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INTERPROVINCIAL MIGRATION OF CANADIAN IMMIGRANTS*

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PREFACE

The author is currently completing comparable analysis of 1996 census data and will incorporate a comparison of 1991 and 1996 data in a revised draft.

Abstract: Data from the 1991 Census of Canada provide direct evidence on the migration experience of earlier immigrant cohorts in the five years prior to the census. They also provide indirect evidence for the internal redistribution of those immigrants who arrived in Canada between 1986 and 1991. This paper shows that, although local mobility is common for all segments of Canadian society, including both native and foreign-born, interprovincial redistribution shifts are nonetheless significant. Shifts in provincial populations attributable to migration over five years may exceed 10 percent, while the short-run impacts on recent immigrants may be even larger.

Data on the foreign-born are compared to information about the internal migration patterns of the native-born. Foreign-born and native-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 native-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 native-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.

Analysis of the migratory behavior 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 impacts 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; and Newbold 1996 for a comparison of foreign-born and native-born internal migration).

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 behavior, 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 Canadian native-born and four cohorts of immigrants who arrived in Canada since 1971. 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 native-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.

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 [Ed. note: Tables follow the References]. Since the 1930s, net interprovincial migration in Canada generally has been from the Atlantic provinces, Québec, 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.

Québec has experienced large net outflows of migrants for the past four decades, especially since 1976. An excess of about 15,000 more persons departed Québec each year than arrived. Most migrants leaving Québec moved to Ontario. To a large extent, the net outflow from Québec has been the result of a decrease in the flow of persons moving to Québec. During the early 1960s, Québec 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 Québec, 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 its 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 favorable 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 year. 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 rivaled the stream between Québec 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. Québec, 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 230,000 immigrants in 2000 and admitted about 170,000 to 260,000 immigrants annually in past decade. The immigration rate (the number of immigrants per 1,000 population) for 2000 was 7.6, 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 1946-2000 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 composition shifts 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 1991 Canadian census provides statistics that can be used to describe the internal migration patterns of recent immigrants to Canada. This paper restricts analysis to interprovincial migration for the 1986-1991 period.

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 between 1971 to 1975, between 1976 to 1980, between 1981 and 1985, and between 1986 and 1991. The individuals in each of these cohorts are restricted to those males of working age at the time of their arrival in Canada; hence, the most recent arrivals, those who came between 1981 and 1985, are aged 22 to 54 in 1991, while those who came between 1981 and 1985 are aged 27 to 59 in 1991, those who came between 1976 and 1980 are aged 32 to 64 in 1991, and the 1971 to 1975 arrivals are aged 37 to 69 in 1991. For comparison, the paper includes analysis of native-born males, aged 20 to 59 in 1991.

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 proportion who 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.

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. 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 native-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). For comparison, I also calculated dissimilarity indexes for the native-born.

The index can be used to answer the question whether immigrants become more geographically dispersed as they acquire years of residence in Canada. 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 only to discover that they are unable to live without the support of ethnic enclaves and then return to their initial destination. If this happens, we would observe that the degree of dispersion of the four cohorts in the 1991 cross-section data would be similar.

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 (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 shown for 13 provinces and territories). 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 native-born residents is 17 for the broad West European group. Therefore, 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 native-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 native-born counterparts. But, for the other main ethnic categories, there is not a clear conclusion about the comparative concentration of immigrants and native-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 native-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.

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 in 1991. 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 the 1991 census were asked where they lived in 1986, it is possible to create a panel for this group. I calculated the indices of dissimilarity for these individuals first for their 1986 locations and then for their locations in 1991. If the dispersion-with-time hypothesis is correct, then we should observe a decrease in the index of dissimilarity between 1986 and 1991.

Results for the 1971-75, 1976-80, and 1981-85 cohorts are examined (see Table 4). When the main ethnic groups are not disaggregated, the indices change little between 1986 and 1991. For certain subgroups, however, there is evidence of increased geographic dispersion between 1986 and 1991. For the 1981-85 arrivals, 2 of the 7 main ethnic origin groups dispersed and 5 increased their concentration. For the 1976-80 arrivals, 3 became more dispersed and 3 became more concentrated (East Asians were unchanged). For the 1971-76 arrivals, 2 became more dispersed and 4 increased their concentration (West Europeans were unchanged). The changes for immigrant cohorts were similar to changes observed for the native-born by ethnicity: 2 groups dispersed, 3 concentrated, and 2 remain unchanged.

