INTERPROVINCIAL REDISTRIBUTION OF CANADIAN IMMIGRANTS DURING THE PAST QUARTER OF A CENTURY

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SUMMARY

Data from the 1981, 1986, 1991, 1996, and 2001 Censuses of Canada offer evidence on the migration experience of earlier immigrant cohorts in the five years prior to the census. These censuses provide direct data on interprovincial flows of immigration cohorts during the 1976 to 2001 period. They also provide indirect evidence for the internal redistribution of those immigrants who arrived in Canada between during the five years prior to each census. This paper shows that, although interprovincial mobility is common for all segments of Canadian society, including both Canada-born and foreign-born, interprovincial redistribution shifts of immigrants are nonetheless significant. Shifts in provincial populations attributable to migration over five year period may exceed 10 percent, while the short-run effects on the foreign-born of specific ethnic origin may be even larger.

Data on the foreign-born are compared to information about the internal migration patterns of the Canada-born. Foreign-born and Canada-born migration patterns are similar in three ways: (1) migration tends to be out of the Atlantic and Prairie provinces and into Ontario, British Columbia, and Alberta; (2) migration tends to be from less to more populated provinces; and (3) foreign-born and Canada-born migration appears to respond to differences in unemployment, wage rate, and labour force size differences in the same manner. Nevertheless, there are differences. The Canada-born tend to move from provinces with a higher proportion of foreign-born population, while the foreign-born are more likely to stay in provinces with a higher proportion of the foreign-born of the same ethnicity as themselves.

Regarding the question of whether immigrants tend to concentrate or disperse during their initial year of residence in Canada, these data provide no systematic evidence of dispersion of immigrants throughout the Canadian provinces. Immigrants move more than the Canada-born population during their first 20 years in Canada and, at the provincial level, they tend to stay in provinces in which there are a higher proportion of their immigrant co-ethnics. Analysis of the migratory behaviour of recent immigrant cohorts provides evidence that there are distinct patterns of higher and lower migration for some ethnic origin groups. Moreover, groups vary in their response to the proportion of foreign-born of the same ethnicity.

INTRODUCTION

Canadian immigration has played a significant role in the growth of the Canadian population, not only in terms of the character, magnitude, and timing of overall growth, but also as a factor in internal distribution (Beaujot, 1991 and 1995; Badets and Chui, 1994). Previous research has tended to regard these effects on provincial or metropolitan populations as a function of direct immigration to specific locations. The effects of redistribution from migration after arriving in Canada have received relatively limited research (however, see Moore, et al., 1990 for a study of the geographic redistribution of Canadian immigrants; Belanger, 1993 for discussion of selected factors and migration; Nogle, 1994 for an examination of admission information and internal migration of immigrants; Ram and Shin, 1995 for cohort data on the settlement patterns of recent immigrants; Newbold, 1996b for a comparison of foreign-born and Canada-born internal migration; and Citizenship and Immigration Canada, 2000 for analysis using administrative records).

The distribution of immigrant groups is a function of two major processes: (i) flows of immigrants to Canada and their initial choices of residence and (ii) subsequent relocation behaviour, a process including moves within Canada, return migration to their home country, and emigration to a third country. Analysis of the changing distribution of the foreign-born population focuses mostly on the net effects of emigration and moves within Canada, without any attempt to isolate either the different types of flow or the impacts of different cohorts.

This paper examines the interprovincial mobility patterns of the Canada-born and immigrants who arrived in Canada in the 20-year periods prior to the censuses of 1981, 1986, 1991, 1996, and 2001. The first section compares the extent to which immigrants disperse throughout the country as time in Canada elapses with the interprovincial migration rates of the Canada-born population. The second section presents the results of estimating a statistical model of the determinants of interprovincial migration. The third section discusses the conclusions and policy implications of the study.

EMPIRICAL BACKGROUND

The study of the internal migration of immigrants is important in light of the expanding numbers of immigrants to Canada. The ability to predict which areas of the country will receive immigrants and which areas gain and lose from the redistribution of immigrants would help to improve our understanding of future population change. Further, if it is the case that immigrants tend to cluster where their countrymen are located, this has important consequences for the planning of services and for the integration of immigrants within Canadian society.

The issue of the geographic distribution of immigrants, taking into account their initial place of settlement and the redistribution after settlement, has become more important in recent years for Canadian public policy debate. During the past decade, changes have been made in Canadian immigration policy to permit provincial governments, in partnership with the federal Citizenship and Immigration Canada agency, to admit immigrants under the "Provincial Nominee Program." There has been growing interest in the increasing settlement of immigrants in the three largest cities – Toronto, Vancouver, and Montreal – and the possible concentration of immigrants after initial settlement in these three large metropolitan areas (Citizenship and Immigration Canada, 2001). Where immigrants move, and whether they disperse or concentrate after arrival, has great bearing on these current policy debates.

INTERPROVINCIAL MIGRATION

Migration between the provinces of Canada has been one of the key variables affecting the overall distribution of the population. The flow of population across provincial boundaries has tended to follow changes in economic opportunities, with strong economic growth and increased employment attracting a large proportion of migrants. Economically disadvantaged provinces have had difficulty attracting migrants, and in some cases have had a net outflow of population. Regional economic booms and busts have resulted in shifts in the flow of

population.

Table 1 presents the percentage distribution of the Canadian population, by provinces, from 1871 to 2001. Since the 1930s, net interprovincial migration in Canada generally has been from the Atlantic Provinces, Quebec, Manitoba, and Saskatchewan to Ontario, British Columbia, and more recently to Alberta. As a result, these latter three provinces have claimed an increasing share of the Canadian population at the expense of the other regions.

Atlantic Canada has witnessed a continued net outflow of migrants since 1931. The lack of a strong, diversified economy combined with reduced employment opportunities in fishing and other resource industries has resulted in outflows of several thousand persons per year in recent decades. With natural increase going down and substantial levels of out-migration, Prince Edward Island was the only Atlantic province to experience population growth between 1996 and 2001. Most migrants from Atlantic Canada have moved to Ontario or Alberta in the past decades.

Quebec has experienced large net outflows of migrants for the past four decades, especially since 1976. An excess of about 15,000 more persons departed Quebec each year than arrived. Most migrants leaving Quebec moved to Ontario. To a large extent, the net outflow from Quebec has been the result of a decrease in the flow of persons moving to Quebec. During the early 1960s, Quebec received about 45,000 migrants each year. In-migration dropped to about 25,000 per year in the past 15 years.

Ontario has had a diversified economy and strong employment growth that has attracted in-migrants for many decades, with the exception of the 1970s when there was a net outflow of population. In the past five years, Ontario has had a net gain of about 80,000 immigrants and about 25,000 internal migrants each year. The largest proportion of internal migrants to Ontario comes from Quebec, with the second most common origin from Alberta.

Manitoba and Saskatchewan have had a net outflow of migrants since the 1930s. Many factors have contributed to the outflow: the Depression and drought of the 1930s, the revolution

in farm technology and the expansion of larger farms, and an economy heavily dependent upon the farm industry. Net outflows of people were particularly heavy for Saskatchewan during 1931 to 1961 and during 1996 to 2001, when the province experienced an absolute decline in the population. From 1996 to 2001, Manitoba had the smallest province population increase since 1981. In recent years, the net outflow has continued, but at a level of about 1,000 per year for the two provinces combined. Before World War II, most migrants from Manitoba and Saskatchewan went to British Columbia or Ontario. In the past several decades, Alberta has received the major share of migrants from the two provinces.

