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Foreign-Born vs Native-Born Canadians: A Comparison of Their Inter-Provincial Labour Mobility

by

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Aussi disponible en français

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Abstract

This paper investigates the inter-provincial labour mobility behaviour of immigrants relative to that of native-born Canadians. Foreign-born Canadians differ a great deal from their domestically-born counterparts. The foreign-born population is geographically concentrated in a few provinces and a few big cities. As a whole, they are older, better educated, more likely to be married, and more likely to have dependent children and bigger households. They are less active in participating in full-time education and training. They fare relatively better in the labour market. As a result, a higher proportion of them receive social security benefits that are directly tied to the presence of dependent children or age such as family allowance benefits and pension income, but a lower proportion receive benefits that are related to labour market performance such as employment insurance benefits and social assistance benefits.

As a whole, immigrants are relatively less mobile inter-provincially. This is true both nationally and across almost every province. Among those who move to other provinces, destinations for foreign-born migrants are highly geographically concentrated. Most of them make their new homes in Alberta, Ontario and British Columbia. A significantly lower proportion of them relocate to other provinces for economic considerations but a much higher proportion move to go to school or after retirement. Earnings return to their inter-provincial migration is significantly more substantial. This is the result of both wage increase and more hours of work after migration.

Multi-variate regression results show that there are no statistically significant structural differences in the determinants of inter-provincial migration decisions between **comparable** foreign- and native-born Canadians. The probability of moving to other provinces, for immigrants as well as for domestically-born Canadians, is higher if earnings potentials elsewhere are relatively higher, lower if it is relatively harder to find employment elsewhere, higher among better educated workers, lower among French-speaking Canadians, lower among union members, and decreases with age, family size and job tenure. None of the proxies for government's labour market interventions significantly affect the decision to move inter-provincially. The lower mobility rates among the foreign-born are fully attributable to distributional and compositional differences between the immigrant and non-immigrant populations.

These findings have a direct policy implication on immigration selection. To encourage population and labour force growth in economically less prosperous provinces, one might consider amending the current immigration selection and approval system, considering intended destinations as an additional factor and awarding additional points to applicants who choose designated provinces to settle upon arrival.

JEL Classification: J15, J61

Key words: foreign-born Canadians, native-born Canadians, inter-provincial labour mobility

1. Introduction

The objective of this paper is to investigate the inter-provincial labour mobility behaviour of immigrants relative to that of native-born Canadians.[1] It attempts to address the following questions: Do immigrants move to other provinces more or less frequently than native-born Canadians do? Are the departing and landing patterns of their inter-provincial migration different from that of native-borns? What are the reasons behind their relocations to other provinces relative to the domestically-born? What are the economic returns to their inter-provincial mobility relative to that of the native-born? And what are the factors influencing their decision of moving to other provinces relative to their native-born counterparts?

The motivation for this paper arises from three considerations. First, Canada is a "country of immigrants". In 1991, there were 4.3 million immigrants in Canada, amounting to 16.1% of the total population. Between 1983 and 1996, nearly two and a half million people from all over the world have made Canada their country of permanent residence. In recent years, newly arrived immigrants account for over half of Canada's population and labour force growth.

Second, Canada is a large country, comprised of economically diverse and culturally distinct geographic regions. The uneven economic performance across regions (regional disparity) constantly generates a continual necessity for adjustments in the labour market. In areas of economic prosperity, the local labour markets may not be able to supply either the number of workers or the skills required by the available jobs. The resulting shortages of labour create the need for redistribution of workers from areas of less favourable economic conditions. On the contrary, in areas of economic depression, the scarcity of employment opportunities many prompt workers to look elsewhere. Thus, geographic labour mobility serves as an important mechanism for labour market adjustments for individual workers as well as for the society as a whole, by redistributing workers from areas of low demand to those of high demand.

Third, geographic mobility of immigrants has obvious important policy implications. For example, anyone applying for immigration to Canada is required to choose a province of destination. Whether or not the application is successful is, to varying degrees, a function of the intended destination, at least under the business/investment category.[2] To encourage business immigrants to settle in economically less prosperous provinces, the government sets varying minimum capital requirements across the country, substantially lower for some provinces than for others.[3] However, once an immigrant lands in Canada, he/she is free to move to anywhere.

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[1] The term "foreign-born" or "immigrant" is used interchangeably throughout this paper, meaning one's birth place is outside of Canada.

[2] Other categories are refugees, independent/skilled workers, and family reunification.

[3] The minimum investment requirement is currently $350,000 for British Columbia, Ontario, Quebec and Nova Scotia; and $250,000 for the rest of the country.

From a policy perspective, it is important to know whether immigrants stay where they have chosen to settle upon arrival or move to other provinces. If immigrants indeed stay where they have initially settled down, the issue will be how to attract them to economically less prosperous provinces. An important vehicle for doing so lies within the government's control — the selection process. Currently, intended destinations of applicants do not carry any weight in the selection criteria except under the business/investment category. However, this category accounts for only a small fraction of total successful applicants. A large proportion of immigrants arrive in Canada under the independent/skilled-worker category, which does not consider intended destinations for landing as a factor in the selection and approval process (the point-system).[4] To encourage independent immigrants to settle in economically less prosperous provinces, the point-system could be amended to include intended destinations as an additional factor. And additional points could be awarded to those applicants who choose designated provinces as intended destinations, very much like the way "arranged employment/designated occupation" (Factor 5) presently works.

Issues surrounding immigration and immigrants have received considerable attention in Canada, and the existing large body of work covers a wide range of research areas.[5] Some of this literature relate to immigration policy (e.g., Harrison (1996), DeVoretz (1995), Green and Green (1995), Bakan and Stasiulis (1994), Citizenship and Immigration Canada (1994), Stoffman (1993), Wright and Maxim (1993), Globerman (1992), Beach and Green (1989), Seward (1989)); some investigate immigrants' labour market performance and outcomes (e.g., Bloom et al (1994), Marr and Siklos (1994), DeVoretz (1992)); some examine characteristics of immigrants (e.g., Badets and Chui (1994), Chui and Devereaux (1995), Sullivan (1992)); some analyze the integration of immigrants and impacts of immigration (e.g., Baker and Benjamin (1995), Abbott and Beach (1993), Beaujot (1992), Chenard and Serjak (1992), Nakamura et al (1992), Simon (1992), Thomas (1992), Abbott (1989), Akbari (1989), Boyd (1989), DeVoretz (1989), Seward and Trenblay (1989), Seward (1987)); some investigate the patterns and distribution of immigrants (e.g., HRDC (1996), Marr (1992), Moore et al (1989)), some concern the health status of immigrants (e.g., Chen et al (1996a, 1996b)). And the list goes on. But, geographic labour mobility of Canadian immigrants remains a virtually unresearched area.[6] This paper attempts to fill this gap.

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[4] There are 10 factors in the current selection point-system. Their corresponding maximum points are as follows: Age --- 10; Education --- 16; Specific vocational preparation (SVP) --- 18; Intended occupation --- 10 (minimum of 1 point must be scored, the application will otherwise be automatically refused without further consideration); Arranged employment/designated occupation --- 10; Work experience --- 8; Language ability --- 15; Demographic --- 10 (this is currently set by the federal government at 8 points for all applicants); Personal suitability --- 10 (refers to adaptability, motivation, initiative and resourcefulness; determined by the visa officer); and Relative in Canada --- bonus 5 (including a sibling, parent, grandparent, aunt, uncle, niece or nephew who is a permanent resident or Canadian citizen living in Canada). Applicants must score a minimum of 70 points to be successful. Detailed calculations of score for each factor are provided in Citizenship and Immigration Canada (1996).

[5] The American literature on immigration is even more enormous and covers an even wider range of issues. Recent examples include Card (1997); Borjas, Freeman and Kats (1996); Borjas and Hilton (1996); Borjas (1995a, 1995b, 1994, 1993). A survey on immigration research in the 1980s is found in Borjas (1992).

[6] A recent exception is Newfold (1996).

Another area to which this paper relates is the literature on geographic labour mobility. Much of the recent Canadian literature centres around the effects of labour market interventions by the government, in particular the employment insurance program, on the geographic labour mobility behaviour of the general population (e.g., Lin (1995), Osberg, Gordon and Lin (1994), Cahill (1993), Osberg and Gordon (1991)). The main findings are that after controlling for provincial (regional) economic conditions, and personal and job-related characteristics, labour market policy interventions generally have little effect on geographic labour mobility of Canadians. This paper extends the analysis to the immigrant population and compares their inter-provincial mobility to that of native-born Canadians.

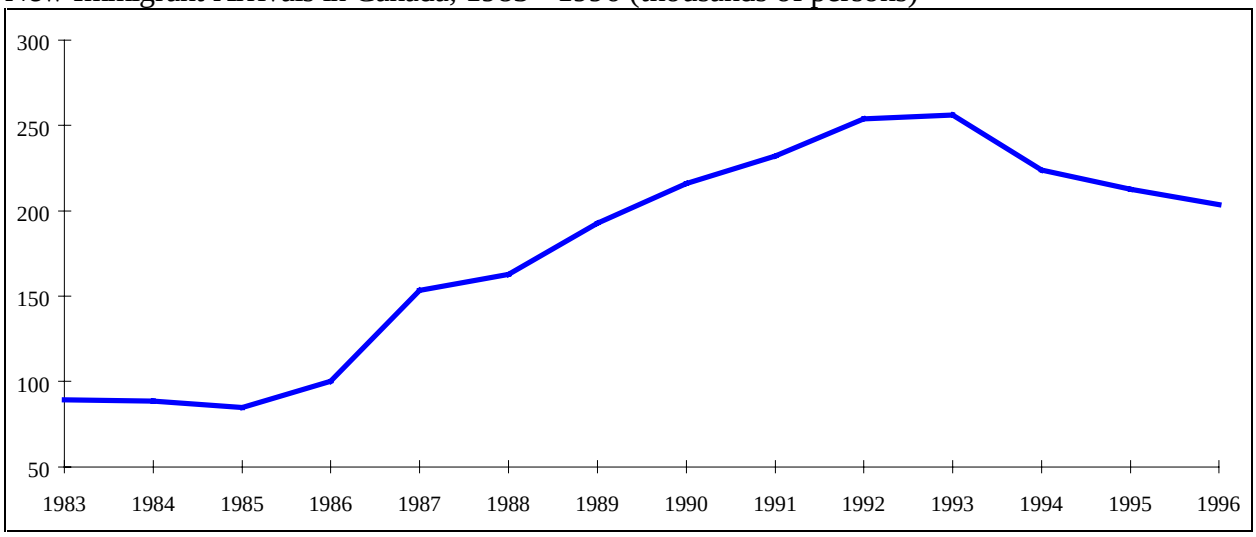
The main data source used in the paper is the 1988-1990 longitudinal person-file of the Labour Market Activity Survey (LMAS) of Statistics Canada. The next section provides a brief overview of immigrants in Canada. Data extracted from the Landed Immigrants Data System (LIDS) of Citizenship and Immigration Canada and the 1991 Census are used to compare the provincial distribution of newly arrived immigrants and the overall immigrant population to that of the total population. And the LMAS is used to examine differentials between the foreign-born and the native-born in demographic characteristics; participation in education, training and social security programs; and labour market outcomes.