In order to provide an arbitrary benchmark, I use those specific ethnic origin groups for which there is at least a 20 percent change in the index over the five-year period. By this measure there are 7 cases of increased concentration and 4 cases of increased dispersion. In only one case – for Hungarians – was there dispersion for 2 of the 3 immigrant cohorts.

The preceding analysis, based on an interpretation of cross-sectional and quasi-panel data, provides a recent picture of dispersion of immigrants. It is possible to conclude that geographic dispersion over time is not a typical characteristic of the recent “new immigrants” to Canada.

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 individuals 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 during the period 1986 to 1991 are next examined (see Table 5). As before, the results are specific to the particular ethnic group.

It is difficult to compare the propensity for interprovincial migration for immigrant cohorts and the native-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 5 provides evidence that there is substantial variation in the interprovincial migration rates by ethnic origin. West European and multiple origin immigrants have higher interprovincial migration rates, typically about 30 to 50 percent greater than the overall immigrant cohorts. South Europeans are less migratory and have rates of about 40 to 50 percent of the overall levels. Other main ethnic groups have migration rates similar to the overall ones. Some specific ethnic origin immigrants have higher relative migration rates (British, French, and Latin Americans), but these groups are not associated with noteworthy shifts in provincial distribution, as evidenced by the earlier analysis.

The major conclusion from our 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 does not substantially affect the indices of dispersion.

PROVINCIAL MIGRATION LEVELS

This section describes the levels of out-migration and in-migration for Canadian provinces for the native-born and for three cohorts of recent immigrants (1981-85, 1976-80, and 1971-75 arrivals), comparing out-migration rates for 10 Canadian provinces and for the combined population of Yukon and Northwest Territories (these data are not shown in this paper). Out-migration rates are higher for recent immigrants than the native-born with some exceptions (Ontario, Alberta, and British Columbia have similar out-migration rates for the native-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 1981-85 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 native-born and foreign-born persons. In-migration rates for the foreign-born are higher than the native-born for Ontario and British Columbia, indicating their favored position as places for resettlement after arrival in Canada. Among recent 1981-85 immigrants, an especially high number go to Ontario and British Columbia, although it should be noted that lesser numbers go to Nova Scotia, Québec, and Alberta. Relatively few native-born or foreign-born migrated to other provinces and territories.

In summary, the provincial patterns of migration during 1986 to 1991 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 native-born in several ways: (1) the out-migration and in-migration rates are higher for recent immigrant 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 native-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 Thomas 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 Québec 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 Québec 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 behavior. 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' behavior. As Courgeau argues, it has been difficult to integrate these two approaches because aggregate analysis deals with collective behavior 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 behavioral 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 behavior.

DATA AND VARIABLES

This analysis begins by specifying a model of the determinants of the 1986-1991 interprovincial movement of immigrants who arrived in Canada between 1971 and 1986. Since the sample is obtained from the 1991 census public use microdata file, information on personal characteristics as of 1986 is limited to those questions asked in the 1991 census and the categories coded for microdata individual file. Data on three variables in this category are available: the individual's age in 1986, the individual's education in 1991, and whether the individual is reported to speak either of Canada's two official languages, English or French. Although education is measured in 1991, since the individuals in the sample were at least 22 years old at the time of immigration, it is likely that any systematic change in educational attainment between 1986 and 1991 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.

Several variables are used in regression analysis as determinants of migration from the province in which the individual resided in 1986:

- (1) the logarithm of the male population, aged 22 to 59, of the province;
- (2) the provincial unemployment rate;
- (3) the logarithm of the average wage in the province;
- (4) the proportion of the province's population that is foreign-born and of the same specific ethnic origin and the respondent (for analysis of immigrant cohorts); and
- (5) the proportion of the province's population that is foreign-born (for analysis of native-born migration).

Data for the variables were obtained from the 1991 census of Canada. Population size is expected to have a positive sign because population acts as a measure of job opportunities and general economic activity. Unemployment should have a negative sign because, as the probability of finding a job in the province of origin decreases, migration should decrease. 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 expect to see a positive effect of the proportion foreign-born of the same ethnicity on the probability of migration for immigrants; this effect should be smaller for immigrants who arrived in 1971-75 than for those arriving later since time spent in Canada should weaken the attachment to fellow countrymen. I do not expect to see any relationship between migration and the proportion foreign-born for the native-born.