Alberta has had fluctuations in migration flows, reflecting the volatility of its economy. The drought in the 1930s depressed its farm economy and resulted in a net population outflow. With the expansion of the oil and gas industry, there was rapid economic growth from 1941 to 1976, with a net inflow of population. There was a subsequent boom and bust of the oil and gas industry in Alberta, resulting in a massive influx of people during 1976 to 1981, with a net gain of about 186,000 internal migrants, and a substantial outflow during 1981 to 1986, with a net loss of about 29,000 internal migrants. Fluctuations in flows continued during 1986 to 1991 with the result that Alberta had almost the same proportion of the Canadian population in 1991 as it had in 1981. Alberta resumed population growth in the 1990s, becoming Canada's fastest growing province in the 1996-2001 period. There was a net in-migration of about 30,000 annually from other Canadian provinces to Alberta in recent years, giving Alberta is fastest growth rate since the height of the oil boom in the early 1980s.

British Columbia has historically received net inflows of population from the rest of Canada. It is the only province to grow faster than the national average in every census since it joined Confederation in 1871. Its favourable climate, attractive scenery, and relatively strong economy have all contributed to its attractiveness for Canadian internal migration. The relatively severe economic recession of the early 1980s, however, reduced internal migration from previous levels of about 25,000 net migrants per years. During several years in the early 1980s, British

Columbia experienced net outflows of population for the first time. Alberta was the main source of in-migrants to British Columbia and the main destination for those leaving British Columbia. In recent decades, the flow of population between British Columbia and Alberta has rivalled the stream between Quebec and Ontario as the single largest migration stream in Canada. In the 1996-2001 period, British Columbia's population growth continued to outpace the national average but the trend was slowing. 2001 census data reveals that the high number of immigrants settling in the province offset a net outflow of British Columbia residents to other provinces in recent years.

Overall, the flow of Canadian internal migration during the past century has contributed to shifts in the provincial distribution of population in a generally westward direction. In the post-World War II period, the proportion of the Canadian population in Ontario, British Columbia, and Alberta has grown, while the remaining provinces and territories have seen their shares of the national population decline. The percentage of the Canadian population in Ontario, British Columbia, and Alberta increased from 48 percent in 1951 to 61 percent in 2001. The Atlantic Provinces have seen their share of the Canadian population decrease the most of any region. The proportion of the population in the Atlantic Provinces halved in the post-war period, from 18 percent of all Canadians in 1951 to less than 8 percent in 2001. Quebec, Manitoba, Saskatchewan, and the Northwest and Yukon Territories and Nunavut experienced declines in their shares of population in the post-war period.

CANADIAN IMMIGRATION

Canada admitted 220,000 immigrants in 2003 and admitted about 170,000 to 260,000 immigrants annually in the past decade. The immigration rate (the number of immigrants per 1,000 population) for 2003 was 7.0, a figure that is substantially higher than other major immigrant-receiving countries. The immigration rate for Australia, New Zealand, and the United States has averaged about 2 to 4 per 1,000 in recent years (Smith and Edmonston, 1997: 62-65).

Immigration has been an important component of Canadian population growth for the past four centuries. In fact, immigrants from Europe and Asia had come to the present territory of Canada long before 1867 Confederation. During the past 150 years, the number of immigrants coming to Canada has been quite high relative to other immigrant flows throughout the world. Only Australia and the United States have experienced comparable heavy immigration, albeit there have been larger numbers of immigrants into the larger U.S. population.

The history of immigration to Canada since the inception of official record keeping in 1851 to the present can be summarized as follows. Records clearly show the immigration boom that occurred during the late decades of the nineteenth century through the period immediately preceding World War I. This period, a time of rapid urbanization and industrialization and the settlement of the prairies, saw especially large immigration from Europe and modest labour migration from Asia (mainly from China and less so from Japan and the Philippines). The peak year for immigration was 1913, when over 400,000 immigrants arrived. In the peak 5-year period of 1908 to 1913, about 1,568,000 immigrants arrived in Canada, an addition of almost 5 percent of the population per year (this contrasts to the peak year of 1907 in the United States, when immigration added 3 percent to the population). By 1913, over one-fifth of the Canadian population had arrived in the preceding five years. From the perspective of the foreign-born population, over one-half of the immigrants in Canada in 1913 had arrived in the previous five years. In contrast, few immigrants came during World War I, the Depression, and World War II.

Immigration increased steadily in the years after World War II, since Canada enjoyed a high degree of political freedom and economic prosperity compared with Europe and many other parts of the world. Table 2 shows the volume of immigration and country of birth of immigrants for the 1946-2003 period. Available employment in the expanding manufacturing and resource sectors of the economy gave ample opportunities for the new wave of immigrants. Changes in Canada immigration legislation and the removal of national restrictions have affected the composition of immigrants during the past five decades. In the 1946-1955 period, for example,

immigration from Europe and the United States accounted for over 90 percent of Canadian arrivals. Immigrants from the United Kingdom contributed more than one-fourth of arrivals in the 10 years after World War II. On the other hand, immigration from Asia and the Pacific accounted for only 4.5 percent of arrivals during 1946 to 1955. The national-origin of immigration shifted somewhat in the late 1950s and early 1960s and then took a noticeably different form by the 1970s, with a marked decline of immigration from Europe and increased immigration from Asia and other areas (the Caribbean, Latin America, and Africa). In recent years, more than 50 percent of Canadian immigrants are from Asia, with the largest source countries being China (16 percent of total immigration), India (11 percent), Pakistan (6 percent), and the Philippines (4 percent). Among non-Asian countries, the major sources in 2000 were the United States (3 percent), Iran (2 percent), Yugoslavia (2 percent), the United Kingdom (2 percent), and Russia (2 percent). Hong Kong, which was the largest source country in the 1980s, has accounted for only a modest amount of immigration in recent years.

MIGRATION PATTERNS

The 1981, 1986, 1991, 1996, and 2001 Canadian censuses provide statistics that can be used to describe the internal migration patterns of recent immigrants to Canada. This paper restricts analysis to interprovincial migration during the five-year period preceding the census.

The "new immigrant" population--or immigrants arriving in Canada since major changes were introduced into Canadian immigration legislation in the 1960s--is stratified into four cohorts based on the year of arrival in Canada: arrivals 15 to 20 years prior to the census, arrivals 10 to 15 years prior to the census, arrivals 5 to 10 years prior to the census, and arrivals within 5 years of the census. The individuals in each of these cohorts are restricted to those males of working age (aged 20 to 50 years) at the time of their arrival in Canada; hence, the most recent arrivals, those who came within five years of the census, are aged 20 to 55 years at the time of the census, while those who came 5 to 10 years prior to the census are aged 25 to 60 years at the

time of the census, those who came 10 to 15 years prior to the census are aged 30 to 65 years at the time of the census, and those who arrived 15 to 20 years prior to the census are aged 35 to 70 years at the time of the census. For comparison, the paper includes analysis of Canada-born males, aged 20 to 60 years at the time of the census.

The ethnic origin of immigrants has changed during the past twenty years (see Table 2). There have been substantial declines in the proportion of immigrants who are West or South European, and relative increases in the proportions that are East European, East Asian, other single origins, and multiple origins. The proportion of immigrants who are South Asian has fluctuated in the range of 10 to 14 percent, but evidences no overall trend of change.

Cross-sectional comparisons. One way to describe the internal migration patterns of recent immigrants to Canada is to calculate an index of dissimilarity for the various samples of immigrants studied: this statistic provides a summary measure of the extent to which each of the groups is geographically dispersed throughout Canada.[1] The index of dissimilarity is defined as one-half of the sum of the absolute value of the deviations of the provincial distribution of a group compared to the provincial distribution for the total Canada-born population. If a group has the same provincial distribution as the total population, the index of dissimilarity will be zero. Higher values of the index represent greater geographic concentration. I calculated indexes for seven main ethnic origin groups -- West European, East European, South European, South Asian, East Asian, other single origins, and multiple origins -- and for subcategories within some of the groups (see Table 3).