Section 3 compares immigrants' inter-provincial mobility patterns to that of native-born Canadians, including inter-provincial mobility rates, inter-provincial migration flows, the departing and landing patterns of movers, reasons for their relocations to other provinces, and economic returns to mobility. Section 4 applies multi-variate regression analysis to investigate and compare the statistical determinants of inter-provincial migration between the foreign- and native-born. Finally, Section 5 concludes the paper with a summary of main findings and a discussion on possible policy implications.

2. Immigrants in Canada: An Overview

Canada is known as a "country of immigrants". In 1991, there were 4.3 million immigrants in Canada, amounting to 16.1% of the total population. Between 1983 and 1996, nearly two and a half million people from all over the world have made Canada their country of permanent residence (Table 1). New immigrant arrivals have experienced a rapid growth in the late 1980s and early 1990s (Figure 1). The annual average level was around 90 thousand between 1983 and 1986, doubled to 180 thousand between 1987 and 1990, continued to rise and peaked at over a quarter of a million in both 1992 and 1993, started to decline since 1994 to the 200 thousand mark in 1996.

Figure 1
New Immigrant Arrivals in Canada, 1983 - 1996 (thousands of persons)



Source: Landed Immigrants Data System (LIDS), Citizenship and Immigration Canada.

2.1 Provincial Distribution of Immigrants

Canada's immigration policies are made in a national framework. Authority over the determination of immigration levels, development of immigrant selection criteria (e.g., the point system) and integration of immigrants into the Canadian society (e.g., language training, employment counselling) all rests with the federal government.[7] However, province of initial settlements of newly arrived immigrants or province of residence of the total immigrant population is anything but a national phenomenon. Distribution of new immigrants by province of intended destination shows a strong pattern of geographic concentration.

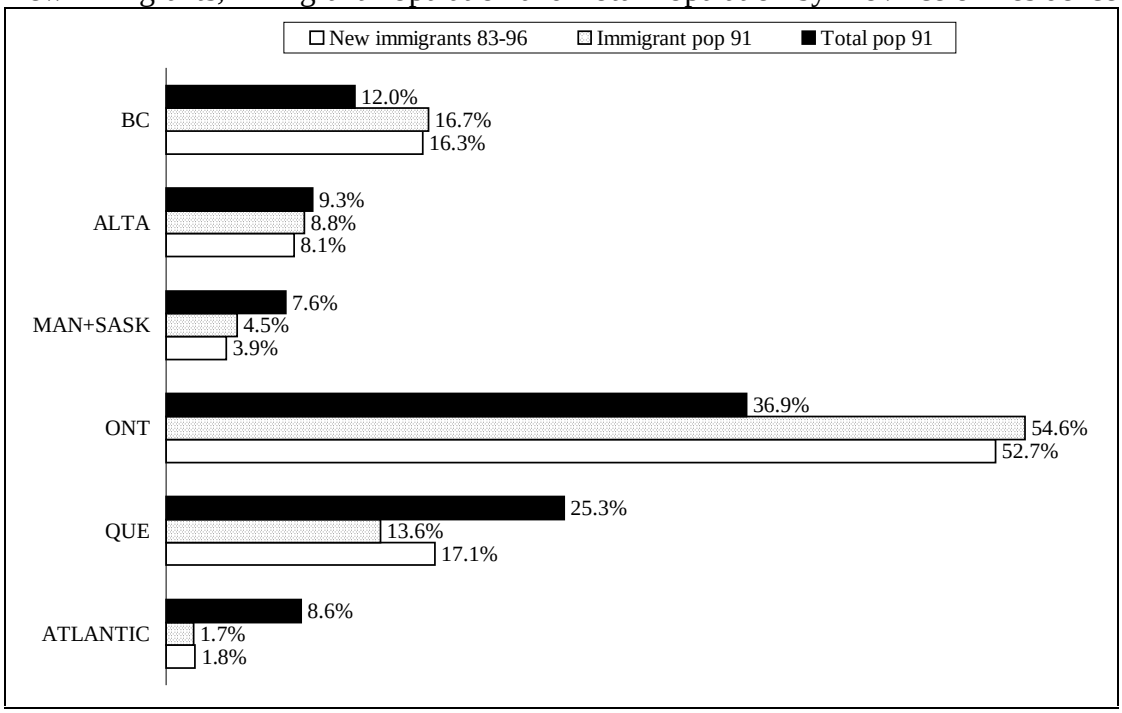
[7] Since 1971, the federal government and Quebec have had numerous immigration agreements. Presently, Quebec enjoys authority over many aspects of its immigration operations such as its formal role in advising the federal government about the level of immigrants it wishes to receive, its own point system for immigrant selection under the independent category, its assumption of all integration services, see Young (1992) for further details.

Table 1
New Immigrant Arrivals by Province of Intended Destination, 1983 - 1996

	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	YT	NWT	Total
							Persons						
1983	276	107	833	554	16,415	40,112	3,987	1,742	10,725	14,479	59	73	89,362
1984	299	109	1,035	601	14,695	41,694	3,908	2,161	10,739	13,228	75	41	88,585
1985	325	114	976	614	14,946	40,889	3,432	1,928	9,068	12,319	71	36	84,718
1986	275	168	1,102	643	19,601	49,999	3,784	1,875	9,739	12,634	67	50	99,937
1987[a]	462	160	1,231	652	27,239	85,343	4,823	2,140	12,051	19,056	72	80	153,334
1988	410	153	1,304	683	25,948	89,359	5,045	2,235	14,120	23,282	76	72	162,687
1989	470	162	1,477	911	34,327	105,220	6,175	2,168	16,308	25,442	100	100	192,860
1990	547	178	1,568	850	41,392	114,091	6,691	2,386	19,068	28,836	75	83	215,765
1991	641	150	1,504	685	52,169	119,341	5,659	2,455	17,047	32,276	124	84	232,135
1992	791	152	2,364	755	48,735	138,746	5,093	2,530	17,739	36,805	111	133	253,954
1993	807	165	3,018	701	44,955	134,373	4,874	2,403	18,578	45,723	171	104	255,872
1994	566	160	3,468	627	28,032	117,337	4,128	2,253	17,989	49,093	149	118	223,920
1995[a]	622	166	3,801	647	27,105	115,156	3,612	1,955	14,607	44,589	109	89	212,459
1996	538	149	3,175	700	26,306	109,601	3,983	1,667	12,802	44,612	78	71	203,682
Total	7,029	2,093	26,856	9,623	421,865	1,301,261	65,194	29,898	200,580	402,374	1,337	1,134	2,469,270

a There were 25 arrivals without province of intended destination in 1987, and 1 in 1995.
Source: LIDS, Citizenship and Immigration Canada.

Figure 2
New Immigrants, Immigrant Population and Total Population by Province of Residence



Source: LIDS, Citizenship and Immigration Canada; 1991 Census, Statistics Canada.

Of the two and a half million new immigrants that arrived in Canada between 1983 and 1996, nearly 53% chose to make their permanent homes in Ontario. Quebec, British Columbia and Alberta were the distant second, third and fourth most popular destinations, receiving 17%, 16% and 8% of the total new immigrants, respectively. Only 4% initially settled in Manitoba or Saskatchewan, and under 2% went to the four Atlantic provinces (Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick). Of the 45 thousand who did choose Atlantic Canada as destinations, nearly 60% settled in Nova Scotia (Table 1 and Figure 2).

Distribution of the total immigrant population by province of residence also exhibits a strong pattern of regional concentration. Of the 4.3 million immigrants living in Canada in 1991, nearly 55% were residents of Ontario, which accounted for only 37% of Canada's total population in that year. British Columbia was home to almost 17% of the immigrant population, although its population represented only 12% of Canada's total population. Quebec housed under 14% of the immigrant population, much lower than its share of Canada's total population (at 25.3%). Alberta was the only province whose share of the immigrant population (at 8.8%) was nearly equal to its share of Canada's total populations (at 9.3%). Manitoba, Saskatchewan and Atlantic Canada accounted for over 16% of Canada's total population in 1991, but only 6% of the total immigrant population (Figure 2).

Therefore, whether one looks at the provincial distribution of newly arrived immigrants over the past 14 years or of the total immigrant population in a given year, a strong pattern of geographic concentration of immigrants emerges. Relative to their share of Canada's total population, Ontario and British Columbia are over concentrated by immigrants; while Quebec, the prairie provinces and especially Atlantic Canada are all under populated by immigrants.

2.2 Adult Immigrants in Canada: A Profile

A. Data Source

The data used for analysis from this point on are extracted from the 1988-1990 longitudinal person-file of the Labour Market Activity Survey (LMAS) of Statistics Canada.[8] The LMAS is an annual survey (from 1986 to 1990), administered to five of the six rotation groups interviewed in the monthly Labour Force Survey (LFS) of Statistics Canada. It is, hence, a stratified random sample of Canadian individuals. For each reference year, the LMAS covers all civilian, non-institutionalized persons, 16-69 years of age inclusive, who are residents of Canada's 10 provinces not living on Indian Reserves. Respondents are interviewed in January/February of each year concerning their labour market activities and experiences for the previous year.[9]

The longitudinal file used for analysis in this paper is the composite of linked surveys for 1988, 1989 and 1990. The file contains a wealth of information on demographic characteristics and labour market activities and experiences of 55,434 respondents for three consecutive years.

[8] All subsequent tables and graphs are produced from this file unless otherwise specified.

[9] For more details on the construction and information of LMAS see Statistics Canada, The Labour Market Activity Survey: Microdata User's Guide.

Immigrants and native-born Canadians are identified through "country of birth". In the unweighted sample, immigrant respondents account for 10.3%, the native-born 89.1%, and 0.6% respondents do not state their country of birth (Table 2). For comparison purposes, respondents without country of birth are dropped from the final sample of analysis.

Table 2
LMAS 1988-1990 Longitudinal Person File by Respondents' Country of Birth

	Canada	Outside Canada	Not Stated	Total
Unweighted	49,387	5,711	336	55,434
	(89.1%)	(10.3%)	(0.6%)	(100.0%)
Weighted	14,830,305	2,996,908	132,851	17,960,064
	(82.6%)	(16.7%)	(0.7%)	(100.0%)

Of Canada's 18 million adult population (16-69 years of age) in 1988, 16.7% were immigrants (3 million). The following highlights their demographic characteristics; participation in education, training and social security programs; and labour market activities and outcomes.

B. Demographic Characteristics

The immigrant population are older as a whole. In 1988, under 11% of adult immigrants were in their youth (16-24), compared to over 21% among their native-born counterparts. On the other hand, one out of four immigrants was over 54 years of age, in comparison to one in six among the non-immigrant population (Figure 3).

