

Catalogue no. 75-001-X

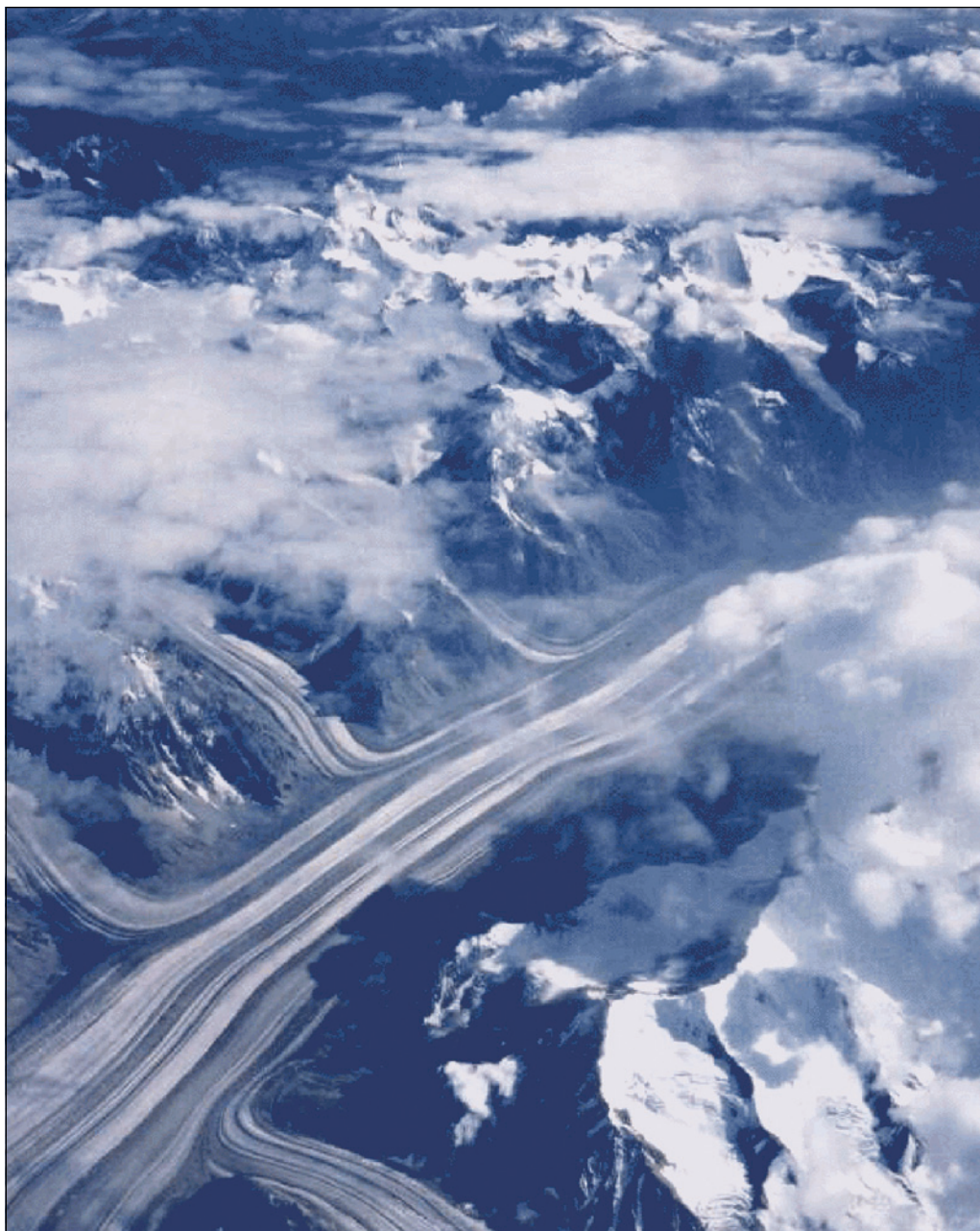
PERSPECTIVES

ON LABOUR AND INCOME

October 2008

Vol. 9, No. 10

- Skilled trades employment
- Interprovincial mobility and earnings



Statistics
Canada

Statistique
Canada

Canada

At Your Service...

How to obtain more information

Specific inquiries about this product should be directed to: *Perspectives on Labour and Income*, 9 A-6 Jean Talon, 170 Tunney's Pasture Driveway, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: 613-951-4628; e-mail: perspectives@statcan.gc.ca).

For information about the wide range of services and data available from Statistics Canada, visit our website at www.statcan.gc.ca or contact us by e-mail at infostats@statcan.gc.ca or by telephone from 8:30 a.m. to 4:30 p.m. Monday to Friday:

Statistics Canada National Contact Centre

Toll-free telephone (Canada and the United States):

Inquiries line	1-800-263-1136
National telecommunications device for the hearing impaired	1-800-363-7629
Fax line	1-877-287-4369

Local or international calls:

Inquiries line	1-613-951-8116
Fax line	1-613-951-0581

Depository Services Program

Inquiries line	1-800-635-7943
Fax line	1-800-565-7757

Information to access the product

This product, catalogue no. 75-001-X, is available for free in electronic format. To obtain a single issue, visit our website at www.statcan.gc.ca and select "Publications" > "Free Internet publications."

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "About us" > "Providing services to Canadians."

Perspectives on Labour and Income

(Catalogue no. 75-001-X; aussi disponible en français: *L'emploi et le revenu en perspective*, n° 75-001-X au catalogue) is published monthly by authority of the Minister responsible for Statistics Canada. ©Minister of Industry 2008. ISSN: 1492-496X.

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s).

Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, 100 Tunney's Pasture Driveway, Statistics Canada, Ottawa, Ontario, K1A 0T6.

Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 ^s	value rounded to 0 (zero) where a meaningful distinction exists between true zero and the value rounded
P	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

Highlights

In this issue

■ Skilled trades employment

- In 2007, just over 1 million people worked in eight selected trades (for example, mechanics, machinists and carpenters). After declines in the late 1980s and early 1990s, employment growth in these occupations virtually matched that of other occupations. Following a higher peak for tradesworkers during the recession of the early 1990s, overall unemployment rates for the trades and other occupations have been virtually the same over the past 10 years. Three trades occupations had consistently higher unemployment rates (carpenters, masons and other construction trades) and two consistently lower (electricians and mechanics).
- Economic growth in the two westernmost provinces had a strong impact on the trades. In 1987, less than 20% of all trades employment was found in these two provinces; twenty years later it reached nearly 30%. This is in contrast to employment in other occupations which went from 21% to 25%.
- The average age of those working in these selected trades was under 40 in 2007—slightly younger than other workers (41). The ratio of entrants (age 25 to 34) to near-retirees (50 or older) shows that workers in the trades were more in balance overall in 2007 than those in other occupations (1.0 versus 0.7). This varied between the trades, with plumbers and masons having more younger workers (at about 1.5) and electricians being closer to the non-trades.

- Self-employment, particularly without employees, is a growing phenomenon among tradespersons. In 1987, only 9% of those employed in the trades were self-employed; by 2007, this increased to 15%. Some trades, including electricians and machinists, saw even higher growth rates—even though their self-employment rates still remained lower than for the non-trades occupations.

■ Interprovincial mobility and earnings

- In any given year, relatively few people move from one province to another. From 1993 to 2004, the annual migration rate for those age 20 to 54 never exceeded 1.1%. Newfoundland and Labrador, Prince Edward Island and Saskatchewan had the highest out-migration rates; Quebec and Ontario had the lowest.
- Francophones outside Quebec and especially Anglophones in Quebec were more likely to migrate to another province than other Canadians. Younger people were also much more likely to migrate.
- The probability of leaving a province was higher for people with low earnings, receiving employment insurance or on social assistance. On average, each time a province's unemployment rate rose by one percentage point, the probability of residents leaving rose by 10%.
- Men who migrated experienced an average earnings growth of 15% from the year prior to migration to the year after migration—almost twice as much as non-migrants (8%). The average earnings growth for women who migrated was 12%, compared with 8% for non-migrants.

PERSPECTIVES

ON LABOUR AND INCOME

THE COMPREHENSIVE JOURNAL

on labour and income
from Statistics Canada

Yes, I want PERSPECTIVES ON LABOUR AND INCOME
(Catalogue no. 75-001-XPE).



Subscribe to *Perspectives on Labour and Income* today!

ORDER FORM	MAIL Statistics Canada Finance Division 100 Tunney's Pasture Driveway, 6th floor Ottawa, Ontario Canada K1A 0T6	PHONE 1-800-267-6677 Quote PF027090	FAX 1-877-287-4369 613-951-0581	E-MAIL Infostats@statcan.gc.ca	METHOD OF PAYMENT (Check only one)																																											
	Name _____				Charge to my: <input type="checkbox"/> MasterCard <input type="checkbox"/> VISA <input type="checkbox"/> American Express																																											
	Company _____ Department _____				Card Number _____ Expiry Date _____																																											
	Address _____ City _____ Province _____				Authorized Signature _____																																											
	Postal Code _____ Phone _____ Fax _____				Cardholder (Please print) _____																																											
	E-Mail address _____				<input type="checkbox"/> Payment Enclosed \$ _____																																											
	Catalogue No. _____ Title _____				Authorized Signature _____																																											
	75-001-XPE Perspectives on Labour and Income				<table border="1"> <thead> <tr> <th>Subscription</th> <th>Price (CDN \$)</th> <th>Quantity</th> <th>Total CDN \$</th> </tr> </thead> <tbody> <tr> <td>1 year</td> <td>63.00</td> <td></td> <td></td> </tr> <tr> <td>2 years</td> <td>100.80</td> <td></td> <td></td> </tr> <tr> <td>3 years</td> <td>132.30</td> <td></td> <td></td> </tr> <tr> <td colspan="4">Subtotal</td> </tr> <tr> <td colspan="4">Applicable GST (5%)</td> </tr> <tr> <td colspan="4">Applicable PST</td> </tr> <tr> <td colspan="4">Applicable HST (N.S., N.B., N.L.)</td> </tr> <tr> <td colspan="4">Shipping charges U.S. CDN \$24, other countries CDN \$40</td> </tr> <tr> <td colspan="4">Grand Total</td> </tr> </tbody> </table>				Subscription	Price (CDN \$)	Quantity	Total CDN \$	1 year	63.00			2 years	100.80			3 years	132.30			Subtotal				Applicable GST (5%)				Applicable PST				Applicable HST (N.S., N.B., N.L.)				Shipping charges U.S. CDN \$24, other countries CDN \$40				Grand Total			
	Subscription	Price (CDN \$)	Quantity	Total CDN \$																																												
	1 year	63.00																																														
2 years	100.80																																															
3 years	132.30																																															
Subtotal																																																
Applicable GST (5%)																																																
Applicable PST																																																
Applicable HST (N.S., N.B., N.L.)																																																
Shipping charges U.S. CDN \$24, other countries CDN \$40																																																
Grand Total																																																
No shipping charges for delivery in Canada. Outside Canada, please add shipping charges as indicated. Canadian clients add either 6% GST and applicable PST or HST (GST Registration No. R121491807). Clients outside Canada pay in Canadian dollars drawn on a Canadian bank or pay in equivalent US dollars, converted at the prevailing daily exchange rate, drawn on a US bank. Federal government departments must include with all orders their IS Organization Code _____ and IS Reference Code _____.																																																
Your personal information is protected by the Privacy Act. Statistics Canada will use your information only to complete this sales transaction, deliver your product(s), announce product updates and administer your account. From time to time, we may also offer you other Statistics Canada products and services or ask you to participate in our market research.																																																
If you do not wish to be contacted again for promotional purposes <input type="checkbox"/> and/or market research <input type="checkbox"/> check as appropriate.																																																