REGRESSION RESULTS

Two logistic regression equations are estimated, separately for immigrant cohorts. Table 6 reports logistic regression results for a model with main effects. Table 7 presents similar results for a model that includes a term for the interaction of ethnic origin and proportion foreign-born who 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 26 specific ethnic origin groups (see the labels on the left of Table 4 for the list, including British, Dutch, and so on; South Asian and multiple origins were included as specific ethnic origin groups).

Model I: Main Effects

Table 6 provides logistic regression estimates for each of the three immigrant cohorts as well as for the native-born. The variables are similar for each equation, except that the native-born equation includes a measure for overall proportion foreign-born in the province of origin, rather than a specific measure of the ethnicity of the foreign-born.

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 6 to 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. Immigrants who reside in Québec and speak English, but not French, have a 2 to 5-fold increase in

the odds of moving. Native-born residents of Québec who do not speak French – and they are a very small proportion of Québec's population – have an even higher 8-fold increase in the odds of moving. Although we had expected that immigrants who speak neither English nor French would have a lower migratory propensity, the results are mixed: (a) recent 1981-85 immigrants who are neither English nor French speaking are more than twice as likely to move as other immigrants, (b) the coefficient for 1976-80 immigrants is not significant, and (c) earlier 1971-76 immigrants are less likely to move if they do not speak either English or French. Native-born residents who do not speak English or French (which would include primarily aboriginal peoples as well as smaller numbers of children of immigrants) are slightly more likely to move than other native-born persons.

The variables that measure relative economic opportunities in the provinces (unemployment, wage rates, and labour force size) do not consistently have the effects predicted. Unemployment rates do not have the expected relationship for immigrant cohorts or the native-born population. For each of the three immigrant cohorts and for the native-born, internal migration tends to be reduced from provinces with higher unemployment levels. Previous research on interprovincial migration is suggestive on the relationship of unemployment and migration. 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.

Wages have an expected positive impact for the total population, for the native-born, and for the two earlier cohorts of immigrants. Wages have a negative relationship for each of the three immigrant cohorts. For a \$1000 increase in average provincial wage levels, these results suggest a reduction of migration to about .85 to .90 of the original level. Migration rates for the native-born respond to changes in wage rates to a slightly lesser extent: a \$1000 increase in wages is associated with migration rates of about .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 immigrant cohorts and native-born persons, 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. For the 1981-85 immigrant cohort, the results show lower migration rates for ethnic groups compared to immigrants with multiple origin ethnicity (the excluded category). West European has migration rates similar to multiple origin immigrants. East European, South Asian,

East Asian, and other immigrants have rates of about .6 to .7 of multiple origin immigrants, and South European immigrants have levels of about .4 of those for multiple origin immigrants.

For the 1976-80 immigrants, there is variation around the levels for multiple origin immigrants. Some groups have lower migration rates (including South European, other single origins, and the excluded multiple origins group), but the remaining ethnic groups have higher rates (including West European, South Asian, and East Asian).

For the 1971-75 immigrants, several groups have migration rates similar to the multiple origin immigrants (West European, South Asian, and other single origin immigrants) while the remaining groups have lower migration rates (East European, South European, and East Asian).

For the native-born, there are virtually no differences from overall migration levels for West European, South Asian, other single origin persons, and multiple origin persons. For the remaining ethnic groups (East European, South European, East Asian), migration rates are somewhat lower, ranging from .4 to .7 of the levels for the other ethnic groups.

The relationship of proportion foreign-born and interprovincial migration is consistent for the three immigrant cohorts. 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.

The result that stands out in Table 6 for the native-born is that the relationship between migration and proportion foreign-born is moderate. Interprovincial migration increases slightly with higher levels of foreign-born; even so, the coefficient indicates a modest 4 percent increase in migration for a 1 percent increase in the proportion foreign-born. Overall, there is little indication that native-born residents react negatively to increases in provincial foreign-born populations.