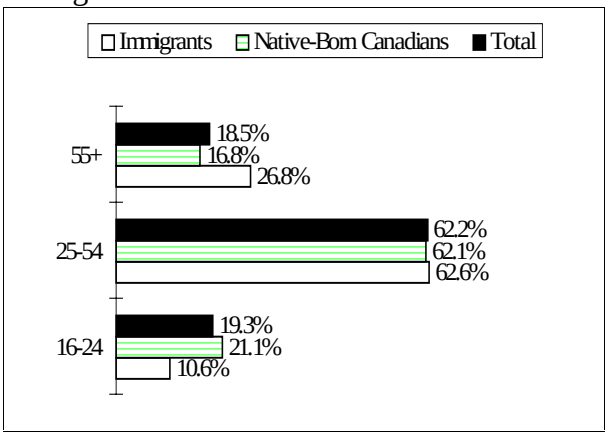
Immigrants as a whole are better educated. While 35% of the foreign-born population did not graduate from high school, the corresponding proportion was 39% among its domestically-born counterpart. On the other hand, nearly one out of five immigrants had obtained at least a university degree, compared to one in eight among native-born Canadians.

The majority of immigrants did not speak English nor French as their first language. Among Canada's immigrant population in 1988, while 37% came from English- or French-speaking countries, the majority (57.7%) did not speak Canada's either official language as their first language.

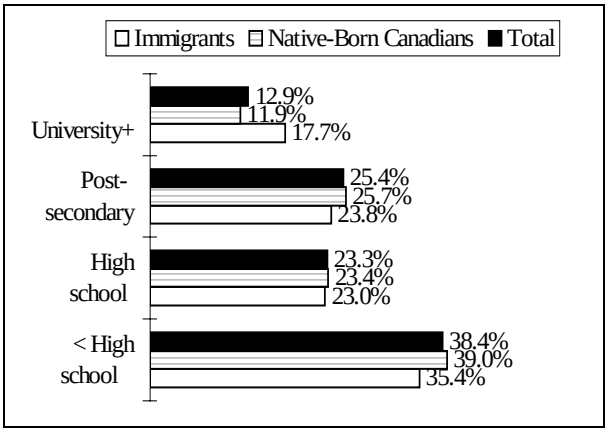
Overall, immigrants are more likely to be married, and more likely to have dependent children and bigger households. In 1988, the proportion being married was three quarters among adult immigrants but only two-thirds among their native-born counterparts. Over 67% of immigrants were from households with more than two family members, compared to only 61% among native-born Canadians. And while 42.4% of immigrants had dependent children 0-15 years of age, the corresponding proportion was 39.4% among the native-born population.

Figure 3
Immigrants and Native-Born Canadians by Selected Demographic Characteristics, 1988

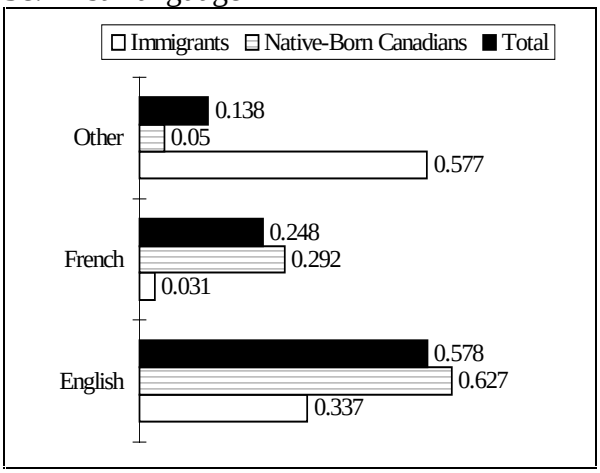
3a: Age



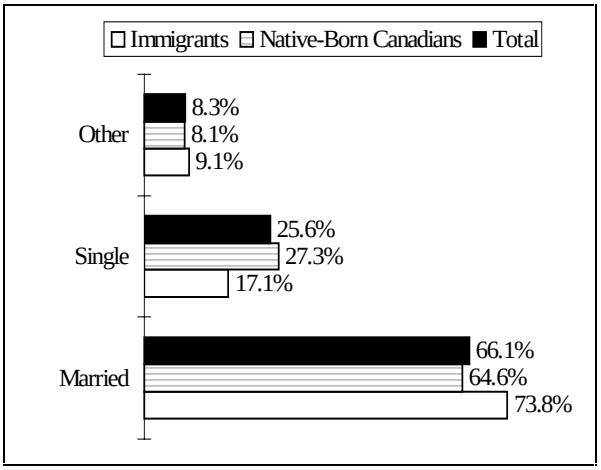
3b: Education



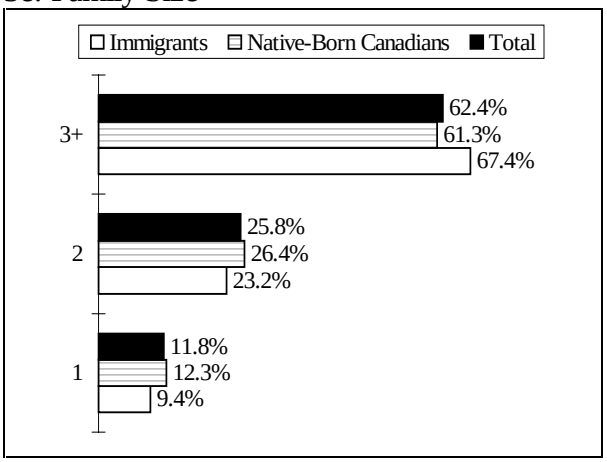
3c: First Language



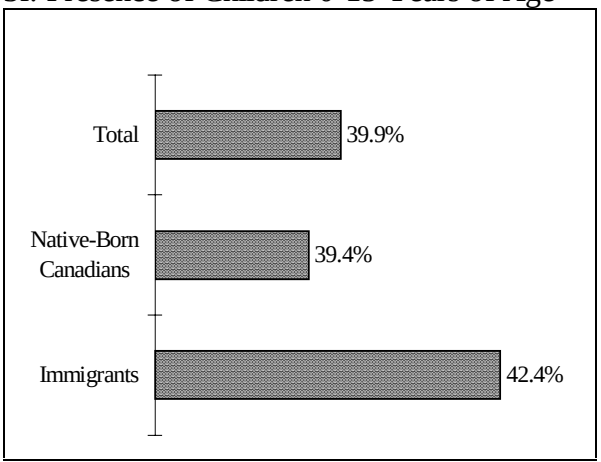
3d: Marital Status



3e: Family Size



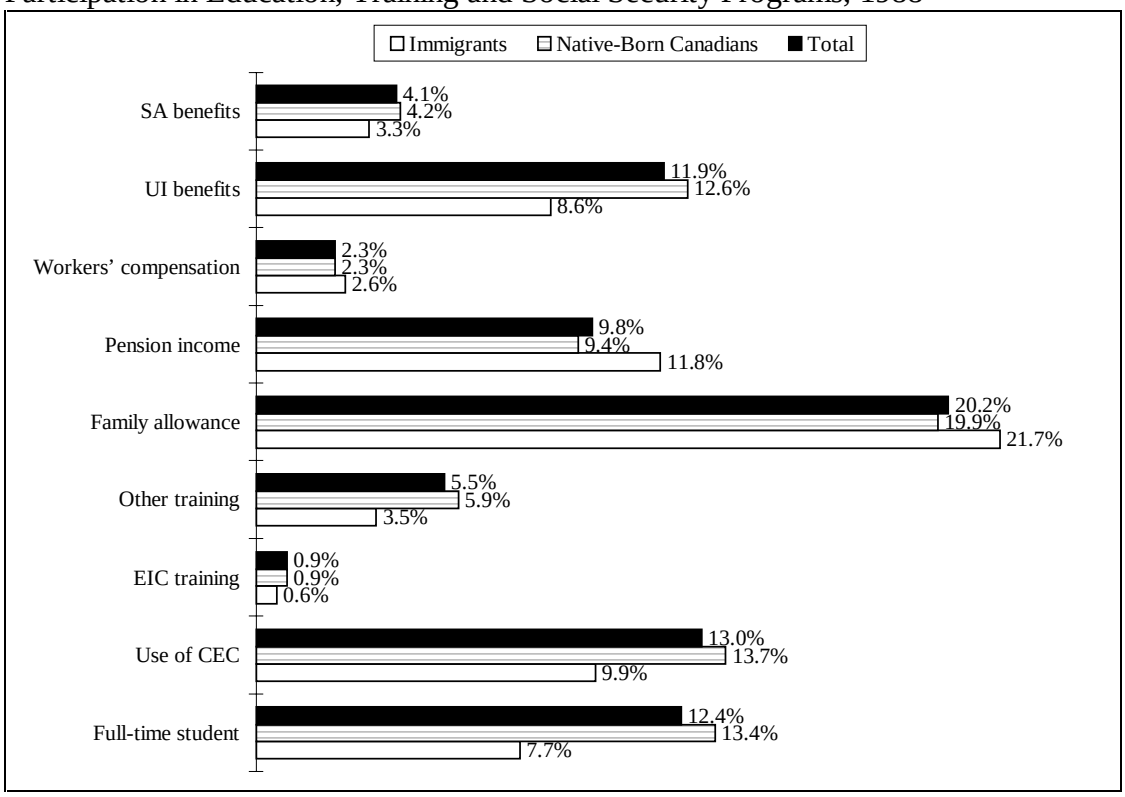
3f: Presence of Children 0-15 Years of Age



C. Participation in Education, Training and Social Security Programs

Immigrants as a whole are less active in participating in education and training. In 1988, only 7.7% of adult immigrants were involved in full-time education, whereas the proportion was nearly twice as high among the non-immigrant population (Figure 4). While only 0.6% of immigrants took part in the various training programs sponsored by the federal government (then Employment and Immigration Canada), the corresponding proportion was 0.9% among native-born Canadians.[10] Immigrants were also less active than non-immigrants in participating in other training that lasted more than 25 hours (3.5% vs 5.9%).

Figure 4
Participation in Education, Training and Social Security Programs, 1988



Overall, a higher proportion of immigrants receive family allowance benefits and pension income, but their participation in both the UI and social assistance programs is lower than that of native-born Canadians. The participation differentials in social security programs between immigrants and non-immigrants depend upon whether the program is related to demographic characteristics or labour market performance. As noted earlier, immigrants are generally older and a higher proportion come from bigger households and have dependent children, it is natural that a

[10] This is hardly surprising given that the training is provided largely to EI recipients under the Developmental Use Program of the EI system and that, as seen later, a lower proportion of immigrants experienced unemployment and received EI benefits. But even among those who did receive EI benefits, the participation differential in training between immigrants and non-immigrants was substantially greater (1.3% vs 2.8%).

higher proportion of them receive family allowance benefits (21.7%:19.9%)[11] and pension income (11.8%:9.4%), as these benefits are directly tied to the presence of dependent children or age. On the other hand, as seen later, immigrants as a whole fare better in the labour market and hence, a lower proportion of them receive UI benefits (8.6% vs 12.6%) and social assistance benefits (3.3% vs 4.2%).

