

PERSPECTIVES

ON LABOUR AND INCOME

WINTER 2010

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- Employment patterns of postsecondary students
- Recognition of newcomers' foreign credentials and work experience
- Offshorability and wages in the service sector
- Temporary employment in the downturn
- Varia:
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- Cumulative index
1989 to 2010



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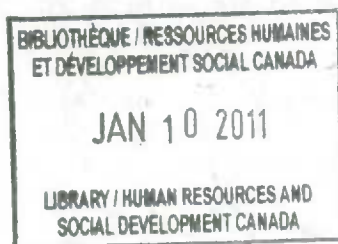
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■ Articles

5 Employment patterns of postsecondary students

Katherine Marshall

This article examines long-term trends in employment for postsecondary students. The rate of employment, hours of work and employment earnings of male and female students are covered. How other student characteristics relate to employment is also addressed. Particular attention is paid to student employment during labour market downturns.

19 Recognition of newcomers' foreign credentials and work experience

René Houle and Labouaria Yssaad

Using the Longitudinal Survey of Immigrants to Canada, this study sheds light on a specific aspect of newcomers' settlement-recognition of their foreign credentials and work experience in relation to their individual characteristics. These characteristics range from class of immigrant (skilled-worker principal applicants, family class, refugees, etc.), education and field of study to country where the highest credential was earned, and knowledge of English or French. The study also examines foreign credential and work experience recognition at three time points over a four-year period-six months, two years and four years after landing.

35 Offshorability and wages in the service sector

Yuqian Lu and René Morissette

This study uses data from the Labour Force Survey to examine whether offshorable service-sector occupations and other comparable occupations have displayed similar wage growth since the late 1990s. The analysis allows results to vary across service-sector occupations and worker characteristics.

PERSPECTIVES

ON LABOUR AND INCOME

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- E use with caution
- F too unreliable to be published

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48 Temporary employment in the downturn

Diane Galarneau

This article tracks trends in temporary employment since the Labour Force Survey (LFS) began measuring it—from 1997 to 2009—with particular attention to the recent economic downturn. It also examines the earnings gap between temporary and permanent positions and looks at whether that gap changed during the recent employment slowdown.

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Perspectives on Labour and Income

The quarterly for labour market and income information

Highlights

In this issue

■ Employment patterns of postsecondary students ... p. 5

- Since the late 1990s, almost 50% of full-time CEGEP, community college and university students age 15 to 24 were employed during the school year, up from 25% in the late 1970s.
- The employment rate for students and average hours of work declined during the recent economic downturn, although the employment rate recovered somewhat during the winter 2010 school term.
- In 2009/2010, female students were more likely than male students to combine school and work (50% versus 40%), but they worked fewer average hours per week (15.3 versus 16.7).
- The summer employment rate for postsecondary students age 20 to 24 fell from 70% to 63% between 2008 and 2009, while unemployment increased and hours decreased, with some recovery in 2010.
- Employed students earned roughly \$6,300 during the 2009/2010 school year and \$6,700 during the summer of 2009.

■ Recognition of newcomers' foreign credentials and work experience ... p. 19

- Among immigrants who had foreign academic credentials, just over one-quarter (28%) had received recognition for these credentials within 4 years after landing. Foreign work experience was more likely to be recognized as 39% of immigrants with foreign experience had it recognized within 4 years.
- Newcomers were most likely to have their work experience recognized within their first 6 months of settlement. The rate of foreign experience

recognition dropped in each subsequent period: from 6 to 24 months after landing and from 24 months to 4 years after landing. The likelihood of credentials recognition was similar 6 months and 2 years after landing before falling by one-half after four years of settlement.

- Recognition rates for newcomers who landed as skilled-worker principal applicants (selected for their labour market attributes) were higher than for any other immigrant group. These newcomers were also most likely to have their credentials and work experience recognized (39% and 56% respectively) after controlling for the effect of other individual characteristics.
- Four years after landing, newcomers with university degrees had a 43% likelihood of having their work experience recognized and a 29% likelihood of having their education credentials recognized.
- Newcomers who had completed their highest level of education or worked in the United States or the United Kingdom prior to landing were most likely to have their credentials and work experience recognized after controlling for the effect of other characteristics.
- Having a pre-arranged job at landing was the strongest correlate of work experience recognition: the predicted percentage of newcomers with pre-arranged employment who had their work experience recognized was 87%, compared to 42% for those without such an arrangement and 56% for those who were selected as skilled-worker principal applicants.
- The predicted percentage of newcomers with a pre-arranged job who had their credentials recognized was also significantly higher (40%) than for those who did not have pre-arranged employment (29%).

■ Offshorability and wages in the service sector ... p. 35

- Of all jobs held in the private service sector, about one in four is potentially subject to service offshoring.
- Service-sector jobs most susceptible to service offshoring are held by workers employed in business, finance and administrative occupations (e.g., secretaries, clerks and telephone operators) or in natural and applied sciences (e.g., computer programmers, engineers and architects). More than one-half of these workers are in offshorable positions.
- Because they generally require face-to-face contact or involve a service that cannot be transmitted by information and communication technologies, jobs in sales and service occupations and those in retail trade, accommodation and food services are the least susceptible to service offshoring. Overall, at most 6% of these jobs are offshorable.
- Overall, wages in offshorable service-sector jobs and in other service-sector jobs have grown at a similar pace since the late 1990s. Between 1998 and 2009, real wages in offshorable occupations and other service-producing occupations grew roughly 15%.
- In some occupational groups, wages grew at a different pace. Among workers with similar characteristics, wages in offshorable clerical occupations grew 2 percentage points less than those in non-offshorable business, finance and administrative occupations between the periods from 1998 to 2000 and from 2006 to 2009. Meanwhile, wages in offshorable jobs in natural and applied sciences increased 5 percentage points faster than among other natural and applied sciences occupations.

■ Temporary employment in the downturn ... p. 48

- After strong growth from 1997 to 2005, the increase in temporary employment began slowing in 2006. This type of employment registered a decrease before the downturn in total employment.

In 2009, temporary work accounted for 12.5% of paid employment, down slightly from its peak of 13.2% in 2005.

- Contract positions accounted for just over one-half (52%) of temporary jobs, representing nearly one million workers. Since 1997, this type of position has been the main source of the growth in temporary work. Contract work increased by more than 3% between 2005 and 2009 despite the overall employment decline in 2008.
- Seasonal employment accounted for 1 in 5 temporary jobs. From 2005 to 2009, it declined more than 3%, mainly due to a downturn in its traditional industries like fishing and forestry, the general decline in manufacturing, and an employment drop in accommodation and food services.
- Employees with casual jobs were mainly in retail and wholesale trade, educational services, health care, and accommodation and food services. This type of employment declined more than 10% between 2005 and 2009, with losses across most sectors.
- The gap in hourly earnings between temporary and permanent positions ranged from 14% for contract jobs to nearly 34% for seasonal and casual jobs. Irrespective of whether temporary employment was at a peak, the earnings gap held steady.

■ What's new? ... p. 61

■ From Statistics Canada

Dropout rates and labour market outcomes of young dropouts
 Productivity of unincorporated enterprises
 Labour productivity
 Income of families and individuals
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 A note on pension coverage and earnings replacement rates of retired men
 Employment in resource sector manufacturing

■ From other organizations

Temporary employment and labour adjustment
 Long-term unemployment in tough labour markets
 The expanding role of temporary help services

Employment patterns of postsecondary students

Katherine Marshall

Most postsecondary students depend on earnings from a job to cover some of the cost of their education. However, whether young workers are at school or not, youth employment can be particularly affected by economic downturns. Between October 2008 and October 2009, employment declined by about 10% among those age 15 to 24, representing 225,000 jobs and more than one-half of the total job loss during this time (LaRochelle-Côté and Gilmore 2009). With lower levels of seniority, job permanency and job protection, young workers are often the first to be laid-off. Finding a job is also more difficult as many have little or no previous work experience, even if credentials are strong.

While postsecondary students report that personal savings is the most common source of income to fund their education (79%), income from employment is ranked second (63%) (Ouellette 2006). More than one-half of students report that either savings (27%) or earnings (26%) provide the largest amount of money towards the total cost of their school year. As youth unemployment rises during economic downturns, these important sources of student income decline, which can lead to increased borrowing. "Based on previous recessions, an increase of each 1% in the rate of youth unemployment appears to lead to an increase of just over 6% in the number of student loan borrowers" (Usher and Dunn 2009). Higher student borrowing rates and debt have been linked to lower savings, investments and asset levels well after graduation (Luong 2010).

Tuition fees have risen at a faster rate than inflation since the early 1990s (Ouellette 2006). Some researchers expect the economic downturn to present a number of challenges for postsecondary institutions:

decreasing revenues; increasing costs; increasing enrolment in colleges and postgraduate studies; and increasing student aid costs (Usher and Dunn 2009). According to this scenario, students would be facing increased costs and competition for certain programs as their employment prospects fade.

Recently, more high school and postsecondary students have been working during the school year and spending more time at their jobs than in the past (Usalcas and Bowlby 2006). These findings highlight the question of whether in-school employment is a positive, negative or benign activity. Many studies have attempted to assess the impact working has on academic performance, the amount of time taken to complete studies, student retention and personal stress levels (for recent examples see DeSimone 2008, Motte and Schwartz 2009, Riggert et al. 2006, and Vickers et al. 2003). Most deduce that long hours can interfere with student outcomes, but the findings are less conclusive with regard to low and moderate levels of labour market involvement. Analyzing the school/employment relationship is complicated because of unobservable variables such as personal motivation, time management and organizational skills, and self-confidence.

This study uses the Labour Force Survey (LFS) to examine long-term school-year employment trends among youth age 15 to 24 enrolled full time in community college, CEGEP or university, with particular focus on the recent downturn and nascent recovery (see *Data source and definitions*). This is followed by a descriptive profile of the students who had a job in the 2009/2010 school year, including their average hours of work, average earnings and job characteristics. Information is also provided on long-term employment trends during the summer months (see *A summer job*).

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Data source and definitions

The **Labour Force Survey (LFS)** is a monthly household survey that collects information on labour market activity from all persons 15 years and over. Respondents are also asked whether they are currently attending school, whether it is on a part-time or full-time basis, and which type of school they attend. In order to examine the employment behaviour of students during the academic year, eight months of data from September through April are used.

The LFS adds special student-related questions during the summer months (May through August) in order to identify youth who were full-time students in March of the current year and who plan to return to school full time in the fall. These questions are only asked of respondents age 15 to 24 and the type of school is not collected. Since this study focuses on postsecondary students, information on summer employment trends includes only those age 20 to 24.

The **target population** includes all individuals age 15 to 24 who reported attending community college,

CEGEP, or university during the school year (September through April).

Students **living at home** include all those currently at home as well as those who are away at school temporarily. Students are coded as living in the household if they spend at least 30 days of the year at home. Students who do not return home for at least 30 days are included in the dwelling they occupy during the survey reference week and are labelled living away from home.

Information on **earnings** is collected from all employees for their main job and refers to pay before taxes and other deductions, and includes tips. Almost all employed students work at a paid job (98% in 2009/2010).

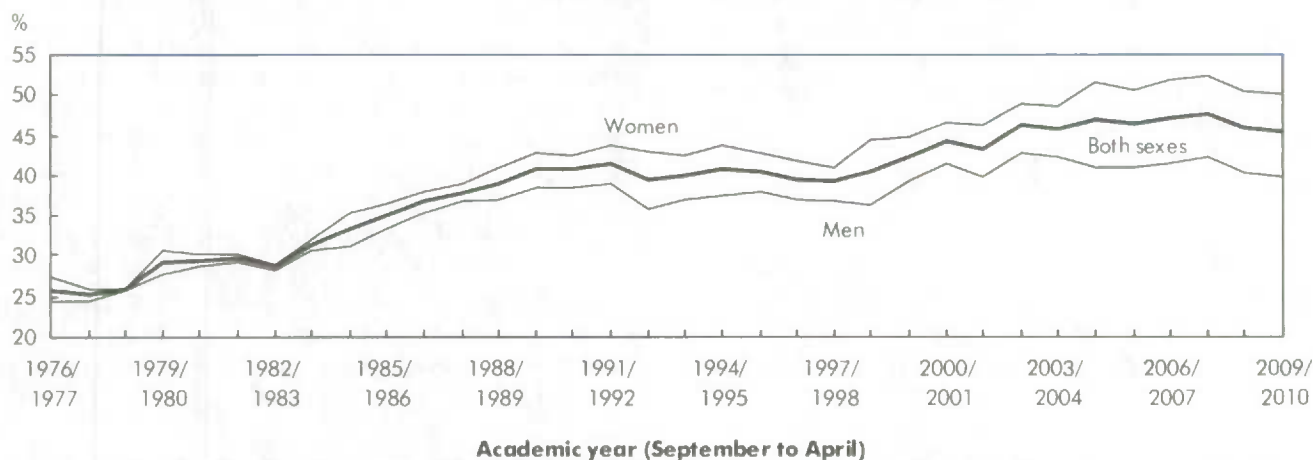
Average usual **hours** worked refers to the normal hours an employee spends at his or her job per week and does not include any overtime. However, prior to 1997, employees were to include overtime hours in their estimates if they were typical to their schedules.

More students and more of them employed

In 1976/1977, 12% of all youth age 15 to 24 (532,000) were attending some form of postsecondary education on a full-time basis—a proportion that has steadily increased over the decades. In the 2009/2010 school

year, 27% (1,193,000) of all youth were full-time postsecondary students attending community college, CEGEP or university. The increased participation in postsecondary education is tied to the rise in the knowledge-based economy and the demand for higher-skilled jobs. Another well-known trend is the increasing participation rate of young women in higher educa-

Chart A Employment rate of full-time postsecondary students peaked in 2007/2008

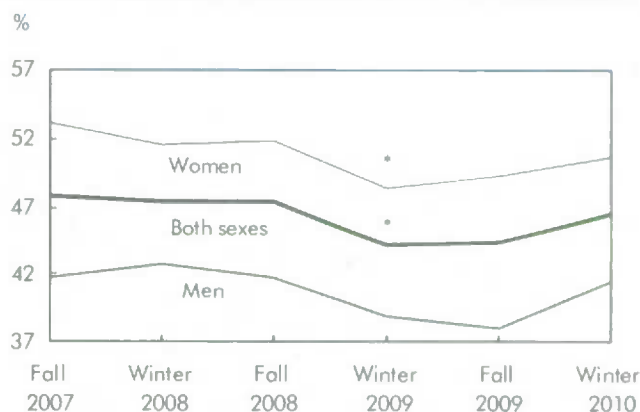


Source: Statistics Canada, Labour Force Survey.

tion vis-à-vis men. In 1976/1977, women represented 46% of all youth attending postsecondary school and, by 2009/2010, they represented 56% of all such students (Table 1). The proportion of full-time postsecondary students attending university has increased slightly, up from 57% in 1976/1977 to 61% in 2009/2010. Women in particular have gravitated towards attending university.

Not only has the postsecondary school attendance rate increased among youth, but so too has the proportion who combine school and paid work. Over the past 35 years, the employment rate among full-time postsecondary students increased from approximately one in four to just under one in two (Chart A). On the other hand, the summer employment rate for this population has remained stable (see *A summer job*). Since the early 1990s, a noticeable difference in employment activity has emerged between men and women, with female students participating at a higher rate than male students. The employment rate difference has continued to widen over the past decade reaching a double-digit difference for the first time in

Chart B Employment rate of full-time postsecondary students up 2 percentage points in the winter 2010 term



* significantly different with previous term at the 0.05 level
Source: Statistics Canada, Labour Force Survey.

Table 1 Full-time postsecondary students aged 15 to 24 by academic year (September to April)

	1976/ 1977	1986/ 1987	1996/ 1997	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010
Total	532	713	906	1,116	1,140	1,126	1,193
	'000						
	%						
Both sexes	100	100	100	100	100	100	100
Men	54	50	48	45	46	44	44
Women	46	50	52	55	54	56	56
College or CEGEP	43	46	45	37	38	39	39
University	57	54	55	63	62	61	61
Men - College/CEGEP	23	23	22	17	19	18	17
Men - University	31	27	25	28	27	25	27
Women - College/CEGEP	20	24	23	20	20	21	21
Women - University	26	26	30	35	35	36	35

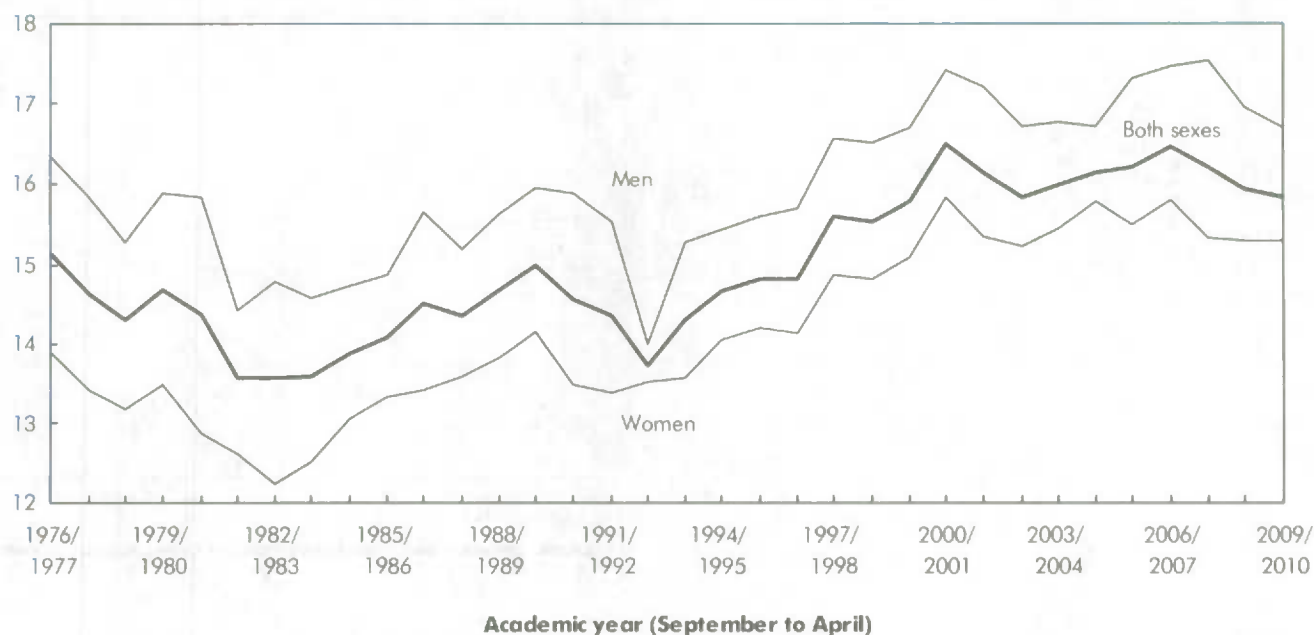
Source: Statistics Canada, Labour Force Survey.

2004/2005, with 52% of full-time female students having a paid job during the school year compared with 41% of full-time male students. The gender employment trend is also evident among younger and older students (Table 6) and has also been noted in previous research using time use data (Marshall 2007).

There was a significant drop in the employment rate for all students between 2007/2008 and 2009/2010—down by 2.6 percentage points for male students and 2.4 points for female students. However, on a term-by-term basis it is obvious that the economic downturn, which started in late 2008, had a large initial impact on the employment opportunities of postsecondary students, but since

Chart C Weekly employment hours of full-time postsecondary students

Average weekly hours



Source: Statistics Canada, Labour Force Survey.

then there have been signs of improvement (Chart B). Although the employment rate among full-time postsecondary students had fallen by 3.3 percentage points between the fall 2008 (September to December) and winter 2009 (January to April) terms, overall there have been gains in each of the following terms, particularly during winter 2010.

Employment hours have increased over time

The average employment hours of postsecondary students with jobs increased steadily until the late 1990s and have since hovered around 16 hours per week (Chart C and Table 7). Although average hours have increased, 9 in 10 students still work part time during the school year. The trend and business cycle fluctuation in student work hours have been similar for both sexes, however, men have consistently worked on average 1.5 to 2.5 more hours per week than women.

Chart D Weekly employment hours of full-time postsecondary students down slightly since recession

Average weekly hours



Source: Statistics Canada, Labour Force Survey.

The average time spent at a job has trended downward since the recent economic downturn, and increased marginally in the fall of 2009 before dropping further in the winter of 2010. The average work hours for all students with jobs for the winter 2010 term was 15.6, the lowest it has been for about a decade (Chart D).

School-year earnings near \$6,000 throughout downturn

With average weekly employment hours dropping slightly, but not significantly, over the recent recession and hourly wages increasing from \$10.75 in 2007/2008 to \$11.80 in 2009/2010, average weekly earnings approached \$200 in 2009/2010 (Table 2). Assuming students keep their part-time jobs for the duration of the school year (from September to April or roughly 34 weeks), average income from earnings for 2009/2010 would have been about \$6,300.

Students who managed to keep or find a job during the economic downturn therefore held their ground in terms of earned income. However, the 2.5% increase in the unemployment rate suggests that, had the rate remained the same as before the downturn, an additional 30,000 students (2.5% of the 2009/2010 student population) would have been employed. Research has shown that declining student employment rates in 1982 and 1990 were followed by large increases in the number of Canada Student Loan Program clients (Usher and Dunn 2009).

The importance of student earnings in financing education was also evident in the 2002 Post-Secondary Education Participation Survey. It found that the median cost of the 2001/2002 school year for postsecondary students age 18 to 24 was \$10,900, and for students with employment earnings, \$3,000 were used from this source (Ouellette 2006).

Table 2 School-year employment, hours and earnings of full-time postsecondary students

	Total	Employment rate	Unemployment rate	Average weekly hours	Average hourly earnings ¹	Average weekly earnings	Earnings during school ²	
							Employed students	All students
	'000	%	%	hours	\$	\$	\$	\$
Total students								
2007/2008	1,140	47.7	6.5	16.2	10.75	175	5,920	2,825
2008/2009	1,126	45.9	8.0	15.9	11.50	185	6,230	2,860
2009/2010	1,193	45.4*	9.0*	15.8	11.80*	185*	6,345*	2,885
Men								
2007/2008	521	42.2	8.0	17.5	11.00	195	6,570	2,770
2008/2009	493	40.3	10.3	17.0	11.80	200	6,800	2,740
2009/2010	526	39.6	11.2*	16.7*	12.15*	205	6,895	2,730
Women								
2007/2008	619	52.4	5.4	15.3	10.55	160	5,490	2,875
2008/2009	633	50.2	6.6	15.3	11.30	175	5,890	2,955
2009/2010	667	50.0	7.5*	15.3	11.55*	175*	6,015*	3,010
Aged 15 to 19								
2007/2008	417	45.8	8.1	15.0	9.10	135	4,640	2,130
2008/2009	423	44.7	10.2	14.3	9.80	140	4,770	2,130
2009/2010	439	43.5	11.9*	14.3*	10.25*	145*	5,000*	2,175
Aged 20 to 24								
2007/2008	722	48.8	5.6	16.8	11.65	195	6,670	3,255
2008/2009	703	46.6	6.7	16.9	12.50	210	7,170	3,345
2009/2010	754	46.6	7.3*	16.6	12.65*	210*	7,145*	3,330

* significantly different from the 2007/2008 school year at the 0.05 level

1. All earnings figures are in 2009 constant dollars.

2. Based on 34 weeks (September through April).

Source: Statistics Canada, Labour Force Survey.

Table 3 Employment and hours worked among full-time postsecondary students

	All students '000	Employment rate %	Of those employed	
			Average weekly hours	More than 20 hours per week
School year			hours	%
2009/2010	1,193	45	15.8	18
Men (ref.)	526	40	16.7	22
Women	667	50*	15.3*	16*
Aged 15 to 19 (ref.)	439	43	14.3	13
Aged 20 to 24	754	47*	16.6*	21*
Immigrant (ref.)	223	32	16.1	19
Canadian born	970	49*	15.8	18
Immigrant men (ref.)	111	29	17.3	23
Immigrant women	112	35	15.2*	16
Canadian born men	415	43*	16.6	22
Canadian born women	555	53*	15.3*	16*
Lives in CMA (ref.)	972	47	15.7	18
Non-CMA	221	39*	16.5*	20
Usual residence				
Living at home (ref.)	831	46	15.3	16
Not at home	361	44	17.1*	23*
College (ref.)	460	49	16.0	18
University	733	43*	15.7	18

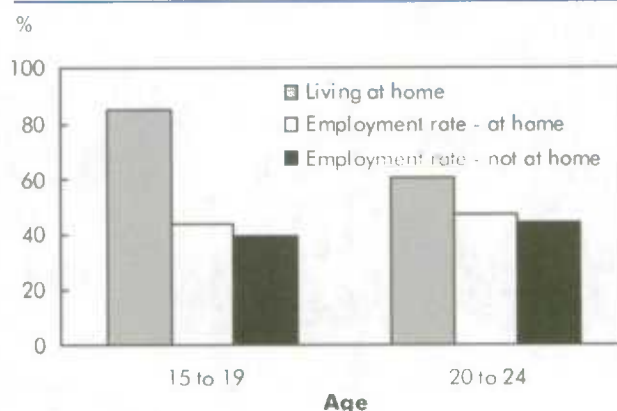
* significantly different from the reference group (ref.) at the 0.05 level
Source: Statistics Canada, Labour Force Survey, 2009/2010.

Characteristics of employed students

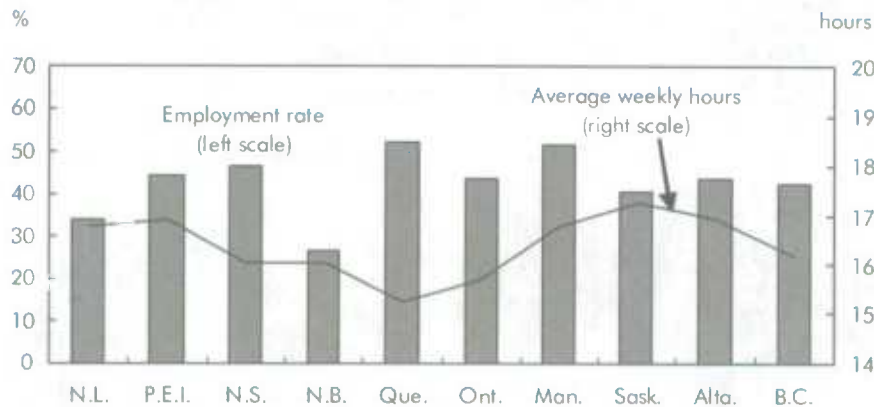
What are the personal and job characteristics of students who work? Findings have already shown that older students and women are more likely to be employed during the school year. Immigrant students are much less likely to work while going to school (32%) compared with their Canadian-born counterparts (49%) (Table 3). Although the gender difference in the employment rate holds within the two groups, for example, immigrant women have a higher employment rate than immigrant men (35% versus 29%), both rates are still less than that of Canadian-born female (53%) and male students (43%). Going to school in a large urban centre, which offers more job opportunities, also increases the chances of being employed (47%) compared to students living in smaller centres (39%). Living at home does not appear to increase student employment rates. Living

Since employed male students worked about two extra hours per week, and earned more per hour than their female counterparts (\$12.15 per hour in 2009/2010 versus \$11.55), their weekly and school-year earnings were higher. Estimated school-year earnings were approximately \$6,900 for men and \$6,000 for women.