We note first changes in the index of dissimilarity for immigrant ethnic groups, compared to the overall Canada-born population, for cross-sectional comparisons in 1981, 1986, 1991, 1996, and 2001. Each immigrant ethnic group includes males who arrived in Canada within the 20-year period prior to the census. We expect that immigrants, for all ethnic groups, would tend

[1] Nunavut became Canada's third territory on April 1, 1999; separate census data on Nunavut became available for the first time in 2001, when Canadian data are tabulated for 13 provinces and territories. Nunavut was formerly part of the Northwest Territories. Nunavut's population numbers about 29,000 and 85 percent are Inuit. Relatively few immigrants live in Nunavut.

to concentrate in selected places of initial settlement. Over time, immigrants may move to other provinces, but we would expect that these initial cross-sectional dissimilarity measures would not show differences from the provincial distribution of the Canada-born population.

As shown in Table 3, immigrants differ in their provincial distribution from the Canada-born population. Dissimilarity indices are typically in the range of 20 to 40, reflecting moderately different levels of provincial residence for immigrants, for 1981 to 2001. For some ethnic groups, including French, Ukrainians, and Portuguese, there are noticeably higher dissimilarity indices, which indicate that these three ethnic groups tend to concentrate in a few provinces. There are no obvious trends over time for the ethnic groups, as measured for specific groups or for broader categories of ethnic groups.

Duration of residence trends. The index can be used to answer the question whether immigrants become more geographically dispersed as they acquire years of residence in Canada. We limit attention to results for the 1991 census here because presenting results for each of the five censuses would be lengthy. Results for the other censuses are closely similar to those for 1991. To the extent that immigrants are able to learn about opportunities in other parts of the country as time in Canada elapses, I expect to observe greater dispersion over time. A possible offsetting factor is that immigrants may move from their initial destination in Canada to areas with more co-ethnics in order to enjoy the support of ethnic enclaves. This would result in greater concentration over time. Changes in the four immigrant cohorts reveal the degree of dispersion during 1986 to 1991 (see Table 4).

Three important findings emerge from comparing the index of dissimilarity values. First, the immigrants are more geographically concentrated than the overall Canadian population in the 12 provinces and territories in 1991. The indexes of dissimilarity range from 18 to 54 for the various immigrant cohorts by ethnicity, indicating substantial concentration compared with the overall population. It should be emphasized, however, that all specific ethnic groups in Canada, regardless of ethnic origin, are more concentrated than the overall population. The lowest

dissimilarity index among Canada-born residents is 17 for the broad West European group. So, while immigrants are more concentrated than the overall population, this fact should be interpreted in light of the general levels of concentration for particular ethnic origin groups.

Second, there is considerable variation in the concentration of immigrants compared with Canada-born persons of similar ethnic origin. For the main ethnic categories, West European, South Asian, and other single origin immigrants are consistently more concentrated than their Canada-born counterparts. But, for the other main ethnic categories, there is not a clear conclusion about the comparative concentration of immigrants and Canada-born residents. There are some noticeable exceptions in the concentration of immigrants. French, other East European, West Asian, and multiple origin immigrants are more dispersed than their Canada-born counterparts.

Third, for each of the main regions of origin groups, there is no evidence of increased dispersion over time. East European immigrants have tended to become less concentrated over time, while the concentration of West European and multiple origin immigrants appears to have increased. For other main immigrant groups -- South European, South Asian, East Asian, and other single origins -- there is no apparent trend in dispersion over time.

Since the country composition for each of the main regional groups is likely to have changed over time, the constancy of the indices of dissimilarity across cohorts need not imply that there has been no dispersion for a give subcategory. For example, subgroups that are more dispersed on arrival to Canada may account for a larger proportion of the main regional group that has recently arrived; this would mask the dispersion over time of other subgroups that represented a large share of the early cohorts. Hence, one needs to study the trend in indices for selected subgroups. There are only a few cases, however, in which a greater provincial dispersion of the cohorts that arrived earlier is observed. In sum, the evidence fails to offer support for the hypothesis that, as time elapses in Canada, the immigrants become more dispersed throughout the country.

Panel data comparisons. Of course, one of the problems with this part of the data analysis is that the index is calculated from cross-sectional data on immigrants living in Canada at the time of the census. I have interpreted these data in a quasi-panel format in order to draw some conclusions about changes in geographic dispersion over time. Actually, this conclusion can be based only on data for a given sample of immigrants who are observed at more than one point in time. Since individuals in each census were asked where they lived five years prior to the census, it is possible to create a panel for this group. I calculated the indices of dissimilarity for these individuals first for their locations five years prior to the census and then for their locations at the time of the census. If the dispersion-with-time hypothesis is correct, then we should observe a decrease in the index of dissimilarity between each of these two dates, for each of the five recent Canadian censuses.

I calculated the average change in the index of dissimilarity for each of three immigrant cohorts: arrivals 5 to 10 years prior to the census, arrivals 10 to 15 years prior to the census, and arrivals 15 to 20 years prior to the census. This results in a set of dissimilarity indices for three immigrant cohorts, for each ethnic group, for each of five censuses. In order to summarize these detailed calculations, two further calculations are made. First, the change between the two dissimilarity indices is calculated by subtracting the index at the time of the census from the index five years prior to the census. Second, the average of the change measures is calculated from the three immigrant groups.

Results for the average of the panels of immigrant cohorts are presented in Table 5. If an ethnic group is concentrating, the change measure will be positive. If an ethnic group is dispersing, the change measure will be negative. When the main ethnic groups are not disaggregated, the indices change little during the five years prior to the census. The following findings emerge:

- West European immigrants concentrated slightly during 1976-81, 1981-86, and 1986-91 and evidenced little change during 1991-96 and 1996-2001.

- East European immigrants concentrated only during 1986-1991 and dispersed during the other four census periods.
- South European immigrants dispersed during 1976-81, 1981-86, 1986-91 and 1996-2001.
- South Asian and East Asian immigrants concentrated during the past four census periods. Separate ethnic origin data are not available for these two groups from the 1981 census.
- Other single-origin groups concentrated in 1976-81, 1981-86, and 1991-96 and dispersed in 1986-91 and 1991-2001.
- Immigrants reporting multiple ethnic origins concentrated in the first two census periods and dispersed in the more recent three census periods.

For certain ethnic subgroups, there is evidence of increased dispersion during the past 25 years. German, Hungarian, Greek, Italian, Portuguese, and Spanish immigrants fairly consistently dispersed during each of the five-year periods prior to the census. On the other hand, it appears that British, Dutch, Polish, and Chinese immigrants tended to concentrate during each of the five-year census periods. Overall, these panel data, reporting on five-year provincial population changes from 1976 to 2001, do not provide systematic evidence for either concentration or dispersion for immigrants during their first 20 years of residence in Canada. If the broad expectation is that immigrants disperse after initial settlement in Canada, then this data do not offer support for this notion.

The preceding analysis, based on an interpretation of cross-sectional, quasi-panel, and panel data, provides a picture of the provincial redistribution of immigrants. It is possible to conclude that geographic dispersion over time occurs for selected immigrant ethnic groups, but it is not a typical characteristic of the recent "new immigrants" to Canada.

Interprovincial migration rate. Although the recent immigrants are not dispersing throughout the country, are they moving at all, or are they remaining in their original provinces? In other words, it is possible that these immigrants are moving between provinces but that the degree of dispersion of the group is not changing; that is, person A moves from province 1 to

province 2 while person B – of similar ethnicity -- is moving from province 2 to province 1. The percentages of various immigrant and ethnic native groups who moved between one of the 12 provinces and territories (13 provinces and territories in 2001) during the five-year period prior to the census are next examined (see Table 6). As before, the results are specific to the particular ethnic group. This table shows the percent of immigrants moving interprovincially minus the percent of Canada-born residents moving interprovincially.