D. Immigrants in the Labour Market

Generally, immigrants fare better in the labour market relative to non-immigrants. Among those 16-64 years of age who were not full-time students in 1988, 11.3% of the foreign-born experienced unemployment, compared to 14.3% among the domestically-born (Table 3). And among those with paid employment, the proportion being employed full-time and covered by a job-related pension plan was 88.7% and 49.9% among immigrants but only 84.1% and 47.9% among non-immigrants. However, immigrant employees were less unionized than their native-born counterparts (39.2% vs 41.0%).

Table 3
Immigrants vs Native-Born Canadians: Selected Labour Market Outcomes, 1988

	Immigrants	Native-Born Canadians	Total
% Did not work	19.5	17.1	17.5
% Unemployed	11.3	14.3	13.8
% Full-time	88.7	84.1	84.9
% Unionized	39.2	41.0	40.7
% Pension covered	49.9	47.9	48.2
Average annual weeks employed	47.96	47.04	47.19
Average annual weeks unemployed	1.91	2.60	2.48
Average annual earnings ($)	25,676	23,462	23,828
Average annual hours	1,865	1,762	1,779
Average hourly wages ($)	13.01	12.58	12.65

On average, immigrant paid employees earned over $2,200 more than their native-born counterparts did in 1988. This earnings differential is attributable to both immigrants' higher average hourly wages and more average annual hours of work.[12]

[11] Under-reporting of receiving family allowance benefits seems substantial among both immigrants and non-immigrants. In 1988, the actual proportion receiving family allowance benefits should be the same as the proportion with dependent children since the program was universal (the cheque usually goes to the mother). Since 1993, the program has been replaced by the child tax credit system which is means-tested based on household income.

[12] For those with more than one job in the year (14.8% among immigrants and 20.2% among non-immigrants), annual earnings and hours are the sum across all jobs but hourly wages are job-specific and refer to the last (most current) job. In Table 3, % full-time, unionized and pension covered also refer to the last job.

3. Immigrant and Inter-Provincial Mobility: Some Patterns

This section compares immigrants' inter-provincial mobility patterns to that of native-born Canadians in 1989, including inter-provincial mobility rates, inter-provincial migration flows, the departing and landing patterns of movers, reasons for their relocations to other provinces, and economic returns to mobility. Inter-provincial mobility is established by comparing the province of residence across two consecutive survey periods. Dictated by the LMAS survey date, the observed mobility labelled here as in 1989 actually took place between January/February 1989 and January/February 1990.[13]

3.1 Inter-Provincial Mobility Rates

During 1989, some 120 thousand Canadians moved from one province to another, accounting for 0.7% of the adult population. The overall inter-provincial mobility rate (i.e., number of movers expressed as a percentage of the population) varies substantially across the provinces, being generally higher in economically less prosperous regions (Atlantic Canada and the Prairie provinces), and lower in economically more vigourous provinces (Ontario, British Columbia and Quebec[14]). While 2.0% and 1.8% of residents of Prince Edward Island and Saskatchewan moved to other provinces during 1989, the out-of-province migration rates were only 0.4% and 0.5% in Quebec and Ontario, respectively (Figure 5).

The immigrant population as a whole is less mobile inter-provincially than the domestically-born. The overall migration rate among immigrants is under 60% of that among non-immigrants (0.4% vs 0.7%). This is true in every province except Newfoundland and Quebec, where immigrants' inter-provincial mobility rate was either higher than or equal to that of non-immigrants.

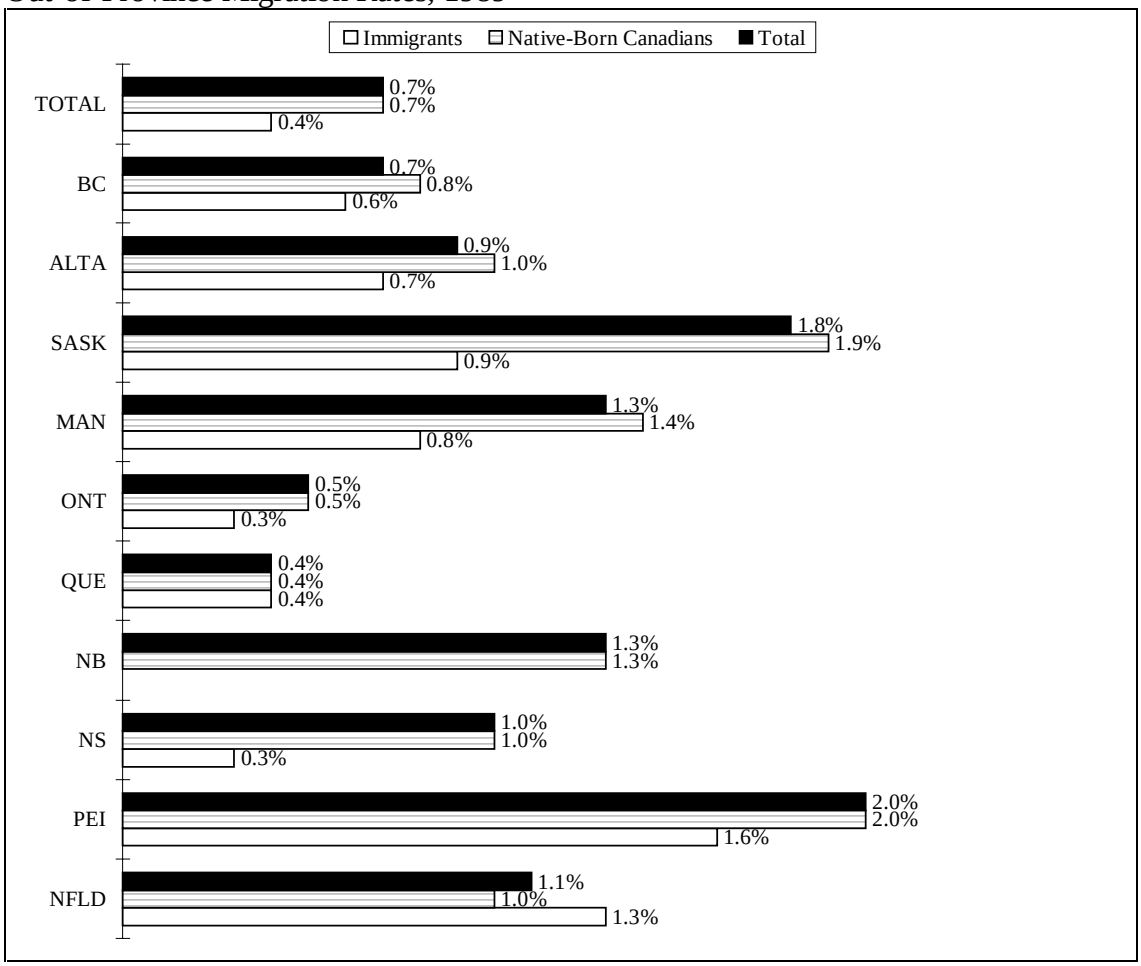
Immigrants' out-of-province migration rate also varies substantially across the provinces, but the home province's relative economic conditions seem to play a less significant role in their migration relative to that of non-immigrants. Both the highest and lowest rates of immigrants' migration are observed in Atlantic Canada. Indeed, as to be seen in section 3.4, a much lower fraction of immigrant inter-provincial movers relocate to other provinces for economic reasons. The next section will further investigate the determinants of immigrants' inter-provincial labour mobility relative to that of the native-born population.

Figure 5

[13] Actual mobility is somewhat under-estimated here because those who moved first and then moved back within the same survey period are not identified as movers as their province of residence remained unchanged across two survey periods. Intra-provincial mobility at the aggregate can also be established in the LMAS. Respondents who have moved since the last survey but whose province of residence has remained unchanged over that of the previous survey must have moved within the province. However, someone who has changed to another apartment down the street cannot be effectively distinguished from someone who has left the community and settled in a different locality, as sub-provincial information is not available in this version of the LMAS file. Thus, intra-provincial mobility is not a subject of this study despite its great importance and implications.

[14] Language barriers may also contribute to Quebec's lower out-migration rate. In fact, as seen later, flows of migration into and out of Quebec are both substantially lower than other provinces.

Out-of-Province Migration Rates, 1989



3.2 Inter-Provincial Migration Flows

Migration flows into and out of each province in 1989 are reported in Table 4. Newfoundland and Prince Edward Island did not receive any immigrant in-migrants. Although there were some in-flows of Canada-born migrants, many more moved to other provinces, and both provinces experienced net adult population loss of nearly 0.9%. Nova Scotia did not receive any immigrant in-migrants either. However, with native-born Canadian in-migrants far out-numbering emigrants, Nova Scotia's adult population gained by 1.3%. No immigrants moved out of New Brunswick. But far more native-born Canadians emigrated than in-migrated, and New Brunswick's adult population also suffered a loss of 0.8%.

Migration flows into and out of Quebec are both substantially lower than most other provinces. Language barriers may be the main contributing factor underlying this lower level of migration flows. Some immigrants moved in while a slightly higher number moved out. A fraction of native-born Canadians moved in but a slightly higher fraction moved out. Overall, emigration nearly matched in-migration and Quebec's adult population remained relatively unchanged in 1989 (a loss under 0.1%). The gross migration flows into and out of Ontario are also substantially lower than most other provinces. Despite receiving some immigrant and native-born

Table 4
Inter-Provincial Migration Flows, 1989*
(Figures in parentheses are percentages of the base adult population)