Compared with students age 15 to 19, those age 20 to 24 were more likely to work while going to school, work longer hours and have higher wages. The potential school-year earnings by age group range widely from approximately \$5,000 for younger students to over \$7,000 for older students. The financial consequences for unemployed older students are therefore much greater than those for younger students. Furthermore, older students are also less likely to depend on their parents for financial assistance.

Chart E Younger students' tend to live at home, but place of residence not strongly linked to employment rate

1. Full-time postsecondary in 2009/2010 school year.
Source: Statistics Canada, Labour Force Survey, 2009/2010.

Chart F School year¹ employment rate highest in Manitoba and Quebec

1. Full-time postsecondary in 2009/2010 school year.
Source: Statistics Canada, Labour Force Survey, 2009/2010.

at home' refers to students who spend at least 30 days of the year living with at least one parent, therefore students who live in a school residence and return home for the summer fall into this category.¹ Although the proportion of students living at home varies considerably by age, with 85% of those age 15 to 19 doing so, compared with 61% of 20- to 24-year-olds, there is no significant difference in the employment rate by age and place of residence (Chart E). Finally, a higher proportion of college students (49%) than university students (43%) have a job while attending school.

There was less than a two-hour variation in the average weekly hours worked among all student characteristics considered. Although immigrant men had the lowest employment rate, those with a job had the highest average work week—17.3 hours. In terms of longer hours, less than one in five employed students (18%) worked

more than 20 hours per week. Working at least 20 hours per week has been shown to be an important threshold, with some studies indicating that long hours can

interfere with postsecondary performance and student retention.

Finally, provincial employment rates and average hours worked are consistent with historical trends (Usalca and Bowlby 2006). During the 2009/2010 school year, both Manitoba and Quebec had school-year employment rates above 50% and New Brunswick (27%) and Newfoundland and Labrador (34%) had the lowest average rates (Chart F). Average weekly hours ranged from a high of 17.3 in Saskatchewan to a low of 15.2 in Quebec.

At your service

Of the 542,000 postsecondary students who were employed during the 2009/2010 school year, almost all (96%) had a job in the service sector, compared with 78% of the total non-postsecondary-student employed population (Table 4). Retail trade, in particular, accounted

Table 4 Industrial distribution of employed students¹ and non-students aged 15 and over

	Total employed		Non-students		Students ¹	
	'000	%	'000	%	'000	%
All industries	16,802	100	16,260	100	542	100
Goods	3,660	22	3,640	22	20	4
Services	13,143	78	12,621	78	522	96
Retail trade	2,035	12	1,842	11	194	36
Food and beverage stores	509	3	458	3	51	9
Clothing stores	222	1	178	1	44	8
Other retail	1,304	8	1,206	7	98	18
Education services	1,270	8	1,217	7	53	10
Health care and social assistance	1,982	12	1,947	12	35	6
Arts, entertainment and recreation	376	2	343	2	33	6
Accommodation and food services	1,042	6	935	6	108	20
Restaurants and eateries	851	5	751	5	100	18
Other	191	1	184	1	8	1
Other services	6,436	38	6,336	39	100	18

1. Full-time postsecondary aged 15 to 24.
Source: Statistics Canada, Labour Force Survey, September 2009 to April 2010.

A summer job

Many students start to think about where to apply for a summer job well before the second term of school is finished. The four months are a narrow but good opportunity for many to gain useful work experience, and, more importantly, to earn money to put towards their continuing education. Competition can be stiff as tens of thousands of students descend on the job market all at the same time.

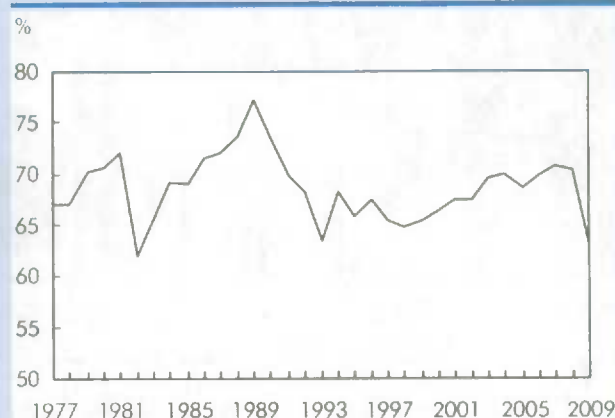
Beginning in 1997, the federal government created the Youth Employment Strategy (YES) to help youth find employment and gain workplace experience. One part of YES includes the Summer Work Experience program, which is aimed specifically at secondary and postsecondary students returning to full-time studies in the fall. The program offers wage subsidies to employers to encourage student hiring and support the operation of summer employment offices (see HRSDC 2010 for more information).

The LFS tracks summer employment trends of students by asking all respondents age 15 to 24 two additional student-related questions during all interviews that take place between May and August (see *Data source and definitions*). The first question asks whether the respondent had been a full-time student in March of that year, and if "yes," whether he or she expects to return to school full time in the fall. The data in this section refer to all those who responded positively to both questions. Furthermore, since the type of school in March is unknown (high school or postsecondary) the sample is limited to those age 20 to 24—ensuring that the majority of respondents are college or university students (the target population of this study).

While the employment rate during the school year has increased steadily over the past several decades for all age groups, the summer employment rate for full-time postsecondary students age 20 to 24 has consistently averaged around 70% (Chart G). Similar to the overall employment rate, the employment rate for students during the summer moves in tandem with the increases and decreases of the business cycle. The decline between the summers of 2008 and 2009, down from 70% to 63%, was the second largest year-to-year drop since 1981 and 1982, when it fell from 72% to 62%.

As seen earlier, students age 20 to 24 who worked during the school year earned, on average, roughly \$7,000 in 2009/2010. Hourly earnings are roughly the same during both the school year and the summer, but the proportion working full time more than quadruples (up from 12% during the 2009/2010 school year to 57% during the summer of 2009²). Therefore, due to increased weekly hours, the same cohort earned roughly the same amount (\$6,700) during the summer of 2009 (Table 5). Although summer earnings do not cover the total expenses of another year of schooling, they can help offset some of the costs. The savings rate is also probably quite high for the students who return home for the summer, avoiding the cost of room and board.

Chart G Student summer employment rate¹ fell by over 7 percentage points during the most recent recession



1. Full-time postsecondary students aged 20 to 24 returning in the fall.
Source: Statistics Canada, Labour Force Survey.

Despite the drop in average weekly hours between the summers of 2008 and 2009 (from 30.0 to 28.8), total summer earnings were similar in both years because of the slight increase in hourly wages (from \$12.40 to \$12.85). Although those with a job fared about the same in both years, it is important to keep in mind that there were roughly 40,000 fewer students employed during the summer of 2009.

The summer employment rate for students fell between 2008 and 2009 in most provinces, but in both years the Atlantic provinces had higher-than-average levels (except for Newfoundland and Labrador), as did Saskatchewan and Manitoba. Employed students in these provinces had higher-than-average weekly hours as well, and with the western provinces boasting the highest hourly earnings, students in Alberta and Saskatchewan were able to earn roughly \$9,000 in the summer of 2009.

Note: While this article was in production, the final 2010 data for summer student employment (May through August) were released. Key findings show the employment and unemployment rates for postsecondary students age 20 to 24 to be 66.4% and 8.3%, respectively. Average weekly hours worked were 27.7 and average hourly earnings were \$12.80. Finally, the full-time employment rate for students during the summer of 2010 was 51.8%.

A summer job (concluded)**Table 5 Summer employment among returning full-time postsecondary students aged 20 to 24, by province**

	Total	Employment rate	Unemployment rate	Average weekly hours	Average hourly earnings ¹	Average weekly earnings	Earnings during summer ²	
							Employed students	All students
	'000	%	%	hours	\$	\$	\$	\$
Canada								
2008	647	70.3	9.0	30.0	12.40	370	6,690	4,705
2009	658	63.0	13.6	28.8	12.85	370	6,670	4,205
Newfoundland and Labrador								
2008	10	59.6	12.8	32.9	11.45	375	6,770	4,035
2009	9	58.3	12.4	31.2	11.55	360	6,475	3,775
Prince Edward Island								
2008	2	85.0	2.8	34.8	10.80	375	6,755	5,745
2009	2	72.1	14.7	33.8	10.85	365	6,590	4,750
Nova Scotia								
2008	17	80.9	4.4	32.7	10.25	335	6,020	4,865
2009	14	69.9	13.4	32.3	11.25	365	6,545	4,575
New Brunswick								
2008	12	78.1	6.6	32.9	10.95	360	6,485	5,060
2009	12	74.8	13.7	34.2	11.60	395	7,125	5,330
Quebec								
2008	159	71.0	8.4	28.9	12.30	355	6,380	4,535
2009	149	65.9	12.1	28.1	12.50	350	6,325	4,165
Ontario								
2008	285	68.4	11.5	29.4	11.50	340	6,080	4,160
2009	303	59.1	17.5	27.6	12.40	345	6,170	3,645
Manitoba								
2008	19	83.9	3.5	31.8	12.55	400	7,190	6,035
2009	16	75.8	8.5	30.8	12.10	375	6,710	5,090
Saskatchewan								
2008	14	79.4	3.6	34.5	13.20	455	8,195	6,500
2009	13	73.7	4.2	33.3	14.90	495	8,935	6,585
Alberta								
2008	52	81.2	4.0	32.7	16.05	525	9,470	7,690
2009	59	65.7	8.1	32.2	15.45	495	8,945	5,875
British Columbia								
2008	79	60.9	8.3	29.1	13.90	405	7,280	4,435
2009	81	63.4	8.7	28.8	13.70	395	7,095	4,495

1. All earnings figures are in 2009 constant dollars.

2. Based on 18 weeks (May through August).

Source: Statistics Canada, Labour Force Survey.

for over one-third of all student employment: 32% for male students and 38% for female students (data not shown). Food and beverage (e.g., grocery stores) and clothing stores account for one-half of the retail trade jobs. The remaining retail employment includes such categories as general merchandise stores, health and personal care stores (e.g., pharmacies and drug stores) and sporting goods, hobby, book and music stores. Retail employment is conducive for students since it often offers part-time hours, evening or weekend shifts, and minimal required experience. From September 2009 to April 2010 there were 2.0 million jobs in retail overall. With some 200,000 students working in this field, their employment represents 10% of all jobs in the retail trade industry.

Restaurants and other eateries also offer many student job opportunities, with 18% working in this industry, compared to 5% of other workers. Students also had a higher-than-average representation in the education services and arts, entertainment and recreation industries, where many work as research assistants and instructors in recreation and sport, respectively.

Conclusion

Although most students have consistently worked during the summer months, employment patterns during the school year have changed substantially. Since the late 1990s, almost one in two full-time postsecondary students have been employed during the academic school year, up from one in four in the late 1970s. At the same time, hours at work rose and then levelled off, averaging around 16 per week over the past decade.

In the 2009/2010 school year, not only were there proportionally more women age 15 to 24 attending postsecondary school than men (56% versus 44%), but they were also more likely to be employed (50% versus 40%). However, on average, employed male students worked longer weekly hours than their female counterparts—16.7 compared with 15.3. Older students and Canadian-born students were also significantly more likely to work while attending school. Almost all employed students worked in the service sector (96%), with 36% in the retail trade and 18% in food services.

Students have not been immune to the recent economic downturn as they experienced a drop in their employment rate and average hours worked. The full-time postsecondary student employment rate fell by over 3 percentage points between the fall 2008 term and the winter 2009 term. Although the rate increased to 46.5% during the winter 2010 term, the rate is still lower than the fall 2007 term rate of 47.9%.

Many students rely on employment earnings to help fund their education (Ouellette 2006). The estimated school-year earnings of those with a job were about \$6,000 before and during the economic downturn (2007/2008 to 2009/2010). Even though students with a job managed to hold their ground in terms of earnings, there were an estimated 30,000 fewer students with jobs over the period.

The summer of 2009 was the worst labour market for postsecondary students age 20 to 24 since the recession years of 1982 and 1993. Between the summers of 2008 and 2009, the employment rate dropped from 70.3% to 63.0%, the unemployment rate increased from 9.0% to 13.6%, and the percentage with a full-time job dropped from 60.7% to 56.6%. It is particularly difficult for students to be jobless during the summer due to the potential earnings loss. Students who were employed during the summer of 2009 earned \$6,700 on average.

The recent declines in the school-year and summer student employment rates due to the economic downturn, and subsequent increase in the unemployment rate, suggests more students would have been working at a paid job if they could have found one. However, most college and university programs last for several years, and with signs that student employment is starting to recover, students wanting work may soon have a better chance of being employed again.

Perspectives

Table 6 Employment rate of full-time postsecondary students aged 15 to 24

	Aged 15 to 24			Aged 15 to 19			Aged 20 to 24		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
	%								
Academic year									
1976/1977	26	24	27	25	25	25	26	24	30
1977/1978	25	24	26	24	26	23	26	23	29
1978/1979	26	26	26	25	25	25	27	26	27
1979/1980	29	28	31	29	27	29	30	28	32
1980/1981	29	29	30	30	30	30	29	28	31
1981/1982	30	29	30	29	29	29	30	29	31
1982/1983	29	28	29	27	28	27	30	29	31
1983/1984	31	31	32	31	31	30	32	30	34
1984/1985	33	31	35	31	30	33	34	32	38
1985/1986	35	33	37	34	32	36	36	34	37
1986/1987	37	35	38	36	36	36	37	35	39
1987/1988	38	37	39	37	38	37	38	36	41
1988/1989	39	37	41	38	36	40	39	37	42
1989/1990	41	39	43	39	38	41	42	39	45
1990/1991	41	39	43	40	39	41	41	38	44
1991/1992	41	39	44	41	39	42	42	39	45
1992/1993	40	36	43	37	36	38	41	35	47
1993/1994	40	37	42	37	33	39	42	39	45
1994/1995	41	38	44	37	33	40	43	40	46
1995/1996	40	38	43	38	36	40	42	39	44
1996/1997	39	37	42	35	34	37	42	39	45
1997/1998	39	37	41	35	35	35	41	38	44
1998/1999	41	36	44	37	32	41	43	38	46
1999/2000	42	39	45	40	36	43	43	41	46
2000/2001	44	41	47	41	39	42	46	43	49
2001/2002	43	40	46	42	39	45	44	40	47
2002/2003	46	43	49	45	43	47	46	42	50
2003/2004	46	42	49	43	40	46	47	43	50
2004/2005	47	41	52	45	39	50	48	42	52
2005/2006	46	41	52	44	40	48	47	41	52
2006/2007	47	42	52	45	40	49	49	42	54
2007/2008	48	42	52	46	40	51	49	44	53
2008/2009	46	40	50	45	38	49	47	41	51
2009/2010	45	40	50	43	37	48	47	41	51

Source: Statistics Canada, Labour Force Survey.

Table 7 Average weekly hours of full-time postsecondary students aged 15 to 24

	Aged 15 to 24			Aged 15 to 19			Aged 20 to 24		
	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women
Academic year	Average weekly hours								
1976/1977	15.2	16.3	13.9	13.9	14.8	13.0	16.3	17.5	14.8
1977/1978	14.6	15.8	13.4	13.6	14.1	13.1	15.5	17.3	13.7
1978/1979	14.3	15.3	13.2	13.3	14.2	12.5	15.2	16.1	14.0
1979/1980	14.7	15.9	13.5	13.2	13.6	12.9	16.0	17.6	14.1
1980/1981	14.4	15.8	12.9	13.3	14.7	12.0	15.5	16.8	13.9
1981/1982	13.6	14.4	12.6	12.5	13.3	11.8	14.5	15.3	13.5
1982/1983	13.6	14.8	12.2	12.1	13.1	11.3	14.7	16.1	13.1
1983/1984	13.6	14.6	12.5	12.6	13.4	12.0	14.4	15.5	13.0
1984/1985	13.9	14.7	13.1	12.4	12.9	11.9	14.9	15.8	13.9
1985/1986	14.1	14.9	13.3	12.9	13.3	12.7	14.9	15.8	13.9
1986/1987	14.5	15.6	13.4	13.5	13.8	13.3	15.2	16.7	13.5
1987/1988	14.4	15.2	13.6	13.6	14.2	13.0	14.9	15.9	14.0
1988/1989	14.7	15.6	13.8	13.3	14.1	12.7	15.7	16.6	14.8
1989/1990	15.0	16.0	14.2	13.7	14.6	13.1	15.9	16.8	15.0
1990/1991	14.6	15.9	13.5	13.6	15.0	12.6	15.2	16.4	14.1
1991/1992	14.4	15.5	13.4	13.0	13.9	12.3	15.3	16.6	14.1
1992/1993	13.7	14.0	13.5	12.8	12.6	12.9	14.3	14.8	13.9
1993/1994	14.3	15.3	13.6	13.2	13.6	12.9	15.0	16.0	14.0
1994/1995	14.7	15.4	14.0	13.5	14.0	13.1	15.3	16.1	14.6
1995/1996	14.8	15.6	14.2	13.3	13.9	12.9	15.7	16.4	15.0
1996/1997	14.8	15.7	14.1	13.6	14.5	12.9	15.4	16.3	14.7
1997/1998	15.6	16.6	14.9	13.4	13.9	13.0	16.6	17.8	15.8
1998/1999	15.5	16.5	14.8	14.3	15.2	13.7	16.1	17.1	15.3
1999/2000	15.8	16.7	15.1	14.4	15.3	13.8	16.5	17.4	15.8
2000/2001	16.5	17.4	15.8	15.1	15.7	14.7	17.2	18.2	16.4
2001/2002	16.1	17.2	15.4	14.5	15.0	14.2	17.0	18.4	16.0
2002/2003	15.8	16.7	15.2	14.7	15.4	14.2	16.5	17.5	15.8
2003/2004	16.0	16.8	15.4	14.5	15.1	14.1	16.8	17.7	16.2
2004/2005	16.1	16.7	15.8	14.8	15.1	14.6	16.9	17.5	16.4
2005/2006	16.2	17.3	15.5	14.6	15.2	14.3	17.0	18.4	16.2
2006/2007	16.5	17.5	15.8	15.1	15.6	14.8	17.2	18.5	16.4
2007/2008	16.2	17.5	15.3	15.0	15.7	14.6	16.8	18.5	15.7
2008/2009	15.9	17.0	15.3	14.3	14.8	14.1	16.9	18.1	16.0
2009/2010	15.8	16.7	15.3	14.3	14.9	14.0	16.6	17.6	16.0

Source: Statistics Canada, Labour Force Survey.

Notes

1. Due mainly to methodological differences, the Labour Force Survey tends to estimate a smaller proportion of young adults living at home compared to the census.
2. The full-time employment rate for students during the summer dropped from 63% in 2007 to 61% in 2008, and to 57% in 2009.

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Recognition of newcomers' foreign credentials and work experience

René Houle and Labouaria Yssaad

Education and work experience are among the valuable assets new immigrants bring to Canada. Almost one in five newcomers are skilled-worker principal applicants selected for their labour market attributes. While the majority of immigrants are not directly selected through the points system, many also possess skills that are potentially valuable to Canadian society and its economy (see *Selection of immigrants*).

In 2008, close to 45% of newcomers held a university degree, more than double the proportion 14 years earlier.¹ Among those who were admitted as principal applicants in the skilled workers category, 72% held a university degree, as did 41% of newcomers in the 'spouse and dependents, skilled worker' category, and 33% of family class immigrants. Fourteen years earlier, the corresponding figures were 39%, 21%, and 12% respectively (Citizenship and Immigration Canada 2004 and 2009).

Yet newcomers face barriers that may impede the recognition of their credentials and work experience, with consequences for their labour market performance and broader integration within Canadian society. Potential factors include the content of foreign education being deemed less relevant to the needs of the Canadian labour market than the country where the education was completed, linguistic ability in English or French, and the entry procedures in some trades and professions. Unfamiliarity with foreign degrees among employers may also play a role (Mata 1999). Others have suggested that the decentralized accreditation system seems to be a hurdle, with numerous trade and professional bodies being involved, and provinces having their own standards for evaluating degrees and setting certification norms for trades and professions (McDade 1988).

Selection of immigrants

Skilled-worker principal applicants are selected through a points system based on their labour market attributes. Higher marks are assigned to characteristics deemed to be most likely to increase success in the Canadian economy. The points system has been modified since it came into effect in 1967 (Green and Green 1999), but some basic elements have remained part of the screening grid. Selection criteria for skilled workers comprise education level, language ability in English or French, employment experience, age, arranged employment in Canada prior to landing, and some form of adaptability or suitability (Justice Canada 2001 and 1999, and Tolley 2003). The LSIC includes immigrants age 15 and over who landed from abroad between October 1, 2000, and September 30, 2001. Skilled-worker immigrants in this cohort were admitted according to the *Immigration Regulations, 1978* and their subsequent updates—these immigrants did not land under the current *Immigration and Refugee Protection Act (IRPA)*, which came into effect in 2002.

Newcomers experience a higher rate of unemployment than established immigrants and native Canadians. Their earnings lag behind those of other groups. Finding employment is frequently challenging. Education-to-job mismatch is particularly prevalent among recent immigrants with university education. In 2008, two-thirds of such newcomers were working in occupations that usually required at most a college education or apprenticeship, compared to 55% of established immigrants and 40% of native Canadians (Gilmore 2009).² Also, a recent analysis of 2006 Census data shows that just under one-quarter (24%) of employed foreign-educated, university-level immigrants were working in a regulated occupation that matched their field of study, compared to 62% of their Canadian-born counterparts. And among immigrants whose occupation did not match their field of study,

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77% worked in jobs that do not usually require a degree, compared to 57% of 'unmatched' Canadian-born graduates (Zietsma 2010).³

Non-recognition of foreign credentials and work experience by employers and regulatory professional and trade bodies can lead to an underutilization of the 'human capital' of many immigrants who were selected for their skills, work experience and other sociodemographic characteristics (Boyd and Schellenberg 2007, Boyd and Thomas 2001 and 2002, and Wayland 2006⁴).

This study uses the 2000 to 2005 Longitudinal Survey of Immigrants to Canada (LSIC) to shed light on the issue of foreign credentials and work experience recognition from the perspective of immigrants, as the survey data are based on immigrants' responses to interview questions. The period covered by the survey precedes the labour market downturn that began in the fall of 2008. Although recent immigrants were disproportionately affected by the downturn, this study focuses on hypotheses relating to the recognition of credentials that should not be sensitive to the business cycle. This information may be of particular interest to those developing proposals for the federal, provincial and territorial Foreign Credentials Recognition investment program announced in November 2009.

The LSIC was unique in scope and depth. Following a cohort of new immigrants during their first four years of settlement in Canada, the survey captured both the pre-immigration and post-immigration trajectories of these immigrants by providing information on their occupation prior to landing, intended occupation, credentials received prior to landing and plans for credentials assessment, as well as their actual occupation in Canada, the education obtained or training taken after landing, and their labour-market outcomes such as earnings, participation, employment and unemployment (Kustec et al. 2007).

The same cohort of newcomers (a total of 7,716) was interviewed three times over four years: six months after landing, then two years and four years thereafter. Each time, these newcomers were asked about various aspects of their settlement in the country, including their employment situation and whether their credentials and work experience were accepted in Canada.

This study looks at one specific aspect of newcomers' settlement: recognition of their foreign credentials and work experience. (see *Data source and definitions*).

The assessment of credential recognition and work experience encompasses a number of questions. How does the recognition rate of foreign credentials compare with that of foreign work experience? Are female immigrants more likely than their male counterparts to encounter difficulties obtaining recognition for their degrees and work experience? Does the likelihood of foreign credential recognition vary depending on whether the immigrant is part of a visible minority? How do newcomers with pre-arranged employment or previous knowledge of Canadian society fare in getting their credentials and experience recognized? Does the likelihood of recognition differ depending on the location of study or work (the country where the degree was earned or work experience acquired)? Finally, how do immigrants selected specifically for their skills and education (skilled immigrants) fare compared to other immigrants?

Foreign credentials and work experience

In 2000/2001, over three-quarters of newcomers included in this study were admitted in the skilled immigrants category (as principal applicants or spouses and dependents), and less than 20% in the family class. A small number arrived as refugees or provincial nominees, business immigrants, or as permanent residents in other categories (see *Data source and definitions*). Almost 80% reported being part of a visible minority. Six months after landing in Canada—in the first of three waves of the survey—more than one-half were living in Ontario, the biggest immigrant-receiving province (Table 1).

A significant number of newcomers (over 60%) reported good or very good knowledge of one of the two official languages. Knowledge of English or French is considered a crucial aspect of an individual's job search and the process of professional, trade or academic accreditation (McDade 1988 and Mata 1999). Language ability has also been shown to improve labour-market outcomes among educated immigrants (Adamuti-Trache and Sweet 2005).

Within four years after landing in Canada, 28% of newcomers with foreign credentials had received recognition for these credentials, while 39% of those who had previously worked abroad had their foreign work experience recognized. The two groups (newcomers with credentials and newcomers with work experience) are not mutually exclusive—some of those who

Data source and definitions

The Longitudinal Survey of Immigrants to Canada (LSIC), conducted jointly by Statistics Canada and Citizenship and Immigration Canada (CIC), was based on a representative sample of all immigrants who arrived between October 1, 2000, and September 30, 2001, were age 15 or over at landing, and had applied through a Canadian mission abroad. The sampling frame was an administrative database maintained by CIC. The LSIC was designed to examine the first four years of settlement, a time when newcomers establish economic, social and cultural ties to Canadian society. Topics covered in the survey include language proficiency, housing, education, recognition of foreign credentials and foreign work experience, employment, health, values and attitudes, the development and use of social networks, income, and perceptions of settlement in Canada.

For the purposes of this study, the target population was newcomers age 18 to 59 at landing. They were interviewed at three different times: six months, two years and four years after landing in Canada. In each of the three survey waves, respondents were asked about their foreign credentials and work experience. The survey included questions on the country where they attained their highest education level and the country of their last permanent residence prior to landing. Data from these two questions help shed light on whether assessment and recognition of foreign credentials vary by source country of education and work experience.