Skilled trades employment

Wendy Pyper

"It's all very well to talk about a knowledge-based society. There are many kinds of knowledge needed to keep the economy operating—including vocational and technical knowledge. Try running a home or a business without it." (Maxwell 2007)

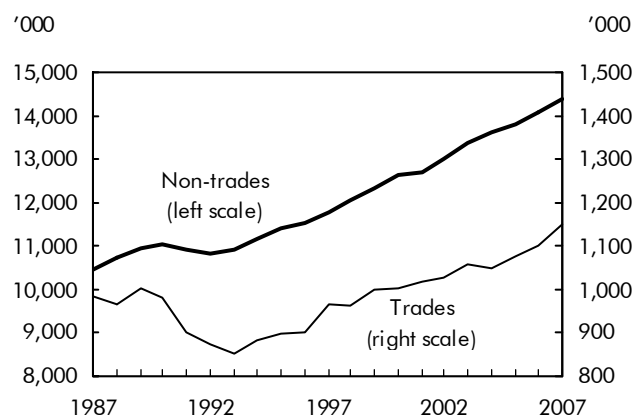
Press coverage demonstrates that issues associated with employment in the trades are a concern for many in Canada. These issues include the aging of the workforce, since the often physical nature of many jobs in the trades may have more of an impact on workers. Furthermore, immigration policies and regulations regarding certification requirements also hit many occupations in the trades, not just occupations like doctors and nurses. Will the supply of tradesworkers keep up with the demands of the economy? The Business Conditions Survey for the Manufacturing Industries found that, in 2006 and 2007, the major production impediment was the shortage of skilled labour (Statistics Canada 2008c).

In addition, the issue of employment shortages in the trades has been on the minds of policymakers. The 2006 Federal Budget offered several incentives to encourage employment in the trades. The Apprenticeship Incentive Grant is a taxable cash grant of \$1,000 per year, up to \$2,000 per person. This grant helps cover tuition, travel and tool costs, and is meant to encourage the completion of apprenticeship programs (HRSDC 2007). The Apprenticeship Job Creation Tax Credit is a non-refundable tax credit of up to \$2,000 per year (10% of the eligible salaries of apprentices) for employers who hire apprentices (CRA 2007). The Tradesperson's Tools Deduction provides an annual deduction of up to \$500 to help cover the cost of the purchase of new tools for employed tradespersons (CRA 2006). Several provincial programs have also

been introduced to encourage high school students to pursue these occupations by allowing students to work towards an apprenticeship through a cooperative education placement while still in high school (Government of Ontario 2008 and Government of Alberta 2007).

This article uses the Labour Force Survey to examine employment trends in selected trade occupations over the past 20 years (see *Data source and definitions*) and looks at the socio-economic characteristics of these workers and the characteristics of the jobs they held.

Chart A Slow but steady employment growth, but only since the mid-1990s in the trades



Source: Statistics Canada, Labour Force Survey.

Wendy Pyper is with the Income Statistics Division. She can be reached at 613-951-0381 or perspectives@statcan.gc.ca.

Data source and definitions

The **Labour Force Survey** collects information each month on the labour market activity of the civilian, non-institutionalized population 15 years of age and over. Excluded from the survey are persons living in the territories or on reserves and full-time members of the Canadian Armed Forces. Each month, a representative sample of approximately 53,000 households is surveyed. The population used in the study also excluded students.

All differences mentioned in the text and the quality measures were tested for statistical significance using the jack-knife methodology for determining the coefficients of variation.

Skilled trades commonly refer to the “type of occupation that typically includes complex activities and requires skills and account knowledge of the subject. One usually has to do one to three years of postsecondary education in a college or university (depending on the school system), or two to four years in an apprenticeship program, or two to three years of on-the-job training. A combination of these three forms of training can also allow the practice of the trade. A license or certificate may be compulsory.” (Canadian Council of Directors of Apprenticeship 2007)¹

The occupations studied are based on the **National Occupational Classification for Statistics (NOC-S) 2001**, “H – Trades, Transport and Equipment Operators and Related Occupations” (Statistics Canada 2001).² Eight trades were selected for this study.³

Plumbers, pipefitters and gas fitters (NOC-S H11)

- installing, repairing and maintaining water distribution and waste water systems in buildings, steam and hot water heating systems, liquid chemical distribution, sprinkler systems, and gas piping for appliances or manufacturing processes.
- Most are Red Seal designated.

Carpenters and cabinetmakers (NOC-S H12)

- constructing, repairing and maintaining structures made of wood or wood substitutes, and constructing and repairing wooden cabinets, furniture or fixtures.
- Red Seal designated.

Masonry and plastering trades (NOC-S H13)

- laying bricks or blocks, finishing concrete, setting clay or ceramic tiles, plastering, and drywall installation.
- Many are Red Seal designated.

Other construction trades (NOC-S H14)

- roofing, installing glass, insulating buildings against temperature extremes, painting and decorating, and installing floor coverings.
- Red Seal designated.

Stationary engineers, power station operators and electrical trades and telecommunications occupations (NOC-S H2)

- operating and maintaining boilers and other stationary engines, operating electric power generation switchboards, installing and repairing wiring systems, install-

ing and repairing electrical equipment, constructing and maintaining power and telecommunications lines, and maintaining cable television services.

- Many are Red Seal designated.

Machinists, metal forming, shaping and erecting occupations (NOC-S H3)

- setting up and operating machine tools, forming and shaping sheet metal or steel plates, and erecting structural metal or platework.
- Most Red Seal designated.

Mechanics (NOC-S H4)

- installing, repairing and maintaining machinery, transportation equipment, appliances and other mechanical equipment.
- Some are Red Seal designated.

Crane operators, drillers and blasters (NOC-S H62)

- operating cranes or draglines, operating drills in open-pits and quarries, operating drills to drill water wells, and setting off explosive charges in surface mines, quarries and construction sites.
- Some are Red Seal designated.

An **apprenticeship** is a formal agreement between an **apprentice** (a person who wants to learn certain occupational skills) and an employer (who needs a skilled worker). Apprenticeship programs are administered at the provincial level and combine technical, in-school training and on-the-job learning supervised by a certified journeyperson. The length of each component is trade specific. Following this training period and the passing of an examination, apprentices receive a Certificate of Apprenticeship and a Certificate of Qualification, which allow them to be a certified journeyperson.

A **journeyperson** is a formally certified worker whose experience and training meet the requirements of their trade.

Red Seal designated trades have training and certification based on national standards, indicating interprovincial qualifications for journeypersons to work anywhere in Canada without having to write further exams (Canadian Council of Directors of Apprenticeship 2007).

The **ratio of entrants to near-retirees** is one way to examine the aging phenomenon within an occupation. In this article, entrants were defined as workers aged 25 to 34 and near-retirees as those 50 or older. The age range for entrants captures those in the early years of their careers, after most would have completed postsecondary education. An alternative definition of entrants (age 20 to 29) was also examined, with similar results—the trades were more in balance than other occupations and the ratios declined since 1987.

Steady employment growth since the mid-1990s

Some 1.1 million people were employed in the trades in 2007 (Chart A). Following declines during the late 1980s and early 1990s, employment grew an average of 2.2% per year, slightly higher than non-trades (2.0%). Throughout the period, the trades consistently accounted for 8% of total employment.

During economic downturns, building and construction projects are hit particularly hard. Indeed, during the recession of the early 1990s, the unemployment rate in the trades was substantially higher than in other occupations (Chart B).⁴ In 1992, unemployment in the trades peaked at 14.3%, significantly higher than the peak in non-trades (11.1% in 1993). Since 1996, the rate has been virtually the same for trades and non-trades.

Not all trades experience the same impact from the business cycle. While the unemployment rate in each occupation peaked during the early 1990s, other construction trades, masons and carpenters had the high-

est rates, approaching 25%. This was far higher than the peak for mechanics (9.7%) and electricians (10.2%) in 1992. Although the unemployment rate gap between the various trades narrowed after the recession, their ranking remained relatively consistent. Indeed, over the past 20 years, the three occupations with the highest peaks in the early 1990s generally experienced the highest unemployment rates and the two with the lowest peaks consistently had the lowest rates.

The trades, mainly male with large entry cohorts

While men account for half of employment in non-trades occupations, they make up the vast majority in the trades (97% in 2007). Although the proportion of men in other occupations declined over the past two decades (from 54% in 1987 to 50% in 2007), in the trades men retained their strong representation.

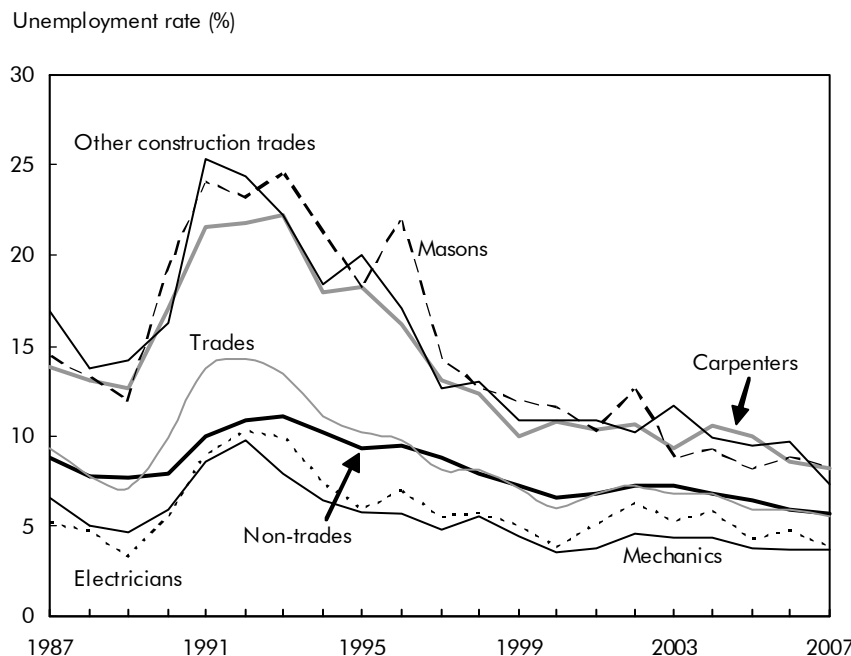
With the aging of the workforce comes concern about whether enough younger workers will be available to replace older workers as they retire. Since fewer years of postsecondary education are generally required, the

average age of those employed in the trades, 40 in 2007, was almost two years younger than for other occupations (Table 1). Plumbers, with an average age of 37, were the youngest in 2007, while crane operators were the oldest (42). Indeed, the average age in most trades was younger than in the non-trades.

Over the past two decades, the average age of those working in occupations other than the trades increased by 4 years—from 37 in 1987 to 41 in 2007—similar to the increase in the trades. But not all occupations experienced this degree of aging—the average age of carpenters increased by only 2 years.

Another way to look at the age composition of an occupation is through the ratio of entrants (age 25 to 34) to near-retirees (50 or over). When this ratio is below one, meaning fewer people in the early stages of their careers than will be

Chart B Finding work more difficult in the trades during the recession of the 1990s



Source: Statistics Canada, Labour Force Survey.

