher education.

Intergenerational social mobility—as measured by mobility in earnings, wages and education across generations—is low in France, southern European countries, the United Kingdom and the United States. By contrast, such mobility tends to be higher in Australia, Canada and the Nordic countries. For more information, see *A Family Affair: Intergenerational Social Mobility across OECD Countries* (chapter 5 of part II), *Going for Growth 2010* (forthcoming), Organisation for Economic Co-operation and Development.

### ■ *Trust, decentralization and productivity*

Managers in almost 4,000 medium-sized manufacturing firms in the United States, Europe, and Asia were surveyed, thus providing the first international data on the decentralization of investment, hiring, production, and sales decisions from corporate headquarters to local plants. Based on these data, this study finds that social capital—defined as regional trust of other people in society—can improve aggregate productivity by facilitating greater decentralization of firms. Trust appears to facilitate delegation, with higher trust between chief executive officers and middle-managers leading to more decentralized decision making.

Countries in which firms decentralize gain economically, because it is easier for more efficient firms to grow. Also, because trust is strongly linked with more decentralization, it affects productivity.

Economies with low trust tend to specialize in industries where decentralization is less important. If some industries require high levels of decentralization in the organization—for example, complex electronics—then these industries will tend to locate in countries with high levels of trust. Greater trust also appears to encourage both cross-country trade and cross-country investment. For more information, see *The Organization of Firms across Countries*, The NBER Digest, December 2009.

## Perspectives



# In the works

*Some of the topics in upcoming issues*

## ■ Health factors and retirement among older workers

This study uses a longitudinal approach in attempting to fill some gaps on the relationship between early retirement and specific health factors, including health conditions, behaviours, and workplace stress.

## ■ Labour market activity among seniors

Using census data, this study examines employment trends among seniors. Factors associated with employment and weeks of work are explored using 2006 Census data. This study also looks at seniors' employment by industry and occupation.

## ■ Employment patterns of post-secondary students

This study examines employment trends among youth enrolled full-time in community college, Cegep or university, with particular focus on the recent recessionary period. Who is likely to be employed and among those who are, what are the average hours of work, average earnings and job characteristics?

## ■ Laid-off workers

A look at the characteristics of workers affected by layoff between 2002 and 2007 and the effects of a layoff on subsequent labour market outcomes.

## ■ Recent trends in temporary employment

This study looks at trends in temporary employment from 1997 to 2009, with particular focus on the recent economic downturn. It also examines the earnings gap between temporary and permanent jobs and how this gap changed with the decline in overall employment.

## ■ The impact of labour force aging on hours worked

This study will first look at general trends in actual hours from 1976 to 2008, then focus on more recent years in order to determine how much of the decline in work hours is attributable to aging of the workforce and whether there are differences between the public sector and the private sector. Using employment projections, the study will also examine the decline in work hours during the next five years.

## ■ Income in cities with high manufacturing employment concentration

A comparison of the effects of recent job losses in the manufacturing sector in regions with high, medium and low manufacturing employment concentration. This study also looks at changes in income, the number of employment insurance recipients, and the number of people living in low-income.

## ■ Non-tax-sheltered investments

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

## ■ Job quality indicators

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

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### Perspectives

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- ⇒ health determinants
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Here are some of the  
handy links you'll  
find in the *Guide to  
Health Statistics*

**Links to insightful analysis  
and data on:**

- ⇒ Cancer

**Health Surveys**

- ⇒ Canadian Community Health Survey (CCHS)
- ⇒ National Population Health Survey (NPHS)
- ⇒ Smoking and Tobacco Use Surveys
- ⇒ Health Care Survey

**Sample links to related  
sites:**

- ⇒ Canadian Cancer Statistics
- ⇒ Canadian Institute for Health Information (CIHI)
- ⇒ Health Canada
- ⇒ Canadian Health Network

Health information? We've got connections!

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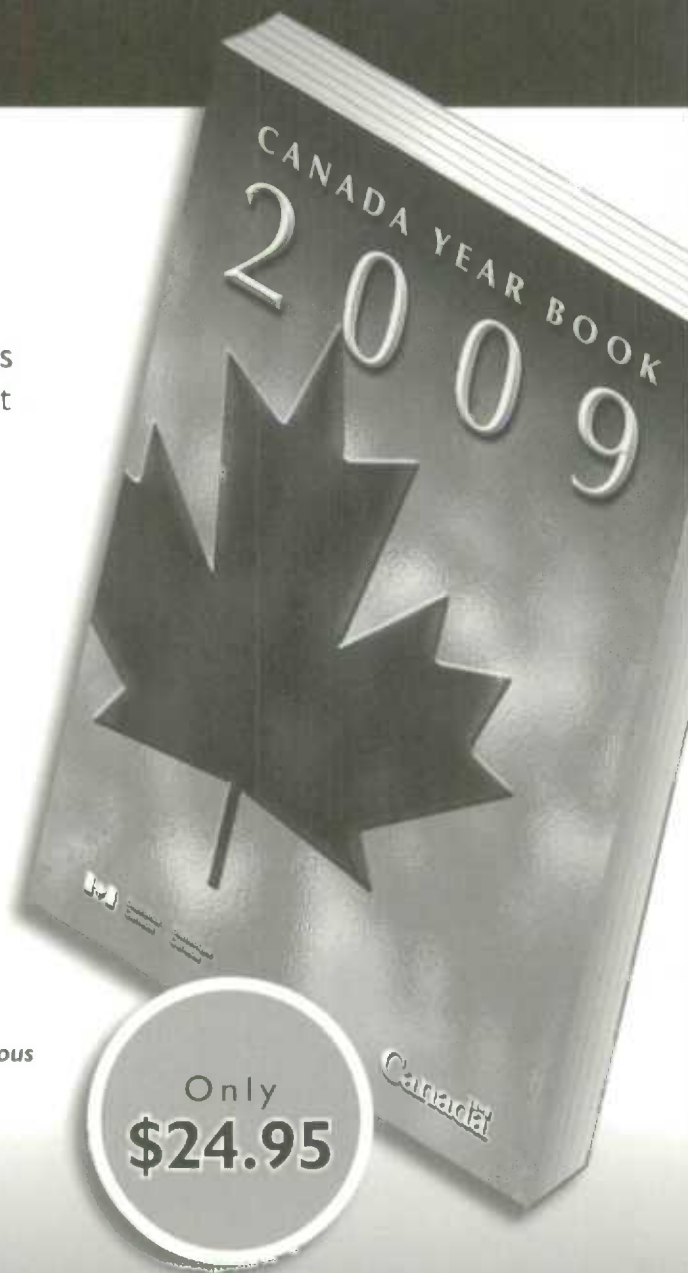
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