Foreign credentials refer to the highest education level (above a high school diploma) obtained outside Canada. The LSIC questions cover a range of issues relating to the assessment and recognition of foreign credentials in Canada, such as whether the respondent's credentials had been assessed and the kind of organization that accepted them (an employer, a work-related organization, an educational institution). Foreign credentials could be **fully accepted** (i.e., the employer/institution recognizes a credential as being legitimate within determined standards), **partially accepted** (i.e., the employer/institution partially recognizes a credential as being legitimate within determined standards), or **not accepted** (credential not recognized as being legitimate within determined standards). In some cases, respondents said they were finding out about the process for credential recognition. When respondents were asked about the assessment of their credentials, questions referred specifically to whether they checked to see if their credentials would be accepted as equal to those received in Canada. Other specific questions pertain to the highest degree earned, the main field of study, and the country where the degree was earned. **Foreign credentials are recognized** once they have been fully accepted and

deemed to be equivalent to credentials earned in Canada. For the purposes of this study, only credentials that were fully accepted were considered a 'positive' outcome in the analysis. Partially accepted credentials were treated as 'not accepted.'

Foreign work experience refers to the newcomers' **last job prior to landing**. Respondents were asked whether their foreign work experience was accepted and by what kind of organization (an employer, a professional or work-related organization, or an educational institution).

Recent immigrants are usually defined as those who landed during the five-year period preceding Census Day. In the context of the LSIC, recent immigrants (also referred to as **newcomers** for brevity) are those who were 'followed' during their first four years in Canada, since the survey period in the LSIC is four years.

Newcomers to Canada fall into one of five categories:

- **Principal applicants in the skilled worker category** are permanent residents identified as principal applicants on the application for a permanent resident visa for themselves and, if applicable, accompanying spouse and/or dependents when they applied to immigrate to Canada. For individuals, families or households applying to immigrate to Canada in the skilled worker category, only the principal applicant is assessed on the basis of selection criteria in place at the time of the application.
- **Spouse and dependents in the skilled worker category** are accompanying family members of the principal applicant.
- **Family class immigrants** are permanent residents sponsored by a Canadian citizen or a permanent resident living in Canada. They include spouses and partners, children, parents and grandparents, and other relatives.
- **Refugees** are newcomers who landed in Canada as refugees.
- **Other immigrants** include provincial or territorial nominees who are selected by a province or territory for specific skills that will contribute to the local economy to meet specific labour market needs, business immigrants who are permanent residents selected on the basis of their ability to establish themselves economically in Canada through entrepreneurial activity, self-employment or direct investment, as well as other groups. For further information, visit Citizenship and Immigration Canada at <http://www.cic.gc.ca/english/index.asp>.

had credentials also had work experience, and vice versa (see *Foreign credentials and work experience: Note on the sample*).

Recognition of foreign work experience is more prevalent than recognition of foreign credentials (Chart A). One possible reason could be that work experience is mostly assessed by employers, while credentials are

assessed by work-related organizations and educational institutions as well as employers. According to the LSIC, 83% of new immigrants with their work experience recognized, received this recognition from an employer. One-half of newcomers who had their credentials recognized obtained this recognition through an educational institution, 30% from an employer, and

Table 1 Overview of newcomers' characteristics: Respondents with foreign credentials and work experience

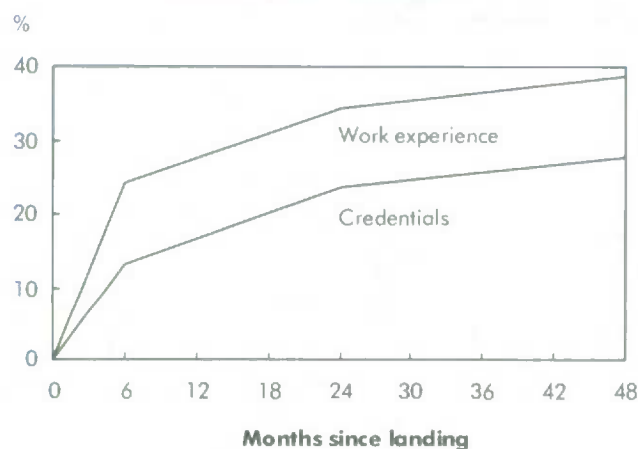
	Distribution at first wave (six months after landing)		Accepted after four years in Canada	
	Credentials	Work experience	Credentials	Work experience
Total	100	100	28	39
Men	52	55	33	51
Women	48	45	22	23
Age at landing				
18 to 24	9	8	24	31
25 to 34	51	50	32	43
35 to 44	30	30	26	38
45 to 59	9	12	19	29
Visible minority status				
No	21	23	29	50
Yes	79	77	27	35
Province or region of residence				
Atlantic	1	1	49	59
Quebec	16	16	29	34
Ontario	56	56	30	40
Prairies	2	3	33	34
Alberta	9	9	23	45
British Columbia and the territories	16	16	19	36
Immigrant category				
Skilled worker, principal applicant	48	46	38	51
Skilled worker, spouse and dependents	28	25	19	31
Family class	16	18	19	31
Refugee	3	5	11	14
Provincial nominees, business immigrants, other	6	6	14	22
Lived in Canada at least one year before landing				
No	93	93	26	37
Yes	7	7	49	59
Job arranged prior to landing				
No	93	93	26	36
Yes	7	7	51	76
Self-assessed spoken language knowledge				
Very well	37	35	35	47
Well	28	27	30	41
Fairly well	18	18	17	25
Poorly, not at all	16	21	19	32

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

20% from a work-related organization. The rate of recognition of foreign credentials and work experience was highest in the first six months of settlement. Indeed, among all new immigrants whose credentials were accepted after four years in Canada, nearly one-half (47%) received this recognition within six months after landing. The corresponding figure for foreign work experience was 62% (Charts A and B).

Not all immigrants need to have their credentials recognized by an employer in order to get a job. For example, in the first wave of the survey (six months after landing), 11% of respondents indicated that they did not get their credentials assessed because they knew they 'would be accepted' or thought that they met Canadian standards and there was no need to have them assessed. Also, in the third wave of the survey (four years after landing), 10% of respondents said they did not seek an assessment of their credentials because they knew they would be 'accepted.'⁵ On the other hand, a similar proportion (14% in the first wave and 13% in the third wave) indicated that they did not get their credentials assessed because they knew they would not be accepted or recognized by employers (see *Reasons for not getting foreign credentials assessed*).

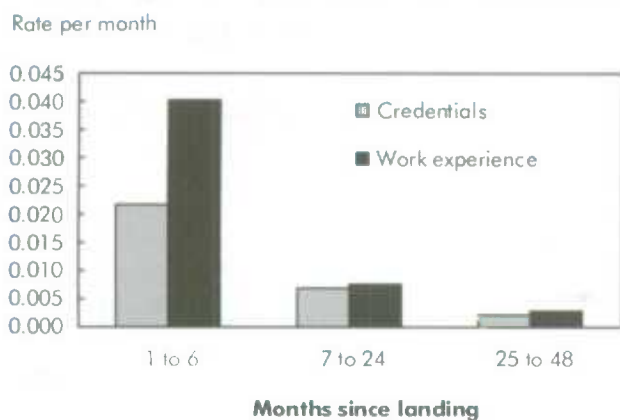
There appears to be a significant gap between men and women. Fully one-third of men had their credentials recognized within four years after landing, compared with

Chart A Foreign work experience more likely to be recognized than credentials

Note: Recognition rates are cumulative percentages.

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

only 22% of women. Men were also more successful in having their work experience recognized—51% compared with 23% of women.

Chart B Hazard rate of recognition of foreign credentials and work experience

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Foreign credentials and work experience: Note on the sample

A total of 7,716 newcomers were interviewed in three stages (or waves) over four years. The first interview took place six months after landing, the second and third, two years and four years after landing respectively. Among these respondents, one group of 4,826 newcomers reported foreign credentials,⁹ and an overlapping group of 5,615 reported foreign work experience. Newcomers' last occupation prior to landing was used as a proxy for their work experience.

1. Total sample (third wave)	7,716	100.0
2. Credentials only (no work experience)	508	6.6
3. Work experience only	1,297	16.8
4. Both credentials and work experience	4,318	56.0
5. Neither credentials nor work experience	1,593	20.6
6. Sub-total with credentials (2 + 4)	4,826	62.5
7. Sub-total with work experience (3 + 4)	5,615	72.8

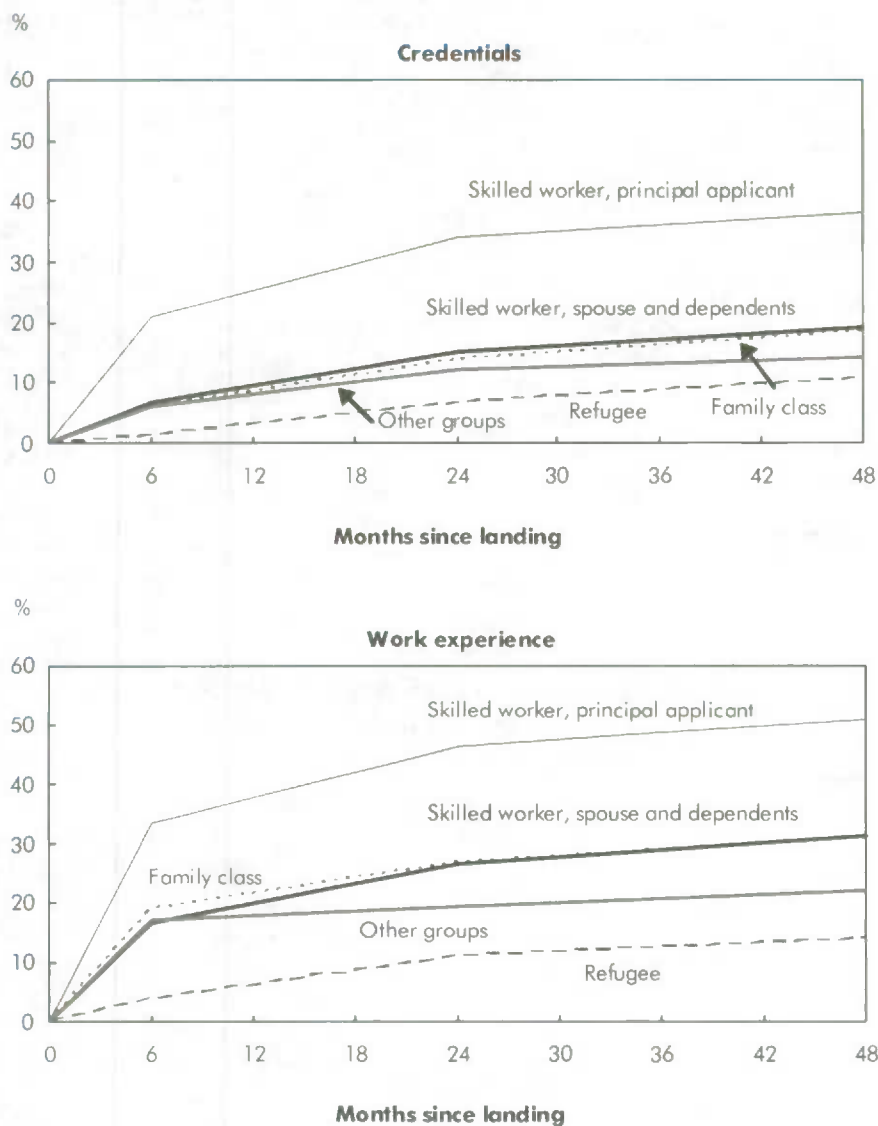
Skilled workers most likely to have foreign credentials and experience recognized

Principal applicants in the skilled workers category make up a distinct group due to the process involved in their selection. These new immigrants are selected based on their labour market attributes, including education, knowledge of official languages and work experience. The recognition rates for principal applicants in the skilled workers category (38% for credentials and 51% for work experience) were higher than for any other group, including spouses and dependents in the skilled workers category. The recognition rates were particularly low for refugees—less than 15% (Chart C).

Vast majority of newcomers highly educated

Almost nine out of ten newcomers with credentials above a high school diploma had a university degree at the time of landing in Canada. Among these, 82% held degrees in fields of study ranging from engineering to agriculture, biology, physics, mathematics and

Chart C Cumulative percentage of new immigrants with foreign credentials and work experience fully accepted by immigrant category



Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

health sciences, as well as the humanities and social sciences. Two-thirds held professional jobs before immigrating to Canada; in management and business administration, natural sciences, health and education. A small number (12%) had blue-collar jobs prior to landing. This occupational distribution reflects the emphasis on high-level skills in the selection and recruitment of immigrants.

Consistent with recent immigration trends, over one-third of newcomers with foreign credentials (35%) earned their highest education degree in China and India. The highest proportion with foreign work experience (30%) were also from those two countries. On the other hand, smaller proportions of newcomers had studied in the United States, the United Kingdom, France and South Korea. Those who had studied or worked in the U.S. or the U.K. were more likely to get recognition for their credentials and work experience (Table 2).

A small proportion of newcomers (7%) had arranged employment prior to landing, and a similar proportion had previous Canadian experience (they had lived in Canada for at least one year). After four years of residence in Canada, newcomers who had a job arranged prior to landing had the highest rate of recognition for their work experience (76%) and credentials (51%). Also, a majority of newcomers with previous Canadian experience received recognition for their credentials (59%) and work experience (49%) (Table 1).

Modelling credential and experience recognition

Logistic regression models were run in order to determine whether, and to what extent, evidence from the descriptive analysis holds when controlling for the effect of individual characteristics on the probability of recognition of foreign credentials and work experience. Because the LSIC was conducted in three waves, the statistical model used in this analysis estimates the probability that credentials or work experience have been recognized at each survey occasion, conditional upon not previously being

Table 2 Education and work experience of newcomers with foreign credentials and work experience

	Six months after landing		Accepted after four years in Canada	
	Credentials	Work experience	Credentials	Work experience
	%			
Education level at landing				
Below high school	...	5	...	28
High school	...	11	...	26
Postsecondary, trade	...	19	...	35
Bachelor, MS, MD, Ph.D.	...	66	...	43
Level and field of highest education				
Some university or college, or below, any field	11	...	16	...
University				
Education, humanities and social science	25	...	25	...
Commerce, management, business administration	24	...	30	...
Engineering	20	...	33	...
Health	4	...	31	...
Agriculture, biology, physics, mathematics	10	...	36	...
No specialization	7	...	20	...
Last occupation prior to landing				
Managers and business administrators	...	16	...	34
Professional and technical in natural sciences	...	28	...	49
Professional and technical in health	...	6	...	43
Teachers and professors	...	10	...	32
Professional and technical in other sectors (law, social, arts, etc.)	...	6	...	37
Clerical, sales and other service occupations	...	21	...	32
Blue collar	...	12	...	36
Not stated, not coded	...	1	...	44
Country of highest education or last permanent residence				
United States	3	4	51	62
United Kingdom	3	2	43	64
France	3	2	24	65
South Korea	4	4	10	14
India	14	11	27	35
China	21	19	28	28
Philippines	9	7	17	48
Pakistan	5	4	34	33
Romania	4	4	34	53
Russia	2	1	26	42
All other countries	32	41	28	40

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

recognized. Thus the probability at the first time point includes all respondents in the sample, and the probabilities at the later time points exclude those whose credentials or work experience have previously been recognized. In other words, the model estimates the conditional probability of foreign credentials and work experience being recognized at each time point (see *Multivariate analysis*).

These predicted probabilities refer to estimated percentages of respondents whose foreign credentials and foreign experience would be accepted after six months, between six months and two years, or between two years and four years of Canadian residence.

This analysis confirms most of the observations from the descriptive analysis. For example, at each of the three periods, the predicted probability of recognition was consistently higher for work experience than for credentials. In the work experience model, the probability of recognition is highest (65%) in the first six months of settlement and falls thereafter, to 45% in the second wave and 24% in the third wave. However, the predicted probability of foreign credential recognition is stable in the first and second waves, and then falls in the third wave. Six months after landing, newcomers had a 35% predicted probability of having their credentials recognized. Among those who did not receive recognition after six months the probability was 37% two years after landing, similar to the first period, then fell to 17% in the third period (data not shown).

Multivariate analysis

Logistic regression was used to estimate the probability of an outcome (e.g., obtaining foreign credential or work experience recognition) while accounting for the effects of other variables. These explanatory variables or covariates included age, sex, education, immigrant category (skilled workers, refugees, etc.), visible minority status, province of residence, knowledge of official languages, pre-arranged job at landing, previous Canadian experience, source country of foreign credentials and work experience, field of highest education, and last job prior to landing.

Because this study examines the probability p of an outcome at three discrete points in time—which correspond to the three waves of the survey—a discrete-time proportional hazard model was used. The discrete-time method for event-history analysis is based on the fact that “the history of an individual or group can always be characterized as a sequence of events” (Allison 1984).

The original survey data for each respondent were put into as many lines as the number of waves between newcomers' landing in Canada and the time of the survey, each line representing one period. For the dependent variable defined as recognition of credentials or work experience, the code 0 was used when the individual was at 'risk' of having credentials or work experience recognized, and 1 when the immigrant experienced the outcome, i.e., recognition for the first time since landing. The respondent ceases to be 'at risk' upon recognition of his/her credentials or work experience.

Process time t is the number of months in Canada since landing, and takes three values: 1 to 6 months, 7 to 24 months, and 25 to 48 months. Logistic regression is then used for statistical analysis. The intensity logistic (or logit) function takes the following general form:

$$\text{Logit } p_i(t) = y(t) + \sum_i \alpha_i \chi_{it} + \sum_m \beta_m w_{im}(t)$$

The intensity of recognition of credentials or work experience depends on

- a time baseline $y(t)$, which is piecewise constant, where t is the duration in months since landing in Canada;
- some fixed covariates $\sum_i \alpha_i \chi_{it}$, including a constant term;
- some time-varying covariates $\sum_m \beta_m w_{im}(t)$.

Coefficients from these models were converted into predicted probabilities for ease of interpretation. Predicted probabilities were calculated for each value of all covariates at each of the three time points and then the three results were summed in order to get the predicted probabilities after four years in Canada. All statistics were weighted to reflect population totals and models were run using bootstrap weights to correct variance estimates for survey design—a technique called design-based variance estimation.

Throughout the four-year survey, a number of newcomers did not have their credentials assessed (see *Reasons for not getting foreign credentials assessed*) or reported having received partial recognition (see *New immigrants with partially accepted foreign credentials and work experience*). This may partly explain the low predicted probability of credential recognition four years after landing for the remaining immigrants in the cohort.

Also, the reason why the recognition probability is higher for foreign work experience than for credentials may lie in different factors, including the fact that—at least for employers in certain industries—work experience is a more tangible asset than credentials. Credentials can be hard to assess, or deemed outdated or unrelated to labour market needs, whereas work experience can be considered 'concrete' or tangible.

Recognition rate lower for women, older immigrants

A smaller proportion of women had their work experience recognized by an employer, a work-related organization or an educational institution (48% versus 56% for men). Age is also a strong correlate—the older the immigrant, the lower the likelihood of having their credentials or work experience recognized. Younger newcomers (age 25 to 34) were more likely to have their credentials and experience recognized (32% and 48% respectively) than their counterparts age 35 to 44 (28% and 43% respectively). The probabilities are even lower for older immigrants age 45 to 59—21% and 35% respectively (Table 3).

Newcomers who were part of a visible minority also had a lower probability of having their work experience recognized compared to their non-visible minority counterparts (42% versus 52%). In contrast, the two groups had similar chances of having their credentials recognized—31% and 28% respectively. Visible minority status has been shown to affect immigrants' prospects in the labour market (Oreopoulos 2009).

Multivariate analysis also confirms the findings for principal applicants in the skilled workers category. These newcomers have the highest predicted probability of receiving recognition for their credentials (39%) and work experience (56%) among all classes of immigrants. Refugees had the lowest predicted probability of recognition. In fact, throughout their first four years in Canada, immigrants selected as skilled workers were the most successful in obtaining recognition for their credentials and work experience.

Table 3 Recognition of foreign credentials and work experience by selected sociodemographic characteristics

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Sex						
Men (ref.)	0.000	1.00	36	0.000	1.00	56
Women	-0.166	0.85	32	-0.225**	0.80	48
Age at landing						
18 to 24	0.241	1.27	39	0.053	1.05	50
25 to 34 (ref.)	0.000	1.00	32	0.000	1.00	48
35 to 44	-0.176***	0.84	28	-0.148***	0.86	43
45 to 59	-0.490**	0.61	21	-0.431*	0.65	35
Visible minority status						
No (ref.)	0.000	1.00	28	0.000	1.00	52
Yes	0.122	1.13	31	-0.291**	0.75	42
Immigrant category						
Skilled immigrant, principal applicant (ref.)	0.000	1.00	39	0.000	1.00	56
Skilled immigrant, spouse and dependents	-0.599*	0.55	23	-0.473*	0.62	39
Family class	-0.792*	0.45	20	-0.539*	0.58	37
Refugee	-1.295*	0.27	12	-1.478*	0.23	17
Provincial nominees, business immigrants, other	-0.870*	0.42	18	-1.076*	0.34	24

* significantly different from the reference group (ref.) at the 0.001 level; ** at the 0.01 level; *** at the 0.05 level

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Credential recognition increases with education

The higher the level of education, the greater the probability of credential recognition in Canada (31% for newcomers with a university degree compared with 20% for their counterparts with some university/college education or below). However, education level doesn't seem to play a role in work experience recognition—newcomers with university degrees were no more likely than those with an education below the high school level⁶ to have their work experience recognized—46% and 45% respectively (data not shown).

Also, the credential-recognition model shows little variation by field of study except for degrees with no specialization, for which the rate of recognition is lower (Table 4). This model indicates that foreign-trained immigrants in engineering and health had recognition probabilities that are slightly higher than recognition probabilities for immigrants trained in education, humanities and social sciences, and in commerce,

Table 4 Recognition of foreign credentials by field of study

	Coef- ficients	Odds ratio	Predicted probability of recog- nition (%)
Level and field of highest education			
Some university or college, or below, any field	-0.541*	0.58	20
University			
Engineering (ref.)	0.000	1.00	33
Education, humanities and social science	-0.121	0.89	29
Commerce, management, business administration	-0.047	0.95	31
Health	0.176	1.19	38
Agriculture, biology, physics, mathematics	-0.055	0.95	31
No specialization	-0.270	0.76	26

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

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

management and business administration. This differs from other studies which found that regulated occupations such as physicians and engineers are especially difficult to enter due to re-accreditation or certification requirements (McDade 1988, and Boyd and Schellenberg 2007).

Country of highest education or last residence related to recognition

Newcomers who attained their highest level of education or had their last permanent residence in the United States or the United Kingdom prior to landing in Canada had the highest probability of receiving recognition for their credentials (57% and 54% respectively) and work experience (78% and 76% respectively). Results for France were mixed: while credentials earned in this country had a 21% probability of being recognized—the third lowest after the Philippines and South Korea—French work experience was just as likely to be recognized as American or British work experience. South Korea, another developed OECD country, also fares poorly, both in terms of credentials and work experience assessment (Table 5).

Data from the 2006 Census also show that immigrants who earned their highest degree in South Korea had one of the lowest match rates between occupation and

field of study—only 12% of these immigrants worked in a regulated occupation that matched their field of study, similar to immigrants who earned their highest degree in Haiti, Cuba and El Salvador (Zietsma 2010).

For newcomers who had completed their highest education level in China and India (over one-third), the probability of credential recognition was similar, but recognition was higher for work experience acquired in India.

The effect of country or region of origin on labour market outcomes such as earnings or job–education mismatch has been well documented. Immigrant professionals from the United States, the United Kingdom and Western Europe are far more successful in the Canadian labour market than their counterparts from other regions of the world (Reitz 2001, Boyd and Thomas 2002, and Adamuti-Trache and Sweet 2005).⁷

Another series of models was run using ten sub-continental regions instead of ten specific countries, with the United States treated as a single region, and Australia and New Zealand grouped with the United Kingdom. The other regions were Western Europe, Eastern Europe, Latin America and the Caribbean, Sub-Saharan Africa, West Asia, South Asia, East Asia, and Southeast Asia and the Pacific.

Table 5 Recognition of foreign credentials and work experience by country of highest education or last permanent residence

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
United States (ref.)	0.000	1.00	57	0.000	1.00	78
United Kingdom	-0.087	0.92	54	-0.042	0.96	76
France	-1.209*	0.30	21	-0.088	0.92	74
South Korea	-1.732*	0.18	13	-1.948*	0.14	17
India	-0.867*	0.42	28	-0.859*	0.42	42
China	-0.802*	0.45	30	-1.219*	0.30	32
Philippines	-1.389*	0.25	18	-0.472***	0.62	57
Pakistan	-0.639**	0.53	35	-1.022*	0.36	37
Romania	-0.646**	0.52	34	-0.661**	0.52	49
Russia	-0.664***	0.51	34	-1.020*	0.36	37
All other countries	-0.752*	0.47	31	-0.705*	0.49	48

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05
Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

The results of these models (data not shown) indicate that English-speaking regions (the United States as well as the United Kingdom–Australia–New Zealand group) had a higher rate of foreign credential and work experience recognition. All other regions, including Western Europe, fell significantly lower. Only France differed from the rest of Western Europe in terms of work experience recognition. Because of the small sample size, it was not possible to investigate whether this French 'specificity' applied to other European countries like the Netherlands or Ireland, or Nordic countries.

The fact that Western Europe ranked low compared to the United States and the United Kingdom suggests that the quality of education may not be the only factor involved in the assessment of foreign credentials and work experience in Canada. Language of study is a crucial factor since university-educated immigrants with the highest match rates between field of study and occupation studied in English-speaking countries (Zietsma 2010).

Pre-arranged jobs and previous Canadian experience have major effects

Not surprisingly, having a pre-arranged job at landing is the strongest correlate of work experience recognition: 87% compared to 42% for those without a prior employment arrangement and 56% for those selected as skilled workers. The predicted probability of credential recognition for newcomers with a pre-arranged job was also significantly higher (40%) than for those who did not have a pre-arranged job (29%). Similarly, compared to newcomers who did not have previous Canadian experience, those who did have such experience had a higher probability of credential and work experience recognition (Table 6).