Table 1 Employment, average age and ratio of entrants to near-retirees in trades

	Employed			Average age			Entrants / near-retirees		
	1987	1997	2007	1987	1997	2007	1987	1997	2007
		'000			years			ratio	
Total	11,416	12,724	15,518	37.1(*)	39.3(*)	41.3*	1.7*(*)	1.3(*)	0.8*
Non-trades	10,431	11,756	14,371	37.2(*)	39.4	41.4	1.6(*)	1.3(*)	0.7
Trades	985	968	1,147	36.4(*)	39.1*(*)	39.6*	2.0*(*)	1.5*(*)	1.0*
Plumbers	50	54	70	37.7	40.0(*)	37.2*	1.7	1.1(*)	1.6*
Carpenters	132	115	148	36.8(*)	38.8	38.8*	1.5(*)	1.5(*)	1.0*
Masons	51	39	62	36.2	39.0	37.7*	1.7 ^E	1.6 ^E	1.5*
Other construction trades	61	65	90	34.5*(*)	37.9*	38.5*	2.1(*)	1.7(*)	1.1*
Electricians	155	152	183	36.3*(*)	39.7	40.9	2.6*(*)	1.5(*)	0.8
Machinists	185	180	203	36.7(*)	38.4*(*)	39.4*	2.0*(*)	1.6*(*)	1.1*
Mechanics	331	346	373	36.2*(*)	39.1(*)	40.3*	2.1*(*)	1.4(*)	1.0*
Crane operators	21	17	17	37.5(*)	43.5*	42.0	2.4 ^E (*)	0.5 ^E *	0.6 ^E

* significantly different from the non-trades at 0.05 level or less

(*) significantly different from 2007 at 0.05 level or less

Source: Statistics Canada, Labour Force Survey.

retiring soon, it points to a potential net out-flow of workers. In 2007, the ratio for non-trades was 0.7, indicating significantly more workers nearing retirement than in the early stages of their careers. This was substantially lower than the ratio of 1.6 in 1987 and illustrates the well-known phenomenon of the baby boom generation—now approaching retirement—and the subsequent significantly smaller generation beginning their careers. However, this aging phenomenon has not affected the trades equivalently. For this group of workers, the ratio was 1.0 in 2007, indicating a demographic balance between young and older workers, with a steep decline since 1987 when twice as many were entrants as near-retirees.⁵ Some trades, like plumbing and masonry, had substantially more entrants than near-retirees in 2007 (1.6 and 1.5 respectively). This indicates a continued strong presence of young blood in many trades. The exceptions in 2007 were electricians (0.8) and crane operators (0.6), whose ratios were similar to non-trades occupations.

Majority in the trades had some postsecondary education

Many jobs in the trades require formal training past high school, such as trade certificates or diplomas. Provincially administered apprenticeship programs combine on-the-job learning and formal training.⁶ For example, in Alberta, the electrician apprenticeship program lasts four years and requires on-the-job training

(1,500 hours annually in the first three years and 1,350 in the fourth) plus in-class training (8 weeks per year in the first three years and 12 weeks in the fourth) (Government of Alberta 2004). Almost 7 in 10 workers in the trades in 2007 had at least some postsecondary education, most below the bachelor's level (63%) (Table 2). While an equivalent proportion of workers in other occupations also had at least some postsecondary education, far more had achieved degrees at the bachelor's level or higher (26%). The well-known increase in education levels seen across all occupations was also seen in the trades—about half had some postsecondary education in 1990, compared with 68% in 2007.

About 8 in 10 plumbers and electricians had postsecondary education, well above the national average. This reflects the requirements set out in the provincial certification programs. Not all trades are subject to such strict educational requirements—only 4 in 10 masons and other construction trades had at least some formal education following high school.

A shift to the West

The boom in the oil and gas industry and the accompanying construction boom have helped spur both economic and employment growth in the two westernmost provinces. While 10% of all non-trades employment was located in Alberta in 1987, this increased to 12% in 2007 (11% and 13% respectively

Table 2 Highest level of education of workers in the trades

	Postsecondary below bachelor's			%	Bachelor's degree or above		
	1990	1997	2007		1990	1997	2007
Total	36^{*(*)}	42^{*(*)}	44[*]		15^{*(*)}	19^{*(*)}	24[*]
Non-trades	35 ^(*)	41 ^(*)	42		16 ^(*)	20 ^(*)	26
Trades	48 ^{*(*)}	60 ^{*(*)}	63 [*]		2 ^{*(*)}	3 ^{*(*)}	5 [*]
Plumbers	59 ^{*(*)}	76 [*]	76 [*]		F	F	3 ^{E*}
Carpenters	36 ^(*)	47 [*]	51 [*]		2 ^{E*(*)}	3 ^{E*}	4 [*]
Masons	23 ^{*(*)}	31 [*]	35 [*]		F	F	5 ^{E*}
Other construction trades	27 ^{*(*)}	36 [*]	36 [*]		F	3 [*]	5 [*]
Electricians	65 ^{*(*)}	73 [*]	74 [*]		2 ^{E*(*)}	4 ^{*(*)}	7 [*]
Machinists	45 ^{*(*)}	62 ^{*(*)}	66 [*]		2 ^{E*(*)}	2 ^{E*(*)}	4 [*]
Mechanics	53 ^{*(*)}	65 ^{*(*)}	69 [*]		1 ^{E*(*)}	2 ^{*(*)}	4 [*]
Crane operators	20 ^{*(*)}	35 ^(*)	51		F	F	F

* significantly different from the non-trades at 0.05 level or less

(*) significantly different from 2007 at 0.05 level or less

Source: Statistics Canada, Labour Force Survey.

for British Columbia). However, the growth in these provinces affected the trades even more. In 1987, 9% of all trades employment was found in Alberta—by 2007, this increased to 15% (11% and 15% respectively for British Columbia). This is in sharp contrast to the other provinces. For example, coinciding with the decline in manufacturing, the proportion of tradesworkers in Ontario was 36% in 2007, down significantly from 41% in 1987.

Although over one-third of all trades jobs were in Ontario in 2007, machinists and masons were over-represented (both at 39%) and carpenters were under-represented (28%) (Table 3). Fully one-quarter of Canada's mechanics lived in Quebec, a higher proportion than for other trades. In keeping with the strength of Alberta's oil and gas sector, nearly one in four persons employed as plumbers, pipefitters and gas fitters worked in Alberta in 2007.

Table 3 Provincial distribution of trades employment

	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Total	1.3	0.4	2.7	2.2	22.7	39.0	3.5	3.0	11.8[*]	13.4
Non-trades	1.3	0.4	2.7	2.2	22.8	39.2	3.5	3.0	11.5	13.3
Trades	1.5 [*]	0.4	2.5	2.2	21.6 [*]	35.6 [*]	3.4	3.1	15.0 [*]	14.7 [*]
Plumbers	1.3 ^E	0.5 ^E	3.2	2.3	12.6 [*]	34.7	2.3 ^{E*}	3.8	23.5 [*]	15.8
Carpenters	2.2 [*]	0.6 [*]	3.4	2.0	24.8	27.8 [*]	3.2	2.8	13.8 [*]	19.4 [*]
Masons	1.1 ^E	F	2.2 ^E	1.9 ^E	18.1 [*]	39.0	3.4 ^E	F	16.2 [*]	15.9
Other construction trades	1.2 ^E	0.5 ^E	2.2	2.2 ^E	18.0 [*]	35.1 [*]	3.2	2.8	17.0 [*]	17.8 [*]
Electricians	1.9 [*]	0.4	2.8	2.9 [*]	19.0 [*]	38.3	3.7	3.2	14.6 [*]	13.3
Machinists	1.2	0.3	1.7 [*]	1.7 [*]	19.5 [*]	39.2	3.6	3.3	18.2 [*]	11.3 [*]
Mechanics	1.2	0.4	2.5	2.3	26.2 [*]	34.6 [*]	3.6	3.3	11.7	14.2
Crane operators	F	F	F	F	13.9 ^{E*}	47.0	3.3 ^E	3.4 ^E	12.8 ^E	13.7 ^E

* significantly different from the non-trades at 0.05 level or less

Source: Statistics Canada, Labour Force Survey, 2007.

Table 4 Tradesworkers by immigrant status

	Canadian-born	Immigrants		
		Total	10 or more years ago	Less than 10 years ago
Total	79.0	21.0	72.1	27.9
Non-trades	78.6	21.4	72.0	28.0
Trades	83.0*	17.0*	73.7	26.3
Plumbers	90.0*	10.0*	83.2*	16.8 ^{E*}
Carpenters	85.7*	14.3*	73.0	27.0
Masons	74.6	25.4	60.7*	39.3*
Other construction trades	83.3*	16.7*	67.5	32.5
Electricians	85.2*	14.8*	73.7	26.3
Machinists	77.5	22.5	80.4*	19.6*
Mechanics	83.9*	16.1*	72.2	27.8
Crane operators	83.8	16.2 ^E	84.4	F

* significantly different from the non-trades at 0.05 level or less
 Source: Statistics Canada, Labour Force Survey, 2007.

Fewer immigrants employed in the trades

Recent immigrants are much likelier than the Canadian-born to have a university degree (Galarneau and

Morissette 2004). Indeed, 51% of those arriving between 2001 and 2006 had a university degree, far higher than the 20% for the Canadian-born population (Statistics

Canada 2008a). Since the educational requirements of jobs in trades are below university level, one might expect fewer immigrants to be working in the trades. According to the 2007 Labour Force Survey, 17% of workers in the trades were immigrants, significantly lower than the 21% in the non-trades occupations (Table 4).⁷ None of the trades had a higher proportion of immigrants than the non-trades. Plumbers were the least likely to be immigrants (10%).

In terms of time residing in Canada, 4 in 10 immigrant masons had arrived in Canada in the past 10 years, significantly more than immigrants working in the non-trades occupations (28%). About 1 in 5 employed masons had immigrated within the previous five years, compared with only 1 in 8 of those in non-trades occupations. Immigrant plumbers and machinists were less often recently arrived (17% and 20% respectively).

Table 5 Job characteristics of tradesworkers

	Usually worked 50 or more hours per week			Multiple job holder			Unionized ¹		Permanent ¹	
	1987	1997	2007	1987	1997	2007	1997	2007	1997	2007
Total	14.1*(*)	13.7(*)	11.7	4.0*(*)	5.1	5.2*	35.0*(*)	32.7*	89.8*(*)	88.9
Non-trades	14.6*(*)	13.9*(*)	11.8	4.1*(*)	5.3	5.4	34.0*(*)	31.8	89.8*(*)	88.8
Trades	8.7*(*)	10.6*	10.3*	3.0*(*)	3.1*(*)	2.5*	47.0*(*)	43.8*	90.0	90.3*
Plumbers	7.6*(*)	11.2*	12.6	2.1 ^{E*}	2.0 ^{E*}	1.9 ^{E*}	59.7*	54.1*	83.2*	84.2*
Carpenters	11.7*	16.2*(*)	11.9	2.7*	3.2*(*)	2.2*	32.6*(*)	39.1*	75.0*(*)	83.1*
Masons	11.0*(*)	14.7	15.9*	3.4 ^E	2.4 ^{E*}	1.6 ^{E*}	46.0*	45.7*	76.3*	77.0*
Other construction trades	12.4*(*)	12.6*(*)	16.2*	2.7 ^{E*}	3.5 ^{E*}	2.8*	32.0	32.0	77.8*	78.6*
Electricians	5.0*(*)	6.2*	6.7*	3.2*	2.9*	2.6*	70.0*(*)	63.1*	91.8*	90.3*
Machinists	6.5*(*)	7.3*(*)	9.3*	2.9*	2.4*	2.4*	47.5*(*)	41.8*	92.4*	91.8*
Mechanics	9.6*	11.5*(*)	9.1*	3.2*	3.6*	2.8*	38.5*(*)	35.5*	95.3*(*)	96.5*
Crane operators	9.4 ^{E*}	10.5*	13.9	F	3.3 ^E	F	70.8*	63.5*	88.1	88.1

* significantly different from the non-trades at 0.05 level or less

(*) significantly different from 2007 at 0.05 level or less

1. Employees only.

Source: Statistics Canada, Labour Force Survey.