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

Table 7 provides logistic regression estimates for each of the three immigrant cohorts, similar to those shown in Table 6, 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 reports 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 Québec and speak English, but not French, have a 2 to 4-fold increase in the odds of moving. Immigrants who do not reside in Québec and speak French but not English have greatly increased odds of moving in the 1981-85 immigrant cohort; similar results are not significant for the other two immigrant cohorts. Although we had expected that immigrants who speak neither English nor French would have a lower migratory propensity, as previously the results are mixed: (a) recent 1981-85 immigrants who are neither English nor French speaking are more than twice as likely to move as other immigrants, (b) the coefficient for 1976-80 immigrants is not significant, and (c) earlier 1971-76 immigrants are less likely to move if they do not speak either English or French.

The variables that measure relative economic opportunities in the provinces (unemployment, wage rates, and labour force size) have coefficients comparable to prior results and do not consistently have the effects predicted. For each of the three immigrant cohorts, internal migration is reduced for provinces of origin with higher unemployment levels. Wages have an expected positive impact for the total population, for the native-born, and for the two earlier cohorts of immigrants. Wages have a negative relationship for each of the three immigrant cohorts. 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 the 1981-85 immigrant cohort, South Europeans are an exception and appear to be more likely to move as the proportion of immigrant countrymen increases. East Asian immigrants are slightly less likely to move as the proportion of foreign-born persons of similar ethnicity increases.

The remaining groups (East European, South Asian, and other single origin immigrants) have considerably lower migration as the proportion of similar foreign-born persons increases.

For the 1976-80 immigrant cohort, all groups display lower interprovincial migration as the proportion of foreign-born of similar ethnicity increases.

For the 1971-75 immigrant cohort, East European immigrants are more likely to move as the proportion foreign-born increases. West Europeans and the excluded category of multiple origin immigrants show no association with changes in the proportion foreign-born. Other ethnic groups are less likely to move as the proportion of their immigrant countrymen increases, although only South Europeans are strongly responsive to this factor.

Summarizing the overall comparisons of changes in the coefficients for the three immigrant cohorts, West European, East European, South Asian, other single origin, and multiple origin immigrants tend to be less responsive 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 immigrants demonstrate no change between the cohorts. Only in the case of South European immigrants is there evidence that migration rates are more responsive to the proportion of foreign-born with increased residence in Canada. As expected, there appears to be a weaker effect of this variable for the immigrants who had spent more time in Canada as of 1986 (i.e., the 1971-75 arrivals).

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 ethnic natives, 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 (unemployment rates, area wages, and labour force size) had significant effects on the probability that an immigrant changes provinces. For recent immigrants, I found that the concentration of immigrants in the province was an important determinant of migration, reducing interprovincial migration rates. The native-born,

however, moved away from provinces with a higher proportion of foreign-born, although the impact of this factor was modest.

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 only 5 years of data. Hence, it is possible that dispersion may occur but that the data used were not able to show this.

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.

REFERENCES

- Badets, J., and T. W.L. Chui. 1994. Canada's changing immigrant population. Catalogue Number 96-311. Ottawa: Statistics Canada.
- Beaujot, R. 1991. Population Change in Canada: The Challenges of Policy Adaptation. Toronto: McClelland and Stewart.
- . 1995. Comportements démographiques et statut socio-économique des immigrants canadiens. Paper presented at Colloque Anciennes et nouvelles minorités: démographie, culture et politique, Entretiens du Centre Jacques Cartier, Lyon, France, December 5-8.
- Beaujot, R., and J. P. Rappak. 1990. The evolution of immigrant cohorts. In *Ethnic Demography*, ed. S.S. Halli, F. Trovato, and L. Driedger, 111-40. Ottawa: Carleton University Press.
- Belanger, A. 1993. La migration interprovinciale des personnes nées à l'étranger, Canada, 1981-1986, *Cahiers Québécois de Démographie* 22 (1): 153-78.
- Courgeau, D. 1995. From the group to the individual: What can be learned from migratory behavior? *Population, An English Selection* 7:145-62.
- Edmonston, B., and J. S. Passel, eds. 1994. *Immigration and Ethnicity: The Integration of America's Newest Arrivals*. Washington, D.C.: The Urban Institute Press.
- Fields, G. 1979. Place to place migration. *Review of Economics and Statistics* 61 (February): 21-32.
- Foot, D.K., and W. J. Milne. 1981. Public policies and interprovincial migration: An econometric analysis. Working Paper Number 8126. Institute for Policy Analysis, University of Toronto.
- Greenwood, M. J. 1993. Migration: A review. *Regional Studies* 27 (4) :295-383.
- Kaplan, D. H. 1995. Differences in migration determinants for linguistic groups in Canada. *The Professional Geographer* 47 (May): 115-25.
- Langlois, A. 1993. Les échanges migratoires Francophones entre le Québec et l'Ontario: Vers une polarisation spatio-linguistique? *Géographe Canadien* 37 (Summer):132-42.
- Langlois, A., and C. Castonguay. 1993. Mobilité géolinguistique de la population de langue maternelle française au Québec et en Ontario. *Cahiers Canadiens de Sociologie* 18 (4): 383-404.
- Moore, E.G., B.K. Ray, and M.W. Rosenberg. 1990. The redistribution of immigrants in Canada. Population Working Paper No. 12. Ottawa: Employment and Immigration Canada.
- Newbold, K. B. 1996. Internal migration of the foreign-born in Canada. *International Migration Review* 30 (3): 728-47.
- Newbold, K. B., and K.-L. Liaw. 1994. Return and onward interprovincial migration through economic boom and bust in Canada, from 1976-81 to 1981-86. *Geographical Analysis* 26 (3): 228-45.
- Nogle, J. M. 1994. Internal migration for recent immigrants in Canada. *International Migration Review* 28 (Spring): 31-48.
- Ram, B., and Y.E. Shin. 1995. Internal migration and settlement patterns of new immigrants in Canada, 1976-81, 1981-86, and 1986-91: Cohort Analysis. Paper presented at the annual meeting of the Population Association of America, San Francisco, CA, April 6-8.