It is difficult to compare the propensity for interprovincial migration for immigrant cohorts and the Canada-born because the age distribution varies; however, analysis reported by Nogle (1994) suggests that recent Canadian immigrants have relatively high rates of internal migration in their first years in Canada. Table 6 provides evidence that there is substantial variation in the interprovincial migration rates by ethnic origin. West European, South Asian, East Asian and other single-origin immigrants have higher interprovincial migration rates, typically about 2 to 3 percentage points greater than the Canada-born population. East European and South European immigrants are less migratory and have rates below the Canada-born population. Some specific ethnic origin immigrants have higher relative migration rates (British, Dutch, and French), but only two of these groups (British and French) are associated with noteworthy shifts in provincial distribution, as evidenced by the earlier analysis.

The major conclusion from the preceding analysis is that there is little systematic evidence of dispersion of the immigrants throughout Canadian provinces. This is true even for the ethnic groups whose interprovincial migration rate greatly exceeds that of any of the native groups. In other words, immigrants do move between provinces during the first 5 to 20 years in Canada, but this mobility varies for ethnic-origin groups. In some cases, the mobility concentrates the ethnic group. In other cases, it disperses the group. And, in many cases, it does not substantially alter the indices of dispersion.

PROVINCIAL MIGRATION LEVELS

This section describes the levels of out-migration and in-migration for Canadian provinces for the Canada-born and for three immigrant cohorts (arrivals 5 to 10 years prior to the census, arrivals 10 to 15 years prior to the census, and arrivals 15 to 20 years prior to the census), comparing out-migration rates for 10 Canadian provinces and for the combined population of Yukon, Northwest Territories, and Nunavut (these detailed tabulations are not shown in this paper; they are described here to provide a context for the multivariate analysis reported in the next section). Out-migration rates are higher for recent immigrants than the Canada-born with some exceptions (Ontario, Alberta, and British Columbia have similar out-migration rates for the Canada-born and foreign-born). Out-migration rates are especially high for the foreign-born in several provinces; rates are above 20 per 1,000 in Newfoundland, Prince Edward Island, Nova Scotia, New Brunswick, Saskatchewan, and Yukon and Northwest Territories. It should be noted that there is not a consistent monotonic decrease in out-migration rates with increased duration in Canada for recent immigrant cohorts. There are noticeably high rates of out-migration for the recent immigrant arrivals in Newfoundland and Yukon and Northwest Territories, but for other areas, out-migration rates sometimes increases for earlier immigrant cohorts.

Ontario, Alberta, and British Columbia are the predominant provinces of destination for both Canada-born and foreign-born persons. In-migration rates for the foreign-born are higher than the Canada-born for Ontario and British Columbia, indicating their favoured position as places for resettlement after arrival in Canada. Among recent immigrant arrivals, an especially high number go to Ontario and British Columbia, although it should be noted that lesser numbers go to Nova Scotia, Quebec, and Alberta. Relatively few Canada-born or foreign-born migrate to other provinces and territories.

In summary, the provincial patterns of migration during the past 25 years reveal a movement out of Atlantic Canada, Manitoba, Saskatchewan, and Yukon and Northwest Territories to a few provinces, primarily Ontario, British Columbia and, to a lesser extent, Alberta. Migration rates for the foreign-born differ from those of the Canada-born in several

ways: (1) the out-migration and in-migration rates are higher for recent immigrant arrival cohorts, (2) out-migration rates are especially high for Newfoundland and for Yukon and Northwest Territories, and (3) in-migration rates are much higher for Ontario and British Columbia.

MIGRATION PROCESS

This section describes and provides estimates for a statistical model of the determinants of the interprovincial migration of recent immigrants to Canada. In the first part, the model is described. The second part defines the variables used in the model. The third part presents the results for the immigrants and compares them to results for natives of similar ethnicity as well as the overall Canada-born population.

DETERMINANTS OF INTERNAL MIGRATION

Previous research on Canadian internal migration has often viewed migration as an adjustment for imbalances between areas. From an economic perspective, migration has been seen as an adjustment mechanism to differentials in incomes and employment opportunities. Such migration followed from economic theory (Sjaastad, 1962) that views an individual's migration as a human capital investment in which a person will move if the discounted net gains from moving are positive. Prior research findings in Canada and other countries have generally reported results in the predicted directions (Robinson and Tomes, 1980; Newbold and Liaw, 1994). Previous Canadian work has also demonstrated that social imbalances and ethnic affinity affect migration (Trovato and Halli, 1983 discuss ethnicity and migration for Canada; Trovato, 1988 presents a useful discussion of ethnicity, language, and nativity relationships with intraurban mobility). One important provincial difference is language. Language reflects cultural ties, the ability to understand local communication, and consumption patterns. In the past, individuals who speak only French are less prone to emigrate from Quebec and more likely

to be out-migrants from other provinces (Belanger, 1993; Langlois, 1993; Langlois and Castonguay, 1993; and Kaplan, 1995 offer recent research on migration and language). Conversely, individuals who speak only English are more likely to leave Quebec and are less likely to move there. There are various results for bilingual speakers, whether Anglophones or Francophones, and these results are not summarized here.

In order to study the determinants of the probability of moving, those variables that measure the discounted net return from moving must be identified. Greenwood (1993) provides a survey of the literature on geographic mobility and articles on this subject. Fields (1979) and Shaw (1985) show that researchers have used information on the individual's characteristics and the characteristics of the area in which he or she resides at the beginning of the period under study as proxy variables for the components of human capital.

Courgeau (1995) stresses the important distinction between aggregate and individual level analysis of migratory behaviour. Aggregate analysis deals with group characteristics, attempting to provide explanation, for example, for migratory streams in terms of characteristics of the origin and destination. Such analysis is commonly used in migration studies using an ecological framework. Individual analysis uses characteristics of the person and attempt to provide explanation of the migrants' behaviour. As Courgeau argues, it has been difficult to integrate these two approaches because aggregate analysis deals with collective behaviour using group characteristics and individual analysis deals with persons experiencing events.

The contrast of aggregate and individual analysis is not new in demography. The debate between ecological and behavioural perspective in the 1950s stresses the value of different approaches, although the debate also polarized discussion and failed to indicate methods of integration. More recently, analysis of multilevel data has provided examples of ways to take the aggregate context into account in individual analysis (Newbold and Liaw, 1995 present an empirical example of this type of analysis). This paper provides a further example of integrating data for individuals and aggregates. Individual and aggregate characteristics are used at the same

time to identify results about migratory behaviour.

DATA AND VARIABLES

This analysis begins by specifying a model of the determinants of the interprovincial movement of immigrants – during the five years prior to the census – who arrived in Canada during the 20-year period prior to the census, using microdata from the censuses of 1981, 1986, 1991, 1996, and 2001. Since the sample is obtained from census public use microdata files, information on personal characteristics as of five years prior to the census is limited to those questions asked in the census and the categories coded for microdata individual file. Data on three variables in this category are available: the individual's age five years prior to the census, the individual's education at the time of the census, and whether the individual is reported to speak either of Canada's two official languages, English or French. Although education is measured at the time of the census, because the individuals in the sample were at least 20 years old at the time of immigration, it is likely that any systematic change in educational attainment during the period five years prior to the census and the time of the census would have been an increase in education. The estimate of the effect of education on migration is therefore probably an understatement of the true effect.

Because the likelihood of interprovincial migration is greater for younger adult males and decreases for older adults, I expect that the coefficient for age will be negative. Relative to males who are French speaking in Quebec or English-speaking not in Quebec, I expect that English speakers in Quebec and French speakers not in Quebec will be more likely to move and that the coefficients for these two groups will be positive. Relatively few adults do not speak English or French and I have no expectation about the effect of this group on interprovincial migration.