Full-time jobs more common in the trades

The vast majority of workers in the trades worked full time (97% in 2007).⁸ Those in other construction trades had the lowest proportion of full-time workers in 2007 (92%). Perhaps due to the full-time nature of most jobs in the trades, very few tradespeople held multiple jobs—only 2.5% in 2007 compared with 5.4% for other occupations (Table 5).

While the proportion of non-trades workers usually working long hours (50 or more per week) declined over the past 20 years, among plumbers, masons, electricians, machinists and other construction trades the proportion increased. In 2007, one in six masons and those in other construction trades worked 50 or more hours per week.

Self-employment, especially solo, growing in the trades

While it may be a common perception that tradesworkers often run their own business or work independently, in 2007 they were self-employed slightly less often than workers in other occupations (15% and 16% respectively) (Table 6). The self-employed can either have employees or work on their own (with

perhaps unpaid help from a family member). A much higher proportion of the self-employed in the trades were without employees (92% in 2007) than those in other occupations (65%).

Self-employment varied substantially by trade. Electrical, telecommunications and stationary engineers and machinists were the least likely to be self-employed (7%); those in other construction trades were the most likely (39%), followed by masons and plasterers, and carpenters and cabinetmakers (32% and 25% respectively). In each trade, very few had employees.

Over the past two decades, self-employment has increased at a higher rate in the trades than in other occupations. In 1987, only 9% of tradespersons were self-employed, compared with 15% in 2007, an increase of nearly 60%. This contrasts with the relative stability in other occupations. The growth in the proportion of the self-employed varied by occupation. The two occupations with very low rates in 1987 (electrical and machinists) experienced a doubling of their self-employment rates. Despite these large gains, their rates were still much lower than in occupations outside trades. Among the self-employed, the proportion without employees increased significantly. For example, among self-employed carpenters, fully 94% did not have employees in 2007, compared with 75% in 1987.

Table 6 Self-employment in the trades

	Self-employed			Self-employed without employees		
	1987	1997	2007	1987	1997	2007
	%					
Total	13.6*	17.2*	16.3	52.9*	63.3*	66.5*
Non-trades	14.1*	17.5*	16.4	51.1*	61.9*	64.7
Trades	9.2*	14.0*	14.5*	81.9*	83.8*	91.9*
Plumbers	7.0 ^{E*}	16.9	12.1*	90.4*	79.1*	88.0*
Carpenters	20.2*	35.8*	25.3*	74.9*	88.2*	93.7*
Masons	20.6*	34.3*	31.6*	78.3*	83.2*	92.4*
Other construction trades	28.1*	36.2*	39.2*	97.2*	85.3*	92.6*
Electricians	3.1 ^{E*}	5.6*	6.8*	83.2*	80.5*	90.2*
Machinists	2.9 ^{E*}	3.0*	7.4*	72.2*	78.9*	87.2*
Mechanics	6.8*	9.6*	10.0*	81.3*	81.1*	92.2*
Crane operators	F	F	F	F	F	F

* significantly different from the non-trades at 0.05 level or less

(*) significantly different from 2007 at 0.05 level or less

Source: Statistics Canada, Labour Force Survey.

Unionization strong in the trades

Unionized workers generally earn higher wages than non-unionized workers—even after adjusting for personal, job and workplace characteristics, unionized construction workers had the largest wage premium (Fang and Verma 2002). Other benefits include employer-sponsored pension plans, dental and medical plans and accessibility to a grievance or dispute settlement system (Akyeampong 2002 and Akyeampong 2003). Nearly half of employees in trades were unionized, compared with less than a third in other occupations (Table 5). Indeed, in three groups—crane operators, electricians and plumb-

ers—the majority of employees were union members. Employees in other construction trades were the least unionized, with a rate of 32%, the same rate as outside the trades.

Another indication of job quality is job permanency, as temporary jobs generally have lower pay, fewer benefits and less opportunity for on-the-job training (Galarneau 2005).⁹ Overall, 9 in 10 tradespersons held permanent jobs. In some of these occupations, permanency was even higher, reaching over 95% for mechanics. This is in sharp contrast to masons and those in other construction trades (77% and 79% respectively).

Higher wages, but only for some trades

In 2007, employees in the trades averaged \$22.36 in hourly earnings, 6% higher than the \$21.02 for other occupations (Table 7). The highest earners were electricians (\$25.26), crane operators (\$24.61) and plumbers (\$24.10). These occupations had the highest unionization rates and high job permanency rates. In contrast, trades with lower averages—other construction trades (\$19.24) and carpenters (\$20.43)—had substantially lower unionization rates (32% and 39% respectively).

Between 1997 and 2007, employees outside the trades saw greater increases in their average constant-dollar hourly earnings than those in the trades—7.4% com-

pared with 3.5%. The only trade surpassing the non-trades group was carpenters, with an increase of just over 8%. These employees had a relatively low unionization rate (39%) in 2007. Most trades experienced virtually no increase in real earnings between 1997 and 2007, with the exception of carpenters, machinists and mechanics.

Summary

Widespread concerns have been expressed over the potential supply of workers in the trades. Various government policies have been introduced to encourage and support workers in these occupations.

In 2007, just over 1 million people worked in the eight selected trades studied. Following declines in the late 1980s and early 1990s, employment growth in these occupations virtually matched that of other occupations. The trades have consistently made up 8% of total employment, indicating that their employment changes through the most recent business cycle mirror those of other workers. Over the past 10 years, unemployment rates have been virtually the same for the trades and other occupations. However, their peaks during the recession of the early 1990s were significantly higher than for other occupations.

Economic growth in the two westernmost provinces had a strong impact on the trades. In 1987, less than 20% of all trades employment was found in these two provinces; twenty years later it reached nearly 30%. Over the same period, non-trade employment went from 21% to 25%.

Self-employment, particularly without employees, is a growing phenomenon among tradespersons. In 1987, only 9% of tradesworkers were self-employed; by 2007, this increased to 15%. Some trades, including electricians and machinists, saw even higher growth rates—although their self-employment rates remained lower than for non-trades occupations.

Most trades had higher unionization rates than the overall rate for other occupations, and while tradespersons had higher-than-average earnings, over the past decade increases in the trades have not kept up with other occupations. Indeed, their overall increase was roughly half that of the non-trades workers and only three trades saw greater earnings increases between 1997 and 2007 (carpenters, machinists and mechanics).

Table 7 Average hourly earnings for trades employees

	1997	2007
		2007\$
Total	19.73^(*)	21.12
Non-trades	19.57 ^(*)	21.02
Trades	21.60 ^(*)	22.36 [*]
Plumbers	24.06 [*]	24.10 [*]
Carpenters	18.90 ^(*)	20.43 [*]
Masons	21.14 [*]	21.23
Other construction trades	18.56 [*]	19.24 [*]
Electricians	24.99 [*]	25.26 [*]
Machinists	21.24 ^(*)	22.07 [*]
Mechanics	20.86 ^(*)	21.89 [*]
Crane operators	23.67 [*]	24.61 [*]

* significantly different from the non-trades at 0.05 level or less

(*) significantly different from 2007 at 0.05 level or less

Source: Statistics Canada, Labour Force Survey.

Finally, the average age of those working in the trades was under 40 in 2007—slightly younger than other workers (41). The aging of the population had a similar effect on both trades and non-trades—with the average age increasing by about 4 years over the past two decades. A look at the ratio of entrants (age 25 to 34) to near-retirees (50 or older) indicates that workers in the trades were in fact more in balance in 2007 than those in other occupations (1.0 versus 0.7).

Perspectives

Notes

- Some provinces have programs that allow experienced tradespersons the opportunity to illustrate that they have sufficient skills and experience to meet provincial standards. Alberta's Qualification Certificate Program sets out specific requirements (hours of work experience, successful completion of exams and payment of fees) that, when fulfilled, allow workers to become certified workers in their trade (Government of Alberta n.d.).
- The comparison group includes all occupations other than the eight specified trades.
- Skilled trades can be further divided into four categories based on the dominant industry—construction, transportation, manufacturing and service (Skills Canada and Canadian Apprenticeship Forum n.d.). In an effort to focus this study on a more homogeneous population, the trades in the service sector were not included. Occupations from that group include horticulturalists, chefs and florists and are distinctly different in terms of job demands and personal and job characteristics of the workers.
- For those not currently employed, occupation is based on their most recent job in the previous 12 months (Statistics Canada 2008b).
- Many non-demographic factors also influence labour supply and demand. For example, strong demand in a local labour market could lead to a shortage despite a balance in the demographic ratio.
- The Registered Apprenticeship Information System provides details on apprenticeship programs in New Brunswick, Ontario and Alberta (Morissette 2008). It gathers information on individuals who receive training and obtain certification within a trade. Being longitudinal, it provides measures of program completion and documents the various paths through the programs.
- This was the first year that immigration status was collected in the Labour Force Survey.
- This is at least partially related to the high proportion of men in the trades.
- Permanent jobs have no predetermined end date.

References

- Akyeampong, Ernest B. 2003. "Unionization and the grievance system." *Perspectives on Labour and Income*. Vol. 4, no. 8. August. Statistics Canada Catalogue no. 75-001-XIE. p. 5-11.
<http://www.statcan.ca/english/freepub/75-001-XIE/75-001-XIE2003108.pdf> (accessed September 25, 2008).
- Akyeampong, Ernest B. 2002. "Unionization and fringe benefits." *Perspectives on Labour and Income*. Vol. 3, no. 8. August. Statistics Canada Catalogue no. 75-001-XIE. p. 5-9.
<http://www.statcan.ca/english/freepub/75-001-XIE/75-001-XIE2002108.pdf> (accessed September 25, 2008).
- Canada Revenue Agency (CRA). 2007. *Apprenticeship Job Creation Tax Credit*.
www.cra-arc.gc.ca/whtsnw/pprntcshp-eng.html (accessed September 24, 2008).
- Canada Revenue Agency (CRA). 2006. *Tradesperson's Tools Deduction*.
www.cra-arc.gc.ca/whtsnw/tls-eng.html (accessed September 24, 2008).
- Canadian Council of Directors of Apprenticeship 2007. 2007. *Glossary of Terms for Apprenticeship Training & Certification*.
www.apprenticetrades.ca/PDF/GLOSSARY_OF_TERMS_bilingual.pdf (accessed September 30, 2008).
- 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 September 25, 2008).
- Galarneau, Diane. 2005. "Earnings of temporary versus permanent employees." *Perspectives on Labour and Income*. Vol. 6, no. 1. January. Statistics Canada Catalogue no. 75-001-XIE. p. 5-18.
<http://www.statcan.ca/english/freepub/75-001-XIE/10105/art-1.pdf> (accessed September 25, 2008).
- Galarneau, Diane and René Morissette. 2004. "Immigrants: Settling for less?." *Perspectives on Labour and Income*. Vol. 5, no. 6. June. Statistics Canada Catalogue no. 75-001-XIE. p. 5-16.
<http://www.statcan.ca/english/freepub/75-001-XIE/10604/art-1.pdf> (accessed September 25, 2008).