- Robinson, C., and N. Thomas. 1980. Self-selection and interprovincial migration in Canada. Research Report 8019. Department of Economics, University of Western Ontario, London, Ontario.
- Sjaastad, L. A. 1962. The costs and returns of human migration. *Journal of Political Economy* 70, Supplement (October): 80-93.
- Shaw, R. P. 1985. *Intermetropolitan Migration in Canada: Changing Determinants Over Three Decades*. Toronto: NC Press.
- Smith, J.P., and B. Edmonston, eds. 1997. *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington, D.C.: National Academy Press.
- Trovato, F. 1988. The interurban mobility of the foreign born in Canada, 1976-1981. *International Migration Review* 22 (Fall): 59-86.
- Trovato, F. and S.S. Halli. 1983. Ethnicity and migration in Canada. *International Migration Review* 17 (2): 245-67.

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.

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, 1946-2000.

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

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

Table 3. Dissimilarity Indices for 1991 Provincial Distribution of Immigrant Cohorts and Native-Born, by Ethnic Origin (reference group is the provincial distribution for total native-born population).

Ethnic Origin	Arrived 1986-90 (age 22-52)	Arrived 1981-85 (age 27-57)	Arrived 1976-80 (age 32-62)	Arrived 1971-75 (age 37-67)	Native-Born (age 20-59)
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 4. Dissimilarity Indices for 1986 and 1991 Provincial Distribution of Immigrant Cohorts and Native-Born for Residents of Canada in both 1986 and 1991, by Ethnic Origin (reference group is the provincial distribution for total native-born population).