Relative to the Canada-born population, we expect that immigrants are more likely to move interprovincially. Other factors being equal, we expect that the most recent arrivals, those immigrants who arrived 5 to 10 years prior to the census, will have the highest rates of

interprovincial migration, those who arrived 10 to 15 years prior to the census will have the next highest, and immigrants who arrived 15 to 20 years prior to the census will have higher rates than the Canada-born reference group.

Several variables are used in regression analysis as determinants of migration from the province in which the individual resided five years prior to the census:

(1) the logarithm of the male population, aged 20 to 60 years, of the province;

(2) the provincial rate of employment growth, for males 20 to 60 years, during the five years prior to the census;

(3) the logarithm of the average annual wage for males,[2] aged 20 to 60 years, in the province, five years prior to the census;

(4) the proportion of the province's population that is foreign-born; and

(5) the proportion of the province's population that is foreign-born and of the same specific ethnic origin and the respondent (for analysis of immigrants).

Data for the variables were obtained from the five censuses of Canada. Population size is expected to have a positive sign because population acts as a measure of job opportunities and general economic activity. Employment growth should have a positive sign because, as the probability of finding a job in the province of origin increases, migration should increase. Wage rates are predicted to have a positive sign because it measures the economic attractiveness of other provinces relative to the province of origin. I do not expect to see any relationship between migration and the proportion foreign-born. I expect to see a positive effect of the proportion foreign-born of the same ethnicity on the probability of migration for immigrants.

[2] The reported wages and salaries for adult males in the labour force was calculated for fulltime employment, adjusting for the number of weeks worked during the past year and the average hours worked per week. For example, an adult male who reported $5,000 in wages, worked 26 weeks during the past year, and reported working 20 hours per week, had adjusted fulltime wages of $5,000 times (52/26) times (40/20) or $20,000. The annual provincial fulltime wage rate is the average of the adjusted fulltime wages for all adult males in the province.

REGRESSION RESULTS

Two logistic regression equations are estimated, separately for each of the five census periods. Table 7 reports logistic regression results for a model with main effects. Table 8 presents similar results for a model that includes a term for the interaction of ethnic origin and proportion foreign-born that have an ethnicity similar to the respondent. It should be noted that the variable measuring the proportion foreign-born for immigrants is the proportion foreign-born in the province of origin for the ethnicity of the respondent. There are different measures for each of the 7 main ethnic origin groups.

Model I: Main Effects

Table 7 provides logistic regression estimates for each of the five census periods. The variables are similar for each equation, except that the definition of specific ethnic groups within the main ethnic groups varies somewhat in the five Canadian censuses and no data are available for South Asians and East Asians from the 1981 census.

Education, age, and official language abilities have the predicted effects. Schooling has a positive impact on the odds of interprovincial migration. Each additional year of school increases the likelihood of moving by 65to 9 percentage points. Age has a negative effect on migration, with each year of age reducing the odds of migration by 1 to 4 percent. Three language variables are examined. Adult males who reside in Quebec and speak English, but not French, have a 3 to 9-fold increase in the odds of moving. Residents outside Quebec who speak French, but not English, are a relatively small population; they are somewhat more likely to move than the Canada-born population. Although we had expected that males who speak neither English nor French would have a lower migratory propensity, the results are mixed: they were more likely to move in 1976-81, 1981-86, 1986-91, and 1996-2001 and less likely to move in 1991-96.

The variables that measure relative economic opportunities in the provinces (employment

growth rates, wage rates, and labour force size) have the effects predicted. Employment growth rates have the expected relationship. Interprovincial migration tends to be reduced from provinces with higher employment growth levels. Previous research on interprovincial migration has examined the relationship of unemployment and migration rather than the role of employment growth rates considered here. Foot and Milne (1981) rejected a test for homogeneity in their cross-sectional times series analysis of Canadian interprovincial migration rates for all variables except unemployment rates. They found that interprovincial migration rates do not respond to proportional changes in unemployment rates in all provinces in a similar way. Evidently, the migration response to unemployment varies for provinces. Regarding provincial employment growth rates, this analysis finds consistently lower interprovincial migration rates in association with higher levels of employment growth.

Wages have an expected negative effect for adult males. For a $1,000 increase in average provincial wage levels, these results suggest a reduction of migration to about .85 to .95 of the original level.

Increases in the labour force size are correlated with reductions in interprovincial migration, as expected. A 100,000 person increase in labour force size is associated, for adult males, with a migration rate of about .9 the original level.

There are distinctive differences in migration rates for ethnic origin groups, taking other factors into account. East European, South European, and other single-origin immigrant ethnic groups are less likely to move than other groups. Of these three main ethnic groups, however, only South European immigrants have consistent negative coefficients for each of the five census periods. West European immigrants are unusual in that they tend to move more often – for three of the five census periods – than other groups. There does not seem to be a consistent pattern of immigration levels for South Asians and East Asian immigrants.

The relationships of proportion foreign-born and interprovincial migration are consistent for the five census periods. Migration rates are reduced in association with increases in the

proportion foreign-born of a similar ethnic origin. The migration reductions are moderate, however. For each percentage point gain in the proportion foreign-born of similar ethnic origin, migration rates are about .8 to .9 of the original level.

Model II: Main Effects and Interaction of Ethnic Origin and Foreign-Born

Table 8 provides logistic regression estimates for each of the five census periods, similar to those shown in Table 7, but includes a term for the interaction of ethnic origin and the proportion foreign-born of an ethnic origin similar to the respondent. These results are only for immigrant cohorts in order to examine whether ethnic groups respond differently to variations in the proportion of immigrants.

As before, education, age, and official language abilities have the predicted effects. Additional schooling increases the likelihood of moving by 5 to 9 percentage points. An additional year of age reduces the odds of migration by 1 to 3 percentage points. Immigrants who reside in Quebec and speak English, but not French, have an increased odds of moving. Immigrants who do not reside in Quebec and speak French but not English have a greatly increased odds of moving. Although we had expected that immigrants who speak neither English nor French would have a lower migratory propensity, as previously the results are mixed.

The variables that measure relative economic opportunities in the provinces (employment growth rates, wage rates, and labour force size) have coefficients comparable to prior results consistently have the effects predicted. For each of the five census periods, internal migration is reduced for provinces of origin with higher employment growth levels. Wages have an expected positive effect for adult males. Increases in the labour force size are correlated with reductions in interprovincial migration, as expected.

There continue to be variations in migration rates by ethnic origin, taking other factors into account. Compared with the excluded category (multiple origin ethnicity), West European and other single ethnic origin immigrants tend to have the same or higher interprovincial

migration. South Asian immigrants have consistently higher migration rates. The pattern of migration rates for East European and East Asian immigrants, compared with the multiple origin category, is mixed. South European immigrants have lower migration rates.

As in Model I, an increase in the provincial foreign-born population of similar ethnic origin is associated with decreased interprovincial migration. In Model II, we examine whether this relationship varies for ethnic origin groups. The results suggest that ethnic groups vary in their responsiveness to the proportion of immigrant countrymen in the province of origin.

For all immigrant ethnic groups, compared to the reference group of Canada-born and multiple-origin immigrants, adult males are less likely to leave areas where there are a higher proportion of co-ethnics.[3] Among the major ethnic groups, East European immigrants are noticeably less likely to move from areas with a higher proportion of co-ethnics. Other immigrant ethnic groups, compared to Canada-born and multiple-origin immigrants, are about one-half less likely to move for every percentage point increase in the proportion of immigrant co-ethnics.