- Government of Alberta. n.d. *Certification for Work Experience*.
www.tradesecrets.gov.ab.ca/working_in_alberta/certification_for_work.html (accessed September 30, 2008).
- Government of Alberta. 2007. *The Trades: Careers with a Bright Future*.
www.tradesecrets.gov.ab.ca/forms_publications/brochures_flyers/pdf/rap_brochure.pdf (accessed September 25, 2008).
- Government of Alberta. 2004. *Step into the Trades: Apprenticeship. Post-secondary Education with a Difference*. 49 p.
- Government of Ontario. 2008. *Ontario Youth Apprenticeship Program*.
www.edu.gov.on.ca/eng/training/apprenticeship/skills/oyap.html (accessed September 24, 2008).
- Human Resources and Social Development Canada (HRSDC). 2007. *Apprenticeship Incentive Grant. Investing in Canada's Skilled Tradespeople*.
http://www.hrsdc.gc.ca/en/workplaceskills/trades_apprenticeship/aig/aig_brochure.shtml (accessed September 30, 2008).
- Maxwell, Judith. 2007. "A true knowledge-based society requires skilled trades." *The Globe and Mail*. Report on Business. December 31.
- Morissette, Denis. 2008. *Registered Apprentices: The Cohort of 1993, a Decade Later, Comparisons with the 1992 Cohort*. Statistics Canada Catalogue no. 81-595-M – No. 063. Culture, Tourism and the Centre for Education Statistics Research Paper Series. Ottawa. 89 p.
<http://www.statcan.ca/english/research/81-595-MIE/81-595-MIE2008063.pdf> (accessed September 25, 2008).
- Skills Canada and Canadian Apprenticeship Forum. n.d. *Skilled Trades – A Career You Can Build On*. "Frequently asked questions about skilled trades."
<http://www.careersintrades.ca/media/default.asp?load=faqs03#17> (accessed September 29, 2008).
- Statistics Canada. 2008a. *Educational Portrait of Canada, 2006 Census*. Statistics Canada Catalogue no. 97-560-X. Ottawa. 35 p.
<http://www12.statcan.ca/english/census06/analysis/education/pdf/97-560-XIE2006001.pdf> (accessed September 25, 2008).
- Statistics Canada. 2008b. *Guide to the Labour Force Survey 2008*. Statistics Canada Catalogue no. 71-543-G. Ottawa. 68 p.
<http://www.statcan.ca/english/freepub/71-543-GIE/71-543-GIE2008001.pdf> (accessed September 25, 2008).
- Statistics Canada. 2008c. *Table 302-0007– Business conditions survey, by North American Industrial Classification System (NAICS), manufacturing industries, Canada, quarterly (percent)*. CANSIM (database). Ottawa.
- Statistics Canada. 2001. *National Occupational Classification for Statistics (NOC-S) 2001*. Ottawa.
<http://stds.statcan.ca/english/soc/2001/nocs01-title-search.asp?cretaria=h> (accessed September 24, 2008).

Interprovincial mobility and earnings

André Bernard, Ross Finnie and Benoît St-Jean

Interprovincial migration is an important component of the demographic profiles of the provinces. It affects not only the size but also the composition of their populations and directly affects both demand for public services and tax revenues. It is related to a variety of more specific human resource issues such as public investment in education and job training, since interprovincial migrants tend to be more educated and more highly skilled (Dion and Coulombe 2008) (Coulombe and Tremblay 2006). For provinces with lower demographic growth, the issue of interprovincial migration is of particular importance. Demographic growth has been very uneven provincially, ranging from a decline of 1.5% in Newfoundland and Labrador to a growth of 10.6% in Alberta between 2001 and 2006.¹ Interprovincial migration is a key concern for provinces with low birth rates, struggling to attract a sizeable share of immigrants.

For individuals—especially those in the labour force—interprovincial migration often provides an opportunity to access other labour markets and get a better job with better pay. From a national perspective, interprovincial mobility is desirable when workers from provinces with high unemployment move to provinces with labour shortages. These flows can significantly increase employment levels and therefore reduce the number of people receiving transfer payments like Employment Insurance (EI) benefits.

The recent literature² suggests that interprovincial mobility has many advantages in terms of national economic performance but that it tends to increase inequalities between provinces.³ It has a large and positive effect on aggregate production in Canada because it leads to an increase in overall employment and to an economically efficient re-allocation of workers from provinces with lower productivity to provinces with

Data source and definitions

The **Longitudinal Administrative Data (LAD)**⁴ file is a 20% sample of the T1 Family File (T1FF), a yearly cross-sectional file of all taxfilers and their families. Census families are created from information provided annually to the Canada Revenue Agency on personal income tax returns and applications for the Child Tax Benefit. Taxfilers are followed over time with family information appended to each individual's record on an annual basis, thereby providing not only individual but also family-level information on sources of income, taxes and basic socio-demographic characteristics including city and province of residence. Data from 1992 to 2004 are used in this paper. The sample is restricted to individuals age 20 to 54 who are not full-time students. Individuals from the territories were excluded due to small sample counts. Individuals leaving the country are excluded for the years they were abroad. Similarly, individuals who die are censored from the sample only after their death.

The LAD covers approximately 96% of the population, comparing favourably with other sources, including the census. Given that the LAD is a 20% sample of taxfilers, the number of observations is very high—some 4.8 million for 2004 alone—which is important for studies focusing on infrequent events like interprovincial migration.

An individual's province of residence is the one in which taxes were payable, essentially where the person was living on December 31st of a given year.⁵ No other condition such as minimum years of residence in the province of origin was set. Conceptually, not imposing such conditions allows the inclusion of very mobile populations (multiple movers), which may include those most likely to respond to market or policy changes. Short-term stays in other provinces during a given year (for example, young people with summer jobs in other provinces) are considered non-migrations. The out-migration rate is defined as the percentage of residents of a province in year t who had left the province in year $t+1$. The in-migration rate is the percentage of residents outside a province in year t who had moved to the province by year $t+1$. The migration rates for any pair of years are computed taking into account only individuals residing in Canada and in the database in both years.

André Bernard is with the Labour and Household Surveys Analysis Division. He can be reached at 613-951-4660. Ross Finnie is with the University of Ottawa and the Business and Labour Market Analysis Division at Statistics Canada. He can be reached at 613-562-5800, ext. 4552. Benoît St-Jean is with Citizenship and Immigration Canada. He can be reached at 613-946-6050. The authors can also be reached at perspectives@statcan.gc.ca.

Table 1 Annual mobility rates, persons age 20 to 54

	1992 to 1993	1996 to 1997	1999 to 2000	2002 to 2003	2003 to 2004
			%		
Out-migration	1.1	1.1	1.0	0.9	0.9
Newfoundland and Labrador	2.3	3.7	2.7	2.1	2.5
Prince Edward Island	3.6	2.9	2.8	2.0	2.1
Nova Scotia	2.2	2.4	2.1	1.9	1.9
New Brunswick	1.9	2.2	2.0	1.7	1.7
Quebec	0.5	0.6	0.5	0.4	0.4
Ontario	0.8	0.7	0.6	0.6	0.6
Manitoba	1.8	2.1	1.7	1.4	1.5
Saskatchewan	2.7	2.4	2.7	2.0	2.1
Alberta	2.1	1.7	1.7	1.8	1.7
British Columbia	1.2	1.5	1.5	1.2	1.1
In-migration	1.1	1.1	1.0	0.9	0.9
Newfoundland and Labrador	1.4	1.4	1.7	2.5	1.6
Prince Edward Island	3.1	2.4	2.8	2.1	2.1
Nova Scotia	2.1	2.0	2.0	1.9	1.7
New Brunswick	1.6	1.6	1.6	1.6	1.6
Quebec	0.4	0.3	0.3	0.3	0.3
Ontario	0.7	0.8	0.8	0.5	0.5
Manitoba	1.4	1.3	1.3	1.2	1.2
Saskatchewan	1.8	1.9	1.5	1.6	1.4
Alberta	2.2	3.3	2.5	2.1	2.2
British Columbia	2.4	1.5	1.3	1.4	1.5
Net migration	0.0	0.0	0.0	0.0	0.0
Newfoundland and Labrador	-0.9	-2.3	-1.0	0.4	-0.9
Prince Edward Island	-0.5	-0.5	0.0	0.1	0.0
Nova Scotia	-0.1	-0.4	-0.1	0.0	-0.2
New Brunswick	-0.3	-0.6	-0.4	-0.1	-0.1
Quebec	-0.1	-0.3	-0.2	-0.1	-0.1
Ontario	-0.1	0.1	0.2	-0.1	-0.1
Manitoba	-0.4	-0.8	-0.4	-0.2	-0.3
Saskatchewan	-0.9	-0.5	-1.2	-0.4	-0.7
Alberta	0.1	1.6	0.8	0.3	0.5
British Columbia	1.2	0.0	-0.2	0.2	0.4

Source: Statistics Canada, Longitudinal Administrative Data.

higher productivity (Sharpe and Ershov 2007).⁶ On the other hand, interprovincial migration tends to increase provincial skills disparities (Coulombe and Tremblay 2006) and leads to a redistribution of human capital from poorer to richer provinces (Coulombe 2006). While personal characteristics are significant predictors of migration probability (for example, younger individuals, immigrants and Aboriginal people are more likely to migrate), the effects of these characteristics vary by destination (Dion and Coulombe 2008).⁷

The longitudinal databank used in this study allows the analysis of a host of pre- and post-move characteristics (see *Data source and definitions*). This paper investigates the factors prior to migration that affect the probability of moving and, in particular, the effect, if any, of initial labour-related factors (earnings and receipt of social assistance or EI benefits) or environmental factors (like the unemployment rate in the year prior to the

move) on the decision to migrate. It then compares the labour market gains of migrants and non-migrants.

Previous papers using the same databank for the years 1982 to 1995 concluded that interprovincial migration was positively related to the provincial unemployment rate and more common among individuals with low earnings or receiving social assistance or EI benefits, and that interprovincial mobility was associated with significant and sometimes substantial increases in earnings (Finnie 1999, 2001 and 2004). This paper updates and expands the analysis with more recent data (to 2004).

Migration rates vary widely by province

On an annual basis, relatively few people move from one province to another. From 1993 to 2004, the annual migration rate for those age 20 to 54 never exceeded 1.1% (Table 1). What's more, the migration rates seem to be declining since the late 1990s and the migration rate for 2004 (0.9%) was the lowest recorded for the whole period. This is consistent with a recent study that showed, using the censuses from 1971 to 2006, a general downward trend in mobility rates—whether a change of address, a change of municipality or a change of province was used as the measure (Dion and Coulombe 2008)—although more recent annual data suggest that interprovincial migration rates have started to rise again (Milan and Martel 2008).