Newcomers with pre-arranged employment or previous Canadian experience are more likely to be aware of the labour market conditions and the potential challenges of obtaining credential or work experience recognition. Having a pre-arranged job or having previously worked in Canada implies a working knowledge of English or French, which in turn can

Table 6 Pre-arranged employment or previous Canadian experience and recognition of foreign credentials or work experience

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Lived in Canada at least one year before landing						
No (ref.)	0.000	1.00	29	0.000	1.00	44
Yes	0.488**	1.63	43	0.199	1.22	51
Job arranged prior to landing						
No (ref.)	0.000	1.00	29	0.000	1.00	42
Yes	0.378**	1.46	40	1.045*	2.84	87
Self-assessed spoken language knowledge						
Very well (ref.)	0.000	1.00	35	0.000	1.00	50
Well	-0.087	0.92	32	-0.100	0.91	46
Fairly well	-0.588*	0.56	21	-0.517*	0.60	34
Poorly, not at all	-0.483*	0.62	23	-0.256**	0.77	41

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01
Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Table 7 Recognition of foreign experience by last occupation prior to landing

	Coef- ficients	Odds ratio	Predicted probability of recog- nition (%)
Professional and technical in natural sciences (ref.)	0.000	1.00	50
Managers and business administrators	-0.356*	0.70	38
Professional and technical in health	-0.061	0.94	48
Teachers and professors	-0.349**	0.71	39
Professional and technical in other sectors (law, social, arts, etc.)	-0.273***	0.76	41
Clerical, sales and other service occupations	-0.227***	0.80	42
Blue collar	-0.070	0.93	48
Not stated, not coded	0.009	1.01	51

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

improve communication with Canadian employers and other organizations. Newcomers who reported having poor or no knowledge of either official language did not fare as well as their counterparts who reported knowing either English or French (or both) very well.

Last job prior to landing

To ensure adequate sample size, previously held jobs were grouped in broad occupational groups. New immigrants who, prior to landing in Canada, had worked in the natural and applied sciences field (which includes engineers), as well as their counterparts who had worked in the health field, had the highest predicted probability of achieving work experience recognition after four years of residence in Canada (50% and 48% respectively). These two occupational groups are similar in that they are both regulated by a certification or licensing body. Interestingly, newcomers who held blue collar jobs (many in trades occupations that are not regulated) prior to landing had a similar probability to that of their counterparts in health occupations in terms of work experience recognition (48%) compared to 38% for newcomers in business occupations and 39% among teachers and professors (Table 7).

Credential recognition lower in Alberta and British Columbia than in Ontario

New immigrants living in Alberta and British Columbia and the territories⁸ had a lower probability (24% and 23% respectively) of credential recognition than their counterparts in Ontario (32%). Newcomers residing in the Atlantic region appear to have had the best odds of credential recognition (59%). Although their numbers were small, immigrants living in Newfoundland and Labrador in 2006, for example, were

Table 8 Recognition of foreign credentials and work experience by province or region of residence

	Credentials model			Work experience model		
	Coefficients	Odds ratio	Predicted probability of recognition (%)	Coefficients	Odds ratio	Predicted probability of recognition (%)
Ontario (ref.)	0.000	1.00	32	0.000	1.00	47
Atlantic	0.757***	2.13	59	0.139	1.15	52
Quebec	-0.166	0.85	28	-0.496*	0.61	32
Prairies	0.479	1.61	48	-0.242	0.79	39
Alberta	-0.334**	0.72	24	0.184	1.20	54
British Columbia and the territories	-0.410*	0.66	23	0.057	1.06	49

* significantly different from the reference group (ref.) at the 0.001 level; ** at 0.01; *** at 0.05

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

New immigrants with partially accepted foreign credentials and work experience

For increased accuracy of the analysis, a conservative approach was adopted by considering only the group of new immigrants whose foreign credentials and work experience were fully accepted. Those who received partial acceptance were treated as 'not accepted.' However, given the increased difficulties they are likely to face in the labour market, it would be worthwhile to look at some of their characteristics (Table 9).

After four years of settlement in Canada, 12% of new immigrants with foreign credentials and 18% of those with previous work experience had obtained partial recognition, compared with 28% of their counterparts whose credentials had been fully accepted and 39% whose work experience had been fully accepted. Not surprisingly, data on partial acceptance of credentials and work experience reveal certain patterns that are consistent with both the descriptive and multivariate results for the groups with full recognition. For example, partial recognition of foreign work experience tended to be higher for female immigrants and people who were part of a visible minority group. Also, refugees and Filipinos were the most likely to receive partial recognition for their credentials, compared to newcomers selected as skilled workers—who fared the best in this respect. Immigrants who earned their highest degree or whose last permanent residence was in the United States or the United Kingdom were the least likely to receive partial recognition for their credentials and work experience since the credentials and work experience for the majority of them had been fully accepted.

Table 9 Newcomers with partially accepted foreign credentials or work experience after four years in Canada

	Foreign credentials accepted			%	Foreign experience accepted		
	Total, fully or partially	Fully	Partially		Total, fully or partially	Fully	Partially
Total	40	28	12		56	39	18
Men	47	33	14		64	51	13
Women	32	22	9		48	23	25
Age at landing							
18 to 24	42	24	18		45	31	13
25 to 34	44	32	12		61	43	18
35 to 44	38	26	11		56	38	18
45 to 59	30	19	11		45	29	16
Visible minority status							
No	42	29	13		61	50	11
Yes	39	27	12		55	35	20
Immigrant category							
Skilled immigrant, principal applicant	51	38	13		72	51	21
Skilled immigrant, spouse and dependents	31	19	11		49	31	18
Family class	32	19	13		44	31	14
Refugee	21	11	11		23	14	9
Provincial nominees, business immigrants, other	23	14	9		29	22	7
Country of highest education or last permanent residence							
United States	54	51	3		69	62	7
United Kingdom	49	43	6		70	64	6
France	37	24	13		76	65	11
South Korea	17	10	7		21	14	7
India	43	27	16		63	35	27
China	33	28	5		54	28	25
Philippines	42	17	25		66	48	18
Pakistan	48	34	13		54	33	21
Romania	45	34	12		68	53	15
Russia	46	26	19		58	42	16
All other countries	42	28	13		54	40	14

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

the most likely (60%) to be working in occupations that matched their field of study, only three percentage points behind the Canadian-born in the province (Zietsma 2010).

With respect to foreign work experience, newcomers living in Ontario had the highest probability of experience recognition within four years after landing (47%), while their counterparts residing in Quebec had the lowest (32%). Results for the other provinces were not statistically different from Ontario (Table 8).

Reasons for not getting foreign credentials assessed

After four years of residence in Canada, about 40% of immigrants who arrived between October 1, 2000, and September 30, 2001, had not yet had their credentials assessed. The main reason for not having credentials assessed was that respondents saw no need for doing so or planned to work in an occupation different from their field of study—23% provided this reason after four years in Canada, compared to 5% six months after landing. This suggests that many new immigrants who did not have their credentials assessed had changed their plans regarding both the assessment of their credentials and the type of job to take during their first four years in Canada. Similar proportions of newcomers said they didn't have their credentials assessed for completely opposite reasons: 10% said they knew their credentials would be accepted, while 12% said they knew their credentials would not be accepted (Table 10).

Table 10 Reasons for not having foreign credentials assessed after six months or four years in Canada

	Six months after landing	Four years after landing
	%	
Total	100.0	100.0
No need/want to work in another field	4.9	23.0
Haven't had time/too busy	24.1	16.1
I know my credentials would not be accepted (friend told me, common knowledge, etc.)	9.0	11.7
Not a main priority (e.g., need to learn or improve language skills first)	3.3	10.2
I know my credentials would be accepted	6.4	9.8
Don't know where/how to get my credentials assessed/process too complicated	15.0	7.3
Cannot afford to have them assessed	3.0	3.7
Planning to return to school	5.5	3.6
Assessments would not be recognized by employers	4.7	1.6
Other reasons	24.1	13.0

Source: Statistics Canada, Longitudinal Survey of Immigrants to Canada, 2000 to 2005.

Summary

This study looked at the cohort of new immigrants who landed between October 2000 and September 2001, examining their outcomes in terms of foreign credential and work experience recognition at three time points over a four-year period—six months, two years and four years after landing.

Among newcomers who landed in Canada from late 2000 to late 2001, just over one-quarter obtained recognition for their education credentials and two out of five received recognition for their work experience within four years after landing. About one-half of newcomers whose credentials or work experience were accepted by an employer, a professional association or an educational institution received recognition within their first six months of residence. A number of these individuals had pre-arranged employment or had resolved the issue of credential and work experience equivalencies prior to landing.

The study found that immigrants who landed as principal applicants in the 'skilled worker category'—individuals specifically selected for their skills and education—had the highest predicted probability of having their credentials and work experience recognized (39% and 56% respectively) after four years of residence in Canada, compared to other newcomers such as family class immigrants and refugees.

Women and older immigrants were less likely to have their work experience or credentials recognized within four years after landing compared to men and younger immigrants.

Another factor related to the likelihood of foreign credential recognition was the source country of the highest level of education and work experience. Newcomers who attained their highest education level or had worked at their last job in the United States or the United Kingdom prior to landing in Canada were significantly more likely to receive recognition for their

credentials and work experience. Results were mixed for France: while credentials earned in this country had a low probability of being recognized—in fact, the third lowest after the Philippines and South Korea—French work experience was just as likely to be recognized as American or British work experience.

Recent immigrants who had completed their highest level of education in China and India had similar probabilities of credential recognition, albeit lower, to the United States and the United Kingdom. However, Indian work experience was more likely to be recognized than Chinese experience.

Perspectives

■ Notes

1. In 1994, about 21% of newcomers held a university degree (Citizenship and Immigration Canada 2004, p. 47).
2. This is a report on employment quality for immigrant and Canadian-born workers. It is based on 2008 data from the Labour Force Survey (LFS). These data come from five questions designed to monitor immigrants' employment patterns and trends. Added to the LFS in January 2006, these questions pertain to the country of birth, landed immigrant status, the year and month that status was obtained, and the country where the degree reflecting the highest level education was earned.
3. Using data from the 2006 Census of Population, this study looks at university degree holders among immigrant and Canadian-born workers in regulated occupations. It sheds light on immigrants with foreign credentials and how they fare with respect to job-education mismatch compared to workers born or educated in Canada.
4. Wayland conducted the study for Ontario. Similar concerns were voiced during the Bouchard-Taylor Commission hearings in Quebec (Bouchard and Taylor 2008).
5. No similar questions were asked about work experience.
6. Newcomers with an education below the high school level made up 5% of all new immigrants in 2000/2001.
7. There are exceptions, however. For instance, while Western-trained engineers are more successful in matching their education with their actual occupation, among foreign-born physicians, those born in Africa and South Asia have better chances of working as doctors than other groups, including those born in the United States, Western Europe and Oceania (Boyd and Schellenberg 2007). Place of training is assumed to be the same as place of birth, which may not be always the case.
8. Because there are few immigrants in the territories, they were grouped with British Columbia. Including or excluding these immigrants would not change the results for British Columbia. However, their exclusion would create gaps in some respondents' life history (represented by their answers to the three waves). These gaps are due to the fact that the residence variable is not static: As newcomers in the LSIC sample are followed throughout the survey period, they are asked about their residence during each wave.
9. About 300 respondents with foreign credentials were excluded from the analysis, mainly because it was not possible to match the level of their highest degree reported in the credentials module of the survey with their highest level of education reported in the education section of the main questionnaire. A few other respondents were also excluded because they reported having completed their highest level of education in Canada. There were no exclusions of respondents with foreign work experience. In the third wave of the survey, the credentials sub-sample represents 63% of the LSIC sample, and the work experience sub-sample, 73%.

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Offshorability and wages in the service sector

Yuqian Lu and René Morissette

In the early 1980s, the notion that manufacturing jobs in advanced economies were being lost to developing countries gained attention. According to one popular hypothesis, 'de-industrialization' would leave the service sector polarized into high-wage 'knowledge' jobs and low-wage personal service jobs (Bluestone and Harrison 1982).

A new version of the de-industrialization hypothesis emerged recently. Some authors noted that employers had started using offshoring-outsourcing abroad-not only for manufacturing goods, but also for jobs in the service sector that had high skill requirements (Businessweek 2003 and 2004). According to this view, the rise in information and communication technologies (ICTs) and the availability of relatively skilled workers in fast-growing countries were making service offshoring feasible. These factors were assumed to enable firms to move highly paid jobs like engineering and informatics to China, India and Eastern European countries with the skilled workforce required for these jobs.¹

Like any form of international trade, service offshoring may affect both employment and domestic wages.² Service-producing jobs that are offshorable that can technically be moved abroad even though they have not been relocated yet-might be subject to greater downward wage pressure than other service-sector jobs due to competition from workers in emerging economies with lower wages. As a result, the wages for offshorable jobs might grow more slowly than for other jobs.

On the other hand, offshoring is just one of many factors that contribute to occupational wage trends and even its effect may not be simple and direct. If the offshoring of some jobs yields a competitive advantage to a firm, it may expand and increase employment in closely related occupations, resulting in upward

wage pressure. In addition, demand for some service-producing occupations that could be moved abroad could be growing in Canada, for reasons unrelated to offshoring. If so, there would als

Whether wages in offshorable service occupations grew more or less than wages in other service jobs is an empirical question this article examines.

Several studies have examined the association between offshoring and wages in manufacturing. Using the share of intermediate inputs that are imported as a measure of offshoring, many studies find that foreign outsourcing increased the relative wages of nonproduction workers in manufacturing over the past few decades (Feenstra and Hanson 1996 and 1999; Hijzen et al. 2004; and Yan 2006).

Other studies have assessed the impact of trade and offshoring on wages in the service sector and across certain industries. Liu and Trefler (2008) link U.S. trade data on imports and exports of private-sector services to workers' earnings data. They find service offshoring to China and India has little impact on earnings of American service-sector workers. Ebenstein et al. (2009) show that one channel through which trade and offshoring put downward pressure on aggregate U.S. wages is the displacement of some manufacturing workers to lower-paying jobs in service industries.

To date, no Canadian study has examined the association between offshorability and the evolution of wages in the service sector. This article fills this gap by tracking wage growth in offshorable and non-offshorable service occupations over the past decade. Following Organisation for Economic Co-operation and Development (OECD) work from van Welsum and Reif (2005), offshorable service-producing occupations are defined as those that satisfy four criteria (see *Data sources and definitions*). They make intensive use of ICTs,

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Data sources and definitions

The data used in this article are drawn from the March and September files of the Labour Force Survey. For tables 1 and 2, the sample consists of private-sector⁴ employees age 15 to 64, who are not full-time students and are employed outside manufacturing, primary industries and construction. The restriction that workers be employed in one of the five occupational groups shown in Table 3 is added for the discussion of the model results.

Offshoring, outsourcing and offshorability are three distinct concepts. Blinder and Krueger (2009) point out that "offshoring refers to the movement of home-country jobs to another country" whether or not those jobs go to another company. It is different from outsourcing, "which refers to moving jobs out of the company, regardless of whether those jobs leave the country." Finally, "offshoring, which is an *observable action*, must also be distinguished from *offshorability*, which is a *job characteristic*." A job is offshorable if the underlying tasks can "be moved overseas in principle, even if that movement has not actually occurred." This article examines whether wages in offshorable service-producing occupations have displayed different trends since the late 1990s, compared to other service-producing jobs.

Van Welsum and Reif (2005) argue that occupations that are potentially affected by service offshoring share many characteristics. First, they make intensive use of information and communication technologies (ICTs). Second, they produce an output that can be traded or transmitted by ICTs. Third, their knowledge content is highly codifiable. Fourth, they require no face-to-face contact.

Using these four criteria, van Welsum and Reif (2005) select a subset of Canadian occupations, based on the 1991 Standard Occupational Classification (SOC), that are potentially affected by service offshoring. Because the occupation-level data in the Labour Force Survey are based on the 2001 National Occupational Classification for Statistics (NOC-S), our subset of occupations is, with minor exceptions, identical to that of van Welsum and Reif (2005).⁵

Offshorable service-producing occupations Management Occupations

- A121 Engineering Managers
- A122 Computer and Information Systems Managers
- A123 Architecture and Science Managers
- A301 Insurance, Real Estate and Financial Brokerage Managers
- A302 Banking, Credit and Other Investment Managers
- A303 Other Business Services Managers
- A311 Telecommunication Carriers Managers
- A312 Postal and Courier Services Managers
- A392 Utilities Managers

Business, Finance and Administrative Occupations

- B011 Financial Auditors and Accountants
- B012 Financial and Investment Analysts
- B013 Securities Agents, Investment Dealers and Brokers
- B014 Other Financial Officers
- B022 Professional Occupations in Business Services to Management

- B111 Bookkeepers
- B112 Loan Officers
- B114 Insurance Underwriters
- *B211 Secretaries (Except Legal and Medical)
- *B212 Legal Secretaries
- *B213 Medical Secretaries
- *B214 Court Recorders and Medical Transcriptionists
- *B311 Administrative Officers
- *B312 Executive Assistants
- *B412 Supervisors, Finance and Insurance Clerks
- *B511 General Office Clerks
- *B513 Records Management and Filing Clerks
- *B514 Receptionists and Switchboard Operators
- *B522 Data Entry Clerks
- *B524 Telephone Operators
- *B531 Accounting and Related Clerks
- *B532 Payroll Clerks
- *B533 Customer Service Representatives – Financial Services
- *B534 Banking, Insurance and Other Financial Clerks
- *B553 Customer Service, Information and Related Clerks
- *B554 Survey Interviewers and Statistical Clerks
- B523 Desktop Publishing Operators and Related Occupations

Natural and Applied Sciences and Related Occupations

- C181 Computer and Network Operators and Web Technicians
- C011 Physicists and Astronomers
- C012 Chemists
- C013 Geologists, Geochemists and Geophysicists
- C014 Meteorologists
- C015 Other Professional Occupations in Physical Sciences
- C021 Biologists and Related Scientists
- C031 Civil Engineers
- C032 Mechanical Engineers
- C033 Electrical and Electronics Engineers
- C034 Chemical Engineers
- C041 Industrial and Manufacturing Engineers
- C042 Metallurgical and Materials Engineers
- C043 Mining Engineers
- C044 Geological Engineers
- C045 Petroleum Engineers
- C046 Aerospace Engineers
- C047 Computer Engineers (Except Software Engineers)
- C048 Other Professional Engineers, not elsewhere classified
- C051 Architects
- C052 Landscape Architects
- C053 Urban and Land Use Planners
- C054 Land Surveyors
- C061 Mathematicians, Statisticians and Actuaries
- C071 Information Systems Analysts and Consultants
- C072 Database Analysts and Data Administrators
- C074 Computer Programmers and Interactive Media Developers
- C152 Industrial Designers
- C172 Air Traffic Control and Related Occupations

Data sources and definitions (concluded)**Social Science, Education, Government Service and Religion**

- E012 Lawyers and Quebec Notaries
- E031 Natural and Applied Science Policy Researchers, Consultants and Program Officers
- E032 Economists and Economic Policy Researchers and Analysts
- E033 Business Development Officers and Marketing Researchers and Consultants

Occupations in Art, Culture, Recreation and Sport

- F011 Librarians
- F013 Archivists
- F021 Authors and Writers
- F022 Editors
- F023 Journalists
- F025 Translators, Terminologists and Interpreters

Sales and Service Occupations

- G131 Insurance Agents and Brokers

Morissette and Johnson (2007) disaggregate offshorable service-producing occupations into two groups: professional occupations and clerical occupations (denoted above by an asterisk). The former group includes jobs held by highly skilled workers such as engineers, architects, computer programmers, translators and journalists. The latter includes occupations (requiring a lower skill level) such as secre-

taries, data entry clerks and telephone operators. Natural and applied sciences and related occupations will be denoted as "natural and applied sciences occupations" while occupations in social science, education, government service and religion will be denoted as "social sciences occupations."

Several non-standard industry groupings are used in the article. High-skill service industries include finance, insurance, real estate and leasing, professional, scientific, and technical services, business, building, and other support services. Public service industries include education services, health care and social assistance, and public administration. Other service-producing industries include wholesale trade, transportation and warehousing, performing arts and heritage, and amusement.

There are several limitations. The analyses are based on a single definition of offshorability. Alternative definitions could yield different results. Since no firm-level data on the intensity of service offshoring are currently available, the evidence presented here may reflect demand-side factors other than service offshoring that cannot be measured with the Labour Force Survey (LFS). Finally, no distinction is made between service offshoring to low-wage countries and service offshoring to high-wage countries. These two types of offshoring may have quite different impacts on the Canadian labour market.

produce an output that can be traded or transmitted by ICTs, require no face-to-face contact, and their knowledge content is highly codifiable.

Offshorable service-producing occupations

Of all jobs held in the private service sector, about one-quarter are potentially subject to service offshoring (Table 1).⁶ This pattern is observed in most provinces. Service-sector jobs most susceptible to offshoring are held by workers employed in business, finance and administrative occupations (e.g., secretaries, clerks and telephone operators) or in natural and applied sciences (e.g., computer programmers, engineers and architects); more than one-half of these workers are in offshorable positions. Because they generally require face-to-face contact or involve a service that cannot be transmitted by ICTs, jobs in sales and service occupations and those in retail trade, accommodation and food services are the least likely to be relocated to another country. At most 6% of the jobs in these categories are offshorable.⁷

Service-sector jobs held by low-educated workers are not the most susceptible to offshoring. In fact, the opposite is true. Overall, about 40% of service-sector jobs held by university graduates were at risk of being relocated, more than twice the rate of 16% observed for jobs held by individuals having a high school education or less.

Because of their overrepresentation in clerical jobs, many of which are offshorable, women are more likely than men to be in offshorable service-producing occupations. Women in all age groups are more likely to be in offshorable jobs, but there is some variation in gender patterns across education levels. While women with a high school education or less are at least three times more likely than their male counterparts to be in jobs subject to service offshoring, female university graduates are no more likely than male university graduates to be in such jobs.

Other gender differences are worth noting. In 2009, men employed in large firms (those with 500 employees or more) were roughly twice as likely to be in

Table 1 Service-sector jobs susceptible to offshoring

	1999			2009		
	Both sexes	Men	Women	Both sexes	Men	Women
All service-sector jobs	25.6	17.0	32.8	25.3	20.3	29.5
Age						
15 to 24	13.9	8.6	18.8	14.2	10.8	17.2
25 to 34	28.4	20.9	35.1	27.0	25.7	28.2
35 to 44	28.4	19.2	35.8	28.7	23.8	32.8
45 to 54	27.1	16.5	35.3	26.9	18.2	33.1
55 to 64	22.8	11.7	32.5	24.6	15.8	31.2
Education						
High school or less	17.6	5.9	28.2	16.2	7.2	24.2
Postsecondary	29.4	19.6	36.0	26.4	20.0	30.5
University degree	42.1	43.6	40.5	41.2	44.4	38.1
Industry						
Retail trade, accommodation and food services	6.3	3.0	8.7	6.1	3.8	7.8
High-skill services	55.0	43.2	64.8	54.1	47.9	59.7
Public services	17.7	4.9	20.1	15.6	7.4	16.9
Other service-producing industries	15.0	5.7	31.6	14.9	6.0	28.5
Occupation						
Management	21.1	20.4	22.0	24.1	26.4	21.5
Business, finance and administrative	76.4	52.5	84.2	72.3	58.9	77.5
Natural and applied sciences and related	56.3	53.6	65.9	55.5	55.5	55.6
Social science, education, government service and religion	11.7	20.7	7.8	13.9	28.0	9.4
Art, culture, recreation and sport	17.1	16.6	17.4	21.4	16.4	26.0
Sales and service	2.0	1.5	2.3	2.3	1.6	2.7
Province						
Newfoundland and Labrador	17.8	9.4	25.1	17.4	11.0	22.5
Prince Edward Island	19.1	11.4	24.7	21.2	16.3	24.6
Nova Scotia	21.8	12.1	29.7	23.2	15.9	28.6
New Brunswick	23.0	14.8	29.5	27.0	18.7	33.4
Quebec	26.5	15.8	36.3	26.6	21.1	31.3
Ontario	27.3	20.3	33.1	26.7	22.7	29.9
Manitoba	23.7	14.3	32.0	21.9	13.5	29.4
Saskatchewan	20.5	10.4	29.3	23.3	12.4	32.8
Alberta	23.7	15.5	30.8	23.7	19.6	27.4
British Columbia	24.2	15.2	31.4	22.8	18.0	26.7
Firm size						
Less than 20 employees	22.6	10.1	31.3	22.3	11.7	29.2
20 to 99 employees	20.5	12.3	28.6	21.0	15.6	26.0
100 to 499 employees	24.3	18.8	29.5	23.5	20.7	25.9
500 or more employees	30.7	23.3	37.2	29.5	26.2	32.4
Unionized						
No	27.4	18.7	34.5	27.3	22.2	31.5
Yes	15.4	8.5	22.5	14.1	10.1	17.7
Hourly wages (2009\$)						
Less than \$10.00	8.2	3.2	10.7	8.4	5.0	10.0
\$10.00 to \$14.99	22.3	8.0	31.7	19.0	9.4	24.7
\$15.00 to \$19.99	30.4	12.5	44.7	26.4	14.7	35.2
\$20.00 to \$24.99	32.4	18.4	47.7	29.4	18.9	39.5
\$25.00 or more	39.0	34.8	46.9	37.8	35.6	41.2

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction. Full-time students are excluded.

Source: Statistics Canada, Labour Force Survey, March and September, 1999 and 2009.

offshorable jobs as their counterparts employed in small firms (those with less than 20 employees). For women, the difference was less pronounced.

Some of the attention focused on service offshoring stems from the likelihood that many offshorable service-sector jobs are well-paid. The data support this notion. In 2009, 38% of service-sector jobs susceptible to service offshoring paid \$25.00 or more per hour (in 2009 dollars), up from 29% in 1999 (Table 2).⁸ In both years, very few of these jobs (at most 7%) paid less than \$10.00 per hour.

In 2009, two-thirds of offshorable jobs were held in business, finance and administrative occupations. Close to three-quarters were held by workers with postsecondary education or a university degree or by those employed in high-skill services. More than 90% of employees in these jobs were not unionized and about two-thirds were women.

Offshorability and wage growth

Overall, wages in offshorable service-sector jobs and in other service-sector jobs grew at a similar pace in recent years. Between 1998 and 2009, real wages in offshorable occupations and other service-producing occupations grew roughly 15% (Chart A).⁹ Notable differences in wage growth were observed only in two broad occupational groups: management occupations and natural and applied sciences and related occupations.¹⁰ In management occupations, wages in offshorable jobs grew 12 percentage points slower than in other jobs. The reverse was true in natural and applied sciences, where wage growth in offshorable jobs exceeded that in other jobs by 6 percentage points. So within broad occupational groups, wages in offshorable jobs did not systematically grow less than wages in jobs not susceptible to offshoring.¹¹

Some of the observed differences in wage growth might result from changes in workers' characteristics. For instance, workers' average labour market experience, seniority and education levels may have risen faster in some occupations than others, which could result in differing wage growth between offshorable and other jobs.