Summarizing the overall comparisons of changes in the coefficients for the five census periods, West European, East European, South Asian, other single origin, and multiple origin immigrants tend to be less response to the presence of their immigrant countrymen with increased residence in Canada. The coefficients for these groups indicate that the earlier immigrant cohorts are less affected by the proportion of their foreign-born countrymen than recent immigrant cohorts. The coefficients for East Asian immigrant demonstrate no change between the cohorts. Only in the case of South European immigrants is there evidence than migration rates are more responsive to the proportion foreign-born with increased residence in Canada.

[3] These regression results were replicated for 1991 census data using the full list of 26 specific ethnic groups. The results indicate, for almost all ethnic groups, that the there are stronger effects of the proportion of co-ethnics on immigrant's interprovincial migration. This suggests that the closer the definition of "co-ethnic" the stronger the effect of ethnic groups on the likelihood of migration.

CONCLUSION

The major finding of this paper is that, although recent immigrants to Canada move between provinces at a rate that is comparable to or in some cases exceeds that of Canada-born residents, there is little systematic evidence that the immigrant population becomes more geographically dispersed as time in Canada elapses.

The regression analysis of the determinants of interprovincial migration shows that the variables that measure relative economic opportunities in the provinces (employment growth rates, area wages, and labour force size) had significant effects on the probability that an immigrant changes provinces. For immigrants, I found that the concentration of immigrants in the province was an important determinant of migration, reducing interprovincial migration rates.

While it is difficult to explain satisfactorily why immigrants migrate across provinces in Canada, it is possible to conclude that whatever migration does occur is unlikely to lead to a substantial increase in the geographic dispersion of newer immigrants in Canada. It is important to note that this conclusion presumes that, if geographic dispersion occurs at all, it takes place within the first 20 years of experience in Canada. At best, treating cross-sectional data as a quasi-panel, one is able to observe the new immigrants only 20 years after arrival in Canada. If one relies only on the actual panel data analyzed here, then the conclusion is extrapolated from interprovincial migration during the five years prior to the census. By analyzing these quasi-panel data, however, for recent censuses, it seems clear that there have been no substantial dispersion of immigrants.

An even larger question, of course, remains unanswered by this research. Is the lack of geographic dispersion a problem? On the one hand, some may argue that geographic concentration may inhibit the process of assimilation. But an equally valid argument could be made that ethnic enclaves provide the financial and community support necessary for immigrants to achieve success in Canada.

Table 1. Percentage Distribution of Provincial Populations, Canada: 1871 to 2001

Province[1]	1871	1881	1891	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001
NF	---	---	---	---	---	---	---	---	2.6	2.5	2.4	2.3	2.1	1.7
PE	2.6	2.5	2.3	1.9	1.3	1.0	0.8	0.8	0.7	0.6	0.5	0.5	0.5	0.5
NS	10.7	10.2	9.3	8.6	6.8	6.0	4.9	5.0	4.6	4.0	3.7	3.5	3.3	3.0
NB	7.7	7.4	6.6	6.2	4.9	4.4	3.9	4.0	3.7	3.3	2.9	2.9	2.6	2.4
PQ	32.3	31.4	30.8	30.7	27.9	26.9	27.7	29.0	29.0	28.8	28.0	26.5	25.3	24.1
ON	43.9	44.6	43.7	40.6	35.1	33.4	33.1	32.9	32.8	34.2	35.7	35.4	37.0	38.0
MB	0.7	1.4	3.1	4.7	6.4	6.9	6.8	6.3	5.5	5.1	4.6	4.2	4.0	3.7
SK	---	---	---	1.7	6.8	8.6	8.9	7.8	5.9	5.1	4.3	4.0	3.6	3.3
AB	---	---	---	1.4	5.2	6.7	7.1	6.9	6.7	7.3	7.6	9.2	9.3	9.9
BC	1.0	1.1	2.1	3.3	5.5	6.0	6.7	7.1	8.3	8.9	10.1	11.3	12.0	13.0
NW,YK,NU	1.4	1.4	2.1	0.9	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Total (millions)	3.7	4.3	4.8	5.4	7.2	8.8	10.4	11.5	14.0	18.2	21.6	24.3	27.3	30.0

Source: Statistics Canada, Historical Statistics from the Census of Canada.

[1] Postal code abbreviations are NF-Newfoundland, PE-Prince Edward Island, NS-Nova Scotia, NB-New Brunswick, PQ-Quebec, ON-Ontario, MB-Manitoba, SK-Saskatchewan, AB-Alberta, BC-British Columbia, NW/YK/NU-combination of Northwest Territories, Yukon Territories, and Nunavut.

Table 2. Percent Distribution of Country of Birth of Immigrants, by Period of Immigration, Canada: 1946-2002

Country of Birth	**1946-55**	**1956-69**	**1970-80**	**1981-86**	**1987-92**	**1993-2000**	**2001-2003**
Asia and Pacific	4.5	9.1	31.0	43.8	53.1	50.9	52.2
Europe	87.8	76.2	37.4	28.2	22.2	20.4	17.1
Africa and Middle East	0.4	2.4	5.0	4.6	6.8	18.1	19.7
Latin America and the Caribbean	1.6	4.6	15.9	16.8	15.1	7.8	8.5
U.S.A.	5.8	7.7	10.7	6.6	2.8	2.7	2.5
Total Number of Immigrants	1,220,319	2,047,825	1,588,034	610,682	1,203,881	1,727,322	700,789
Average Annual Number of Immigrants	122,032	146,276	144,367	101,780	200,647	215,915	233,596

Source: Employment and Immigrant Canada, annual publications; Citizenship and Immigration Canada, annual publications.

Table 3. Dissimilarity Indices for Provincial Distribution of Immigrants, by Ethnic Origin (reference group is the provincial distribution for total Canada-born population): 1981, 1986, 1991, 1996, and 2001

Ethnic Origin	1981	1986	1991	1996	2001
West European	24.8	25.8	27.4	28.5	26.9
British	36.8	34.4	37.1	36.9	35.3
Dutch	35.9	34.0	37.0	40.3	34.8
French	40.7	48.9	43.6	38.9	43.5
German	37.7	28.8	26.3	31.5	27.0
Other	31.1	20.6	23.7	18.1	21.9
East European	38.0	29.7	30.4	27.6	30.6
Balkan	34.5	34.9	41.3	39.1	36.8
Hungarian	39.0	39.6	42.2	37.3	30.9
Jewish	37.8	27.9	27.6	26.6	23.4
Polish	42.1	33.5	26.1	26.9	22.9
Ukrainian	49.5	45.9	54.0	48.9	45.8
Other	29.4	25.4	34.0	27.6	20.6
South European	33.2	21.9	26.2	35.6	27.3
Greek	28.5	24.7	17.0	29.1	25.8
Italian	29.0	17.4	22.1	28.6	28.9
Portuguese	44.3	34.6	36.1	44.3	37.9
Spanish	----[1]	----[1]	27.9	31.9	30.7
South Asian	----[1]	38.7	36.1	36.0	35.6
East Asian	----[1]	29.0	28.4	35.7	33.5
Chinese	37.3	35.7	35.7	40.7	42.8
Filipino	----[1]	38.7	38.1	41.3	39.7
Vietnamese	----[1]	----[1]	14.8	29.1	28.9
Other	----[1]	15.5	16.1	42.6	38.4
Other Single Origins	27.4	23.9	19.3	29.3	23.3
Arab	----[1]	----[1]	26.9	21.9	23.0
Black, Caribbean	36.5	29.5	27.4	35.0	30.2
Latin American	----[1]	----[1]	20.6	16.6	20.3
West Asian	28.1	28.2	26.2	25.4	34.4
Other	37.2	40.5	28.0	43.8	39.6
Multiple Origins	19.1	18.4	17.4	23.4	23.7

[1] Not included as a separate ethnic origin category in the census microdata files.