The rates vary widely by province and some provinces are faced with particularly high out-migration. Newfoundland and Labrador, Prince Edward Island and Saskatchewan generally had the high-

Table 2 The patterns of interprovincial mobility, persons age 20 to 54

	Residence in 2004									
	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia
Residence in 1992	%									
Newfoundland and Labrador	86.5	0.2	1.9	0.7	0.2	5.1	0.2	0.1	4.0	1.0
Prince Edward Island	0.4	89.4	2.7	1.7	0.6	2.7	0.1	0.1	1.6	0.8
Nova Scotia	0.5	0.4	90.1	1.4	0.5	3.9	0.2	0.1	1.8	1.2
New Brunswick	0.2	0.3	1.6	91.2	1.4	2.9	0.2	0.1	1.4	0.7
Quebec	0.0	0.0	0.1	0.1	97.4	1.8	0.0	0.0	0.2	0.3
Ontario	0.1	0.1	0.3	0.2	0.7	96.4	0.2	0.1	0.7	1.2
Manitoba	0.0	0.0	0.2	0.1	0.2	2.5	90.1	1.1	3.1	2.7
Saskatchewan	0.0	0.0	0.1	0.1	0.2	1.3	1.1	87.5	7.2	2.6
Alberta	0.1	0.0	0.3	0.2	0.3	2.0	0.5	1.1	91.2	4.4
British Columbia	0.1	0.0	0.2	0.1	0.3	1.7	0.4	0.5	3.6	93.3

Source: Statistics Canada, Longitudinal Administrative Data.

est out-migration rates while Quebec and Ontario had the lowest migration rates.⁸ High (low) out-migration rates were often associated with high (low) in-migration rates. For example, Newfoundland and Labrador, Prince Edward Island and Saskatchewan also consistently recorded in-migration rates above the national average. However, in-migration rates were generally not sufficiently high to mitigate the impact of out-migration.

Although in relative terms interprovincial migration is much less frequent in Quebec and Ontario, in absolute terms, the picture is different. A total of 158,450 individuals between the ages of 20 and 54 changed provinces between 2003 and 2004, including a combined 21,050 who migrated out of the three provinces with the largest out-migration rates (Newfoundland and Labrador, Prince Edward Island and Saskatchewan). The latter number is much lower than the number of people who left Ontario (39,800), although it is higher than the number of people who left Quebec (15,400).

Over the period 1993 to 2004, Alberta was the only province to consistently record net migration gains. British Columbia recorded small losses in the late 1990s and early 2000s, a time when its economy was not growing as fast as in the rest of the country. Ontario recorded net losses except for small-to-moderate net gains between 1997 and 2002. With few exceptions, other provinces consistently recorded net losses from 1993 to 2004.

Longer-term migration patterns further illustrate the difficulties experienced by some provinces in retaining population. In Newfoundland and Labrador, only 87% of the 1992 population was still living there in 2004 (Table 2).⁹ The other three Atlantic provinces and Saskatchewan also experienced low retention rates. In contrast, 97% of people in Quebec and 96% of those in Ontario in 1992 were still living in their respective provinces 12 years later.

To which provinces migrants go depends largely on the area from which they come. Although proximity is obviously a factor, migrants do not necessarily choose provinces close to their own. Rather, migration patterns seem to be driven to a large extent by economic opportunities. Ontario and Alberta, the country's two richest provinces over the study period, were generally the preferred destinations. For example, migrants from Atlantic Canada were more likely to move to Ontario than anywhere else, with the exception of those from Prince Edward Island, who were slightly more likely to move to Nova Scotia. Migrants from Manitoba, Saskatchewan and British Columbia were more likely to move to Alberta and those from Alberta were more likely to move to British Columbia. Most Quebecers who migrated moved to Ontario, although a sizeable proportion chose to go to Alberta or British Columbia.

Table 3 Longitudinal mobility profiles, persons age 20 to 54

	No moves	Single move	Multiple moves	Move and return
	%			
Canada	93.7	4.0	0.4	2.1
Newfoundland and Labrador	83.2	9.3	1.3	6.8
Prince Edward Island	87.2	7.0	1.2	5.0
Nova Scotia	88.0	6.8	1.1	4.4
New Brunswick	89.4	5.9	1.0	3.9
Quebec	96.7	2.1	0.1	1.1
Ontario	95.7	2.7	0.2	1.4
Manitoba	88.9	7.3	0.9	3.1
Saskatchewan	85.3	9.5	1.0	4.7
Alberta	89.4	6.7	0.5	3.6
British Columbia	92.4	5.0	0.4	2.2

Source: Statistics Canada, Longitudinal Administrative Data, 1992 to 2004.

One-third of interprovincial migrants return to province of origin

Longitudinal migration profiles allow migration patterns to be decomposed between moves that appear to be permanent and those that are temporary. Indeed, a significant minority of migrants eventually returns to the province of origin. Overall, 94% of people did not change their province of residence between 1992 and 2004, while 4% moved only once, 2% moved but eventually returned, and a small fraction moved more than once without returning to the province of origin (Table 3). In other words, about a third of all interprovincial migrants returned to the province of origin. Provinces with high out-migration rates were typically those with the highest proportions of returnees. For example, Newfoundland and Labrador had the highest rate of moves with a return (7%), followed by Prince Edward Island (5%). These two provinces also had the highest out-migration rates. Men and women showed virtually no difference in their longitudinal moving patterns.

Personal characteristics important in migration decision

Personal and labour market characteristics are two important sets of factors that may influence the decision to migrate. One way to investigate their effects is to quantify the extent to which each increases or decreases the probability of migrating, all other factors constant (see *Identifying factors behind migration*).

Identifying factors behind migration

To investigate factors that may influence a person's probability of moving to another province in any given year, a logistic regression model was used, with the probability of moving taken to be a function of variables representing basic personal and labour market characteristics. These include province of residence, language, population of the area of residence, type of family and presence of children, earnings, provincial unemployment rate, receipt of social assistance or Employment Insurance benefits, immigrant status and years since arrival, and a series of calendar-year variables to take into account the business cycle and general migration trends.¹⁰ Separate regressions were run for eight age-sex groups.

As might be expected, younger individuals were much more likely to move than older people (Tables 4 and 5). For example, the probability of moving for those between the ages of 20 and 24 was close to five times higher than for those between 45 and 54. Young individuals are much more likely to experience events such as starting or finishing a postsecondary program, changing jobs or marrying, all of which often involve migration (Dion and Coulombe 2008).

Even after controlling for all other characteristics, individuals in Quebec and Ontario were much less likely to move than those in any other province. Individuals in the Prairie provinces and British Columbia had a probability of moving two to five times higher than those in Ontario. Individuals in Saskatchewan in particular had a very high probability of moving. Interestingly, after controlling for all other observable characteristics, including the provincial unemployment rate, people in Newfoundland and Labrador were not much more likely to migrate than those living in Ontario. This suggests that the very high out-migration rates recorded for Newfoundland and Labrador were mostly the result of a combination of characteristics as opposed to merely a provincial effect.

The interaction of language and province of residence seems to play a very important role in the probability of moving. In particular, English-speaking Quebecers were up to ten times more likely to move than other Canadians. This contrasts with the very low migration rates in general for people living in Quebec, suggesting that Francophone Quebecers were substantially less likely to leave their province than other Canadians. French-speaking individuals living outside Quebec were up to three times more likely to move than other

Table 4 Logistic regression for the probability of interprovincial migration for men

Age	20 to 24	25 to 34	35 to 44	45 to 54
change in probability from baseline (%)				
Province				
Ref. - Ontario				
Newfoundland and Labrador	177.5*	64.4*	21.5*	45.4*
Prince Edward Island	131.9*	75.1*	30.5*	48.9*
Nova Scotia	181.8*	153.5*	130.5*	93.5*
New Brunswick	104.9*	55.8*	40.7*	21.9*
Quebec	-70.2*	-68.1*	-69.0*	-71.8*
Manitoba	208.3*	239.4*	275.5*	233.4*
Saskatchewan	400.7*	371.1*	367.1*	342.6*
Alberta	195.1*	231.8*	254.2*	253.9*
British Columbia	112.9*	115.1*	107.3*	93.4*
Minority language				
Ref. - all other				
English in Quebec	647.0*	726.2*	882.5*	935.6*
Francophone outside Quebec	105.2*	210.8*	206.5*	200.9*
Area of residence				
Ref. - 500,000 and over				
100,000 to 499,999	2.4*	2.4*	11.7*	14.0*
30,000 to 99,999	18.0*	7.1*	17.4*	22.9*
15,000 to 29,999	31.5*	17.4*	23.7*	23.1*
1,000 to 14,999	12.9*	5.0*	11.1*	7.2*
Rural area	-7.5*	-22.9*	-18.8*	-8.1*
Family type				
Ref. - married with children				
Married, no children	11.2*	35.5*	27.3*	20.3*
Lone parent	1.9	14.1*	24.4*	27.4*
Single	72.9*	79.9*	62.2*	86.1*
Earnings				
Ref. - \$25,000 to \$50,000				
No earnings	1.0	28.0*	61.7*	73.5*
\$1 to \$25,000	22.0*	18.0*	34.0*	44.0*
\$50,000 to \$100,000	-6.5*	14.4*	36.2*	21.6*
Over \$100,000	18.8	18.3*	96.6*	115.0*
Unemployment rate¹				
	9.6*	10.5*	11.4*	9.4*
Social assistance²				
	9.9*	20.0*	29.6*	15.1*
Employment insurance²				
	-0.1	7.6*	30.5*	50.2*
Years since immigration				
Ref. - non-immigrant				
One	-3.5	21.8*	89.5*	121.9*
Two	-19.2*	35.8*	112.4*	104.4*
Three	-30.6*	12.2*	68.4*	92.6*
Four	-37.3*	1.1	54.6*	53.2*
Five	-30.6*	-7.4*	41.5*	51.4*
Six	-39.0*	-13.3*	39.5*	27.9*
Seven	-35.3*	-18.0*	12.6*	31.3*
Eight	-35.2*	-26.0*	9.2*	20.1*
Nine	-40.7*	-26.0*	17.1*	1.0
Ten or more	-31.3*	-27.4*	-14.1*	-2.0

* statistically significant from the reference group (ref.) at 0.01 level or better

1. Probabilities are evaluated using the 2004 unemployment rate of 7.2%, the last available year. The marginal effect for the unemployment rate is an increase of one percentage point.

2. Recipient versus non-recipient.

Source: Statistics Canada, Longitudinal Administrative Data, 1992 to 2004.

Canadians, suggesting a general minority-language effect affecting both Anglophones in Quebec and Francophones outside Quebec, with the effect being stronger for the former.

No clear linear relationship was seen between the population of the area of origin and the probability of migration. In fact, people living in centres with a population exceeding 500,000 and those in rural areas had the lowest migration probabilities across all age-sex groups. Higher probabilities of migration were found for small towns and small to medium-sized urban centres, although the differences were rather small. For example, the probability of moving for men between the ages of 35 and 44 living in small towns (population less than 15,000) was only 11% higher than for their counterparts in an urban centre with a population of 500,000 or more.