	Immigrants				Native-Born Canadians				Total			
	In	Out	Gross	Net	In	Out	Gross	Net	In	Out	Gross	Net
	(1)	(2)	(3)=(1)+(2)	(4)=(1)-(2)	(1)	(2)	(3)=(1)+(2)	(4)=(1)-(2)	(1)	(2)	(3)=(1)+(2)	(4)=(1)-(2)
NFLD	0	74	74	-74	604	3,940	4,544	-3,336	604	4,014	4,618	-3,410
		(1.30)	(1.30)	(-1.30)	(0.16)	(1.05)	(1.21)	(-0.89)	(0.16)	(1.05)	(1.21)	(-0.89)
PEI	0	41	41	-41	958	1,653	2,611	-695	958	1,694	2,652	-736
		(1.63)	(1.63)	(-1.63)	(1.17)	(2.03)	(3.20)	(-0.85)	(1.14)	(2.02)	(3.15)	(-0.88)
NS	0	87	87	-87	13,447	5,733	19,180	7,714	13,447	5,820	19,267	7,627
		(0.30)	(0.30)	(-0.30)	(2.40)	(1.02)	(3.43)	(1.38)	(2.28)	(0.99)	(3.27)	(1.29)
NB	426	0	426	426	2,028	6,087	8,115	-4,059	2,454	6,087	8,541	-3,633
	(2.38)		(2.38)	(2.38)	(0.44)	(1.32)	(1.76)	(-0.88)	(0.51)	(1.27)	(1.79)	(-0.76)
QUE	984	1,799	2,783	-815	15,045	17,854	32,899	-2,809	16,029	19,653	35,682	-3,624
	(0.22)	(0.41)	(0.63)	(-0.18)	(0.35)	(0.42)	(0.77)	(-0.07)	(0.34)	(0.42)	(0.76)	(-0.08)
ONT	2,211	5,217	7,428	-3,006	17,909	24,895	42,804	-6,986	20,120	30,112	50,232	-9,992
	(0.14)	(0.32)	(0.45)	(-0.18)	(0.36)	(0.50)	(0.86)	(-0.14)	(0.30)	(0.46)	(0.76)	(-0.15)
MAN	229	786	1,015	-557	2,842	8,122	10,964	-5,280	3,071	8,908	11,979	-5,837
	(0.23)	(0.78)	(1.01)	(-0.55)	(0.48)	(1.36)	(1.84)	(-0.88)	(0.44)	(1.28)	(1.72)	(-0.84)
SASK	1,127	355	1,482	772	2,836	11,144	13,980	-8,308	3,963	11,499	15,462	-7,536
	(2.98)	(0.94)	(3.92)	(2.04)	(0.48)	(1.89)	(2.37)	(-1.41)	(0.63)	(1.83)	(2.46)	(-1.20)
ALTA	4,712	1,734	6,446	2,978	22,311	13,123	35,434	9,188	27,023	14,857	41,880	12,166
	(1.83)	(0.67)	(2.50)	(1.16)	(1.63)	(0.96)	(2.59)	(0.67)	(1.66)	(0.91)	(2.57)	(0.75)
BC	2,150	2,815	4,965	-665	18,266	12,431	30,697	5,835	20,416	15,246	35,662	5,170
	(0.46)	(0.60)	(1.06)	(-0.14)	(1.16)	(0.79)	(1.95)	(0.37)	(1.00)	(0.75)	(1.74)	(0.25)
N/S	1,069	0	1,069	1,069	8,737	0	8,737	8,737	9,806	0	9,806	9,806
		(n.a.)				(n.a.)				(n.a.)		

* numbers may not add due to rounding

migrants, the overall emigration out-numbered in-migration three to two. Consequently, Ontario suffered an adult population loss of nearly 0.2% in 1989.[15]

In contrast, migration flows into and out of western Canada are significantly higher. Both Manitoba and Saskatchewan received high levels of immigrant and native-born in-migration in 1989. But, emigration to other provinces was even higher and both provinces experienced adult population loss by over 0.8% and 1.2%, respectively. In-migrants from both the foreign- and domestically-born population out-numbered emigrants, and Alberta's adult population gained by nearly 0.8%. Losing some immigrants but gaining more native-born migrants, British Columbia also ended up a winner, adding nearly 0.3% to its adult population.

In short, ranking from big to small (relative to the base adult population), the losers of inter-provincial labour mobility in 1989 are Saskatchewan, Newfoundland, Prince Edward Island, Manitoba, New Brunswick, Ontario and Quebec.[16] The winners are Nova Scotia, Alberta and British Columbia.[17]

3.3 Departing and Landing Patterns

The landing patterns of inter-provincial labour mobility are reported in Table 5. Destinations for immigrant out-of-province migrants are highly concentrated. Ontario absorbed all immigrant movers out of Prince Edward Island, Nova Scotia and Quebec, and 80% out of Saskatchewan. Three-quarters of immigrant emigrants out of Ontario settled in Alberta and British Columbia. All immigrants moving out of Manitoba stayed in the three western provinces. Half of Alberta's immigrant movers settled in New Brunswick and Quebec, and the other half moved to Manitoba and British Columbia. And 90% of immigrant migrants out of British Columbia settled in Saskatchewan and Alberta.

In contrast, destinations for native-born inter-provincial movers are more spread out across the country. Nova Scotia was the main destination for native-born migrants out of Prince Edward Island and New Brunswick. Quebec received over 40% of native-born emigrants out of Ontario. Ontario absorbed over half of native-born movers out of Newfoundland and Nova Scotia. Alberta was the main destination for native-born migrants out of Manitoba, Saskatchewan and British Columbia. And over half of native-born migrants out of Alberta settled in neighbouring British Columbia.

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[15] This is contrary to long-standing historical trends of population movements in Canada. Ontario has long been the destination province, absorbing movers from the rest of the country.

[16] These numbers may not sound very large, but this loss happened in just one year and it can accumulate quickly. For example, Saskatchewan would be expected to lose 6% of its adult population if this trend was to continue for just 5 years.

[17] We are only dealing with the movement of the country's stock of adult population here and immigration is not considered. Adding arrivals of new immigrants from other countries will definitely alter the picture of population gainers and losers. Ontario, Quebec and British Columbia have traditionally been destinations absorbing the majority of new immigrants into Canada. Considering the arrivals of new immigrants, Quebec's and Ontario's population loss due to labour mobility will certainly be more than offset and British Columbia's population gain will be substantially higher.

Table 5
Departing and Landing of Inter-Provincial Migrants, 1989

A: Foreign-Born Migrants

Origin	Destination										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	N/A
						%					
NFLD											100.0
PEI						100.0					
NS						100.0					
NB											
QUE						100.0					
ONT					11.4				53.7	21.9	13.0
MAN								53.3	15.8	30.9	
SASK						79.8				20.2	
ALTA				24.6	22.3		13.2			39.9	
BC								25.2	63.5		11.3

B: Native-Born Migrants

Origin	Destination										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	N/A
						%					
NFLD			6.5	3.7	4.0	51.0			16.8	12.6	5.4
PEI	11.5		55.5	13.3		19.7					
NS	1.4	15.6		9.1	10.7	50.8	1.2		5.4	4.4	1.5
NB	1.9	1.0	44.0		23.1	17.2	3.6	1.2	2.9		5.0
QUE	0.3		20.8	0.9		23.9			16.1	20.2	17.7
ONT			17.1	1.9	43.3		4.0		9.6	9.4	14.8
MAN	1.7				4.6	23.6		11.8	28.1	23.4	6.7
SASK			1.6	1.0	8.1	10.3	10.4		45.6	22.1	0.9
ALTA	0.2		1.1	3.0	6.2	19.9	1.7	12.3		54.8	0.8
BC			10.6			13.4	1.6	1.5	68.7		4.2

C: All Migrants

Origin	Destination										
	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	ALTA	BC	N/A
						%					
NFLD			6.4	3.6	3.9	50.1			16.4	12.4	7.1
PEI	11.2		54.1	13.0		21.6					
NS	1.4	15.4		8.9	10.5	51.5	1.1		5.3	4.3	1.5
NB	1.9	1.0	44.0		23.1	17.2	3.6	1.2	2.9		5.0
QUE	0.3		18.9	0.8		30.9			14.7	18.4	16.1
ONT			14.1	1.6	37.8		3.3		17.2	11.6	14.5
MAN	1.6				4.2	21.5		15.5	27.0	24.0	6.2
SASK			1.5	1.0	7.9	12.5	10.0		44.2	22.1	0.9
ALTA	0.2		1.0	5.5	8.1	17.6	3.0	10.8		53.1	0.7
BC			8.6			10.9	1.3	5.9	67.7		5.5

Overall, landing patterns of inter-provincial labour mobility show a strong regional concentration.[18] The main destinations for emigrants out of the Atlantic provinces are generally Ontario and Nova Scotia. The majority of migrants moving out of Newfoundland settled in Ontario (over half), Alberta and British Columbia (29%). Migrants leaving Prince Edward Island either stayed in other Atlantic provinces (78%,—mainly Nova Scotia - 54%) or settled in Ontario (22%). Although destinations for those moving out of Nova Scotia spread out all over the country, most of them either stayed in Atlantic Canada (26%) or settled in Ontario (52%). The main destinations for migrants out of New Brunswick were Nova Scotia (44%), Quebec (23%) and Ontario (17%).

The majority of emigrants out of Quebec settled in Nova Scotia (19%), Ontario (31%), Alberta and British Columbia (33%). Destinations for migrants leaving Ontario were mainly Nova Scotia (14%), Quebec (38%), Alberta and British Columbia (29%).

The majority of migrants leaving western Canada either stay in other western provinces or settle in Ontario. The main destinations for those leaving Manitoba were Ontario (22%), Saskatchewan (16%), Alberta (27%) and British Columbia (24%). The majority of those out of Saskatchewan settled in Ontario (13%), Manitoba (10%), Alberta (42%) and British Columbia (22%). Although destinations for movers out of Alberta spread out across the country, over half of them made their new homes in British Columbia. Two-thirds of those leaving British Columbia settled in neighbouring Alberta, another 11% moved to Ontario and 9% to Nova Scotia.

In summary, destinations for immigrant out-of-province migrants are highly concentrated. Alberta was the most popular destination, receiving over one-third of all the immigrant migrants. Ontario and British Columbia tied for the distant second place, each absorbing 17% of them. None of them moved to Newfoundland, Prince Edward Island or Nova Scotia. In contrast, destinations for native-born movers were more evenly spread out across the country. The most favourite provinces for native-born migrants to make their new homes were Alberta (21%), British Columbia and Ontario (17% each), Quebec (14%) and Nova Scotia (13%). As 8 in 9 out-of-province movers are native-born, the most popular destinations for all emigrants very closely resemble that of native-born migrants: Alberta (23%), British Columbia and Ontario (17% each), Quebec (14%) and Nova Scotia (11%).