To control for the influence of these factors, multivariate analyses were conducted for each of the five occupational groups shown in Chart A. The question asked was: controlling for workers' characteristics such as age, seniority and education levels, did wages in offshorable jobs grow at the same rate as wages in other jobs?¹²

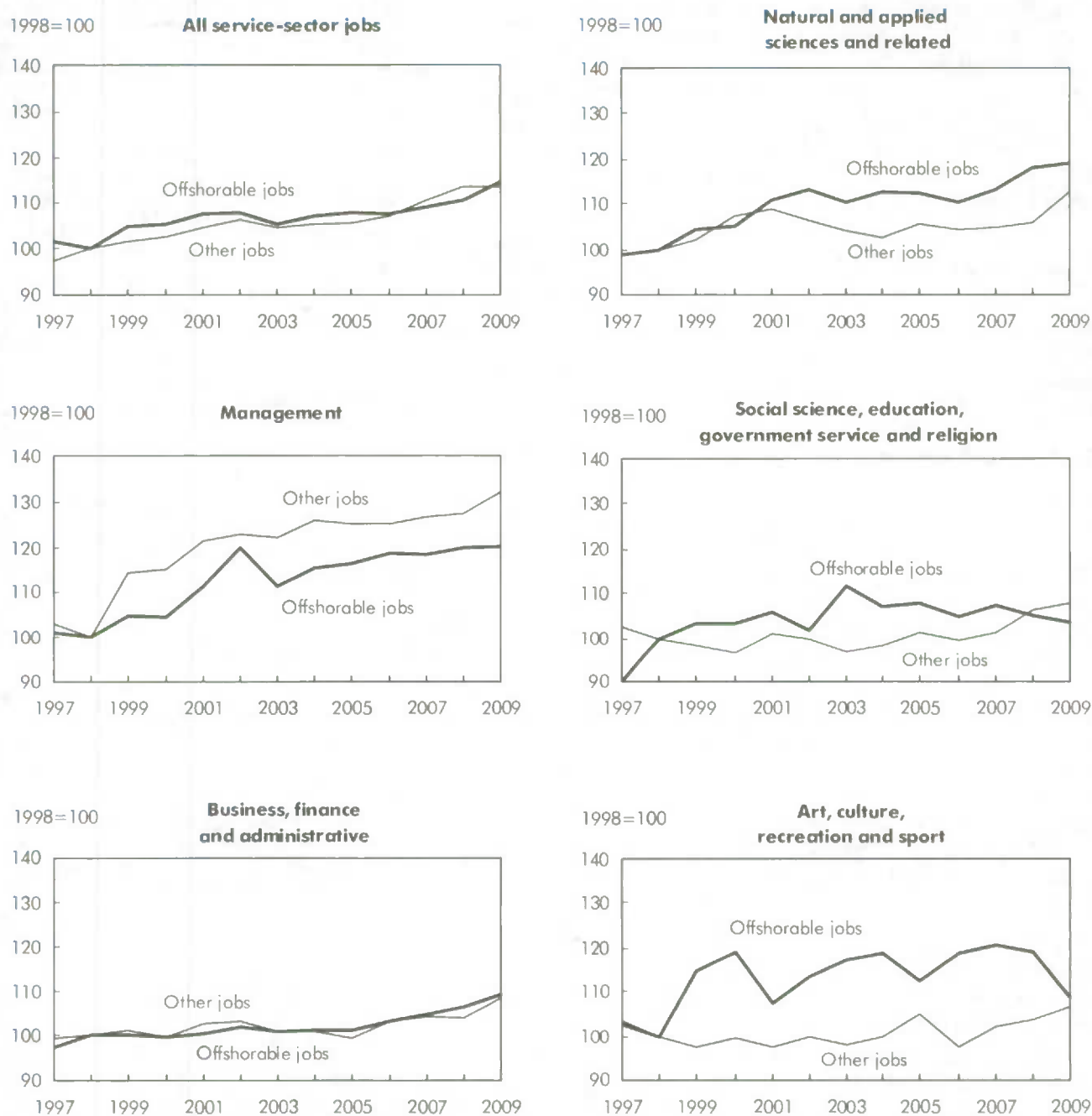
Table 2 Composition of service-sector jobs susceptible to offshoring, by various characteristics

	1999	2009
	%	
Both sexes	100.0	100.0
Men	30.5	36.1
Women	69.6	63.9
Age		
15 to 24	8.2	7.6
25 to 34	32.5	27.7
35 to 44	32.6	27.1
45 to 54	20.2	25.2
55 to 64	6.6	12.4
Education		
High school or less	34.9	27.6
Postsecondary	37.3	35.6
University degree	27.8	36.8
Industry		
Retail trade, accommodation and food services	7.8	7.4
High-skill services	70.1	71.1
Public services	7.4	7.4
Other service-producing industries	14.7	14.1
Occupation		
Management	8.6	8.7
Business, finance and administrative	69.8	66.2
Natural and applied sciences and related	15.2	16.6
Social science, education, government service and religion	2.1	3.4
Arts, culture, recreation and sport	1.7	2.1
Sales and service	2.7	3.1
Province		
Newfoundland and Labrador	0.9	0.9
Prince Edward Island	0.3	0.3
Nova Scotia	2.5	2.5
New Brunswick	2.1	2.2
Quebec	23.3	23.3
Ontario	42.1	42.3
Manitoba	3.3	2.9
Saskatchewan	2.3	2.4
Alberta	10.0	10.7
British Columbia	13.3	12.5
Firm size		
Less than 20 employees	24.9	21.2
20 to 99 employees	15.4	15.1
100 to 499 employees	13.4	13.4
500 or more employees	46.3	50.3
Unionized		
No	90.8	91.6
Yes	9.2	8.4
Hourly wages (2009\$)		
Less than \$10.00	6.5	5.0
\$10.00 to \$14.99	23.9	16.8
\$15.00 to \$19.99	23.3	24.3
\$20.00 to \$24.99	17.4	16.5
\$25.00 or more	28.9	37.5

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction. Full-time students are excluded.

Source: Statistics Canada, Labour Force Survey, March and September, 1999 and 2009.

Chart A Offshorability and wage growth in service-sector jobs



Source: Statistics Canada, Labour Force Survey, 1997 to 2009.

Whether wages grew less among offshorable occupations than among other occupations between the 1998 to 2000 period and the most recent period (2006 to 2009) depended on the occupational group considered.¹³ Wages in offshorable jobs in natural and applied sciences occupations grew 5 percentage points faster than those in broadly comparable jobs (Table 3).^{14,15} There is no evidence of differentiated and statistically significant wage growth in other occupational groupings.

The higher wage growth among offshorable natural and applied sciences occupations may partly reflect movements of offshorable jobs across industries or firms of different sizes. If offshorable jobs in natural and applied sciences occupations became increasingly concentrated in high-paying industries or in large firms over the past decade, they would tend to exhibit stronger wage growth than other jobs as a result of this change. To assess whether wage growth in offshorable occupations located in a given industry and in firms of a given size differed from that in other comparable occupations, controls for industry and firm size were needed.¹⁶ After these controls were added, wages in offshorable jobs in natural and applied sciences occupations still grew faster than those in other broadly comparable jobs: the difference in wage growth dropped from 5 percentage points to 4 percentage points. Thus, the relatively strong wage growth observed in offshorable natural and applied sciences occupations did not result from compositional effects related to industry or firm size.

The numbers shown in Table 3 indicate that wages in offshorable and non-offshorable business,

finance and administrative occupations grew at the same pace for the periods from 1998 to 2000 and from 2006 to 2009. Yet these numbers measure average wage growth across a diverse set of occupations. Offshorable positions in business, finance and administrative occupations include both professional occupations (e.g., financial auditors and accountants, and financial and investment analysts) and clerical jobs (e.g., secretaries, data entry clerks and telephone operators) whose wages may have evolved differently over the past decade.

When offshorable business, finance and administrative occupations are disaggregated into professional and

clerical occupations, interesting patterns emerge. Compared to non-offshorable jobs in this grouping, offshorable professional occupations displayed faster wage growth (3 percentage points), while offshorable clerical occupations experienced slower wage growth (-2 percentage points) for the periods from 1998 to 2000 and from 2006 to 2009 (Table 4). The slower wage growth experienced by the clerical group is not recent: it was also observed from 1998 to 2000 and from 2001 to 2005. This implies that wages in offshorable and non-offshorable clerical occupations diverged early in the decade and then grew apace in the second half of the decade.

Table 3 Wage growth and offshorable occupations

	Controls for workers' characteristics		Full set of controls	
	β	t value	β	t value
Management				
2001 to 2005 versus 1998 to 2000	-0.01	-1.06	0.00	0.18
2006 to 2009 versus 1998 to 2000	-0.03	-1.81	-0.01	-0.83
Business, finance and administrative				
2001 to 2005 versus 1998 to 2000	-0.01	-1.74	-0.01	-1.09
2006 to 2009 versus 1998 to 2000	0.00	0.04	0.00	0.47
Natural and applied sciences and related				
2001 to 2005 versus 1998 to 2000	0.04*	2.88	0.03*	2.49
2006 to 2009 versus 1998 to 2000	0.05*	3.56	0.04*	3.25
Social science, education, government service and religion				
2001 to 2005 versus 1998 to 2000	0.01	0.55	0.01	0.40
2006 to 2009 versus 1998 to 2000	-0.03	-1.28	-0.04	-1.45
Art, culture, recreation and sport				
2001 to 2005 versus 1998 to 2000	0.00	-0.11	-0.01	-0.33
2006 to 2009 versus 1998 to 2000	0.02	0.67	0.02	0.52

* statistically significant at the 5% level

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction, and holding a job in one of the five occupational groups shown above. Full-time students are excluded. Data from 1998 to 2009 are pooled. Separate regressions are run for each occupational group. See Multivariate models for details.

Source: Statistics Canada, Labour Force Survey, March and September, 1998 to 2009.

Table 4 Wage growth and selected offshorable occupations

	Controls for workers' characteristics		Full set of controls	
	β	t value	β	t value
Business, finance and administrative				
Offshorable clerical occupations				
2001 to 2005 versus 1998 to 2000	-0.02*	-3.09	-0.02*	-2.61
2006 to 2009 versus 1998 to 2000	-0.02*	-2.76	-0.02*	-2.27
Offshorable professional occupations				
2001 to 2005 versus 1998 to 2000	0.01	1.04	0.02	1.49
2006 to 2009 versus 1998 to 2000	0.03*	3.05	0.03*	3.01
Natural and applied sciences and related occupations, excluding mining and oil- related offshorable jobs				
2001 to 2005 versus 1998 to 2000	0.04*	2.86	0.03*	2.49
2006 to 2009 versus 1998 to 2000	0.05*	3.54	0.04*	3.25

* statistically significant at the 5% level

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction, and holding a job in one of the two occupational groups shown above.

Full-time students are excluded. Data from 1998 to 2009 are pooled. Separate regressions are run for each occupational group. See Multivariate models for details.

Source: Statistics Canada, Labour Force Survey, March and September, 1998 to 2009.

It is possible that increases in competition from workers in emerging countries predominantly affect wages of less-skilled workers. This could happen if, say, demand for telephone operators or data entry clerks grew at a slower pace than demand for computer programmers. If so, offshorable jobs held by less-educated employees would tend to a greater degree than would be observed among highly educated workers to display slower wage growth than those held by their counterparts employed in non-offshorable positions. This might be true especially in non-unionized firms, where wage concessions from workers might be easier to obtain.

Table 5 provides limited support for this hypothesis. For the periods from 1998 to 2000 and from 2006

Multivariate models

Multivariate analyses are used to estimate whether offshorable service-sector occupations and other service-sector occupations displayed similar wage growth between the late 1990s and the late 2000s. The following wage equation is estimated using the ordinary least squares (OLS) method:

$$\ln(\text{HOURLY WAGE})_{it} = \beta_0 + \beta_1 \text{OFFSHORE}_{it} + \beta_2 \text{PERIOD_0105}_{it} + \beta_3 \text{PERIOD_0609}_{it} \\ + \beta_4 \text{OFFSHORE}_{it} * \text{PERIOD_0105}_{it} + \beta_5 \text{OFFSHORE}_{it} * \text{PERIOD_0609}_{it} \\ + \beta_6 X_{it} + \beta_7 Z_{it} + \varepsilon_{it}$$

where the dependent variable is the natural logarithm of hourly wages of worker i in year t , and where ε_{it} is an error term uncorrelated across individuals and years. Controls for workers' characteristics, X_{it} , include education, gender, a quadratic term in age and seniority, and interaction terms between gender and age, and gender and seniority, as well as province indicators. Also included are a constant term, an offshorability indicator (OFFSHORE_{it} , equal to 1 if a job is offshorable, 0 otherwise), two indicators for the periods from 2001 to 2005 and from 2006 to 2009 (PERIOD_0105_{it} and PERIOD_0609_{it}), and interaction terms between period indicators and the offshorability indicator. Apart from these variables, the full set of controls includes the following job-related characteristics, Z_{it} : 69 industry categories, 4 firm-size categories (1 to 19, 20 to 99, 100 to 499, and 500 employees or more), 10 occupation groups, union status and full-time status.

When separate analyses are conducted by education level and union status, controls for education levels and union status are omitted. In all analyses, the period from 1998 to 2000 is the reference (or omitted) period.

The numbers shown in tables 3 to 7 are the estimated values of β_4 and β_5 . They measure the degree to which wages in offshorable service-sector jobs and those in other service-sector jobs grew at a different pace between the period from 1998 to 2000 and the periods from 2001 to 2005 and from 2006 to 2009. For instance, an estimated value of 0.10 for β_4 (β_5) implies that, for the periods from 1998 to 2000 and from 2001 to 2005 (2006 to 2009), wages in offshorable service-producing occupations grew 11 percentage points faster than wages in other service-producing occupations. The 11 percentage-point figure is obtained by taking the antilog of 0.10 minus 1.

All t-values shown in tables 3 to 7 take the LFS (Labour Force Survey) complex survey design into account.

Table 5 Wage growth and offshorable occupations, by education level and union coverage

	Controls for workers' characteristics		Full set of controls	
	β	t value	β	t value
Non-unionized workers				
High school or less				
2001 to 2005 versus 1998 to 2000	-0.06*	-6.97	-0.05*	-6.04
2006 to 2009 versus 1998 to 2000	-0.06*	-6.60	-0.05*	-5.93
Some postsecondary				
2001 to 2005 versus 1998 to 2000	-0.02*	-2.67	-0.02*	-2.58
2006 to 2009 versus 1998 to 2000	-0.03*	-3.46	-0.03*	-3.18
University degree				
2001 to 2005 versus 1998 to 2000	-0.01	-0.96	-0.01	-1.22
2006 to 2009 versus 1998 to 2000	-0.01	-1.00	-0.02	-1.46
Unionized workers				
High school or less				
2001 to 2005 versus 1998 to 2000	-0.04*	-2.39	-0.03*	-1.96
2006 to 2009 versus 1998 to 2000	-0.02	-1.21	-0.01	-0.60
Some postsecondary				
2001 to 2005 versus 1998 to 2000	-0.01	-0.54	-0.01	-0.71
2006 to 2009 versus 1998 to 2000	0.01	0.34	0.00	0.12
University degree				
2001 to 2005 versus 1998 to 2000	-0.03	-1.19	-0.02	-0.86
2006 to 2009 versus 1998 to 2000	0.01	0.43	0.01	0.51

* statistically significant at the 5% level

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction, and holding a job in one of the five occupational groups shown in Table 3. Full-time students are excluded. Data from 1998 to 2009 are pooled. Separate regressions are run for each education-union coverage cell. See Multivariate models for details.

Source: Statistics Canada, Labour Force Survey, March and September, 1998 to 2009.

to 2009, wages of workers with a high school education or less and who were employed in non-unionized offshorable jobs grew 5 to 6 percentage points less than those of their counterparts employed in non-offshorable positions. In contrast, wages of non-unionized university graduates employed in offshorable positions and those holding other jobs did not differ significantly. The same patterns were observed for 1998 to 2000 and for 2001 to 2005. This implies that among non-unionized employees with a high school education or less, offshorable jobs and other jobs displayed the same wage growth between the periods from 2001 to 2005 and from 2006 to 2009.

Another scenario is that growing competition from abroad might operate mainly by putting downward pressure on pay rates of workers at the bottom of the wage distribution. If so, wage growth in offshorable jobs would lag behind that of other jobs to a *greater degree* among low-paid positions than among better-paid positions. This hypothesis is examined in Table 6. It receives limited support from the data: for the periods from 1998 to 2000 and from 2006 to 2009, wage growth in offshorable jobs lagged behind that of other jobs to a greater extent in low-paid positions than in high-paid positions in management occupations and in business, finance and administrative

occupations, but not in natural and applied sciences occupations.¹⁷ For instance, wages in low-paid offshorable jobs in business, finance and administrative occupations grew 4 percentage points slower than wages in low-paid non-offshorable jobs. At the same time, wages in high-paid offshorable jobs in that occupational group grew 4 percentage points faster than wages in high-paid non-offshorable jobs. However, the opposite pattern is found in natural and applied sciences occupations. In other occupational groups, differences in wage growth between offshorable and non-offshorable jobs were not statistically significant.

Offshorability and wage growth among newly hired employees

Analyses that include all workers in selected sectors are not well-suited for detecting changes in the wages employers offer workers when new positions become available (as a result of quits and/or firm expansions). Analyzing the evolution of wages of newly hired employees can help identify channels through which Canadian firms may respond to growing competition within industries and from abroad. More intense competition on the product market could induce some companies to reduce their labour costs by lowering the wages offered to new hires, while maintaining or increasing wages of workers with greater seniority. Under this scenario, differences in wage growth between offshorable and non-offshorable jobs would be bigger among newly hired employees than among their counterparts with greater seniority.

Table 7 provides some mixed evidence for this hypothesis. Between the periods from 1998 to 2000 and from 2006 to 2009, wage growth in offshorable jobs appears to lag behind that of other jobs to a greater degree among newly hired employees than among other employees in management occupations and business, finance and administrative occupations. Yet the opposite pattern was observed in natural and applied sciences occupations. In other occupational groups, wage growth parameters are imprecisely estimated.

Together, the numbers presented in tables 3 to 7 highlight two facts. First, whatever potential factors are considered, wages in offshorable service-sector jobs did not grow systematically more or less than those in other service-sector positions over the past decade. Second, in some cases, offshorable jobs displayed weaker wage growth than other jobs for the periods from 1998 to 2000 and from 2001 to 2005, but similar wage growth afterwards. Since there is no clear reason why the effect of offshoring would be limited to one time period, the slower wage growth observed in some offshorable jobs from 1998 to 2000 and from 2001 to 2005 might well be driven by factors other than service offshoring.¹⁸

Conclusion

In recent years, the emergence of ICTs and the growing availability of highly skilled workers in fast-growing countries like China and India have allowed Canadian firms to move some service-sector jobs offshore. Such a change in service

Table 6 Offshorability and wage growth at the bottom and top of the wage distribution, by occupation

	Controls for workers' characteristics		Full set of controls	
	β	t value	β	t value
Management				
2001 to 2005 versus 1998 to 2000				
Bottom third	0.00	-0.19	0.00	-0.18
Top third	-0.03*	-2.97	-0.03*	-2.88
2006 to 2009 versus 1998 to 2000				
Bottom third	-0.06*	-3.58	-0.06*	-3.61
Top third	-0.04*	-3.55	-0.04*	-3.35
Business, finance and administrative				
2001 to 2005 versus 1998 to 2000				
Bottom third	-0.02*	-2.41	-0.02*	-2.67
Top third	0.02*	2.73	0.03*	3.35
2006 to 2009 versus 1998 to 2000				
Bottom third	-0.04*	-5.21	-0.04*	-5.34
Top third	0.04*	4.74	0.04*	5.32
Natural and applied sciences and related				
2001 to 2005 versus 1998 to 2000				
Bottom third	0.10*	6.26	0.09*	5.93
Top third	0.03*	2.49	0.03*	2.43
2006 to 2009 versus 1998 to 2000				
Bottom third	0.11*	6.69	0.10*	5.92
Top third	0.05*	3.75	0.04*	3.59
Social science, education, government service and religion				
2001 to 2005 versus 1998 to 2000				
Bottom third	0.06	1.75	0.06	1.84
Top third	0.06*	2.74	0.07*	3.14
2006 to 2009 versus 1998 to 2000				
Bottom third	-0.03	-0.83	-0.01	-0.39
Top third	0.02	1.04	0.03	1.20
Art, culture, recreation and sport				
2001 to 2005 versus 1998 to 2000				
Bottom third	-0.02	-0.95	-0.03	-1.32
Top third	0.02	0.83	0.02	0.78
2006 to 2009 versus 1998 to 2000				
Bottom third	-0.02	-0.63	0.01	0.32
Top third	0.01	0.31	-0.01	-0.46

* statistically significant at the 5% level

Note: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction, and holding a job in one of the five occupational groups shown above. Full-time students are excluded. Data from 1998 to 2009 are pooled. Separate regressions are run for each occupation-tier cell. See Multivariate models for details.

Source: Statistics Canada, Labour Force Survey, March and September, 1998 to 2009.

Table 7 Offshorability and wage growth, by seniority and occupation

	Controls for workers' characteristics		Full set of controls	
	β	t value	β	t value
Management				
2001 to 2005 versus 1998 to 2000				
Newly hired employees	-0.02	-0.62	-0.01	-0.49
Other employees	-0.01	-0.50	0.01	0.77
2006 to 2009 versus 1998 to 2000				
Newly hired employees	-0.05	-1.64	-0.04	-1.16
Other employees	-0.02	-1.00	0.00	-0.12
Business, finance and administrative				
2001 to 2005 versus 1998 to 2000				
Newly hired employees	-0.04*	-2.98	-0.03*	-2.53
Other employees	0.00	0.29	0.01	0.89
2006 to 2009 versus 1998 to 2000				
Newly hired employees	-0.04*	-2.74	-0.03*	-2.31
Other employees	0.02*	2.27	0.02*	2.58
Natural and applied sciences and related				
2001 to 2005 versus 1998 to 2000				
Newly hired employees	0.10*	4.67	0.09*	4.17
Other employees	-0.01	-0.43	-0.01	-0.58
2006 to 2009 versus 1998 to 2000				
Newly hired employees	0.10*	4.66	0.09*	4.13
Other employees	0.01	0.47	0.01	0.41
Social science, education, government service and religion				
2001 to 2005 versus 1998 to 2000				
Newly hired employees	0.02	0.45	0.00	-0.05
Other employees	0.01	0.29	0.02	0.54
2006 to 2009 versus 1998 to 2000				
Newly hired employees	-0.04	-0.84	-0.04	-0.98
Other employees	-0.03	-1.03	-0.03	-0.81
Art, culture, recreation and sport				
2001 to 2005 versus 1998 to 2000				
Newly hired employees	-0.01	-0.22	-0.01	-0.26
Other employees	-0.01	-0.32	-0.01	-0.37
2006 to 2009 versus 1998 to 2000				
Newly hired employees	0.05	1.04	0.01	0.25
Other employees	0.00	0.03	0.03	0.73

* statistically significant at the 5% level

Notes: Private-sector employees age 15 to 64, employed outside manufacturing, primary industries and construction, and holding a job in one of the five occupational groups shown above. Full-time students are excluded. Data from 1998 to 2009 are pooled. Separate regressions are run for each occupation-seniority cell. See Multivariate models for details.

Newly hired employees are those with less than 2 years of seniority in the company.

Source: Statistics Canada, Labour Force Survey, March and September, 1998 to 2009.

employment patterns could affect wages and wage growth in offshorable jobs.

This article examined whether offshorable service-sector occupations have displayed similar wage growth to comparable occupations since the late 1990s. It found no evidence that wages in offshorable service-producing occupations grew systematically less than those in other occupations. Some offshorable occupations, namely those involving clerical work, exhibited weaker wage growth while those in natural and applied sciences occupations displayed stronger wage growth than broadly comparable non-offshorable occupations.

These results suggest that if service offshoring has affected wages of Canadian workers so far, the impact is unlikely to have been uniform across occupations. To test this hypothesis, subsequent research should link Canadian trade data on imports and exports of services and commodities to worker-level wage data from the Labour Force Survey. Such a link would enable an empirical evaluation of the assumed offshorability of jobs, as well as the associated wage effects of offshoring or inshoring.

Perspectives

Notes

1. Evidence that Canadian firms started contracting out some service-producing jobs to non-OECD countries like China and India can be found in data produced by Statistics Canada's Balance of Payments Division. These data consist of a series of business surveys that measure the imports and exports of commercial services and contain

information about 48 types of commercial services (e.g., telecommunications, accounting, architectural and engineering services, and information-related services). Statistics can be broken down by industry and by country of origin or destination, thereby allowing analysts to distinguish imports from OECD countries from those originating from non-OECD countries like China and India. Morissette and Johnson (2007) use these data and find that, in 2004, imports of computer, information and other business services (such as management services, advertising and related services, research and development, architectural, engineering, and other technical services) from non-OECD countries amounted to roughly \$1 billion, compared to \$17 billion for those from OECD countries.

2. The net effect of offshoring on employment need not be negative. One reason is that domestic firms might reduce their production costs by offshoring low-skilled tasks, which in turn might increase their profit-maximizing output and increase the demand for (and employment of) some types of workers (Cheung et al. 2008). Morissette and Johnson (2007) use several data sets to examine the relationship between service offshoring and employment. They find little evidence of a correlation between service offshoring and the evolution of employment and layoff rates.
3. So far, the discussion has been framed solely in terms of imports of services. However, exports of services (termed inshoring by Liu and Trefler [2008]) are another factor that may stimulate demand for some types of workers and thus increase wages.
4. The private sector includes all self-employed workers and business owners and all employees except those in public administration at the federal, provincial, territorial, municipal, First Nations and other Aboriginal levels as well as in Crown corporations, liquor control boards, and other government institutions such as schools (including universities), hospitals and public libraries.
5. For instance, the “computer operators” category, used by van Welsum and Reif (2005), is replaced by “computer and network operators and web technicians.”
6. About 1.4 million and 1.7 million service-sector jobs were subject to offshoring in 1999 and 2009, respectively. In both years, they accounted for about 21% of all paid jobs in the economy. Although they refer to offshorable jobs in the service sector only, these estimates are in line with those of Blinder (2009) who, when combining the goods sector and the service sector, estimates that between 22% and 29% of all paid jobs in the United States were potentially offshorable in 2004.
7. Since the sample used in tables 1 and 2 consists of private-sector employees (15 to 64, who are not full-time students, and who are employed outside manufacturing, primary industries and construction), readers might wonder why numbers for public services are shown in these tables. The reason is that some workers, e.g., nurses in privately owned residences for seniors, are private-sector employees operating in sub-sectors (e.g., health) of public services.
8. Multivariate analyses indicate that close to one-half of the increase (from 29% to 38%) observed between 1999 and 2009 is due to the growing proportion of offshorable jobs held by older and highly educated workers.
9. Although the wage data used in this article start in 1997, information on firm size is available only starting in 1998. Since firm size is subsequently used as a control variable in multivariate analyses of wage growth, the focus in this section is on wage growth between 1998 and 2009.
10. Since they account for less than 2% of jobs in sales and service occupations (group G), offshorable jobs held by insurance agents and brokers are not considered in the remainder of the article.
11. Chart A also shows relatively high wage volatility among offshorable jobs in social science and art, culture, recreation and sport. Part of it might be related to the relatively small sample sizes for these jobs.
12. Calendar years are grouped into three periods to increase the precision of the estimates. The initial period starts with the year 1998 since subsequent multivariate analyses require controlling for firm size, a variable for which data are not available in the LFS prior to 1998. Workers’ characteristics also include control for gender and province (see *Multivariate models*).
13. The same conclusion is obtained when wage growth is measured between the periods from 1998 to 2000 and from 2006 to 2008.
14. Differences in wage growth, measured in percentage points, are obtained by taking the antilog of the coefficients shown in tables 3 to 7, minus one.
15. The difference is statistically significant at the 1% level (two-tailed test).
16. Conversely, if movements of offshorable jobs across industries or companies of different sizes actually result from factors related to offshoring, controls for industry and firm size are best avoided.
17. For each year, occupational group and value of the offshorability indicator (1 for offshorable jobs, 0 otherwise), jobs in the bottom (top) third of the (cell-specific) wage distribution are selected. Data for the years from 1998 to 2009 are pooled. For each occupational group and each tier, separate regression models are estimated as described in *Multivariate models*.