Moving is typically more difficult and more costly for a family with children than for a family without children. Indeed, unattached individuals and couples without children had a higher probability of moving than couples with children, regardless of sex or age, although the difference has diminished over time.¹¹

While older immigrants were generally more likely to migrate than their non-immigrant contemporaries, younger immigrants were less likely to migrate. However, for older immigrants in particular, as time in Canada increased, the likelihood of moving tended to converge with that of the Canadian-born. For example, in their first full year here, immigrant men or women age 45 to 54 were respectively 122% and 81% more likely

Table 5 Logistic regression for the probability of interprovincial migration for women

Age	20 to 24	25 to 34	35 to 44	45 to 54
change in probability from baseline (%)				
Province				
Ref. - Ontario				
Newfoundland and Labrador	159.1*	58.1*	19.5*	42.1*
Prince Edward Island	120.0*	70.5*	30.5*	43.0*
Nova Scotia	174.4*	149.7*	130.6*	92.1*
New Brunswick	98.7*	53.5*	40.0*	20.5*
Quebec	-70.4*	-68.2*	-68.8*	-72.0*
Manitoba	206.2*	240.5*	276.7*	234.2*
Saskatchewan	405.3*	372.4*	367.0*	340.6*
Alberta	192.0*	230.4*	252.3*	251.9*
British Columbia	109.4*	114.1*	107.2*	92.6*
Minority language				
Ref. - all other				
English in Quebec	634.9*	721.2*	877.1*	930.9*
Francophone outside Quebec	108.4*	210.4*	207.0*	206.0*
Area residence				
Ref. - 500,000 and over				
100,000 to 499,999	1.4	2.1*	11.2*	13.5*
30,000 to 99,999	17.6*	6.3*	16.3*	23.1*
15,000 to 29,999	32.1*	16.3*	22.6*	22.4*
1,000 to 14,999	12.1*	4.2*	10.5*	6.6*
Rural area	-7.9*	-23.1*	-19.9*	-9.7*
Family type				
Ref. - married with children				
Married, no children	11.2*	35.7*	27.4*	20.9*
Lone parent	3.7*	17.2*	26.9*	29.8*
Single	67.0*	77.7*	57.9*	84.0*
Earnings				
Ref. - \$25,000 to \$50,000				
No earnings	4.1*	30.7*	66.2*	79.1*
\$1 to \$25,000	24.5*	19.0*	35.8*	47.7*
\$50,000 to \$100,000	-7.6*	14.3*	35.1*	19.9*
Over \$100,000	6.5	17.9*	95.2*	112.6*
Unemployment rate ¹	10.4*	10.8*	11.5*	9.6*
Social assistance ²	7.2*	16.9*	25.8*	10.7*
Employment insurance ²	-2.3*	6.0*	28.9*	46.9*
Years since immigration				
Ref. - non-immigrant				
One	-17.6*	0.7	50.4*	81.4*
Two	-20.9*	33.9*	108.2*	103.7*
Three	-27.8*	12.2*	67.6*	94.1*
Four	-36.3*	-0.6	52.0*	53.9*
Five	-31.8*	-7.4*	40.6*	46.5*
Six	-41.2*	-13.7*	39.2*	26.8*
Seven	-35.1*	-18.8*	9.9*	31.1*
Eight	-37.3*	-27.4*	7.3	15.6*
Nine	-38.9*	-27.2*	15.6*	3.8
Ten or more	-30.4*	-27.3*	-15.0*	-2.7

* statistically significant from the reference group (ref.) at 0.01 level or better

1. Probabilities are evaluated using the 2004 unemployment rate of 7.2%, the last available year. The marginal effect for the unemployment rate is an increase of one percentage point.

2. Recipient versus non-recipient.

Source: Statistics Canada, Longitudinal Administrative Data, 1992 to 2004.

to migrate than their Canadian-born counterparts. However, after nine years, the effect became statistically insignificant.

The labour market and mobility decisions

Labour market characteristics were included in the regression to quantify the extent to which the probability of moving varies as labour market conditions vary and, in particular, to understand how these conditions affect mobility decisions. Labour market conditions have an important effect on the probability of migrating. An earlier study, covering 1982 to 1995, found similar relationships between labour market characteristics and the probability of moving, indicating that individuals responded to worsening labour market conditions by being more likely to migrate (Finnie 2004).

Three of the four variables used—earnings, receipt of social assistance and receipt of EI benefits—capture individual conditions, whereas the fourth, the provincial unemployment rate, captures labour market conditions.¹²

Results for all four variables suggest that people move away from relative hardship. For example, the lower a person's earnings or the higher the provincial unemployment rate, the more likely they are to migrate, arguably to find better-paying jobs or generally better economic conditions. In some cases, the effects are substantial.

People with no or little earnings were generally much more likely to migrate than those with earnings between \$25,000 and \$100,000. Individuals with no earnings had the highest probability of migrating among men and women

age 25 to 34 and had high probabilities in all other age-sex groups. For example, individuals without earnings and age 35 to 44 were more likely to migrate than those whose earnings were between \$25,000 and \$50,000—62% more likely among men and 66% among women. Individuals with earnings between \$1 and \$25,000 also had relatively high migration probabilities. Interestingly, while individuals with little or no earnings were more likely to migrate, so were those with very high earnings (over \$100,000).

Receiving social assistance was also associated with higher probabilities of migrating to another province, which is consistent with the findings on earnings. Men and women between the ages of 35 and 44 saw the greatest effect—being 30% and 26%, respectively, more likely to migrate than those not receiving social assistance. The effect was generally lower for younger individuals (age 20 to 24), probably because episodes of receiving social assistance for them tend to be more transitory in nature and shorter in duration.

Receiving EI benefits may reduce market incentives for people to move from areas with poor labour market conditions. The results from the regressions suggest that this effect is not sufficient to overcome others, as individuals in receipt of EI were generally much more likely than non-recipients to migrate. This was especially true for individuals age 35 to 54. In particular, male and female EI recipients age 45 to 54 were 50% and 47%, respectively, more likely to move to another province.

Perhaps the single most informative indicator of a provincial labour market is its unemployment rate. Results from the regressions show that people react very strongly to the unemployment rate. Across provinces, as the unemployment rate rose by one percentage point, the probability of migration increased by about 10%. This was very consistent across all age-sex groups and the effect was never less than 9.4%. This is a potentially strong effect given that provincial unemployment rates tend to vary. For example, in 2003 rates ranged from 5.0% in Manitoba to 16.5% in

Table 6 Mean earnings in years 1 and 3

	Year 1		Year 3		Change	
	Non-migrant	Migrant	Non-migrant	Migrant	Non-migrant	Migrant
	2004 (\$)				%	
Men, age 20 to 54	39,300	40,400	42,300	46,500	7.6	15.1
Newfoundland and Labrador	27,000	20,700	28,500	36,400	5.6	75.8
Prince Edward Island	27,600	26,400	29,000	32,500	5.1	23.1
Nova Scotia	32,400	34,400	34,000	43,000	4.9	25.0
New Brunswick	30,700	33,300	32,300	41,400	5.2	24.3
Quebec	34,800	37,600	37,100	46,400	6.6	23.4
Ontario	43,500	47,700	47,300	51,600	8.7	8.2
Manitoba	33,700	36,400	35,900	43,100	6.5	18.4
Saskatchewan	34,500	34,600	36,700	43,500	6.4	25.7
Alberta	45,700	46,400	50,200	49,400	9.8	6.5
British Columbia	39,800	38,700	42,000	44,500	5.5	15.0
Women, age 20 to 54	21,200	19,700	22,900	22,000	8.0	11.7
Newfoundland and Labrador	14,400	11,300	15,500	17,500	7.6	54.9
Prince Edward Island	17,700	15,100	19,100	19,300	7.9	27.8
Nova Scotia	16,800	16,700	18,000	21,000	7.1	25.7
New Brunswick	16,100	15,500	17,300	19,700	7.5	27.1
Quebec	19,400	18,600	20,800	22,500	7.2	21.0
Ontario	23,500	23,700	25,500	25,000	8.5	5.5
Manitoba	19,600	18,000	21,100	20,400	7.7	13.3
Saskatchewan	19,000	16,700	20,600	20,100	8.4	20.4
Alberta	21,700	20,000	23,700	21,100	9.2	5.5
British Columbia	21,400	20,200	22,900	21,500	7.0	6.4

Note: Years 1 and 3 correspond to the year prior to the move and the year following the move.
Source: Longitudinal Administrative Data, 1992 to 2004.

Newfoundland and Labrador. This result suggests that significant reductions in a province's unemployment rate could help reduce its out-migration rate.

The effect of migration on earnings

Just as important as understanding the characteristics and the conditions that can lead to migration is determining what happens after the move. Since worsening labour market conditions seem to increase the odds of migrating, it is worth investigating whether the situation of migrants actually improves in their new province. One useful measure is comparing post-move earnings with their pre-move level.

Migrants generally enjoyed greater earnings increases than non-migrants, especially those leaving any Atlantic province, Quebec or Saskatchewan (Table 6). Patterns for men and women were similar, although the differences between migrants and non-migrants tended to be smaller for women. For men, migrants on average experienced an earnings growth of 15% from the year prior to migration to the year following migration, compared with 8% for non-migrants. However, the differences were much greater in the Atlantic provinces, Quebec and Saskatchewan. The biggest difference was found in Newfoundland and Labrador, where migrants recorded earnings growth of 76%, compared with 6% for non-migrants. No evidence of a positive effect on earnings was seen for migrants from Ontario or Alberta. The average earnings increase for women from the year prior to migration to the year after migration was 12%, versus 8% for non-migrants. As was the case for men, women leaving any Atlantic

province, Quebec or Saskatchewan experienced much greater earnings growth than women who stayed, whereas no positive difference was found for Ontario, Alberta or British Columbia.

Younger migrants from relatively poor provinces enjoy greater benefits

Regression analysis was also used to compare the earnings growth of migrants and non-migrants in order to account for differences in personal characteristics (see *Earnings effects models*). The earnings increase associated with migration was greater for younger individuals migrating from provinces where earnings were relatively lower than for other migrants (Tables 7 and 8). The earnings effect of migrating

was higher in all models for younger than for older individuals. In other words, young migrants leaving provinces with generally lower earnings, presumably to go to provinces where earnings are generally higher, typically see their earnings profile improve as they successfully integrate into the new labour market. Patterns for men and women were similar, although, again, the migration effects tended to be smaller for women. The results were also consistent with the earlier study covering 1982 to 1995, which found that the earnings effects of moving from the generally low-income Atlantic provinces were almost uniformly positive and in many cases quite large, with the greatest and most statistically significant effects found for the

Table 7 Fixed effects ordinary least squares regression for earnings, men

Age	20 to 24	25 to 34	35 to 44	45 to 54
	difference in log earnings			
Migrants versus non-migrants				
Newfoundland and Labrador	0.865*	0.583*	0.319*	0.280*
Prince Edward Island	0.429*	0.219*	0.068*	0.007
Nova Scotia	0.496*	0.224*	0.082*	0.062*
New Brunswick	0.449*	0.221*	0.098*	0.036*
Quebec	0.343*	0.212*	0.064*	0.035*
Ontario	0.097*	-0.029*	-0.025*	-0.039*
Manitoba	0.251*	0.107*	0.037*	-0.023
Saskatchewan	0.286*	0.180*	0.088*	0.040*
Alberta	-0.161*	-0.085*	-0.033*	-0.058*
British Columbia	0.092*	0.063*	0.090*	0.079*
Returnees versus non-migrants				
Newfoundland and Labrador	-0.329*	-0.113	-0.127	-0.220
Prince Edward Island	-0.188	-0.032	-0.157	-0.045
Nova Scotia	-0.005	-0.088	0.081	0.026
New Brunswick	-0.408*	-0.040	0.085	-0.053
Quebec	-0.349*	-0.170*	0.060	0.083
Ontario	-0.089	0.071	0.114*	-0.100
Manitoba	0.033	0.039	-0.253*	0.076
Saskatchewan	0.010	-0.085	-0.173*	-0.040
Alberta	0.195*	-0.018	-0.028	0.217*
British Columbia	-0.044	-0.085*	0.008	-0.019

* statistically significant from the reference group (ref.) at 0.01 level or better
Source: Statistics Canada, Longitudinal Administrative Data, 1992 to 2004.