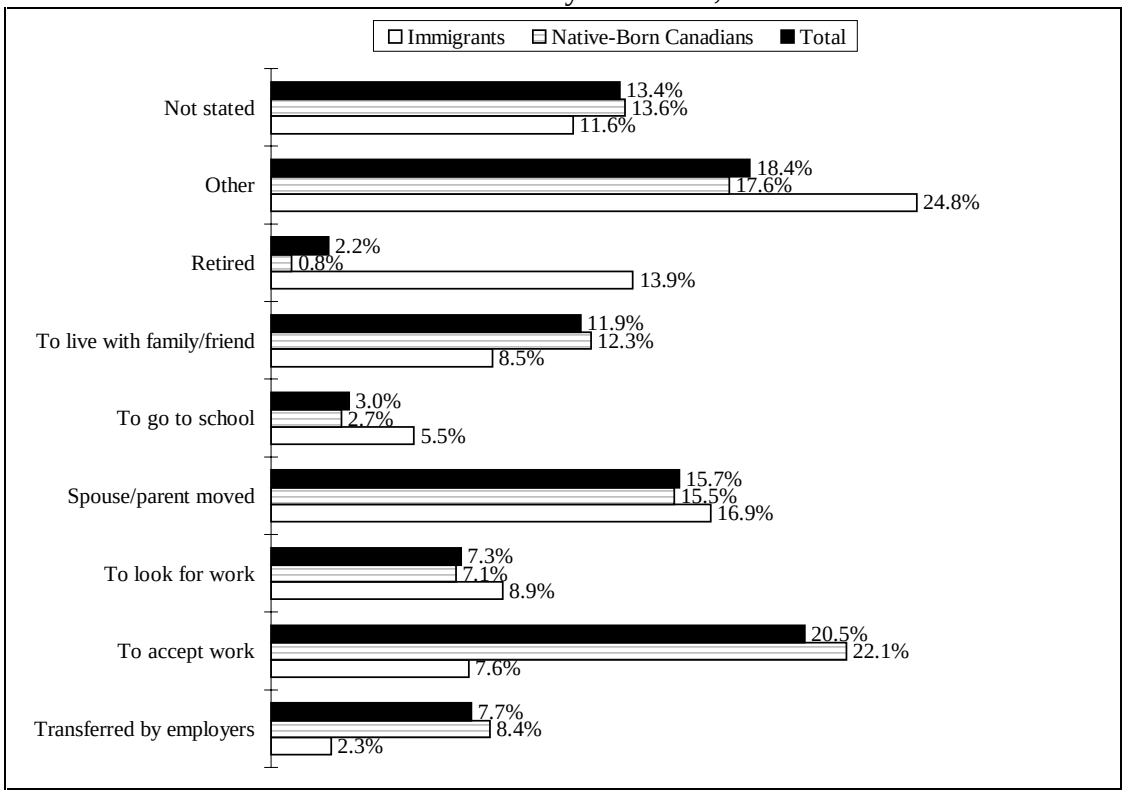
3.4 Reason for Relocations

Reasons for out-of-province migration are shown in Figure 6. Clearly, there are striking differences in the reasons behind immigrants and native-born Canadians for their relocations to other provinces. While a significant fraction of both adult immigrants and native-born Canadians reported moving to other provinces for family-related considerations (because their spouses/parents moved or moved to live with/closer to their family members/friends, 27.8% vs 25.3%), and a significant fraction did not cite any specific reason for their moving (other and not stated, 36.5% vs 31.1%), the main differences lie in economic reasons and moving to go to school

[18] A significant fraction of emigrants out of Quebec and Ontario reported no province of destination (16.1% and 14.5%, respectively). Missing destinations for emigrants out of other provinces are far less significant, ranging from 0.7% in Alberta to 7.1% in Newfoundland.

or moving after retirement. Economic considerations motivated nearly 38% of native-born migrants (8.4% were transferred by their employers, 22.1% moved to accept job offers and 7.1% move to look for work). In contrast, under 19% of immigrants reported moving to other provinces for economic reasons (2.3% were transferred by their employers, 7.6% moved to accept job offers and 8.9% move to look for work). On the other hand, nearly 20% of immigrants relocated to other provinces to go to school (5.5%) or after retirement (13.5%), compared to under 4% of native-born out-of-province migrants (2.7% moved to go to school and 0.8% moved after retirement).

Figure 6
Reasons for Inter-Provincial Labour Mobility in Canada, 1989



3.5 Economic Returns to Mobility

Table 6 reports the "difference-in-difference"[19] estimates of average economic returns to inter-provincial labour mobility for those 16-64 years of age in 1988, who were not full-time students

[19] In general, this method estimates returns to any program (event) by calculating participants' outcome measure changes from pre- to post-participation net of non-participants. Let R = returns, Y = outcome measure, subscripts p and n denote participants and non-participants, and subscripts a and b denote post- and pre-participation, returns to the program are expressed as:

$$R = (Y_{pa} - Y_{pb}) - (Y_{na} - Y_{nb}).$$

This estimator requires data on at least one pre-participation point. The more data on pre-participation points, the closer will the estimate get to the true returns. See Moffitt (1991) for more detailed description and discussion, including problem formulation, methodology application and data requirements.

and with some paid-employment in both pre- and post-move years.[20] Out-of-province migration pays off very handsomely for both immigrant and native-born movers. On average, immigrant movers' nominal annual earnings from paid-employment increased by nearly $7,000 (33%). Due to wage inflation and real improvements in the labour market, immigrant non-movers' earnings also rose, but only by $1,100 (4%). This higher increase in immigrant movers' earnings resulted in a net earnings return to inter-provincial labour mobility of over $5,700, which amounted to 28% of immigrant movers' pre-move earnings.

Earnings return to inter-provincial labour mobility for native-born movers is also substantial but much smaller in magnitude. Annual earnings rose by over $4,500 (19%) among movers but under $2,000 (8%) among non-movers, leading to a net earnings return to inter-provincial labour mobility of over $2,600, which was 11% of native-born movers' pre-move earnings.

Decomposition of annual earnings[21] shows that among immigrant movers, the relative earnings gain to mobility is the result of both wage increase and more hours of work. Hourly wages rose by $2.78 (31%) among immigrant movers but only $1.44 (11%) among their non-moving counterparts, leading to a net wages return to mobility of $1.34 or 15% of immigrant movers' pre-mobility wages. Meanwhile, immigrant movers gained 22 hours a year while stayers lost 86 hours, giving rise to a net annual hours return to mobility of 108 hours or nearly 5% of immigrant movers' pre-mobility level.

In contrast, the substantial earnings return to mobility among native-born migrants is solely due to more hours of work. Hourly wages declined marginally (by $0.08) among native-born movers but increased by $1.39 (11%) among stayers, leading to a net negative wages return to mobility of $1.47 or 11% of native-born movers' pre-mobility wages. However, domestically-born migrants gained 125 hours a year while their non-moving counterparts lost 42 hours, resulting in a net annual hours return to mobility of 167 hours (over 9% of native-born movers' pre-mobility level).

[20] Since mobility took place in 1989, 1988 is used as the pre-move year and 1990 as the post-move year.

[21] Earnings change is equal to three components: i) wages change times hours before mobility; ii) hours change times wages before mobility; and iii) wages change times hours change. Let Y = annual earnings, W = hourly wages, H = annual hours of work, and subscripts a and b denote after and before mobility, annual earnings change is algebraically expressed as:

$$Y_a - Y_b = (W_aH_a - W_bH_b) = (W_a - W_b)H_b + (H_a - H_b)W_b + (W_a - W_b)(H_a - H_b).$$

Table 6
Average Economic Returns to Inter-Provincial Labour Mobility, 1989

	Immigrants		Native-Born Canadians		All	
	Non-Movers	Movers	Non-Movers	Movers	Non-Movers	Movers
Annual Earnings						
After	28,354	27,467	26,830	28,361	27,083	28,245
Before	27,245	20,592	24,903	23,796	25,293	23,381
Change: $[a]	1,109	6,875	1,927	4,565	1,790	4,864
%[b]	4.07	33.39	7.74	19.18	7.08	20.80
Return: $[c]	5,766		2,638		3,074	
%[d]	28.00		11.09		13.15	
Hourly Wages[e]						
After	14.88	11.79	14.35	13.41	14.44	13.19
Before	13.44	9.01	12.96	13.49	13.04	12.91
Change: $[a]	1.44	2.78	1.39	-0.08	1.40	0.28
%[b]	10.71	30.85	10.73	-0.59	10.74	2.17
Return: $[c]	1.34		-1.47		-1.12	
%[d]	14.87		-10.90		-8.68	
Annual Hours						
After	1,850	2,345	1,786	1,934	1,797	1,987
Before	1,936	2,323	1,828	1,809	1,846	1,876
Change: Hours[a]	-86	22	-42	125	-49	111
%[b]	-4.44	0.95	-2.30	6.91	-2.65	5.92
Return: Hours[c]	108		167		160	
%[d]	4.65		9.23		8.53	

a Level change = post-move level - pre-move level;
b % change = 100*(level change / pre-move level);
c Level return = movers' level change - non-movers' level change;
d % return = 100*(level return / movers' pre-move level); and
e Refer to the last (most current) job of the year for multiple-job holders.

4. Immigrant and Inter-Provincial Mobility: Determinants

So far, comparisons between immigrants and native-born Canadians are limited to univariate analysis, without taking into account of possible effects on mobility decisions of labour market outcomes/conditions, personal and job-related characteristics, and policy interventions, which might be different among immigrants than among native-born Canadians. To control for these possible differences, we now turn to multi-variate regression analysis, beginning with some theoretical considerations of geographic labour mobility.

4.1 A Theoretical Framework of Inter-Provincial Labour Mobility

Suppose the objective of all rational individuals is to maximize utility subject to a set of budget constraints: i) total consumption (PC) does not exceed employment earnings (WH) plus non-labour income (Y); and ii) hours of work (H) plus leisure time (L) do not exceed total time available (T). Let V_i be a set of labour market conditions/outcomes from which individual i

derives his/her utility, given a certain vector of personal characteristics, X_i. The objective of all rational individuals can thus be expressed as:

(1) $\max U = u(V;X)$

s.t. $PC \leq WH + Y$; and

$H + L \leq T$.

The standard way to analyze the decision of inter-provincial labour mobility would be to imagine that each individual continuously compares the level of utility he/she would receive for staying in the home province to the level of utility he/she would receive for moving to another province. Let subscript m denote moving to another province and s staying in the home province, individual i's level of utility for moving or staying is written as:

(2) $U_{im} = u_{im}(V_{im};X_i)$; or

$U_{is} = u_{is}(V_{is};X_i)$.

The assumption of utility maximization requires that individual i will move if the level of utility received from moving is higher than from staying, and vice versa. Define $M_i = 1$ if individual i moves to another province and $M_i = 0$ if individual i stays in the home province. Assume further that utility is a positive function of labour market conditions/outcomes.[22] Given a set of personal characteristics (X_i), individual i's decision to move out-of-province or to stay in the home province is expressed as:

(3) $M_i = 1$ if $V_{im} \geq V_{is}$, or $V_{im} - V_{is} \geq 0$; and

$M_i = 0$ if $V_{im} < V_{is}$, or $V_{im} - V_{is} < 0$.

Therefore, a general model of inter-provincial labour mobility is given as:

(4) $M_i = f(\Delta V_i; X_i)$, where $\Delta V_i = V_{im} - V_{is}$.

4.2 Data and Variable Specification

The data used for empirical estimation are extracted from the 1988-1990 longitudinal person-file of the LMAS of Statistics Canada, as noted earlier (2.2A). The dependent variable is constructed through province of residence, taking the value of 1 if an individual's province of residence differs between two survey dates and the value of 0 otherwise.

The level of utility an individual receives from staying in the home province or moving to another province depends upon the potential earnings he/she can expect to receive in the home province or somewhere else. We calculate the weighted average across all other provinces as an instrument for the potential earnings an individual can expect to receive if he/she moves to another province. Thus, the difference between expected earnings elsewhere and the actual earnings enters the model as an explanatory variable. A higher value of the difference, implying higher earnings potentials elsewhere or lower earnings potentials in the home province, represents economic incentives for individuals to move to other provinces.

[22] No specific functional form of utility needs to be assumed here. As long as U is a positive function of V, we have $U_2 > U_1$ if $V_2 > V_1$.