18. For instance, if labour-saving technological changes were more prominent among offshorable jobs held by non-unionized low-educated workers than other jobs held by their counterparts, wages could grow less among the former group than the latter, thereby potentially accounting for the slower wage growth observed among the former group between 1998 and 2000 and 2001 and 2005.

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Temporary employment in the downturn

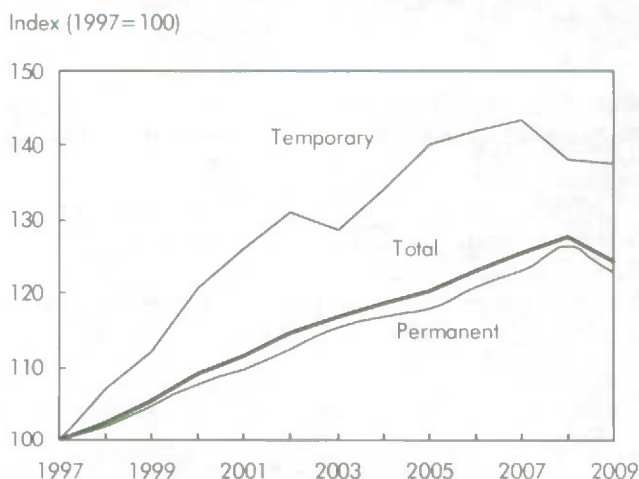
Diane Galarneau

In 2009, 1.8 million Canadians, or 1 in 8 paid workers, had some form of temporary employment. This type of employment, whether in the form of contract positions, seasonal work or casual jobs, grew rapidly from 1997 to 2005 (Chart A). That increase raised fears of a deterioration in employment conditions for a segment of the population, since temporary jobs, on average, pay lower wages and provide fewer benefits than permanent jobs. They are also unionized less often and part-time more often than permanent jobs (Galarneau 2005, Kapsalis and Tourigny 2004, OECD 2002, Schellenberg and Clark 1996, and Krahn 1995).

According to Kapsalis and Tourigny (2004), these temporary jobs are more likely to be interspersed with periods of unemployment, often without employment insurance because of short employment durations and the low number of hours worked. Temporary job holders may therefore experience periods of economic instability, which may be lengthy if they go from one temporary job to another. This type of employment can also make it more difficult to build up retirement funds since these employees often have lower wages and are covered by pension plans less often.

On the other hand, temporary employment may suit some workers looking for more flexibility in order to achieve a better work-life balance, such as students, parents of young children and older workers. In general, temporary employees are as satisfied with their jobs as permanent employees (General Social Survey, Cycle 20, 2006¹). Temporary jobs can sometimes be a foot in the labour market door for persons with no recent experience or no experience in Canada. These short-term jobs are a means to maintain acquired skills and even acquire new ones. They are also sometimes a springboard to 'better' jobs, since they can facilitate access to permanent positions (OECD 2002, and Kapsalis and Tourigny 2004).

Chart A Temporary employment grew more rapidly than permanent employment



Source: Statistics Canada, Labour Force Survey, 1997 to 2009.

For employers, the use of temporary labour makes it possible to adjust to fluctuations in demand more quickly, increasing companies' flexibility. This enables them to reduce their wage costs and hiring expenses since the most productive employees can be selected for permanent jobs later (Kalleberg 2000). The use of temporary employment can therefore improve companies' competitiveness.

The increase in temporary work began slowing in 2006—this type of employment registered a decrease even before the drop in total employment. This article tracks the trends in temporary employment from 1997 to 2009, with particular attention to the recent economic downturn. It examines the different types of

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temporary jobs, their main industries and how they fared in the recent employment slowdown. It also provides a brief profile of the persons with temporary jobs and some of their job characteristics, and it examines the earnings gap between temporary and permanent jobs and whether that gap changed during the recent employment downturn.

Decrease followed strong growth

From 1997 to 2005, the annual growth of temporary employment generally exceeded that of permanent employment. As a result, the proportion of paid jobs consisting of temporary employment rose slightly, going from 11.3% to 13.2% (Table 1). Except for 2003, the contribution of temporary work to the growth of paid employment ranged between 19% and 46%, far exceeding its relative weight.

A number of factors may be related to the rise in temporary work. For example, globalization, the expansion of international trade and the resulting increase in competition may have led some companies to resort to this type of job to remain competitive (Kalleberg 2000, Morissette and Johnson 2005, and Morissette and Picot 2005). In addition, technological changes have made it possible to quickly access precise information on input and labour needs and surpluses, making it easier for employers to use temporary labour (Kalleberg 2000). Labour laws intended to protect workers may have encouraged companies seeking to avoid the costs associated with permanent positions to resort to temporary employees (Lee 1996, and Cappelli et al. 1997).

Lastly, changes in the composition of the labour force, such as the increased participation of women with children, an aging workforce (Pfeffer and Baron 1988) and, more recently, the increased number of immigrants, may have changed workers' preferences and contributed to the rise in temporary employment.

Starting in 2006, the situation changed and the growth of temporary employment slowed, as did its contribution to the growth of overall employment. This slowdown, even before the slowdown of permanent employment, coincided with a dynamic labour market. Of all the persons with non-standard positions (temporary, part-time, self-employed), full-time temporary employees have the greatest chances of eventually acquiring a permanent position (Kapsalis and Tourigny 2004). This transition may be even

stronger in periods characterized by job growth and low unemployment. This might in part explain the slower growth of temporary employment and the faster growth of permanent employment in 2006 and 2007.

Between 2007 and 2009, temporary employment declined by more than 4%, leading to a decrease in its share of paid employment, which fell to 12.2% in 2008. The slight upturn to 12.5% in 2009 occurred due to a greater decrease in permanent employment.

Contract employment led the increase until 2005

The LFS divides temporary jobs into three categories: term or contract jobs, seasonal jobs and casual jobs (see *Data source and definitions*).

Term or contract employees are usually hired for short periods and do not return to the same employer

Table 1 Indicators of growth in temporary and permanent employment

	Permanent employment	Temporary employment	Temporary employment as proportion of paid employment	Annual change	
				Permanent employment	Temporary employment
	'000		%	%	
1997	10,073	1,284	11.3
1998	10,266	1,375	11.8	1.9	7.0
1999	10,535	1,439	12.0	2.6	4.7
2000	10,843	1,548	12.5	2.9	7.6
2001	11,050	1,620	12.8	1.9	4.7
2002	11,315	1,681	12.9	2.4	3.8
2003	11,619	1,651	12.4	2.7	-1.8
2004	11,772	1,721	12.8	1.3	4.2
2005	11,861	1,798	13.2	0.7	4.4
2006	12,163	1,823	13.0	2.6	1.4
2007	12,409	1,843	12.9	2.0	1.1
2008	12,721	1,775	12.2	2.5	-3.7
2009	12,381	1,766	12.5	-2.7	-0.5

Source: Statistics Canada, Labour Force Survey, 1997 to 2009.

Data source and definitions

This article is based on the Labour Force Survey (LFS), a monthly survey of approximately 54,000 households. The LFS provides information on general labour market trends by industry and occupation, hours worked, participation rate and unemployment rate. Since January 1997, the LFS has classified paid jobs as either permanent or temporary, based on employer intentions and job characteristics. If a job that was considered permanent is ending due to downsizing or closure, it is still considered permanent. This study excludes self-employed workers since only employees can have temporary jobs. The LFS includes information on the characteristics of the persons with temporary jobs and on their jobs (e.g., unionization, hours worked, occupation and industry). However, information on non-wage benefits is not available.

A **permanent job** is one that is expected to last as long as the employee wants the job and as long as business conditions permit. In other words, the employer does not state that the job will end on a specific date in the near future when the employee is hired. Permanent jobs are sometimes described as jobs for an indeterminate period, since there is no predetermined date for the job to end.

A **temporary job** has a predetermined end date or will end as soon as a specific project is completed. The employer makes it clear that the job will end on a specified date in the near future when the employee is hired. Temporary jobs are sometimes described as term positions, since they last only for a period, a duration or a specific project. In the LFS, there are four types of temporary jobs: seasonal; temporary and contract; casual; and other, when none of the preceding categories is appropriate.

A job is **seasonal** if the employee is working in an industry where employment levels rise or fall with the seasons (e.g., agriculture, fishing, logging and tourism).

A job is **contract** if it is for a fixed period but is not seasonal and if the employer makes it clearly understood, before the employee accepts the job, that the job will end on a specific date or following the completion of some work or a particular project. In the LFS, these jobs are also called temporary, but in this article they are identified as contract

jobs to distinguish them from other temporary jobs.

A job is **casual** if the employee's work hours vary substantially from one week to the next, if the employee is called to work by the employer when the need arises and not on a pre-arranged schedule, or if the employee does not usually get paid for time not worked and there is no indication from the employer about work on a regular basis for a long duration. In this article, casual jobs and the other types of temporary jobs have been combined because of their relatively small number.

In the past, the LFS also distinguished temporary jobs obtained through an employment agency. However, this category of temporary jobs was often confused with contract jobs. Starting in January 2007, this temporary employment category was removed from the LFS. After that date, these jobs were added to the "term or contract" category.

The **gap in hourly earnings** is calculated by subtracting the average hourly earnings of temporary employees from those of permanent employees. The result is divided by the average hourly earnings of permanent employees and multiplied by 100 to obtain a percentage value.

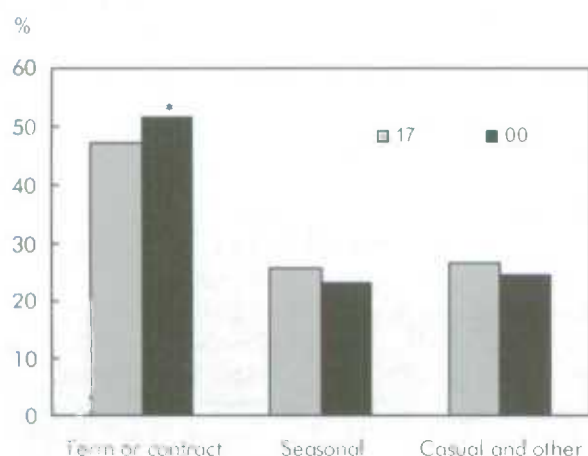
Adjusted earnings gaps are shown in Table 7 and came from a linear regression model estimating the log of hourly earnings. Since men's and women's earnings are different, separate models were estimated for each sex. These models were estimated in three steps to take account of demographic characteristics (age, education level, province, size of the region of residence, family situation, and student status; job characteristics (e.g., unionization, work arrangements [full time/part time] and company size); and industry and occupation. Since part of the gap could also be attributable to the lower seniority of temporary employees, this variable was added to the model. Inclusion of the "job duration" and "job duration squared" variable reduces the adjusted earnings gap by several additional percentage points—by 1 to 2 for men and by 3 to 5 for women.

The models were estimated for 1997, 2005 and 2009.

on a seasonal basis. When they are hired, these workers know the end date of their contracts. More than one-quarter of them are professionals (compared to 15% of permanent employees). Companies may turn to this type of worker to respond to sudden increases in demand, have access to skills that do not exist within the company (e.g., the services of professionals like engineering consultants, and surveillance, cleaning and food preparation services) or avoid hiring employees on a permanent basis with the attendant costs (Holmes

1986, and Abraham and Taylor 1996). Contract employees most often work in teaching occupations, as clerks and receptionists or in health care occupations.

Contract positions account for the majority of temporary jobs (Chart B), and their share increased between 1997 and 2009, from 47% to 52%.² During the years of high growth in temporary employment from 1997 to 2005, contract positions led the way, increasing by an average of more than 5% annually (Table 2).

Chart B Contract jobs largest category of temporary jobs

* Increase in the proportion of contract jobs is statistically significant at the 5% threshold.

Source: Statistics Canada, Labour Force Survey, 1997 and 2009.

Seasonal employees accounted for nearly one-quarter of all temporary workers in 2009, down slightly from 1997. A large proportion of them had occupations related to the seasonal fishing, agriculture and construction industries.³ Seasonal employees are also in retail trade (salespersons and cashiers) and tourism (tour guides, servers, cooks and amusement park and holiday camp workers).

Some regions have a larger share of seasonal jobs because their employment is more concentrated in fishing, forestry and agriculture. These regions experience sizeable variations in workers' earnings during the year, workers maintaining their skills during repeated periods of unemployment, and some

dependence on government transfers. In recent decades, these regions have been affected by the decline of traditional seasonal industries and are often faced with a limited supply of jobs in other sectors (Sharpe and Smith 2005).

Employees who work only when the employer needs them are known as casual employees. These individuals are sometimes referred to as "spares," "relief workers" or "fill-ins" (Statistics Canada 2005). Companies use this type of labour to replace absent employees, respond to seasonal variations (e.g., holiday shopping) or sudden increases in demand. Many of these employees are supply or spare (substitute) teachers, nurses or hospital workers, catering company employees, domestic maintenance workers or receptionists.

Other types of temporary employees⁴ include those who do not fit into any of these categories, but who do not have permanent paid employment. The "other" category is marginal, accounting for less than 1% of all temporary employees, and it has been combined with casual employees for the purposes of this article.

Table 2 Trends in employment by type

	Permanent	Temporary	Term or contract	Seasonal	Casual and other
	'000				
1997	10,073	1,284	588	323	373
2005	11,861	1,798	874	427	497
2006	12,163	1,823	896	431	496
2007	12,409	1,843	935	417	491
2008	12,721	1,775	899	416	459
2009	12,381	1,766	908	413	445
Annual growth rate	%				
1997 to 2005	2.1	4.3	5.1	3.6	3.8
2005 to 2009	1.1	-0.4	1.0	-0.8	-2.7
2005 and 2006	2.6	1.4	2.5	0.9	-0.1
2006 and 2007	2.0	1.1	4.4	-3.2	-1.0
2007 and 2008	2.5	-3.7	-3.9	-0.2	-6.5
2008 and 2009	-2.7	-0.5	1.0	-0.7	-3.1

Source: Statistics Canada, Labour Force Survey, 1997 to 2009.

From 1997 to 2005, the annual growth rates for seasonal and casual jobs were lower than for contract positions on average, although they were higher than for permanent jobs.

Slowed growth from 2005 to 2009

From 2005 to 2009, the average annual growth rate for all types of jobs declined to 1.1% for permanent jobs and to -0.4% for temporary jobs. During these years, only contract jobs stayed in positive territory, increasing by nearly 4% from 2005 to 2009. Seasonal jobs registered declines in three out of four years and a net loss of more than 3%, the equivalent of 14,000 jobs between 2005 and 2009, while casual employment registered four years of decline and a total loss of more than 10%, or 51,000 jobs.

Key industries shaped variations in temporary employment

From 2005 to 2009, some industries registered sizeable variations in employment. For example, this period coincided with the downturn in manufactur-

ing, which affected all job types. In 2008, the global decline in employment also mainly affected the goods-producing sector, including manufacturing, mining, forestry, construction and trade, while the public sector came through relatively well (Usalca 2010). These variations also had an impact on temporary employment.

Contract employment increased between 2005 and 2009, despite the general downturn in employment. In comparison with permanent jobs and other types of temporary employment, contract positions are much more concentrated in public-sector industries such as educational, health care and social services, and public administration (Table 3). These industries were relatively untouched by the employment downturn in late 2008. The decline in other industries and the maintenance of jobs in its main industries helped contract work strengthen its share of employment within its core industries growing from 41% to 43%⁵ during this period.

Table 3 Employment by type of industry

	Employment					
	Total paid employment	Permanent	Temporary	Contract	Seasonal	Casual and other
All types	15,913	12,381	1,766	908	413	445
			'000			
			%			
Public	25	23	31	40	15	29
Private	75	77	69	60	85	71
Primary	3	3	4	2	12	2
Utilities	1	1	1	1	1	F
Construction	6	5	8	6	19	3
Manufacturing	12	13	6	6	7	4
Trade	17	17	12	9	9	22
Transportation and warehousing	5	5	3	2	6	3
Information and cultural	5	4	7	5	15	5
Finance, insurance, real estate and leasing	6	7	3	4	1	3
Professional, scientific and technical	6	6	4	5	2	2
Management, administrative and support services	3	3	5	5	7	4
Educational services	8	7	15	22	5	11
Health care and social assistance	12	12	11	12	2	20
Accommodation and food services	7	7	9	5	9	15
Other services	4	4	3	4	2	3
Public administration	7	7	7	10	5	3

Source: Statistics Canada, Labour Force Survey, 2009.

In 2005, seasonal employment was concentrated in five industries: construction (17%), primary industries⁶ (14%), information and culture⁷ (13%), manufacturing⁸ (11%), and accommodation and food services (9%). From 2005 to 2009, seasonal employment declined more than 3%, mainly due to a 23% drop in the primary sector that hit the fishing and forestry industries, but also because of the general decline in the manufacturing, accommodation and food services industries. The decline in primary industries and accommodation and food services was confined to seasonal employment, with these industries maintaining their shares of paid employment during this period.

The construction and information and culture industries registered seasonal employment gains of 8% and 10% respectively (as well as gains in permanent employment, increasing their shares). The 2008 decline in construction was thus more than offset by gains over the period as a whole. These gains, combined with the declines in the primary and manufacturing industries, enabled the construction share of seasonal employment to increase to 19%, and information and culture to 15%.⁹ As a result, construction remained the top industry for seasonal employment, while the information and culture industry overtook the primary industry for second place.

Employees occupying casual positions are mainly in retail and wholesale trade, educational services and health care, as well as accommodation and food services. This type of employment has declined by more than 10% since 2005, with losses affecting most industries.

Lengthening employment spells

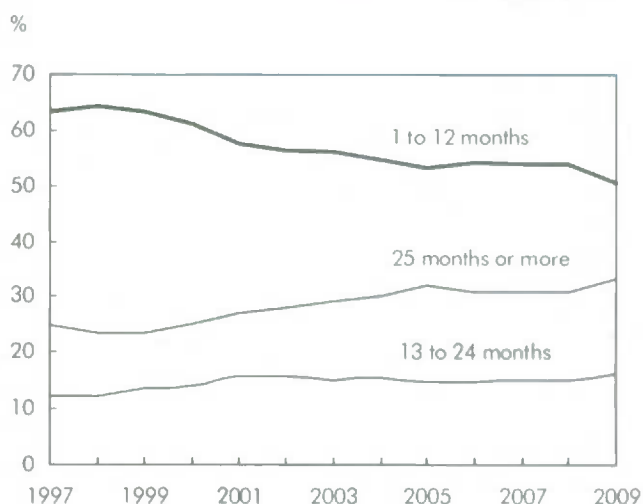
The LFS does not measure the complete duration of jobs—a longitudinal survey is required to obtain a reliable measurement. However, the LFS provides information on the duration of ‘in-progress’ jobs at the time of the survey. The duration of employment is, by definition, shorter for temporary jobs than permanent jobs. However, it has lengthened slightly since the LFS began collecting information on this type of job. In 1997, nearly two-thirds of temporary employees had held their jobs for less than one year at the time of the survey, whereas in 2009, this was so for only one-half of temporary employees (Chart C). The lengthening of in-progress job durations was gradual until 2005, when the proportion of temporary jobs

peaked. After pausing from 2005 to 2008, the trend resumed in 2009. This turnaround was seen in all types of temporary jobs. The number of positions held for very short periods (from one to three months and from four to six months) declined in favour of positions held for more than two years.

The lengthening of employment spells is probably underestimated since the measured lengths are incomplete. All told, the lengthening was observed for men and women, across all age groups and education levels.

The change over time in the distribution of in-progress employment durations is generally difficult to interpret (Heisz 2002). It depends on the employment durations of currently employed individuals and the level of inflows (new employees). The proportion of long employment spells tends to diminish during growth periods, since more workers are entering the labour force at that time, with newly filled jobs increasing the relative weight of short employment spells. Conversely, during slowdowns the proportion of long employment spells tends to increase since the last hired are often the first to lose their jobs.

Chart C Lengthening in-progress periods of employment¹



1. The decrease in the proportion of job durations of 1 to 12 months is statistically significant at the 5% threshold.
Source: Statistics Canada, Labour Force Survey, 1997 to 2009.

Temporary help agencies

Temporary help agencies act as intermediaries between workers and employers. They recruit, hire and train employees whose services they 'rent' to other companies on a temporary basis. They are official employers, paying wages to their employees and claiming the usual income deductions from the appropriate government agencies and departments (Hamdani 1997). This type of company has shown substantial growth since 1993, when Statistics Canada began collecting information on this subject. According to the Survey of Service Industries, these companies generated operating revenues of \$9.2 billion in 2008, up from \$1.0 billion in 1993. They provide personnel in fields such as administrative and office services, professional and computer services, health and unskilled work (Statistics Canada 2010).

Agencies of this type are also proliferating in the United States and Europe (Kalleberg 2000). The increase is due to factors on both the demand side (companies needing to meet their production requirements) and the supply side (changes in the composition of the labour force).

Before January 2007, employees hired through help agencies also constituted a separate temporary job category in the LFS. However, this category was often confused with contract jobs and was therefore removed from the survey. Although the number of agency-hired employees in Canada is probably also increasing, there is no reliable information on numbers to date (it has been included in the "other" category for the purposes of this article).

The increase in the proportion of employment durations of 25 months or more occurred during a period of growth in temporary jobs (from 1997 to 2005) and might be explained by a lengthening of temporary contracts or a change in hiring practices. The relative stability from 2005 to 2008 and the weak resumption of the upward trend in 2009 might be due to a decrease in hirings, which would likely increase the relative weight of average durations of 25 months or more.

Temporary jobs traditionally held by younger persons

In general, temporary jobs are held by women, younger persons and relatively less-educated workers most often (Table 4).¹⁰ Since temporary workers are relatively young, they also live in couple relationships less often. While these characteristics apply to temporary workers overall, there are some differences across types of temporary employment. For example, seasonal workers are mainly men, and contract workers are mainly more highly educated than their counterparts with permanent jobs. A sizeable proportion of seasonal (42%) and casual (47%) employees were under 25 years of age, with many being students.

Temporary workers, mainly in seasonal jobs, were most likely to be found outside of census metropolitan areas (CMAs). On the other hand, contract workers were more likely to be located in large CMAs.

During the study period, the distribution of temporary employees according to various demographic characteristics remained relatively stable.

Fewer hours

In comparison with permanent jobs, temporary jobs are part-time more often, mainly in companies with less than 20 employees, and slightly less unionized (Table 5).¹¹ However, there are differences across types of temporary employment. For example, contract jobs are as likely to be unionized as permanent jobs and are in companies of comparable size. On the other hand, seasonal and casual jobs are concentrated in small companies (with less than 20 employees). Seasonal jobs are less unionized (19% versus 32% for permanent jobs), while casual workers are unionized almost as often as permanent employees because they are concentrated in the public sector (educational services, health care and social assistance).

All types of temporary jobs are less likely to be full-time than permanent jobs. Among men, 91% of permanent employees were full-time, compared to 69% of temporary employees. The corresponding proportions among women were 78% and 52% respectively.

This pattern varies by type of temporary employment, with casual jobs the most likely to be part-time, followed by contract jobs. Among men with seasonal jobs, 80% were employed full time, the highest proportion for temporary workers. Seasonal workers are

Table 4 Demographic characteristics of temporary and permanent workers

	Worker				Casual and other
	Permanent	Temporary	Contract	Seasonal	
All	12,381	1,766	908	413	445
			'000		
			%		
Men	49.9	48.2	45.7	64.0	38.6
Women	50.1	51.8	54.3	36.0	61.4
Age					
15 to 19	4.8	16.7	9.9	21.3	26.4
20 to 24	8.9	20.2	19.5	21.4	20.6
25 to 34	23.1	21.8	28.2	14.7	15.1
35 to 44	23.6	15.3	18.4	13.0	11.3
45 to 54	25.4	13.8	13.6	16.1	12.2
55 to 64	12.8	9.4	8.5	10.2	10.4
65 and over	1.5	2.8	1.9	3.2	4.1
Education					
Less than a high school diploma	10.7	16.6	9.1	26.5	22.7
High school diploma	20.4	18.3	15.0	24.5	19.1
Postsecondary certificate or diploma	44.5	41.5	41.0	41.6	42.4
University degree	24.4	23.7	34.9	7.5	15.7
Family type					
In couple relationship	63.5	44.6	48.8	41.7	38.7
Separated or divorced	8.8	6.0	5.9	5.9	6.3
Single	27.7	49.4	45.3	52.4	55.0
Province					
Newfoundland and Labrador	1.2	2.7	2.4	4.0	2.2
Prince Edward Island	0.4	0.8	0.5	1.5	0.6
Nova Scotia	2.6	3.7	2.8	5.1	4.1
New Brunswick	2.2	3.1	2.4	4.6	3.2
Quebec	23.1	23.9	26.7	22.7	19.4
Ontario	39.1	37.5	39.1	36.0	35.8
Manitoba	3.7	3.5	3.0	3.7	4.3
Alberta	3.0	2.9	2.3	3.2	4.1
Saskatchewan	11.9	9.4	9.1	9.0	10.4
British Columbia	12.9	12.4	11.7	10.3	16.0
Census metropolitan area (CMA)					
Montréal	11.4	10.6	13.7	7.1	7.6
Ottawa	3.0	3.3	4.2	1.8	2.7
Toronto	17.2	15.9	17.5	12.7	15.8
Calgary	4.3	2.9	3.0	2.5	3.0
Vancouver	7.1	6.7	7.1	4.1	8.2
Other CMA	36.0	36.1	36.6	33.5	37.3
Non-CMA area	21.0	24.5	17.8	38.2	25.6
Recent immigrant¹	3.4	4.3	2.0	5.8	4.1

1. Arrived in Canada after 2000.

Source: Statistics Canada, Labour Force Survey, 2009.