Earnings effects models

Following a previous methodology (Finnie 2001), an ordinary least squares (OLS) regression model was used

$$\ln(y_{it+1}/y_{it-1}) = \alpha + \beta X'_{t+1} + \beta_1 \text{Prov}_{(t+1)} + \beta_2 \text{Prov}_{(t-1)} \cdot \text{MIG}' + \varepsilon_{it+1}$$

where the logarithm of the growth rate of earnings between the first full year after the move and the last full year prior to the move is a function of a set of control variables [X'_{t+1}] (language, family type and marital status, age and calendar year), the destination province [$\text{Prov}_{(t+1)}$] and an interaction term between the province of origin and the migratory status [$\text{Prov}_{(t-1)} \cdot \text{MIG}'$], the latter being the main variable of interest. The equation implicitly controls for unobserved fixed effects on earnings, which might be correlated with the probability of moving. Only cases with positive earnings were used.

Five different migratory statuses [MIG'] were defined for each three-year window available from 1992 to 2004 (that is, 1992/1994 through to 2002/2004): non-migrant, migrant, returnee, recent arrival and multiple migrant. If, for simplicity, only three provinces (A, B and C) were considered, the statuses would be the following:

Migratory status definition

	Year 1(t-1)	Year 2(t)	Year 3(t+1)
Non-migrant	A	A	A
Migrant	A	B	B
Returnee	A	B	A
Recent arrival	A	A	B
Multiple migrant	A	B	C

Recent arrival and multiple migrant are only shown to take the full set of migratory possibilities into account and are not discussed. Furthermore, using the preceding example for recent arrivals, if the province in year t+2 were again B, then the model would capture the migration in the next three-year window.

Migrant and returnee status effects are defined against the omitted non-migrant status. The regression outputs are differences in log points. When the coefficients are relatively small (between -0.1 and 0.1), the differences correspond approximately with percentage differences between migratory statuses.

younger age groups (Finnie 2001). However, the generally similar results for men and women are a departure from that study, which found much weaker effects for women than for men. The apparent convergence can arguably be attributed in part to the fuller integration of women in the labour market now than in the 1980s.

The earnings effects for migrants from Quebec were similar to those from Atlantic Canada, with the effect being strong for younger men and to a lesser extent for younger women, while being much weaker, albeit still positive and significant, for older individuals. No evidence of any earnings effect was seen for those migrating from Ontario, except for men age 20 to 24. For all other age groups, the coefficients were slightly negative, suggesting a very modest earnings disadvantage associated with migrating.

Table 8 Fixed effects ordinary least squares regression for earnings, women

Age	20 to 24	25 to 34	35 to 44	45 to 54
	difference in log earnings			
Migrants versus non-migrants				
Newfoundland and Labrador	0.770*	0.157*	0.019	0.135*
Prince Edward Island	0.250*	0.300*	0.049	0.154*
Nova Scotia	0.399*	0.135*	-0.015	0.039*
New Brunswick	0.353*	0.107*	0.049*	-0.034
Quebec	0.327*	0.112*	-0.011	-0.048*
Ontario	0.020	-0.067*	-0.083*	-0.073*
Manitoba	0.185*	-0.046*	-0.066*	-0.096*
Saskatchewan	0.270*	0.022	-0.007	-0.061*
Alberta	-0.101*	-0.146*	-0.059*	-0.060*
British Columbia	-0.040*	-0.067*	-0.046*	-0.003
Returnees versus non-migrants				
Newfoundland and Labrador	-0.942*	0.226	0.197	0.779*
Prince Edward Island	-0.409*	0.040	0.012	-0.279
Nova Scotia	-0.353*	-0.228*	-0.041	0.090
New Brunswick	-0.154	-0.046	0.126	-0.222
Quebec	-0.208	-0.044	-0.427*	0.513*
Ontario	-0.025	0.106	0.302*	0.177*
Manitoba	-0.109	-0.132	-0.063	0.354*
Saskatchewan	-0.296*	0.172	-0.168	0.064
Alberta	0.272*	0.184*	0.062	0.251*
British Columbia	0.057	-0.081	0.064	-0.016

* statistically significant from the reference group (ref.) at 0.01 level or better
Source: Statistics Canada, Longitudinal Administrative Data, 1992 to 2004.

In Manitoba and Saskatchewan, the earnings effect of migrating was important for men age 20 to 34 and women 20 to 24, but was, again, much lower for older men and women and not even significant in some cases. Migrants from the booming province of Alberta, perhaps not surprisingly, did not benefit in terms of earnings, and the effect of migrating was negative across all age groups for both men and women. For men in British Columbia, the effect of migrating was modest, but significant and consistent across all age groups. For women, however, no statistical evidence of any beneficial effect was seen.

Returnees no better off than those staying put

What happens to the earnings of migrants who return to their province of origin? To a certain extent, interprovincial migration could be seen as desirable for poorer provinces if migrants acquired skills and knowledge before returning and contributing to productivity growth. On the other hand, if returnees, after having gained from their interprovincial migration, recorded a subsequent earnings drop to the point where their earnings were no different than those of non-migrants, then the migration would have positive effects only for the province of migration. The latter seems more likely to be the case. The coefficients associated with the migratory status of returnees are generally statistically insignificant across all age-sex groups and provinces. What's more, they appear to be mostly negative, suggesting that the earnings growth of many returnees is lower than for those who never migrated.

Of course, individuals who migrate and return in only three years arguably share certain characteristics not taken into consideration, thus potentially biasing the results. For this reason, longer window periods of five years were constructed, with the migratory statuses of migrants, non-migrants and returnees defined following the same principles as with the three-year window. Results for these regressions found similar earnings effects and still did not suggest any earnings benefit for returnees.

Conclusion

Interprovincial migration is not only a key component of demographic change in Canada, but it also influences the supply of public services and tax revenues, the performance and efficiency of the labour market,

and productivity. For individuals, interprovincial migration can be an opportunity to explore new labour markets and potentially get a better job with better pay.

This paper looked at interprovincial migration longitudinally to identify factors prior to migration that affect the probability of moving and quantify the labour market gains associated with migration and how they compare with the results for non-migrants. A descriptive analysis of the extent and direction of migration was also provided.

The analysis provides empirical evidence on the influence of many personal and environmental characteristics on the probability of moving. In particular, it provides strong evidence that individuals in slack local labour markets are inclined to migrate to another province, most likely a province with better potential labour market outcomes. The analysis included measures of earnings, the unemployment rate of the province of origin, and the receipt of EI and social assistance. Improvements in labour market conditions and labour market outcomes of individuals would appear likely to reduce out-migration rates.

Other personal characteristics also had an impact. For example, Francophones outside Quebec and especially Anglophones in Quebec were both more likely to migrate to another province than other Canadians. Younger people were also much more likely to migrate. Interestingly, with all observable characteristics held constant, residents of Newfoundland and Labrador were not much more likely to migrate than other Canadians, which suggests that the high out-migration rates for this province are due to a very large extent to differences in personal and labour market characteristics.

Important earnings effects associated with migration were found: most often migrants had better earnings growth than non-migrants. The effect was larger for younger individuals migrating from provinces where earnings were relatively lower; it was much smaller, even sometimes non-existent, for other migrants. This result suggests that young migrants leaving relatively poorer provinces successfully integrate into their new labour market. However, no similar effect was found for migrants who returned to their home province.

■ **Notes**

1. Census of Canada 2001 and 2006.
2. See Finnie 2004 for a survey and a discussion of previous studies.
3. Interregional migration has also been a topic of research in other countries, and especially in Europe. See, for example, Huber 2004.
4. The immigrant indicator and the years since arrival used in the logistic regressions are based on the linked LAD-IMDB (immigration database) file. The IMDB file contains information collected by Citizenship and Immigration Canada from immigrants on their arrival.
5. The province of residence can differ from the province of work, in particular for individuals living in urban areas that straddle more than one province (for example, Ottawa-Gatineau and Lloydminster).
6. Gomez and Gunderson 2007 discusses policy options related to various potential barriers to interprovincial mobility of labour.
7. See Milan and Martel 2008 for a discussion of recent (up to 2007) trends in interprovincial migration.
8. To some extent, migration rates are expected to be inversely proportional to a province's size since intraprovincial mobility is more likely in large provinces.
9. The proportions are calculated by restricting the sample to people living in Newfoundland and Labrador in 1992 and elsewhere in Canada in 2004.
10. Given the limited number of personal characteristics available in the LAD, it was not possible to add potentially relevant variables like education, although it could be argued that part of the education effect would be captured, albeit imperfectly, by earnings.
11. This result contrasts somewhat with that of Dion and Coulombe (2008), who found single individuals to be less likely to migrate than other individuals. However, the authors considered all moves, including intraprovincial moves, and used different sample selection rules.
12. Earnings were represented in the model by the dollar value of employment earnings. The social assistance and unemployment benefits variables are binary indicators of receipt.

■ **References**

Coulombe, Serge. 2006. "Internal migration, asymmetric shocks, and interprovincial economic adjustments in Canada." *International Regional Science Review*. Vol. 29, No. 2. p. 199-223.
<http://irx.sagepub.com/cgi/reprint/29/2/199> (accessed October 9, 2008).

Coulombe, Serge and Jean-François Tremblay. 2006. *Migration, Human Capital and Skills Redistribution Across the Canadian Provinces*. Human Resources and Social Development Canada-Industry Canada-Social Sciences and Humanities Research Council (HRSDC-IC-SSHRC) Skills Research Initiative. Working Paper 2006 D-07. Ottawa.

Dion, Patrice and Simon Coulombe. 2008. "Portrait of the mobility of Canadians in 2006: Trajectories and characteristics of migrants." *Report on the Demographic Situation in Canada 2005 and 2006*. Statistics Canada Catalogue no. 91-209-X. p. 78-98.
<http://www.statcan.ca/english/freepub/91-209-XIE/91-209-XIE2004000.pdf> (accessed October 10, 2008).

Finnie, Ross. 2004. "Who moves? A logit model analysis of inter-provincial migration in Canada." *Applied Economics*. Vol. 36. p. 1759-1779.

Finnie, Ross. 2001. *The Effects of Inter-Provincial Mobility on Individuals' Earnings: Panel Model Estimates for Canada*. Statistics Canada Catalogue no. 11F0019MIE – No. 163. Analytical Studies Branch Research Paper Series. Ottawa. 41 p.
<http://www.statcan.ca/english/research/11F0019MIE/11F0019MIE2001163.pdf> (accessed October 10, 2008).

Finnie, Ross. 1999. "Inter-provincial migration in Canada: A longitudinal analysis of movers and stayers and the associated income dynamics." *Canadian Journal of Regional Science*. Vol. 22, no. 3. Autumn. p. 227-262.
<http://www.lib.unb.ca/Texts/CJRS/Autumn99/Finnie.pdf> (accessed October 10, 2008).

Gomez, Rafael and Morley Gunderson. 2007. *Barriers to the Inter-Provincial Mobility of Labour*. Micro-Economic Policy and Analysis Branch Working Paper 07-09. Industry Canada. Ottawa.

Huber, Peter. 2004. "Inter-regional mobility in Europe: A note on the cross-country evidence." *Applied Economics Letters*. Vol. 11, issue 10. p. 619-624.

Milan, Anne and Laurent Martel. 2008. "Current demographic situation in Canada, 2005 and 2006." *Report on the Demographic Situation in Canada 2005 and 2006*. Statistics Canada Catalogue no. 91-209-X. p. 21.
<http://www.statcan.ca/english/freepub/91-209-XIE/91-209-XIE2004000.pdf> (accessed October 10, 2008).

Sharpe, Andrew and Daniel Ershov. 2007. *The Impact of Interprovincial Migration on Aggregate Output and Labour Productivity in Canada, 1987-2006*. Centre for the Study of Living Standards. CSLS Research Report 2007-02. Ottawa.