Further, the potential earnings also depend upon whether an individual can find employment in the home province if he/she stays or elsewhere if he/she moves. In the LMAS, those respondents who experience joblessness or interruptions in employment are asked about a series of factors which they believe to have caused difficulty when looking for work. One of these factors is "a shortage of jobs in the area". The relative frequency of this response can be viewed as an index of job unavailability. We calculate the index as the number of individuals who report this job finding difficulty in each province expressed as a percentage of all interviewees in the same province, and define the weighted average across all other provinces as an instrument for the index of job unavailability an individual can expect to face if he/she moves to another province. Hence, the difference between the expected job unavailability (NJA) index in other provinces and the actual job unavailability index in the home province is included as another explanatory variable, serving as an index of the relative provincial labour market tightness.[23] A higher value of the difference, interpreted as harder to find employment elsewhere or easier to find work at home, represents economic disincentives to inter-provincial labour mobility.

The level of utility an individual expects to receive from moving to another province or staying in the home province also depends upon a set of personal and demographic characteristics. Education credentials generally indicate transferable human capital. Higher education represents possibly "more horizons". Therefore, a set of education dummy variables are included to control for education attainments.

Unlike commodities, people can not be packed and shipped. A model of geographic labour mobility must also consider the financial and sociological costs associated with moving. As age increases, one gets more settled into the local community, establishing stronger family ties and social networks. Moving to somewhere else, especially to another province, means loss of these ties and contacts and starting the settlement process all over again. It is thus expected that out-of-province migration declines with age. In Canada, Francophones can be expected to feel particular strong attachment to Quebec, and may move in if living elsewhere or resist to move out if living in Quebec. Dummy variables on age and first language thus enter the model as additional explanatory variables.

Inter-provincial migration also involves financial costs. Typically, these costs include the moving of family members, sale of non-movable assets (e.g., house) if any, and relocation and settlement expenses. In the LMAS, marital status and family size are available but home-ownership is not indicated. Family size is included in the model as proxy for financial costs because marital status does not exactly reflect the number of family members who will accompany the principal mover. It is expected that mobility declines with family size.

For those individuals who have worked for a period of time, moving also means loss of job-related benefit entitlements. Movers must surrender the protection which seniority and union

[23] In other empirical work, local unemployment rates have been used as a proxy for relative labour market tightness but their influence is not consistent (e.g., see Shaw (1985)). Local unemployment rates can vary with variations in either the incidence or the duration of unemployment, or variations in labour force participation withdrawal --- all of which imply that local unemployment rates may not be a very good proxy for the relatively difficulty of finding employment individuals will face when they are making a decision whether to stay or to move.

membership offer against the risk of layoff and very likely have to partially sacrifice job-related pension entitlements if any.[24] Therefore, job tenure, union membership and private job-related pension plan coverage are included in the model as additional explanatory variables. It is expected that out-of-province migration decreases with these variables.

Finally, various labour market intervention programs by governments are believed to also have impacts on inter-provincial labour mobility. These include employment insurance (formerly unemployment insurance), social assistance and various training programs sponsored and administered by Human Resources Development Canada (formerly Employment and Immigration Canada). Hence, dummy variables indicating participation in these programs are also included in the model as additional explanatory variables.

Therefore, for the purpose of empirical estimation, the general model of inter-provincial labour mobility in (4) is more explicitly expressed with explanatory variables as:[25]

(5) $M_i = f\ (\Delta Earnings_i, \Delta NJA_i; Education_i, Age_i, French_i, Famsiz_i; Tenure_i, Pension_i, Union_i; EIB_i, SAB_i, Training_i)$.

4.3 Estimation and Results[26]

Since the dependent variable is dichotomous, we are modelling the determinants of the probability of out-of-province migration. Given that mobility is a low probability event, both Logit and Probit are used in the empirical estimation.

If one is interested in the overall probability of moving out of province among immigrants as a whole relative to native-born Canadians, it is sufficient to estimate Model (5) under the pooled sample of both immigrants and native-born Canadians with a dummy variable indicating if immigrant status. The results suggest that the overall probability of out-of-province migration among immigrants as a whole is not statistically different from that among domestically-born Canadians, after controlling for labour market outcomes/conditions, personal and job-related characteristics, and policy interventions. The dummy variable signifying immigrant status is negative but not significantly different from zero (see Columns 1 and 2 in Table 7).

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[24] Most private job-related pension plans are not transferable, and the loss because of moving is due to lower pensionable earnings base. Consider the following simplified example: two workers with same years of service (35) and identical salary ($40,000 after 25 years of service and $50,000 at retirement). Worker A works for the same employer continuously whereas Worker B moves to a different employer after 25 years of service. Under the same benefit rate (e.g., 2% of highest salary per year of service), annual pension benefits are $35,000 for Worker A (= 2%*35*50,000) but only $30,000 for Worker B [= 2%*(25*40,000 + 10*50,000)]. The loss of pension entitlement associated with moving appears to be substantial.

[25] Osberg and Gordon (1991) also include the provincial per capita natural resource rents and transfer payments as additional explanatory variables. These variables are however statistically insignificant in most cases.

[26] Results reported here are estimated from the final empirical sample of those i) 16-69 years of age in 1988; ii) with valid country of birth; and iii) with positive paid-employment earnings in 1988. Nearly identical results are obtained from the sample of those 16-64 years of age and further excluding full-time students in 1988.

However, this technique allows only the intercept to vary but imposes the same structure of determinants (i.e., same coefficients of explanatory variables) across both sub-samples. In other words, this technique does not allow the possibility that an explanatory variable may have different effects among the two different sub-populations. Since our objective is to investigate and compare the statistical determinants of immigrants' out-of-province labour mobility relative to that of native-born Canadians, we must allow the possible effects of explanatory variables among immigrants to differ from that among native-born Canadians. This is achieved by re-estimating Model (5) with all the explanatory variables fully interacted with immigrants.

The results indeed confirm the above observation that the structure of determinants of out-of-province migration decisions among immigrants is not statistically different from that of native-born Canadians: i) the log-likelihood ratio test (Column 3 vs 4 or 5 vs 6 in Table 7) can not reject the null hypothesis that there is no behavioural differences among the two populations; and ii) none of the interaction terms is significantly different from zero (Columns 4 and 6 in Table 7).

Therefore, the lower mobility rates among immigrants noted earlier are due to compositional differences between the two sub-populations. For example, immigrants are older and have bigger households (see Figure 3 and Appendix), two characteristics that are commonly found to be negatively associated with geographic mobility.

Results on other explanatory variables are all sensible and as expected, except private pension plan coverage. More specifically, other things being equal, the probability of out-of-province migration is higher if earnings potentials elsewhere are relatively higher, lower if it is relatively harder to find employment elsewhere, higher among better educated workers, lower among French-speaking Canadians of whom the majority reside in Quebec, lower among union members, and decreases with job tenure. None of the proxies for government's labour market interventions are statistically significantly associated with Canadians' inter-provincial mobility decisions.

Table 7
Logit and Probit Regression Results on Inter-Provincial Labour Mobility
(Asymptotic t-ratio given in parenthesis)

	With Immig Dummy		No/Full Immig Interaction		No/Full Immig Interaction	
	Logit	Probit	Logit	Logit	Probit	Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-3.82240	-2.01850	-3.83340	-3.82350	-2.02260	-2.01900
	(-19.58)	(-26.16)	(-19.66)	(-18.95)	(-26.25)	(-25.29)
Immig	-0.23676	-0.08205		0.04691		0.06123
	(-1.13)	(-1.05)		(0.06)		(0.19)
ΔEarnings	0.00002	0.00001	0.00002	0.00001	0.00001	0.00001
	(1.86)	(1.84)	(1.86)	(1.65)	(1.84)	(1.69)
ΔEarnings*Immig				0.00001		0.00000
				(0.44)		(0.32)
ΔNJA	-0.06151	-0.02431	-0.06355	-0.05978	-0.02506	-0.02383
	(-4.64)	(-4.62)	(-4.82)	(-4.39)	(-4.80)	(-4.39)
ΔNJA*Immig				-0.01909		-0.00542
				(-0.30)		(-0.22)
Possec	0.53836	0.19926	0.53378	0.56288	0.19797	0.21095
	(4.52)	(4.33)	(4.48)	(4.56)	(4.31)	(4.42)
Possec*Immig				-0.46888		-0.16534
				(-0.95)		(-0.88)
Univ	1.05670	0.39412	1.04150	1.11450	0.38922	0.42419
	(6.77)	(6.45)	(6.70)	(6.84)	(6.39)	(6.59)
Univ*Immig				-0.69701		-0.29242
				(-1.23)		(-1.35)
Age2554	-0.69703	-0.27567	-0.70638	-0.65014	-0.27844	-0.25514
	(-5.59)	(-5.65)	(-5.68)	(-5.06)	(-5.72)	(-5.06)
Age2554*Immig				-0.63773		-0.26221
				(-1.19)		(-1.25)
Age5569	-1.05910	-0.38743	-1.08770	-1.30480	-0.39874	-0.48322
	(-3.51)	(-3.59)	(-3.62)	(-3.49)	(-3.70)	(-3.71)
Age5569*Immig				0.28037		0.06834
				(0.36)		(0.22)
French	-0.61457	-0.22998	-0.59631	-0.59836	-0.22321	-0.22434
	(-3.66)	(-3.74)	(-3.56)	(-3.54)	(-3.64)	(-3.62)
French*Immig				-24.81200		-4.71690
				(-0.00)		(-0.00)
Famsiz2	-0.20612	-0.08004	-0.20649	-0.30109	-0.08099	-0.12142
	(-1.17)	(-1.14)	(-1.17)	(-1.63)	(-1.15)	(-1.65)
Famsiz2*Immig				1.01470		0.40041
				(1.48)		(1.51)
Famsiz3	-0.42412	-0.17168	-0.42943	-0.39864	-0.17343	-0.16382
	(-2.35)	(-2.40)	(-2.38)	(-2.14)	(-2.42)	(-2.21)
Famsiz3*Immig				-0.40619		-0.16800
				(-0.48)		(-0.53)

(continued)

Table 7 (concluded)
Logit and Probit Regression Results on Inter-Provincial Labour Mobility
(Asymptotic t-ratio given in parenthesis)