Table 5 Characteristics of jobs held by temporary and permanent workers

	Worker				Casual and other
	Permanent	Temporary	Contract	Seasonal	
All	12,381	1,766	908	413	445
			'000		
Full-time work arrangement			%		
Men	91	69	75	80	36
Women	78	52	62	61	27
Unionization					
Yes	32	29	34	19	30
No	68	71	66	81	70
Size of company					
Less than 20 employees	32	40	34	51	43
20 to 99 employees	34	32	31	33	33
100 to 500 employees	21	16	19	12	13
More than 500 employees	13	12	16	4	12
Occupation					
Management	8	2	3	1	1
Business, finance and administration	20	14	19	6	12
Natural and applied sciences	8	5	7	3	2
Health	7	6	5	0	11
Social sciences, education, public administration	9	16	24	3	10
Arts, culture, sports and recreation	2	5	5	7	3
Sales and services	25	28	20	26	47
Trades, transport and equipment operators	14	16	12	31	9
Unique to primary industry	1	5	1	17	2
Processing, manufacturing and utilities	6	4	4	5	3
Average usual hours of work			hours		
Men	38	33	34	37	23
Women	34	27	30	30	20

Source: Statistics Canada, Labour Force Survey, 2009.

also more likely than permanent employees to have long hours of work: 21% worked an average of 50 hours or more per week, compared to 7% of permanent workers (Chart D). Among women, seasonal workers and contract workers are equally likely to work part time.

The average number of hours worked per week for men and women with temporary jobs was 33 hours and 27 hours respectively, compared to 38 hours and 34 hours for permanent employees. The largest gap was for casual employees—it varied according to age, the youngest having the largest gaps. When temporary employment peaked between 2005 and 2009,

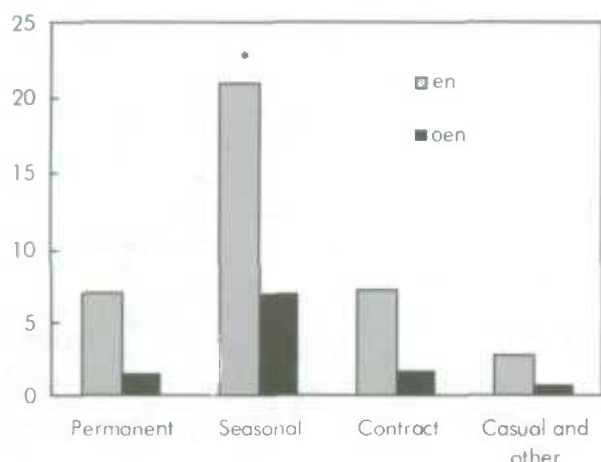
average usual hours declined a little more than 1%.¹² The decrease affected both permanent and temporary workers. On an annual basis, such a decrease represents more than 25 hours for permanent employees and approximately 18 hours for temporary employees.

Earnings gap steady

Whether the share of seasonal employment was at its highest level (2005) or nearing a low (2009), the earnings gap between permanent and temporary employees held steady (Table 6). Since information on temporary employment began being collected, the gap

Chart D Male seasonal workers more likely to work long hours

Proportion working 50 hours or more per week (%)



* Difference between men with seasonal and permanent jobs is statistically significant at the 5% threshold.
Source: Statistics Canada, Labour Force Survey, 2009.

in hourly earnings between permanent employees and seasonal employees has been 34%, while it has ranged between 12% and 14% for contract employees and between 32% and 36% for casual employees.

Table 6 Average hourly earnings rate and gap between permanent and temporary jobs

	Job			
	Permanent	Contract	Seasonal	Casual and other
	\$			
1997	20.21	17.76	13.43	13.71
2005	19.73	17.06	13.09	12.68
2009	22.71	19.61	14.98	15.31
	%			
Gap				
1997	...	-12	-34	-32
2005	...	-14	-34	-36
2009	...	-14	-34	-33

Source: Statistics Canada, Labour Force Survey, 1997, 2005 and 2009.

These gaps may have resulted from differences in the demographic characteristics of permanent and temporary workers such as sex, age, education level, student status, immigrant status and province of residence. When adjustments were made for these differences¹³ (Table 7), the gap narrowed for all types of temporary employment and ranged between 5% and 21%. Contract employees (men and women) registered the narrowest gaps. The widest gaps among men were for casual workers, and among women, for seasonal workers.

Table 7 Earnings gap¹ between permanent and temporary employees

	Men	Women
\$		
Average hourly earnings		
Permanent employees	20.84	17.40
%		
Earnings gap relative to permanent employees		
Unadjusted		
Contract	-18	-8
Seasonal	-32	-35
Casual and other	-40	-25
Adjusted for demographic differences²		
Contract	-10	-5
Seasonal	-14	-17
Casual and other	-21	-10
Adjusted for demographic and labour market differences³		
Contract	-8	-5
Seasonal	-11	-14
Casual and other	-12	-6
Adjusted for demographic and labour market differences⁴		
Contract	-9	-8
Seasonal	-11	-16
Casual and other	-12	-8

1. See *Data source and definitions* for details about how the adjusted gap was derived.
2. Earnings differences adjusted for age, education, student status, family type, recent immigrant status, province, and CMA versus non-CMA.
3. Earnings differences adjusted for (2) above and selected job characteristics (part time, unionization and company size).
4. The "job duration" variable was also tested, even though, by definition, temporary employees have short job durations. However, part of the gap could also be attributable to temporary employees' low seniority. Adding the "job duration" and "job duration squared" variables reduces the adjusted earnings gap by a few additional percentage points: by 1 to 2 percentage points for men and 3 to 5 percentage points for women, depending on the type of temporary employment.

Source: Statistics Canada, Labour Force Survey, 2009.

Part of the earnings gap may also have resulted from the fact that temporary employees are less likely to be unionized and more likely to work part time and be employed in a small company. When these characteristics were taken into account, the gap narrowed by only a few percentage points for seasonal and contract workers and somewhat more for casual workers. Controlling for industry and occupation did not further explain the earnings gap. Similar results were obtained for 1997.

In general, the earnings gap was greater on a weekly basis, since temporary employees worked fewer hours (Table 8). The gap was at its highest for casual workers who worked the lowest number of hours. It varied considerably by sex and age and was smaller for women and younger people. Among workers under 20 years of age, both contract and seasonal employees generally had higher weekly earnings than permanent employees. Among workers age 20 and over, tempo-

rary employees earned less than permanent employees, and the gap tended to widen slightly with age (except for certain older age groups). Among casual workers, 47% were under 25 years of age and one-quarter were full-time students.

Just over one-half of temporary workers were single. Therefore these workers could not count on an additional income to compensate for their low employment earnings. However, even for workers in a couple relationship, significant gaps persisted between temporary and permanent workers after their spouses' earnings were taken into account (Galarneau 2005). The gap remained largest for casual workers and smallest for contract workers.

Conclusion

In 2009, temporary work accounted for 1 in 8 paid jobs. Temporary workers differ from permanent employers in that, on average, their earnings are lower

Table 8 Average weekly earnings by job type, sex and age, and gap relative to permanent employees

	Men				Women			
	Permanent	Contract	Seasonal	Casual and other	Permanent	Contract	Seasonal	Casual and other
\$								
All ages	966	711	626	363	719	576	385	335
15 to 17	168	190	209	127	142	152	210	125
18 to 19	316	345	381	215	225	228	301	176
20 to 22	520	442	517	278	376	370	352	258
23 to 24	638	529	550	324	492	497	406	353
25 to 34	923	735	763	480	744	659	477	433
35 to 44	1,087	892	777	549	813	698	450	436
45 to 54	1,134	970	801	657	811	682	482	476
55 to 64	1,056	936	730	559	745	597	448	399
65 and over	738	694	536	357	518	601	324	262
Gap (%)								
All ages	...	-26	-35	-62	...	-20	-46	-53
15 to 17	...	13	24	-24	...	7	47	-12
18 to 19	...	9	20	-32	...	1	34	-22
20 to 22	...	-15	-1	-47	...	-1	-6	-31
23 to 24	...	-17	-14	-49	...	1	-18	-28
25 to 34	...	-20	-17	-48	...	-11	-36	-42
35 to 44	...	-18	-28	-49	...	-14	-45	-46
45 to 54	...	-14	-29	-42	...	-16	-41	-41
55 to 64	...	-11	-31	-47	...	-20	-40	-46
65 and over	...	-6	-27	-52	...	16	-38	-49

Source: Statistics Canada, Labour Force Survey, 2009.

and they have less coverage under employee benefit plans. Although temporary jobs are often seen as a single group, trends and underlying issues vary greatly according to the type of job.

In 2009, one-half (52%) of temporary jobs were term or contract positions. Nearly 1 million workers held this type of job. Since 1997, contract employment has been the main source of growth in temporary work. It increased by more than 3% between 2005 and 2009, despite the overall decline in employment in 2008. A sizeable portion of term jobs were held by professionals, with an educated workforce that was slightly younger than permanent employees. These jobs were concentrated in public-sector industries (health, education and public administration) that were relatively less affected by the recent economic slowdown.

Seasonal employment represents 1 in 5 temporary jobs. From 2005 to 2009, it fell by more than 3%, mainly due to a downturn in traditional industries like fishing and forestry, the general decline in manufacturing, and an employment drop in accommodation and food services. In 2009, construction remained the leading industry for this type of job while the primary sector gave up second place to information and culture. Two-thirds of seasonal job holders are men, and seasonal employees are slightly younger and less educated than those with permanent jobs. Nearly 4 in 10 seasonal jobs are located outside the large centres.

Employees with casual jobs are mainly in retail and wholesale trade, educational services, health care, and accommodation and food services. This type of employment declined by more than 10% between 2005 and 2009, with losses in most sectors. Nearly one-half (47%) of casual employees were under 25 years of age, and one-quarter of them were students.

Whether temporary employment is observed at a peak or when nearing a low, the average gap in earnings between temporary and permanent jobs holds steady, varying according to the type of temporary job and being generally smaller for contract workers and larger for seasonal workers. Part of the gap is attributable to the different demographic characteristics of temporary workers, like their younger age and lower education level. After adjustment for these differences, the gap ranged between 5% and 21%, depending on sex and type of temporary employment. An additional part of the gap was explained by characteristics such as unionization, work arrangements and company size

(especially for casual employees, for whom the earnings gap was then comparable to that of other temporary employees).

The earnings gap was greater on a weekly basis since temporary employees worked fewer hours. The gap varied greatly according to sex and age, being smaller for women and younger persons.

Following the overall downturn in employment, temporary work generally declined. Only contract jobs appeared to regain some of their momentum.

Perspectives

■ Notes

1. On a scale of 1 to 10, where 10 means "very satisfied," approximately 6 in 10 permanent and temporary workers gave a score of 8 or more when asked about their level of overall satisfaction with their jobs.
2. The increase in the proportion of contract jobs is statistically significant at the 5% threshold.
3. Jobs in these industries are often held by self-employed workers. However, the self-employed are excluded from this study, which focuses solely on paid workers.
4. Before January 2007, jobs obtained through temporary help agencies constituted a separate temporary job category. This category was removed from the survey in January 2007. For more details, see *Temporary help agencies*.
5. Increase statistically significant at the 5% threshold.
6. Includes agriculture, mining and forestry.
7. Includes the television, radio and Internet industries.
8. A sizeable proportion of seasonal manufacturing jobs are in the agri-food industry (e.g., fish processing).
9. Increase in shares is statistically significant at the 5% threshold.
10. The differences noted in the text are all statistically significant at the 5% threshold.
11. The differences noted in the text are all statistically significant at the 5% threshold.
12. Decrease is statistically significant at the 5% threshold.
13. See *Data source and definitions*.

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What's new?

Recent reports and studies

■ From Statistics Canada

■ *Dropout rates and labour market outcomes of young dropouts*

Using data from the Labour Force Survey, this article examines trends in high school dropout rates and labour market outcomes of dropouts over the 1990-1991 to 2009-2010 period. It also looks at dropout rate differences between Aboriginals and immigrants and the rest of the population.

High school dropout rates among Canadians age 20 to 24 have decreased significantly in the 1990s and 2000s, and the rate continues to be lower for women. Also, the dropout rate is lower for immigrant youths compared to Canadian born, and higher for Aboriginal youths compared to their non-Aboriginal counterparts.

Despite a decline in the rates, dropping out of high school continues to adversely affect labour market outcomes. About one in four dropouts age 20 to 24 who were in the labour market in 2009-2010 were unable to find jobs, a situation that worsened with the recent economic downturn. Dropouts who did find work had lower earnings than youths with a high school diploma.

For more information, see "Trends in dropout rates and the labour market outcomes of young dropouts," *Education Matters*, Statistics Canada, November 2010.

■ *Productivity of unincorporated enterprises*

Based on new estimates of the gross domestic product (GDP) for the unincorporated sector, this study examines labour productivity in this sector and compares it to that in the corporate sector over the period 1987 to 2005. The level of nominal GDP per hour worked is significantly lower for unincorporated

enterprises (\$23.20 in 2005) than it is for corporations (\$43.40 in 2005). In 2005, GDP per hour worked in the unincorporated sector was just 53% of GDP per hour worked in the corporate sector.

For more information, see "Productivity trends of unincorporated enterprises in the Canadian economy, 1987 to 2005," *The Canadian Productivity Review*, Statistics Canada, October 2010.

■ *Labour productivity*

The labour productivity of Canadian businesses fell 0.8% in the second quarter of 2010, following gains of 0.5% in the first quarter and 1.2% in the final quarter of 2009. The productivity decline in the second quarter reflected a slowdown in business output combined with an increase in hours worked.

The pace of growth in the real gross domestic product of businesses slowed in the second quarter, following a decline in the service sector and moderate growth in the goods sector.

At the same time, employment and hours worked in Canadian businesses both rose 1.3%. This was the highest quarterly rate of growth in hours worked since the fourth quarter of 2003, when hours worked grew by 1.4%.

In the United States, the productivity of American businesses declined by 0.5% in the second quarter—the first decline since the fourth quarter of 2008.

For more information, see the September 14, 2010 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ *Income of families and individuals*

According to data derived from 2008 personal income tax returns, census metropolitan areas with the largest gains in median total family income were Saskatoon, St. John's and Greater Sudbury.

Declines were observed in some areas in southern Ontario, due in part to the importance of the manufacturing sector in that region. (Total income refers to pre-tax income and includes employment income, investment income, government transfers, pension income and other income.)

The largest increases for couple families were observed in St. John's and Saskatoon. As for lone-parent families and persons not in census families, the largest increases occurred in Saskatoon and Edmonton.

Among census agglomerations, the biggest increase in median total family income for couple families was observed in Bay Roberts, Newfoundland and Labrador. For lone-parent families, Williams Lake, British Columbia had the largest increase in median total family income, while for persons not in census families, the largest gain was in Estevan, Saskatchewan.

The census metropolitan area of Calgary had the highest median total family income, followed by Edmonton, Ottawa–Gatineau and Oshawa.

For more information, see "Family income and individuals' income, related variables: Sub-provincial data" in the September 16, 2010 issue of *The Daily* on the Statistics Canada's website (www.statcan.gc.ca).

■ ***Pension coverage and earnings replacement among Canadian couples***

What are the financial outcomes experienced by members and non-members of registered pension plans (RPP)? This study compares the earnings replacement rates achieved in retirement by married and common-law couples with and without RPP coverage in 1991 and/or 1992.

Couples without RPP coverage were less likely to be retired in 2006 than couples in which one spouse or both spouses had RPP coverage. Among couples without RPPs, those from the top of the 1989-1991 earnings distribution were more likely to continue working until older ages than those from the bottom.

Among retired couples from the middle of the earnings distribution, the earnings replacement rates of those without RPPs are more widely dispersed than those of couples with RPP coverage. Larger shares of retired couples without pensions than of couples with pension coverage have earnings replacement rates

below 0.60, with the magnitude of this difference ranging from about 10 to 15 percentage points in the second and third quintiles, and from 5 to 8 percentage points in the fourth quintile.

However, couples without pensions are also more likely than couples with pension coverage to have earnings replacement rates of 1.00 or more, with the difference ranging from about 7 to 13 points in the second, third and fourth quintiles. As a result of the asymmetric distribution of replacement rates among no-pension couples, different measures of central tendency yield different results.

The average earnings replacement rates of retired couples without RPP pension coverage from the second quintile to the fourth quintile are 6 to 12 points higher than the average rates of retired couples with RPP pension coverage. Conversely, the median earnings replacement rate of retired couples without RPP pension coverage is about 3 to 6 points lower than that of retired couples with RPP pension coverage.

For more information, see "Pension coverage and earnings replacement rates among Canadian couples," *Analytical Studies Branch Research Paper Series*, July 2010, Statistics Canada.

■ ***A note on pension coverage and earnings replacement rates of retired men***

Using data from the Longitudinal Administrative Database, this paper compares the distributions of earnings replacement rates among retired men who were or were not members of a registered pension plan (RPP) in 1991 and/or 1992.

The distributions of earnings replacement rates of men who were not RPP members are far more dispersed than those of men who were RPP members. And while the average earnings replacement rates of the two groups are generally comparable, the median earnings replacement rates of RPP non-members are lower than those of RPP members as a result of asymmetry in the distributions.

For more information, see "A note on pension coverage and earnings replacement rates of retired men: A closer look at distributions," *Analytical Studies Branch Research Paper Series*, Statistics Canada, July 2010.

■ *Employment in resource sector manufacturing*

Employment in resource manufacturing is important to rural and small town areas. Directly linked to natural resources, rural and small town areas have a location advantage and are often home to the next step in the processing of natural resources.

In 2008, resource sector manufacturing was a notable employer in Canada's rural and small town areas, where it contributed more than two-thirds (69%) of the country's total manufacturing employment in rural and small town areas.

Within rural and small town areas of each province, from 52% to 92% of total manufacturing employment was comprised of resource manufacturing. As a share of total employment in rural and small town areas, employment in resource manufacturing contributed 9% of total employment at the Canada level. This ranged from 14% in Quebec to 2% of total employment in the rural and small town areas in Saskatchewan.

Over the 2001-to-2008 period, resource manufacturing in Canada declined more slowly than "other" manufacturing. At the same time, it declined more slowly in rural and small towns than in large urban centres.

For more information, see "Manufacturing employment in resource value chains: a rural-urban comparison from 2001 to 2008," *Rural and Small Town Canada Analysis Bulletin*, Statistics Canada, August 2010.

■ *From other organizations*

■ *Temporary employment and labour adjustment*

In Canada, temporary workers account for 14% of jobs in the non-farm business sector, are present in a range of industries and account for 40% of the total job reallocation. This paper examines the role of temporary employment in labour adjustment at the micro level, as well as job turnover in general.

Ignoring temporary workers leads to estimates of labour adjustment costs parameters that are much lower than when temporary workers are taken into

account. Also, aggregate adjustment costs are underestimated when temporary workers are not accounted for in situations where a change in the economic environment disproportionately affects permanent workers. An example of such a change is the increased sectoral reallocation in Canada due to the commodity price boom and the appreciation of the Canadian dollar. See *Stability versus Flexibility: The Role of Temporary Employment in Labour Adjustment* by Shutao Cao and Danny Leung, Bank of Canada, November 2010.

■ *Long-term unemployment in tough labour markets*

The 2007-2009 recession differed substantially from past recessions in terms of the makeup of the labour force, the unemployed, and the long-term unemployed. In 2009, a 9.3% unemployment rate represented 14.3 million unemployed workers, of which close to one in three was out of work for at least half of a year.

In the first half of 2010, the long-term unemployed share climbed to almost one in two. Viewed over a longer time period, long-term unemployment has increased across successive business cycles, increasing more in bad times and falling less during expansions.

Similar to earlier recessions, those with less education, the young, and minorities were disproportionately affected. However, the impacts of the 2007-2009 recession were felt across a broader spectrum than in the past, particularly for men. See "The composition of the unemployed and long-term unemployed in tough labour markets" by Sylvia Allegretto and Devon Lynch, *Monthly Labor Review*, U.S. Bureau of Labor Statistics, September 2010.

■ *The expanding role of temporary help services*

The role of temporary help services has grown substantially. This growth has been driven by the flexibility and low labour cost of temporary workers. From 1990 to 2008, total temporary employment in the United States increased from 1.1 million to 2.3 million, representing 1.7% of total U.S. employment in 2008.

Traditionally, temporary workers have worked in lower paying occupations. However, work in temporary help services has gained prominence in recent

years in higher skilled and higher paying occupations. The industries which typically employ temporary workers include manufacturing; trade, transportation, and utilities; financial activities, and professional and business services.

Despite a steep decline in recent years, temporary employment has remained an important indicator of the overall economy. Temporary workers are among the first to be hired during economic expansions; they are also laid off in disproportionate numbers during times of recession. Hence, temporary help services has grown in importance not only with respect to the

industries and occupations associated with it and the areas where it is found, but also because of its function as a macroeconomic buffer during periods of economic volatility. See "The expanding role of temporary help services from 1990 to 2008" by Tian Luo, Amar Mann and Richard Holden, *Monthly Labor Review*, U.S. Bureau of Labor Statistics, August 2010.

Perspectives

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

Statistics Canada reserves the right to select and edit items for publication. Correspondence, in either official language, should be addressed to *Perspectives on Labour and Income*, 170 Tunney's Pasture Driveway, 7th floor, Jean Talon, Statistics Canada, Ottawa, Ontario K1A 0T6. Fax 613-951-2869; e-mail: perspectives@statcan.gc.ca.

Varia

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Unionization 2010

Unionization rates in the first half of 2009 and 2010

Average paid employment (employees) during the first half of 2010 was 14.3 million, an increase of 171,000 over the same period one year earlier (Table 1). The number of unionized employees also increased by 64,000 (to 4.2 million). However, since union membership rose slightly more rapidly than employment, the unionization rate edged up from 29.5% in 2009 to 29.6% in 2010.

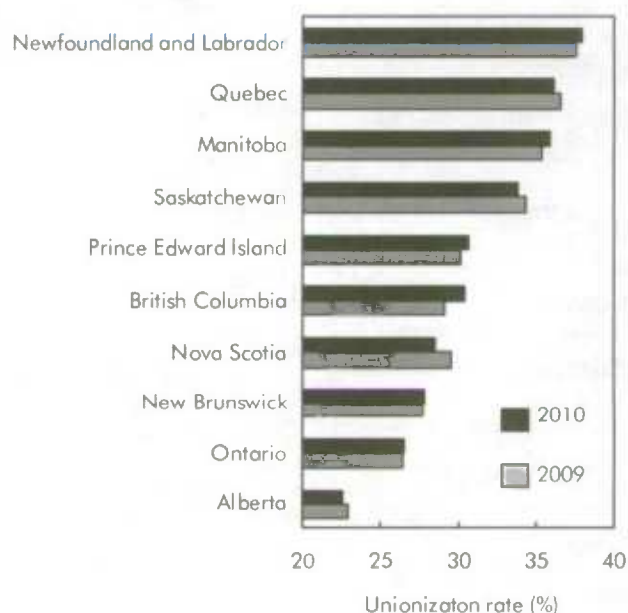
As women experienced disproportionately more gains in unionized jobs, their unionization rate rose to 30.9%. The unionization rate for men remained constant at 28.2%. As a result, the gap in the rates between men and women widened further in 2010.

As with overall job gains, gains in unionized jobs were spread over full-time and part-time jobs. Unionization among full-time workers increased to 31.1%. The unionization rate of part-time workers rose to 23.5% in 2010.

Data sources

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

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



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

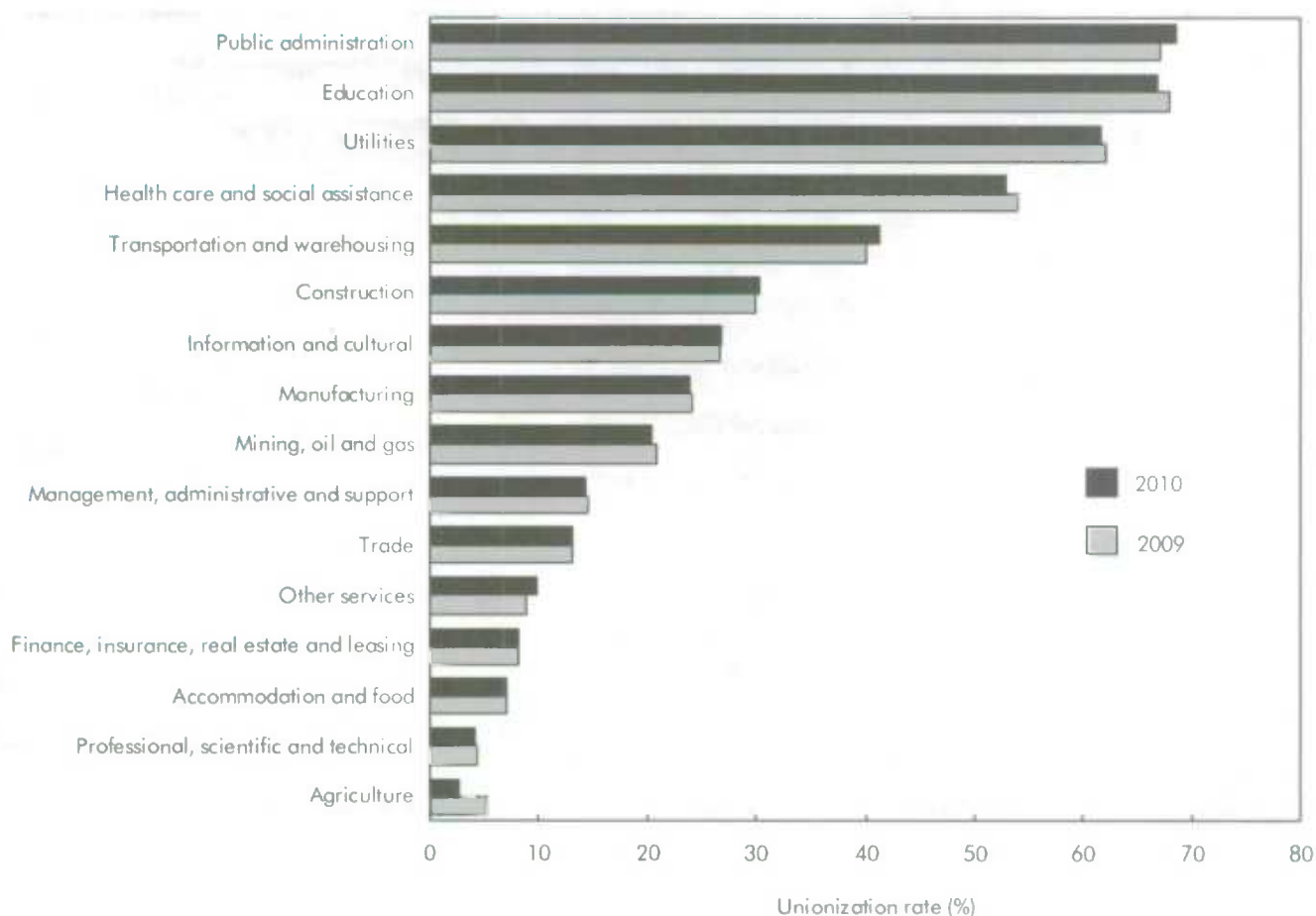
The unionization rate for permanent employees increased to 30.0%. However, it decreased to 27.3% for those in non-permanent jobs. Between 2009 and 2010, the unionization rate rose in larger firms (100 employees or more), decreased for those with 20 to 99 employees, and remained constant for firms with fewer than 20 employees.