Table 4. Dissimilarity Indices for Provincial Distribution of Immigrant Cohorts and Canada-born, by Ethnic Origin (reference group is the provincial distribution for total Canada-born population): 1991

Ethnic Origin	Arrived 1986-90 (age 20-55)	Arrived 1981-85 (age 25-60)	Arrived 1976-80 (age 30-65)	Arrived 1971-75 (age 35-70)	Canada-born (age 20-60)
West European	24.8	25.8	27.4	28.5	16.9
British	36.8	34.4	37.1	36.9	25.3
Dutch	35.9	34.0	37.0	40.3	34.8
French	40.7	48.9	43.6	38.9	53.5
German	37.7	28.8	26.3	31.5	37.0
Other	31.1	20.6	23.7	18.1	21.9
East European	38.0	29.7	30.4	27.6	30.6
Balkan	34.5	34.9	41.3	39.1	36.8
Hungarian	39.0	39.6	42.2	37.3	30.9
Jewish	37.8	27.9	27.6	26.6	23.4
Polish	42.1	33.5	26.1	26.9	32.9
Ukrainian	49.5	35.9	54.0	28.9	45.8
Other	29.4	25.4	34.0	27.6	40.6
South European	33.2	21.9	26.2	35.6	27.3
Greek	28.5	24.7	17.0	29.1	25.8
Italian	29.0	17.4	22.1	28.6	28.9
Portuguese	44.3	34.6	36.1	44.3	27.9
Spanish	21.3	26.1	27.9	31.9	20.7
South Asian	36.3	38.7	36.1	36.0	35.6
East Asian	32.7	29.0	28.4	35.7	33.5
Chinese	37.3	35.7	35.7	40.7	32.8
Filipino	36.0	38.7	38.1	41.3	29.7
Vietnamese	30.8	20.4	14.8	29.1	18.9
Other	22.0	15.5	16.1	42.6	38.4
Other Single Origins	27.4	23.9	19.3	29.3	23.3
Arab	30.2	21.0	26.9	21.9	23.0
Black, Caribbean	36.5	29.5	27.4	35.0	30.2
Latin American	20.1	11.4	20.6	16.6	20.3
West Asian	28.1	28.2	26.2	25.4	34.4
Other	37.2	40.5	28.0	43.8	19.6
Multiple Origins	19.1	18.4	17.4	23.4	23.7

Table 5. Change in Dissimilarity Indices for Provincial Distribution of Immigrants Canada For Five Years Before the Census and the Census Year, by Ethnic Origin (reference group is the provincial distribution for total Canada-born population): 1981, 1986, 1991, 1996, and 2001.

Ethnic Origin	1981	1986	1991	1996	2001
West European	+0.6	+0.4	+1.0	0.0	-0.1
British	+0.4	+0.3	+0.2	+0.3	+0.1
Dutch	+1.6	+1.5	+1.8	+1.2	+0.9
French	-0.2	+1.4	-2.4	+0.5	+0.1
German	-0.2	-0.5	+0.1	-0.5	-0.4
Other	+2.1	+1.8	-1.9	-0.6	-0.5
East European	-0.5	-0.4	+1.1	-0.5	-0.2
Balkan	+1.1	+1.8	+0.8	-0.8	+0.1
Hungarian	-1.5	-0.9	-5.1	-0.5	-0.9
Jewish	-1.7	-0.3	+4.1	+0.6	+0.4
Polish	+2.2	+1.8	+5.4	-0.1	+0.3
Ukrainian	-0.8	-1.1	+4.3	+0.1	+0.5
Other	-1.4	-1.3	-0.7	+0.3	-0.4
South European	-1.6	-1.3	-0.2	+0.1	-0.2
Greek	-1.4	-3.8	-0.2	-0.1	-0.3
Italian	-1.8	-1.5	-0.1	-0.2	-0.2
Portuguese	-1.2	-1.4	-0.1	+0.2	-0.1
Spanish	----[1]	----[1]	-0.6	-0.1	-0.2
South Asian	----[1]	+2.8	+0.9	+0.2	+0.3
East Asian	----[1]	+1.4	0.0	+0.3	+0.5
Chinese	+3.7	+2.1	+3.6	+0.4	+1.1
Filipino	----[1]	-0.5	-0.2	+1.1	+0.4
Vietnamese	----[1]	----[1]	-2.0	-0.4	-0.3
Other	----[1]	+0.3	+0.3	+0.1	+0.2
Other Single Origins	+0.6	+1.5	-0.2	+0.8	-0.4
Arab	----[1]	----[1]	0.0	+0.4	0.0
Black, Caribbean	-1.4	-0.2	-0.5	+0.9	-0.2
Latin American	----[1]	----[1]	-0.6	+1.0	+0.6
West Asian	----[1]	----[1]	-0.8	-2.8	-1.2
Other	+2.5	-2.8	+2.4	-0.4	-0.2
Multiple Origins	+4.6	+1.5	-0.2	-0.6	-0.3

[1] Not included as a separate ethnic origin category in the census microdata files.

Table 6. Comparison of Percent of Immigrants and Natives Changing Provinces in Five Years Prior to the Census, by Ethnic Origin: 1981, 1986, 1991, 1996, and 2001. (Note: the comparison shows the percent of immigrants moving minus the percent of native moving)

Ethnic Origin	1981	1986	1991	1996	2001
West European	+5.1	+3.9	+4.0	+1.1	+1.7
British	+5.2	+4.1	+2.8	+1.4	+1.8
Dutch	+6.1	+5.4	+5.3	+1.1	+2.3
French	+3.7	+4.1	+4.8	+4.6	+4.2
German	+1.4	+0.7	-4.8	-3.7	-2.6
Other	+2.4	+1.4	+0.3	+0.6	-0.4
East European	+1.9	-0.6	-1.2	-2.7	-3.5
Balkan	+0.4	-.5.0	-7.1	-3.1	-1.0
Hungarian	+1.5	+0.2	-2.6	-3.7	-5.1
Jewish	+2.1	+1.6	+1.5	+0.6	+0.7
Polish	+1.4	-.1.4	-4.6	-3.7	-4.9
Ukrainian	+4.8	+4.0	+5.3	+1.2	-0.4
Other	+1.1	-1.7	-4.1	-1.7	-0.8
South European	-1.5	-0.1	-2.2	-2.5	-0.9
Greek	-2.4	-3.1	-4.9	-3.8	-2.4
Italian	-0.8	+0.7	+0.1	-0.7	+0.2
Portuguese	-2.7	-3.2	-5.5	-3.1	-1.4
Spanish	----[1]	----[1]	+2.2	+2.8	+1.4
South Asian	----[1]	+4.7	+4.1	+5.1	+4.2
East Asian	----[1]	+1.6	+0.6	+1.6	+0.5
Chinese	+1.6	+2.1	+2.3	+2.2	+1 .4
Filipino	----[1]	-4.6	-7.1	-3.1	-1.7
Vietnamese	----[1]	----[1]	-3.2	-1.4	-0.8
Other	----[1]	-1.1	+1.0	+2.4	+1.6
Other Single Origins	+1.8	+2.6	+0.6	+2.1	+2.7
Arab	----[1]	----[1]	+6.9	+4.1	+3.7
Black, Caribbean	+0.4	+1.4	+0.1	+2.8	+1.7
Latin American	----[1]	----[1]	-0.6	-0.4	+1.3
West Asian	----[1]	----[1]	-6.0	-5.3	-4.1
Other	+4.6	+5.8	+6.8	+4.5	+5.3
Multiple Origins	+0.8	+1.1	+0.9	+1.4	+2.7
Total	+2.3	+2.5	+1.2	+1.7	+2.3

[1] Not included as a separate ethnic origin category in the census microdata files.