	With Immig Dummy		No/Full Immig Interaction			No/Full Immig Interaction
	Logit	Probit	Logit	Logit	Probit	Probit
	(1)	(2)	(3)	(4)	(5)	(6)
Famsiz4	-0.54896	-0.21216	-0.55565	-0.53786	-0.21469	-0.21085
	(-3.36)	(-3.27)	(-3.41)	(-3.19)	(-3.31)	(-3.13)
Famsiz4*Immig				-0.16923		-0.06815
				(-0.24)		(-0.25)
Tenure	-0.00130	-0.00046	-0.00130	-0.00148	-0.00046	-0.00053
	(-4.80)	(-4.79)	(-4.79)	(-4.91)	(-4.79)	(-5.01)
Tenure*Immig				0.00127		0.00044
				(1.69)		(1.58)
Pension	0.28967	0.11784	0.28841	0.30535	0.11762	0.12450
	(2.04)	(2.15)	(2.03)	(2.07)	(2.15)	(2.18)
Pension*Immig				-0.09691		-0.04380
				(-0.18)		(-0.21)
Union	-0.38028	-0.14483	-0.37734	-0.37947	-0.14402	-0.14576
	(-2.78)	(-2.83)	(-2.76)	(-2.68)	(-2.81)	(-2.73)
Union*Immig				-0.09293		-0.01296
				(-0.17)		(-0.06)
EIB	-0.21317	-0.08164	-0.21098	-0.17496	-0.08055	-0.06876
	(-1.50)	(-1.50)	(-1.49)	(-1.21)	(-1.48)	(-1.24)
EIB*Immig				-1.22450		-0.47522
				(-1.17)		(-1.29)
SAB	0.13625	0.05998	0.13299	0.13127	0.05921	0.05865
	(0.45)	(0.50)	(0.44)	(0.41)	(0.50)	(0.47)
SAB*Immig				-0.01366		0.02137
				(-0.01)		(0.04)
Training	0.05389	0.01904	0.05051	-0.04511	0.01736	-0.01308
	(0.14)	(0.12)	(0.13)	(-0.11)	(0.11)	(-0.08)
Training*Immig				0.66074		0.24270
				(0.53)		(0.43)
N			36,365			
n (Dep. Var = 1)			373			
LL function	-1,953.9	-1,955.3	-1,954.6	-1,942.8	-1,955.8	-1943.1
LL ratio test			23.6		25.4	

5. Summary, Policy Implication and Conclusion

Canada is a large country, composed of economically diverse and culturally distinct geographic regions. The uneven economic performance across regions constantly generates a continual necessity for adjustments in the labour market. By redistributing workers from areas of low demand to those of high demand, geographic labour mobility serves as an important mechanism for such adjustments, for individual workers as well as for the society as a whole. This paper empirically adds to the literature by extending the analysis of inter-provincial labour mobility to immigrants, in comparison with the native-born population. The following summarizes the main findings.

Foreign-born Canadians differ from their native-born counterparts in may ways. There are substantial differences in geographic distributions. Immigrants are geographically concentrated in a few provinces. In 1991, for example, Ontario housed under 37% of Canada's total population but nearly 55% of all foreign-borns in Canada. Furthermore, immigrants are substantially concentrated in a few big cities. In 1991, the five largest Census Metropolitan Areas (Toronto, Vancouver, Montreal, Ottawa/Hull and Edmonton) were homes to nearly three-quarters of immigrants who arrived in Canada between 1981 and 1991 but only one-third of non-immigrants (HRDC (1996)).

There are also substantial differentials in demographic characteristics, and participation in education, training and social security programs. As a whole, the adult foreign-born population is older, better educated, more likely to be married, and more likely to have dependent children and bigger households. This general picture did not change much between 1988 and 1991. Using the 1991 Census data, Badets and Chui (1994) find that the median age for immigrants was 44.5 years, compared with 31.0 years for the native-born. They also find that a higher proportion of immigrants had university degrees (14% vs 11% among the native-born) and were married (66% vs 52% among the native-born).[27]

Overall, the adult immigrant population is less active in participating in full-time education and training. The participation differentials in social security programs between immigrants and non-immigrants depend upon whether the program is related to demographic characteristics or labour market performance. A higher proportion of immigrants receive benefits that are directly tied to the presence of dependent children or age such as family allowance benefits and pension income. On the other hand, a lower proportion of immigrants receive benefits that are related to labour market performance such as employment insurance benefits and social assistance benefits.

Foreign-born Canadians also differ from their native-born counterparts in labour market experiences. As a whole, immigrants fare relatively better in the labour market: A lower proportion experience unemployment; a higher proportion are employed full-time and covered by job-related pension plans. And on average, immigrant employees work more hours at higher wages, resulting in higher annual earnings.

[27] Note that the LMAS covers persons 16 to 69 years of age whereas Badets and Chui use the population aged 15 and over in their analysis.

In terms of inter-provincial migration patterns, foreign-born Canadians differ a great deal from their domestically-born counterparts. As a whole, immigrants are relatively less mobile inter-provincially. This is true both nationally and across all provinces except Newfoundland and Quebec. Population winners due to inter-provincial migration in 1989 were Nova Scotia, Alberta and British Columbia. All other provinces experienced varying degrees of adult population losses.

Among those who move to other provinces, destinations for foreign-born migrants are highly geographically concentrated. Most of them make their new homes in Alberta, Ontario and British Columbia. In contrast, destinations for native-born migrants are more evenly spread out across the country. The most favourite provinces for them to settle are Alberta, Ontario, British Columbia, Quebec and Nova Scotia.

Reasons behind relocations to other provinces also differ substantially between foreign- and domestically-born migrants. While a significant fraction of both foreign- and native-born Canadians report moving to other provinces for family-related responsibilities or do not cite any specific reason for their moving, economic considerations motivated nearly 38% of native-born migrants but under 19% of immigrant migrants. On the other hand, nearly 20% of immigrants move to other provinces to go to school or after retirement, compared to under 4% among native-born out-of-province migrants.

Out-of-province migration pays off very handsomely for both immigrant and native-born movers. But the average annual earnings return to mobility for immigrant movers is much more substantial than for their native-born counterparts. Furthermore, the relative earnings gain due to mobility among immigrant movers is the result of both wage increase and more hours of work. In contrast, the substantial earnings return to mobility among native-born migrants is solely due to more hours of work. In fact, their post-move wages decline quite significantly relative to their non-moving counterparts.

The above findings are limited to univariate analysis. After controlling for possible effects on mobility decisions of labour market outcomes/conditions, personal and job-related characteristics, and policy interventions, we find no statistically significant structural differences in the determinants of inter-provincial migration decisions between foreign- and native-born Canadians. In other words, the probability of moving to other provinces among immigrants is not statistically different from that of their comparable native-born counterparts. This probability is higher if earnings potentials elsewhere are relatively higher, lower if it is relatively harder to find employment elsewhere, higher among better educated workers, lower among French-speaking Canadians (of whom the majority reside in Quebec), lower among union members, and decreases with age, family size and job tenure. None of the proxies for government's labour market interventions significantly affect Canadians' decision to move inter-provincially. This is consistent with results found in other work using earlier wave (1986-1987) of the LMAS (e.g., Osberg, Gordon and Lin (1994), Cahill (1993), Osberg and Gordon (1991)).

The lower mobility rates among immigrants noted earlier are due to compositional differences between the immigrant and non-immigrant populations. A significantly higher proportion of immigrants live in Ontario and British Columbia, two of the most economically prosperous provinces, and hence face lower levels of economic incentives to move to other provinces.

Immigrants are also older and have bigger households, two characteristics commonly found to be negatively associated with geographic mobility.

The importance of immigration in Canada's labour market, economy and society raises a great number of policy issues. For example, high levels of immigration in recent years have given rise to the increasing number of students for whom neither English nor French is their primary language, especially in bigger cities where immigrants are concentrated. How to deal with this trend remains an important policy question for the education system. Another policy issue is discrimination in the labour market. Governments have responded with legislations designating "visible minorities" as one of four groups (other groups are women, the aboriginal and the handicapped) targeted for affirmative action to promote employment equity. But how to actually implement affirmative action remains controversial. These issues are beyond the scope of this paper.

Our focus is on immigrants' inter-provincial migration. Possible policy implications are directly tied to immigrant selection. If the policy objective is to encourage balanced population and labour force growth across all provinces, intended destinations might be considered as an additional factor in the current selection and approval system, and additional points be awarded to those applicants who choose economically less prosperous provinces to settle upon arrival. As more and more new immigrants are arriving, some characteristics of the immigrant population will likely change over time, such as the age distribution which may trend to be younger as most immigrants arrive as young adults, that may increase inter-provincial migration. But other characteristics such as marital status and family size, which are negatively associated with inter-provincial migration, will likely remain relatively unchanged due to different cultural and traditional considerations.

Finally, we conclude with one qualification. As noted earlier, inter-provincial labour mobility serves as one mechanism for labour market adjustments. As labour market adjustments are dictated by the phase of the business cycle, so must be inter-provincial labour mobility. Mobility behaviour observed in one particular phase of the business cycle may very well be different from that in other phases. Therefore, one should not generalize the findings of this paper to mobility behaviour in other periods.

To overcome this time-specific weakness of one particular paper, analysis using data covering other phases of the business cycle is required. Fortunately, the 1993-1994 longitudinal file of the Survey of Labour and Income Dynamics (SLID) of Statistics Canada is available now. The analysis will be updated and inter-provincial labour mobility of immigrants will not only be compared cross-sectionally with that of native-born Canadians but also over time.

Appendix

Table A

Variable Definition and Sample Statistics

Variable	Definition	Sample Means		
		All	Immigrants	NBCs
Dep. Var.	= 1 if moved to another province between January/February 1989 and January/February 1990	0.0103	0.0075	0.0106
Immig	= 1 if immigrant	0.0959		
ΔEarnings	= average earnings in other provinces - own earnings	6084.9	4479.8	6255.1
ΔNJA	= average no job availability index in other provinces - average no job availability index in home province	-1.3234	0.4795	-1.5145
Possec	= 1 if high school ≤ education ≤ university	0.2751	0.2685	0.2758
Univ	= 1 if education ≥ university	0.1206	0.2011	0.1121
Age2554	= 1 if 25 ≤ age ≤ 54	0.6914	0.7163	0.6887
Age5569	= 1 if age ≥ 55	0.0848	0.1615	0.0767
French	= 1 if French is the first language	0.1988	0.0316	0.2166
Famsiz2	= 1 if family size = 2	0.2181	0.2005	0.2199
Famsiz3	= 1 if family size = 3	0.2209	0.2232	0.2207
Famsiz4	= 1 if family size = 4+	0.4620	0.4837	0.4598
Tenure	= # of weeks worked at the latest job	306.22	364.99	299.99
Pension	= 1 if covered by a private pension plan	0.4087	0.4759	0.4015
Union	= 1 if union member	0.3749	0.3873	0.3736
EIB	= 1 if received employment insurance benefits	0.2029	0.1320	0.2104
SAB	= 1 if received social assistance benefits	0.0229	0.0172	0.0235
Training	= 1 if participated in government-sponsored training	0.0128	0.0109	0.0130
N		36,365	3,486	32,879

Table B

Weighted Average Annual Earnings and No Job Availability Index by Province, 1988

	Annual Earnings ($)		No Job Availability Index (%)	
	Other Provinces	Home Province	Other Provinces	Home Province
Newfoundland	21,312.59	15,156.22	5.0	15.4
Prince Edward Island	21,218.56	14,430.55	5.2	11.9
Nova Scotia	21,298.08	17,822.59	5.1	8.3
New Brunswick	21,305.35	16,822.18	5.1	10.3
Quebec	21,618.70	19,929.16	5.1	5.5
Ontario	20,012.91	23,063.12	6.7	2.6
Manitoba	21,273.86	19,063.31	5.2	5.9
Saskatchewan	21,279.79	18,424.01	5.2	6.2
Alberta	21,108.18	21,954.13	5.2	5.3
British Columbia	21,095.97	21,913.25	4.8	7.8

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