Ethnic Origin	Arrived 1981-85 (age 27-57)		Arrived 1976-80 (age 32-62)		Arrived 1971-75 (age 37-67)		Native-Born (age 20-59)	
	1986	1991	1986	1991	1986	1991	1986	1991
West European	28.2	28.6	26.8	27.8	28.7	28.7	16.8	16.8
British	37.0	37.3	37.3	37.5	36.8	37.1	25.5	25.6
Dutch	32.5	36.0	35.3	37.1	39.2	40.4	35.2	35.1
French	39.6	49.0	44.9	42.5	38.2	38.7	53.1	53.4
German	28.5	28.0	26.3	26.4	32.1	31.6	36.4	36.5
Other	14.3	20.8	21.6	23.5	18.7	18.1	22.1	21.6
East European	30.8	30.4	28.9	30.0	29.4	28.1	31.0	30.8
Balkan	34.6	36.3	40.0	40.8	40.0	39.2	38.2	37.7
Hungarian	44.3	39.7	47.6	42.3	38.0	37.5	32.2	31.6
Jewish	27.3	27.0	24.4	28.5	26.2	26.8	23.5	23.3
Polish	32.2	34.0	21.8	26.2	26.6	26.5	34.6	33.3
Ukrainian	35.9	36.0	49.8	54.1	28.9	29.0	45.8	46.0
Other	27.6	26.3	34.7	34.0	28.3	28.6	41.0	40.9
South European	22.0	21.7	25.9	25.7	35.8	35.9	27.5	27.4
Greek	28.1	24.0	16.3	16.5	29.7	29.6	25.6	25.5
Italian	19.4	17.3	22.4	22.3	29.3	29.1	29.4	29.2
Portuguese	35.3	33.9	35.9	35.8	44.7	44.9	27.6	26.3
Spanish	24.9	24.8	26.9	26.3	31.5	31.4	29.6	25.7
South Asian	36.1	39.3	35.4	36.3	35.9	36.1	34.3	36.9
East Asian	28.0	29.4	28.6	28.6	35.4	35.7	36.0	36.8
Chinese	34.1	36.2	34.1	35.7	40.3	40.7	33.7	35.1
Filipino	40.4	39.9	38.3	38.1	40.4	41.5	39.2	38.9
Vietnamese	19.5	20.1	17.1	15.1	29.5	29.1	29.4	29.3
Other	14.5	14.8	15.9	16.2	42.7	42.8	40.5	41.0
Other Single Origins	22.2	23.7	19.6	19.4	28.5	29.3	21.0	23.3
Arab	19.0	21.4	26.7	26.7	21.5	21.9	17.7	16.6
Black, Caribbean	28.8	28.6	27.2	26.7	34.6	35.5	29.1	31.2
Latin American	15.9	15.3	21.1	20.5	15.4	16.4	14.8	15.9
West Asian	19.8	28.7	26.8	26.0	28.2	25.0	32.7	32.6
Other	43.5	40.7	28.6	31.0	44.9	44.5	28.3	23.3
Multiple Origins	17.8	19.3	17.6	17.4	24.2	23.4	23.9	23.9

Table 5. Percent of Immigrants and Natives Changing Provinces Between 1986 and 1991, by Ethnic Origin.

Ethnic Origin	Arrived 1981-85 (age 27-57)	Arrived 1976-80 (age 32-62)	Arrived 1971-75 (age 37-67)	Native-Born (age 20-59)
West European	14.0	9.2	7.2	5.2
British	12.8	9.8	8.4	7.0
Dutch	19.4	8.5	3.6	3.2
French	17.9	11.8	5.3	7.0
German	13.6	4.2	2.0	9.0
Other	15.8	7.7	12.5	7.2
East European	9.3	6.0	1.9	7.2
Balkan	13.0	5.7	0.7	13.1
Hungarian	18.2	5.3	2.8	7.9
Jewish	2.3	9.0	1.2	7.5
Polish	9.1	4.5	2.1	8.2
Ukrainian	1.7	11.1	0.8	5.6
Other	9.8	3.8	4.8	7.9
South European	5.3	3.2	2.0	5.4
Greek	11.5	3.2	2.7	8.1
Italian	3.8	2.7	1.6	2.7
Portuguese	3.4	2.1	1.7	9.7
Spanish	6.8	7.5	3.3	5.2
South Asian	10.3	6.8	4.1	6.2
East Asian	9.1	6.5	5.3	7.1
Chinese	8.9	6.4	6.5	7.7
Filipino	2.1	5.0	3.9	12.1
Vietnamese	11.0	8.4	2.4	11.6
Other	13.6	6.4	4.3	5.4
Other Single Origins	12.1	5.2	5.1	4.4
Arab	8.7	11.5	9.4	4.6
Black, Caribbean	8.5	3.6	4.8	3.5
Latin American	13.6	6.6	6.6	7.4
West Asian	17.5	1.4	5.3	7.4
Other	25.0	11.4	5.4	4.6
Multiple Origins	13.3	7.5	7.1	8.4
Total	10.4	6.7	4.7	6.9

Table 6. Logistic Regression Results for Probability of Interprovincial Migration Between 1986 and 1991:
Model I, Main Effects.