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The provincial picture was more mixed (Chart A). Six provinces recorded increases in their unionization rates, British Columbia being the one with the largest increase. In contrast, unionization decreased in Nova Scotia, Quebec, Saskatchewan and Alberta.

Changes in unionization rates varied across industries. Notable declines were observed in agriculture, health care and social assistance, and education. Notable increases occurred in transportation and warehousing, and public administration. (Chart B).

Chart B The highest unionization rates were in public sector industries



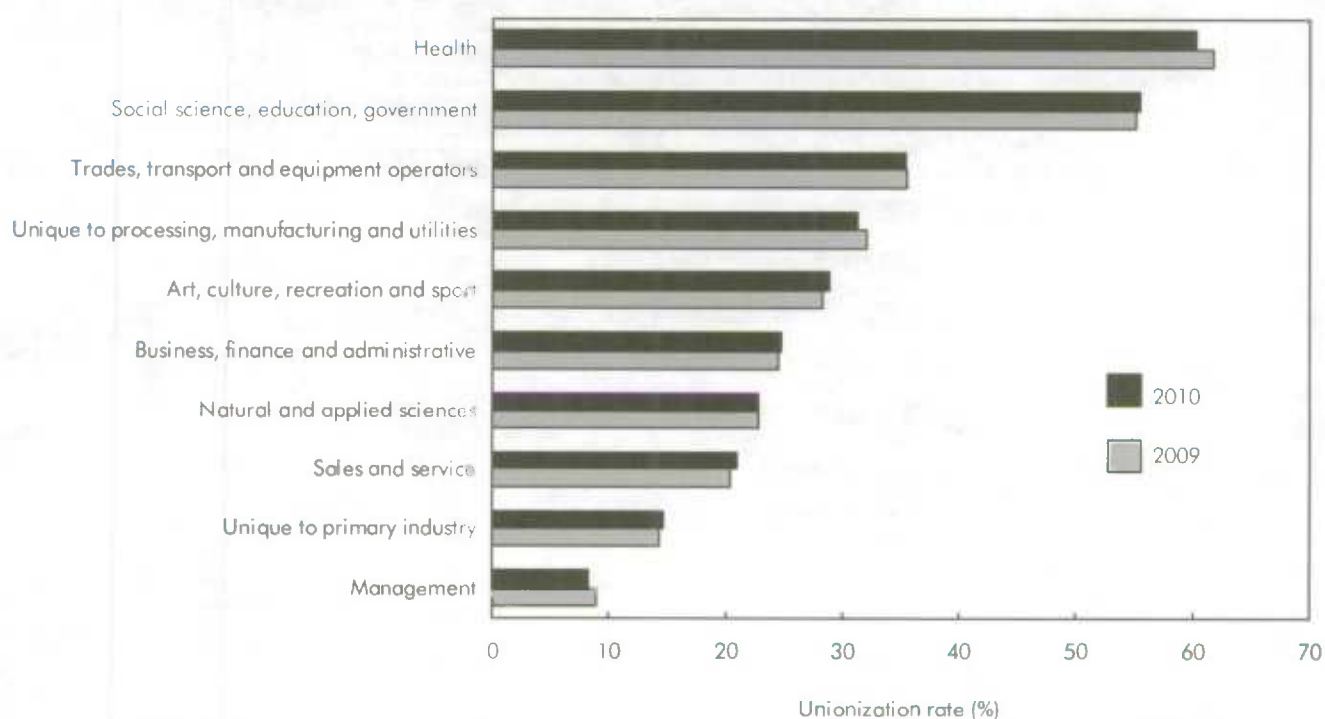
Source: Statistics Canada, Labour Force Survey, January-to-June averages.

Changes in the unionization rate also varied across 10 major occupational groups (Chart C). Unionization declined most in health and management, and among occupations unique to processing, manufacturing and utilities. The unionization rate also declined in trades, transport and equipment operator occupations. Conversely, it rose in art, culture, recreation and sport oc-

cupations, and sales and service. Changes in the unionization rate were more modest among other major occupational categories.

Finally, the number of employees who were not union members but were covered by a collective agreement averaged 288,000 in the first half of 2010, a decrease from last year's total of 300,000.

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



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

Table 1 Union membership and coverage by selected characteristics

	2009			2010		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage ¹		Members	Coverage ¹
	'000	%	%	'000	%	%
Both sexes	14,087	29.5	31.6	14,258	29.6	31.6
Men	6,963	28.2	30.4	7,049	28.2	30.4
Women	7,123	30.8	32.9	7,209	30.9	32.8
Sector²						
Public	3,423	71.3	75.1	3,509	71.2	74.8
Private	10,664	16.1	17.7	10,749	16.0	17.5
Age						
15 to 24	2,321	14.7	16.5	2,281	14.9	16.5
25 to 54	9,800	31.9	34.1	9,920	32.0	34.1
25 to 44	6,415	29.4	31.6	6,475	30.0	32.2
45 to 54	3,385	36.6	38.8	3,445	35.8	37.8
55 and over	1,966	35.2	37.3	2,057	34.4	36.3
Education						
Less than Grade 9	289	24.4	26.4	277	24.0	25.3
Some high school	1,344	20.1	21.6	1,295	20.4	22.0
High school graduation	2,788	25.3	26.9	2,858	25.7	27.0
Some postsecondary	1,229	21.6	23.3	1,205	22.6	24.6
Postsecondary certificate or diploma	5,003	33.2	35.6	5,032	33.3	35.4
University degree	3,434	34.5	37.1	3,591	33.6	36.3
Province						
Atlantic	954	30.5	32.0	954	30.3	31.7
Newfoundland and Labrador	189	37.5	39.3	193	37.9	39.7
Prince Edward Island	58	30.1	32.6	58	30.7	33.0
Nova Scotia	388	29.5	30.8	388	28.4	29.6
New Brunswick	319	27.7	29.1	314	27.8	29.2
Quebec	3,257	36.5	40.0	3,327	36.1	39.3
Ontario	5,480	26.4	28.1	5,553	26.5	27.9
Prairies	2,585	27.3	29.2	2,587	27.1	29.6
Manitoba	520	35.4	37.4	524	35.9	38.1
Saskatchewan	422	34.3	36.3	422	33.8	35.9
Alberta	1,643	22.9	24.8	1,641	22.6	25.2
British Columbia	1,811	29.1	30.6	1,838	30.4	31.8
Work status						
Full-time	11,398	31.0	33.2	11,530	31.1	33.2
Part-time	2,689	23.3	25.1	2,728	23.5	25.0
Industry						
Goods-producing	2,970	26.5	28.5	2,962	26.5	28.6
Agriculture	114	5.3	6.3	100	2.7	3.2
Natural resources	271	20.9	22.3	277	20.3	23.1
Utilities	147	62.2	67.0	146	61.6	65.5
Construction	744	30.0	31.8	801	30.3	32.0
Manufacturing	1,694	24.2	26.2	1,638	24.0	26.2
Service-producing	11,117	30.3	32.5	11,296	30.4	32.4
Trade	2,319	13.1	14.7	2,378	13.1	14.4
Transportation and warehousing	690	40.0	41.7	645	41.3	42.8
Finance, insurance, real estate and leasing	902	8.2	9.6	909	8.2	9.2
Professional, scientific and technical	786	4.3	5.2	821	4.2	5.3
Business, building and other support	490	14.6	16.2	495	14.3	16.2
Education	1,163	68.0	71.9	1,207	67.0	70.9
Health care and social assistance	1,704	54.0	56.4	1,778	52.9	55.3
Information, culture and recreation	626	26.6	28.6	625	26.9	28.3
Accommodation and food	972	7.0	7.8	978	7.0	7.8
Other	546	8.8	10.1	524	9.8	11.0
Public administration	920	67.2	72.8	935	68.5	73.4

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

	2009			2010		
	Total employees	Union density		Total employees	Union density	
		Members	Coverage ¹		Members	Coverage ¹
	'000	%	%	'000	%	%
Occupation						
Management	1,019	8.9	11.2	1,019	8.3	10.9
Business, finance and administrative	2,787	24.6	26.7	2,751	24.7	26.5
Professional	420	18.0	19.5	407	16.1	17.9
Financial and administrative	733	24.2	26.5	734	25.3	27.4
Clerical	1,634	26.5	28.7	1,610	26.6	28.3
Natural and applied sciences	1,036	22.8	24.9	1,098	22.8	24.9
Health	912	61.7	64.2	951	60.2	62.4
Professional	105	40.2	46.1	107	38.2	44.7
Nursing	273	81.5	83.1	278	78.5	80.5
Technical	216	57.5	60.0	223	59.8	61.0
Support staff	319	54.8	56.7	342	52.5	54.2
Social science, education, government	1,387	55.1	58.2	1,437	55.4	58.7
Legal, social and religious workers	683	35.9	38.4	714	37.1	40.0
Teachers and professors	704	73.7	77.4	724	73.5	77.2
Secondary and elementary	485	85.5	88.2	492	85.9	88.0
Other	219	47.5	53.7	232	47.1	54.3
Art, culture, recreation and sport	322	28.3	30.9	341	28.9	30.8
Sales and service	3,658	20.5	22.3	3,716	21.0	22.5
Wholesale	383	4.9	6.1	386	5.5	6.8
Retail	1,025	11.7	12.9	1,080	13.2	14.3
Food and beverage	531	9.9	10.8	527	10.1	10.8
Protective services	250	54.0	61.4	251	57.6	62.4
Child care and home support	195	49.6	51.2	200	45.4	48.4
Travel and accommodation	1,274	25.7	27.3	1,272	25.6	27.0
Trades, transport and equipment operators	1,968	35.6	37.6	1,968	35.4	37.4
Contractors and supervisors	140	27.2	29.6	138	29.0	30.9
Construction trades	271	38.1	39.7	283	35.7	37.2
Other trades	768	38.1	40.3	760	37.7	40.0
Transportation equipment operators	490	34.7	36.0	484	37.0	38.7
Helpers and labourers	300	32.1	34.8	303	29.5	32.2
Unique to primary industry	253	14.3	15.9	241	14.6	15.9
Unique to processing, manufacturing and utilities	745	32.1	34.3	736	31.3	33.2
Machine operators and assemblers	603	31.7	33.7	590	30.7	32.6
Labourers	143	34.0	36.9	146	33.6	35.3
Workplace size						
Under 20 employees	4,697	13.4	14.9	4,806	13.4	14.7
20 to 99 employees	4,732	30.2	32.4	4,707	29.8	32.0
100 to 500 employees	2,883	40.4	43.1	2,949	41.1	43.5
Over 500 employees	1,775	52.7	55.4	1,797	53.7	56.5
Job tenure						
1 to 12 months	3,053	16.4	18.6	2,855	16.0	18.0
Over 1 year to 5 years	4,753	23.4	25.3	4,936	24.3	26.1
Over 5 years to 9 years	2,051	32.2	34.4	2,012	31.6	33.6
Over 9 years to 14 years	1,464	34.9	36.8	1,657	36.5	38.2
Over 14 years	2,766	49.6	52.1	2,798	47.4	49.9
Job status						
Permanent	12,449	29.8	31.8	12,434	30.0	31.9
Non-permanent	1,638	27.7	30.4	1,824	27.3	29.7

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).

2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

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

2009 annual averages

Approximately 4.2 million employees (29.3%) belonged to a union in 2009 and another 296,000 (2.1%) were covered by a collective agreement (Table 2).

In the public sector, which consisted of government, Crown corporations, and publicly funded schools and hospitals, 70.9% of employees belonged to a union. This was more than four times the rate for the private sector (16.1%).

Approximately one-third of full-time employees belonged to a union, compared with about one-fourth of part-time employees. Also, almost 30% of permanent employees were union members, compared with about 27% of non-permanent employees.

Unionization rates also varied by age group, with 36.4% of those age 45 to 54 belonging to a union compared to 14.6% of those age 15 to 24. High unionization rates were also found among those with a university degree (34.0%) or a postsecondary certificate or diploma (33.2%); in Newfoundland and Labrador (37.4%) and in Quebec (36.3%); in educational services (67.6%), public administration (66.9%) and utilities (61.8%); and in health care occupations (61.5%). Low unionization rates were recorded in Alberta (22.9%); in agriculture (4.5%) and professional, scientific and technical services (4.2%); and in management occupations (9.1%).

Table 2 Union membership, 2009

	Total employees	Union member ¹	
		Total	Density
	'000	'000	%
Both sexes	14,147	4,152	29.3
Men	7,030	1,977	28.1
Women	7,117	2,175	30.6
Sector²			
Public	3,412	2,418	70.9
Private	10,735	1,734	16.1
Age			
15 to 24	2,345	343	14.6
25 to 54	9,823	3,125	31.8
25 to 44	6,430	1,889	29.4
45 to 54	3,394	1,235	36.4
55 and over	1,979	685	34.6
Education			
Less than Grade 9	285	70	24.4
Some high school	1,331	269	20.2
High school graduation	2,848	711	25.0
Some postsecondary	1,213	262	21.6
Postsecondary certificate or diploma	5,032	1,670	33.2
University degree	3,438	1,170	34.0
Province			
Atlantic	969	294	30.3
Newfoundland and Labrador	194	73	37.4
Prince Edward Island	59	18	29.9
Nova Scotia	392	115	29.4
New Brunswick	324	89	27.4
Quebec	3,280	1,192	36.3
Ontario	5,504	1,430	26.0
Prairies	2,581	700	27.1
Manitoba	523	183	34.9
Saskatchewan	421	143	33.9
Alberta	1,636	375	22.9
British Columbia	1,813	536	29.6
Work status			
Full-time	11,537	3,542	30.7
Part-time	2,610	609	23.3
Industry			
Goods-producing	3,023	807	26.7
Agriculture	118	5	4.5
Natural resources	272	59	21.7
Utilities	147	91	61.8
Construction	795	236	29.6
Manufacturing	1,690	416	24.6
Service-producing	11,125	3,345	30.1
Trade	2,338	312	13.3
Transportation and warehousing	677	271	40.1
Finance, insurance, real estate and leasing	902	74	8.2
Professional, scientific and technical	781	32	4.2
Business, building and other support	492	70	14.2
Education	1,135	767	67.6
Health care and social assistance	1,718	921	53.6
Information, culture and recreation	646	163	25.2
Accommodation and food	966	67	6.9
Other	545	48	8.8
Public administration	927	620	66.9

Differences between the sexes

For the sixth year in a row, the unionization rate for women in 2009 surpassed the rate for men (30.6% vs. 28.1%). The gap widened by 1.2 percentage points compared with 2008.

Among men, part-time employees had a much lower rate than full-time employees (19.3% versus 29.2%). Among women, the gap was narrower (25.1% versus 32.4%) (data not shown). The unionization rate for women in the public sector (73.0%) exceeded the rate for men (67.5%), reflecting women's presence in public administration, and in teaching and health positions. However, in the private sector, only 12.7% of women were unionized, compared with 19.2% of men. The lower rate among women reflected their predominance in sales and several service occupations.

A higher-than-average rate was recorded among men with a postsecondary certificate or diploma (33.0%). For women, the highest rate was among those with a university degree (40.8%), reflecting unionization in occupations like health care and teaching.

Among those in permanent positions, the rate for men (28.6%) was lower than the rate for women (30.8%). The gap was even more predominant among those in non-permanent positions (28.9% for women versus 24.5% for men).

Table 2 Union membership, 2009 (concluded)

	Total employees	Union member ¹	
		Total	Density
	'000	'000	%
Occupation			
Management	1,022	93	9.1
Business, finance and administrative	2,761	676	24.5
Professional	411	72	17.5
Financial and administrative	732	175	23.9
Clerical	1,618	429	26.5
Natural and applied sciences	1,047	243	23.2
Health	924	568	61.5
Professional	109	44	40.5
Nursing	281	227	80.8
Technical	221	127	57.5
Support staff	313	170	54.2
Social science, education, government	1,378	752	54.6
Legal, social and religious workers	687	247	35.9
Teachers and professors	691	506	73.2
Secondary and elementary	466	398	85.5
Other	226	108	47.7
Art, culture, recreation and sport	334	89	26.5
Sales and service	3,654	742	20.3
Wholesale	382	19	4.9
Retail	1,052	130	12.3
Food and beverage	524	50	9.5
Protective services	248	136	54.8
Child care and home support	182	84	45.9
Travel and accommodation	1,267	325	25.6
Trades, transport and equipment operators	2,012	703	34.9
Contractors and supervisors	141	40	28.2
Construction trades	280	103	37.0
Other trades	771	286	37.1
Transportation equipment operators	500	173	34.6
Helpers and labourers	322	101	31.3
Unique to primary industry	267	38	14.3
Unique to processing, manufacturing and utilities	747	248	33.1
Machine operators and assemblers	603	197	32.7
Labourers	144	50	34.9
Workplace size			
Under 20 employees	4,724	627	13.3
20 to 99 employees	4,732	1,404	29.7
100 to 500 employees	2,899	1,186	40.9
Over 500 employees	1,792	935	52.2
Job tenure			
1 to 12 months	2,988	486	16.3
Over 1 year to 5 years	4,849	1,132	23.3
Over 5 years to 9 years	2,053	659	32.1
Over 9 years to 14 years	1,509	529	35.1
Over 14 years	2,749	1,346	49.0
Job status			
Permanent	12,381	3,678	29.7
Non-permanent	1,766	473	26.8

1. Excludes non-members covered by a collective agreement.

2. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

Source: Statistics Canada, Labour Force Survey.

Average earnings and usual hours

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

Average hourly earnings of unionized workers were higher than those of non-unionized workers in 2009 (Table 3). This held true for both full-time employees (\$25.93 versus \$22.35) and part-time employees (\$21.25 versus \$13.71). Unionized part-time employees not only had higher hourly earnings, but they also worked more (19.2 hours versus 16.7 hours). This led to a larger gap in weekly earnings (\$414.55 versus \$236.19).

Table 3 Average earnings and usual hours by union and job status, 2009

	Hourly earnings			Usual weekly hours, main job		
	All employees	Full-time	Part-time	All employees	Full-time	Part-time
		\$			hours	
Both sexes	22.05	23.52	15.57	35.2	39.2	17.3
Union member	25.24	25.93	21.25	35.6	38.4	19.2
Union coverage ¹	25.20	25.90	21.14	35.6	38.5	19.1
Not a union member ²	20.61	22.35	13.71	35.0	39.6	16.7
Men	23.87	25.05	14.66	37.7	40.4	16.5
Union member	26.00	26.58	19.26	37.9	39.6	18.1
Union coverage ¹	26.00	26.58	19.19	37.9	39.6	17.9
Not a union member ²	22.95	24.35	13.46	37.6	40.8	16.1
Women	20.25	21.71	15.97	32.7	37.9	17.7
Union member	24.54	25.24	21.92	33.5	37.2	19.6
Union coverage ¹	24.46	25.16	21.81	33.5	37.2	19.5
Not a union member ²	18.22	19.89	13.83	32.4	38.2	17.0
Atlantic	18.93	19.95	13.46	36.6	40.3	17.3
Union member	23.37	23.66	20.76	37.4	39.4	19.8
Union coverage ¹	23.36	23.65	20.70	37.4	39.4	19.7
Not a union member ²	16.86	18.05	11.62	36.3	40.7	16.7
Quebec	20.80	22.04	15.23	34.4	38.1	18.1
Union member	23.65	24.09	20.90	35.1	37.5	20.3
Union coverage ¹	23.48	23.93	20.60	35.1	37.5	20.1
Not a union member ²	19.03	20.67	12.93	34.0	38.5	17.3
Ontario	22.75	24.48	15.25	35.2	39.4	17.0
Union member	26.53	27.58	20.55	35.6	38.6	18.4
Union coverage ¹	26.58	27.64	20.54	35.7	38.7	18.3
Not a union member ²	21.30	23.20	13.74	35.0	39.6	16.6
Prairies	23.20	24.61	16.58	36.1	40.1	17.3
Union member	25.82	26.49	22.20	36.0	39.1	19.1
Union coverage ¹	25.84	26.49	22.31	36.1	39.2	19.1
Not a union member ²	22.12	23.81	14.60	36.1	40.5	16.7
British Columbia	22.21	23.69	16.64	34.6	39.3	17.1
Union member	25.60	26.27	22.48	35.1	38.6	18.9
Union coverage ¹	25.63	26.34	22.27	35.2	38.7	18.8
Not a union member ²	20.68	22.42	14.66	34.4	39.6	16.5

1. Union members and persons who are not union members but covered by collective agreements (for example, some religious group members).

2. Workers who are neither union members nor covered by collective agreements.

Source: Statistics Canada, Labour Force Survey.

On average, full-time unionized women earned 95% of the amount their male counterparts earned per hour. In contrast, those working part time earned 14% more.

Wage settlements, inflation and labour disputes

The wage rate increase for collective agreement negotiated in 2009 was lower than the previous year (2.4% versus 3.2%) (Table 4). This was the fifth consecutive year in which the increase in wages surpassed the rate

of inflation. For the fourth year in a row, the wage gain in the public sector exceeded the gain in the private sector (2.5% versus 1.8%). This trend continued in the first four months of 2010 whereby gains stood at 2.2% in the public sector and 1.9% in the private sector.

Table 4 Major wage settlements, inflation and labour disputes

Year	Average annual increase in base wage rates ¹			Annual change in consumer price index ¹	Labour disputes and time lost ²			
	Public sector employees ³	Private sector employees ³	Total employees		Strikes and lockouts ⁴	Workers involved	Person-days not worked	Proportion of estimated working time
			%			'000	'000	%
1980	10.9	11.7	11.1	10.0	1,028	452	9,130	0.37
1981	13.1	12.7	13.0	12.5	1,049	342	8,850	0.35
1982	10.4	9.5	10.2	10.9	679	464	5,702	0.23
1983	4.6	5.5	4.8	5.8	645	330	4,441	0.18
1984	3.9	3.2	3.6	4.3	716	187	3,883	0.15
1985	3.8	3.3	3.7	4.0	829	164	3,126	0.12
1986	3.6	3.0	3.4	4.1	748	486	7,151	0.27
1987	4.1	3.8	4.0	4.4	668	582	3,810	0.14
1988	4.0	5.0	4.4	3.9	548	207	4,901	0.17
1989	5.2	5.2	5.2	5.1	627	445	3,701	0.13
1990	5.6	5.7	5.6	4.8	579	271	5,516	0.09
1992	2.0	2.6	2.1	1.4	404	152	2,110	0.07
1993	0.6	0.8	0.7	1.9	381	102	1,517	0.05
1994	0.0	1.2	0.3	0.1	374	81	1,607	0.06
1995	0.6	1.4	0.9	2.2	328	149	1,583	0.05
1996	0.5	1.7	0.9	1.5	330	276	3,269	0.11
1997	1.1	1.8	1.4	1.7	284	258	3,608	0.12
1998	1.6	1.8	1.7	1.0	381	244	2,440	0.08
1999	1.9	2.7	2.2	1.8	413	160	2,441	0.08
2000	2.5	2.4	2.5	2.7	378	143	1,644	0.05
2001	3.4	3.0	3.3	2.5	381	221	2,203	0.07
2002	2.9	2.6	2.8	2.2	294	166	2,986	0.09
2003	2.9	1.2	2.5	2.8	266	79	1,730	0.05
2004	1.4	2.3	1.8	1.8	297	259	3,185	0.09
2005	2.3	2.5	2.3	2.2	260	199	4,148	0.11
2006	2.6	2.2	2.5	2.0	151	42	793	0.02
2007	3.4	3.2	3.3	2.2	206	66	1,771	0.05
2008	3.5	2.5	3.2	2.3	188	41	876	0.02
2009	2.5	1.8	2.4	0.3	157	67	2,179	0.06
2010 ⁵	2.2	1.9	2.1	1.7

1. Involving 500 or more employees.

2. Involving 1 worker or more.

3. Public sector employees are those working for government departments or agencies; Crown corporations; or publicly funded schools, hospitals or other institutions. Private sector employees are all other wage and salary earners.

4. Minimum of ten person-days not worked.

5. 2010 data refer to January to April only.

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

Annual statistics on strikes, lockouts and person-days lost are affected by several factors, including collective bargaining timetables, size of the unions involved, strike or lockout duration, and state of the economy. The number of collective agreements up for renewal in a given year determines the potential for industrial disputes. Union size and strike or lockout duration determine the number of person-days lost. The state of the economy influences the likelihood of an industrial dispute, given that one is legally possible. The proportion of estimated working time lost due to strikes and lockouts increased to 0.06% in 2009 from 0.02% in 2008.

■ Reference

Fang, Tony and Anil Verma. 2002. "Union wage premium." *Perspectives on Labour and Income*. Vol. 3, no. 9. September. Statistics Canada Catalogue no. 75-001-XIE. p. 13-19. <http://www.statcan.ca/english/freepub/75-001-XIE/75-001-XIE2002109.pdf> (accessed August 17, 2010).

Perspectives

In the works

Some of the topics in upcoming issues

■ Women's work transitions

Using Statistics Canada's Longitudinal Workers File, this study will shed light on the labour market transitions of women over a 25-year period, as well as possible differences between birth cohorts.

■ The impact of labour force aging on hours worked

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

■ Retiring with debt

Using data from the Canadian Financial Capability Survey, this article examines the debt load situation of people in pre-retirement and those retired. The paper will include an overview of the financial situation, budget and savings behaviour, and financial knowledge of these groups, as well as an analysis of factors associated with the likelihood of carrying consumer or mortgage debt.

■ The rising indebtedness of Canadians

This study uses data from multiple sources to examine trends in household debt over the past 25 years and the effects of indebtedness on household spending.

■ Income and wealth of older immigrants in Canada

Using data from the Survey of Labour and Income Dynamics and the Survey of Financial Security, this article attempts to shed light on the income and wealth of older immigrants in Canada.

■ Spending and consumption patterns among seniors

Applying a synthetic cohort approach to data from the Survey of Household Spending and the Family Expenditure Survey, this article examines how consumption patterns change for a given cohort of seniors as they age.

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