Table 7. Logistic Regression Results for Probability of Interprovincial Migration During the Five Years Prior to the Census: Model I -- Main Effects: 1981, 1986, 1991, 1996, and 2001

Variable	1981		1986		1991		1996		2001	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	25.72	11.73	28.79	11.81	31.63	12.81	23.95	9.12	18.51	15.89
Schooling	0.09	24.78	0.07	18.97	0.05	14.56	0.06	15.35	0.08	133.92
Age	-0.03	-15.81	-0.02	-8.12	-0.01	3.00	-0.02	-9.77	-0.04	-18.34
Nativity										
Native-Born	---	---	---	---	---	---	---	---	---	---
Immigrant, Arrived 15-20 Years Prior to the Census	0.06	8.73	0.09	9.14	0.04	11.98	0.04	15.77	-0.01	5.86
Immigrant, Arrived 10-15 Years Prior to the Census	0.09	18.97	0.18	10.25	0.11	21.57	0.09	21.68	0.11	18.92
Immigrant, Arrived 5-10 Years Prior to the Census	0.28	24.12	0.26	14.61	0.36	28.97	0.18	24.79	0.18	24.71
Immigrant Knowledge of Official Languages										
Canada-born or Immigrant French-speaking in Quebec or English-speaking not in Quebec	---	---	---	---	---	---	---	---	---	---
Immigrant French-speaking not in Quebec	0.59	30.72	0.89	19.74	0.95	15.25	0.37	22.09	0.12	35.77
Immigrant English-speaking in Quebec	3.25	14.98	5.48	2.45	6.53	1.29	6.09	5.93	2.03	21.41
Immigrants Not English or French speaking	0.72	10.17	-0.56	-9.55	0.06	0.73	-0.44	-2.52	0.10	1.22
Employment Growth Rate	-3.11	-4.84	-4.87	-5.19	-6.54	-10.66	-6.85	-19.89	-5.56	-67.12
Annual Fulltime Wage Rate (logarithm)	-2.62	-12.17	-2.45	-14.64	-3.29	-13.40	-2.38	-9.18	-1.00	-18.35
Labour Force Size (100,000s)	-0.08	-43.45	-0.07	-34.35	-0.06	-31.21	-0.06	-30.37	-0.07	-226.18
Immigrant Ethnic Origin										
Canada-born or Immigrant Multiple Origins	---	---	---	---	---	---	---	---	---	---
West European	-0.04	-1.88	0.27	6.45	0.66	13.93	0.22	5.29	-0.10	-20.44
East European	-0.46	-9.90	-0.45	8.54	0.07	1.38	-1.39	-16.18	-0.39	-39.26
South European	-1.07	-13.58	-0.89	-6.05	-0.73	-8.29	-1.79	-18.62	-0.88	-36.63
South Asian	---[1]	---[1]	-0.45	-7.61	0.42	7.59	-0.55	-10.79	0.02	0.34
East Asian	---[1]	---[1]	-0.58	-15.73	0.28	6.06	-0.30	-6.80	-0.53	-17.62
Other Single-Origin	-0.43	-7.70	-0.58	-6.27	-0.32	-4.79	-0.20	-3.61	0.02	0.56
Percent Foreign-Born of Same Ethnic Origin	-0.23	-15.62	-0.18	14.82	-0.17	-11.82	-0.13	-9.85	-0.04	-6.32
Number	835,965		886,071		939,170		984,518		1,032,055	

[1] Not included as a separate ethnic origin category in the census microdata files.

Table 8. Logistic Regression Results for Probability of Interprovincial Migration Between the Five Years Prior to the Census: Model II, Main Effects and Interaction of Ethnic Origin and Percent Foreign-Born of Similar Ethnicity: 1981, 1986, 1991, 1996, and 2001

Variable	1981		1986		1991		1996		2001	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	28.60	18.40	28.45	16.22	30.30	12.05	25.48	15.54	20.94	17.98
Schooling	0.08	17.54	0.09	15.24	0.05	14.01	0.07	15.34	0.06	13.74
Age	-0.13	14.64	-0.06	10.27	-0.01	-6.64	-0.07	-12.78	-0.08	-18.30
Nativity										
Native-Born	---	---	---	---	---	---	---	---	---	---
Immigrant, Arrived 15-20 Years Prior to the Census	0.05	7.84	0.07	8.47	0.03	10.84	0.05	5.42	0.02	1.54
Immigrant, Arrived 10-15 Years Prior to the Census	0.07	15.64	0.08	16.52	0.10	18.46	0.13	9.67	0.12	8.81
Immigrant, Arrived 5-10 Years Prior to the Census	0.31	16.87	0.30	20.75	0.28	24.57	0.30	19.47	0.21	17.42
Immigrant Knowledge of Official Languages										
Canada-born or Immigrant French-speaking in Quebec or English-speaking not in Quebec	---	---	---	---	---	---	---	---	---	---
Immigrant French-speaking not in Quebec	0.17	19.75	0.94	18.71	0.92	14.62	0.05	14.55	0.21	17.52
Immigrant English-speaking in Quebec	2.81	1.94	1.61	1.69	1.40	1.20	1.54	2.05	1.95	0.87
Immigrants Not English or French speaking	0.75	10.31	-0.37	-5.42	0.19	1.94	-0.24	-2.18	0.35	3.20
Employment Growth Rate	-2.32	-3.62	-4.18	-6.65	-6.04	-9.68	-3.42	-14.54	-1.81	-19.46
Annual Fulltime Wage Rate (logarithm)	-1.93	-8.82	-2.51	-10.49	-3.27	-13.02	-2.55	-10.42	-2.07	-7.86
Labour Force Size (100,000s)	-0.08	-43.35	-0.08	-37.91	-0.06	-31.48	-0.05	-34.88	-0.06	-29.57
Immigrant Ethnic Origin										
Canada-born or Immigrant Multiple Origins	---	---	---	---	---	---	---	---	---	---
West European	1.70	2.05	1.60	5.84	1.58	17.26	1.46	10.84	1.52	3.06
East European	1.24	2.15	1.51	7.87	1.82	15.03	1.90	14.03	2.11	12.67
South European	0.19	0.81	0.18	0.94	0.05	0.43	0.51	3.15	0.37	2.72
South Asian	---[1]	---[1]	1.57	15.49	1.40	11.81	1.54	7.92	1.28	3.79
East Asian	---[1]	---[1]	1.81	11.54	1.60	18.09	1.57	15.28	1.43	3.81
Other Single-Origin	0.78	2.96	0.85	5.05	0.81	7.14	0.64	6.57	0.43	5.07
Percent Foreign-Born of Same Ethnic Origin	-0.19	-4.49	-0.24	-7.52	-0.39	-10.87	-0.41	-7.48	-0.44	-4.94
Interaction of Percent Foreign-Born with Immigrant Ethnic Origin										
Multiple Origins	---	---	---	---	---	---	---	---	---	---
West European	-0.51	-11.64	-0.64	12.97	-0.54	-14.16	-0.68	-9.02	-0.92	-2.97
East European	-1.76	-5.97	-1.98	-8.57	-2.49	-11.29	-1.54	-8.59	-1.20	-5.88
South European	-0.74	-3.24	-0.51	-3.51	-0.36	-4.10	-0.66	-6.33	-0.87	-7.54
South Asian	---[1]	---[1]	-0.61	-8.12	-0.56	-9.04	-0.67	-9.22	-0.68	-10.40
East Asian	---[1]	---[1]	-0.94	-18.74	-0.91	-20.11	-0.55	-12.07	-0.31	-3.14
Other Single-Origin	-1.07	-6.67	-0.87	-6.57	-0.98	-5.68	-0.74	-4.89	-0.87	-2.29
Number	835,965		886,071		939,170		984,518		1,032,055	

[1] Not included as a separate ethnic origin category in the census microdata files.

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