Variable	Arrived 1981-85 (age 27-57)		Arrived 1976-80 (age 32-62)		Arrived 1971-75 (age 37-67)		Native-Born (age 20-59)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	25.7	11.7	31.6	12.8	23.9	9.1	8.5	15.8
Schooling	0.0896	24.7	0.0541	14.5	.0599	15.3	0.0807	133.9
Age	-0.0307	-15.8	-0.0141	-6.9	-0.0215	-9.7	-0.420	-180.3
English-speaking in Quebec	1.59	30.7	0.947	15.2	1.37	22.0	2.12	135.7
French-speaking not in Quebec	3.25	14.9	-6.53	-1.2	-6.09	-0.9	1.03	41.4
Not English or French speaking	0.722	10.0	0.063	0.7	-0.440	-2.5	0.104	1.2
Unemployment Rate	-3.11	-4.8	-6.54	-10.6	-6.85	-19.8	-5.56	-67.1
Wage rate (logarithm)	-2.62	-12.0	-3.29	-13.4	-2.38	-9.1	-1.00	-18.3
Labour Force Size (100,000s)	-0.0839	-43.4	-0.0626	-31.2	-0.0590	-30.3	-0.0659	-226.1
Ethnic Origin ¹								
West European	-0.035	-1.8	0.658	13.9	0.216	5.2	-0.097	-20.4
East European	-0.462	-9.9	0.068	1.0	-1.389	-16.1	-0.390	-39.2
South European	-1.074	-13.5	-0.734	-8.2	-1.787	-18.6	-0.875	-36.6
South Asian	-0.414	-8.3	0.419	7.5	-0.546	-10.7	0.017	0.3
East Asian	-0.473	-12.2	0.280	6.0	-0.300	-6.8	-0.534	-17.6
Other	-0.426	-7.7	-0.320	-4.7	-0.197	-3.6	0.021	0.5
Percent Foreign-Born of Same Ethnic Origin	-0.225	-15.6	-0.168	-11.8	-0.130	-9.8	0.0387	61.3 ²
Number	106,168		119,369		169,466		544,167	

¹ Excluded category is “persons with multiple ethnic origins”.

² For the native-born population, this variable measures the overall proportion foreign-born in the province of origin.

Table 7. Logistic Regression Results for Probability of Interprovincial Migration Between 1986 and 1991:
Model II, Main Effects and Interaction of Ethnic Origin and Percent Foreign-Born of Similar Ethnicity.

Variable	Arrived 1981-85 (age 27-57)		Arrived 1976-80 (age 32-62)		Arrived 1971-75 (age 37-67)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Constant	18.6	8.4	30.3	12.0	20.9	7.9
Schooling	0.0888	24.3	0.0531	14.0	0.0548	13.7
Age	-0.0310	-15.8	-0.0136	-6.6	-0.0228	-10.2
English-speaking in Quebec	1.14	19.7	0.923	14.6	1.21	19.0
French-speaking not in Quebec	3.81	15.6	-6.40	-1.2	-5.95	-0.8
Not English or French speaking	0.752	10.3	0.185	1.9	-.351	-2.0
Unemployment Rate	-2.32	-3.6	-0.604	-9.6	-1.80	-19.1
Wage rate (logarithm)	-1.93	-8.8	-3.27	-13.0	-2.07	-7.8
Labour Force Size (100,000s)	-0.0841	-43.3	-0.0629	-31.0	-0.0581	-29.5
Ethnic Origin ¹						
West European	-0.017	-0.2	1.579	17.2	-0.025	-0.3
East European	-0.020	-0.2	1.820	15.0	-2.109	-12.6
South European	-1.196	-10.8	0.051	0.4	-0.733	-4.7
South Asian	1.735	17.5	1.397	11.8	0.389	3.7
East Asian	-0.294	-5.1	1.601	18.1	-0.143	-1.8
Other	-0.078	0.9	0.811	7.1	-0.043	-0.5
Percent Foreign- Born of Same Ethnic Origin	-0.109	-4.4	-0.388	-10.9	-0.144	-4.9
Interaction of Percent Foreign-Born with Ethnic Origin ²						
West European	-0.051	-1.6	-0.535	-14.1	0.092	2.9
East European	-0.762	-5.9	-2.488	-11.3	1.202	5.8
South European	0.274	3.2	-0.355	-4.1	-1.827	-7.0
South Asian	-1.745	-21.7	-0.561	-9.0	-0.685	-10.3
East Asian	-0.148	-4.4	-0.910	-20.1	-0.123	-3.1
Other	-1.057	6.6	-0.976	-5.7	-0.287	-2.9
Number	106,168		119,369		169,466	

¹ Excluded category is "persons with multiple ethnic origins".

² Excluded category is "persons with multiple ethnic origins".

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