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The Initial Destinations and Redistribution of Canada's Major Immigrant Groups: Changes over the Past Two Decades

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Table of Contents

Abstract

This study examines changes in the geographic concentration of Canada's major immigrant groups, with respect to their initial destination and subsequent redistribution during the past two decades. At the same time, it examines the role of pre-existing immigrant communities in determining immigrants' locational choices. The results show a large rise in concentration levels at the initial destination among major immigrant groups throughout the 1970s and 1980s; this subsided in the following decade. Redistribution after immigration was generally small-scale, and had inconsistent effects on changing concentration at initial destinations among immigrant groups and across arrival cohorts within an immigrant group. Even for immigrant and refugee groups whose initial settlement was strongly influenced by government intervention, redistribution only partly altered general geographic distribution. Finally, this study finds that the size of the pre-existing immigrant community is not a significant factor in immigrant locational choice when location fixed effects are accounted for.

Keywords: Immigrant communities, geographic concentration, initial distribution

1. Introduction

During the past few decades, international immigrants have become the largest component of national population growth and a major factor in social change in many western countries. The inflows of immigrants increasingly concentrate in large urban areas. For instance, in 1981, about 58% of immigrants who had come to Canada during the previous 10 years lived in the three largest urban centres: Toronto, Vancouver, and Montreal. By 2001, this proportion had increased to 74% (Statistics Canada 2003).

The increased immigrant concentration in these gateway cities has raised extensive public interest and policy debate on whether or how a more "balanced geographic distribution of immigrants" (Citizenship and Immigration Canada (CIC) 2001) should be achieved. The large in-flows of newcomers often exert enormous pressure on the absorptive capacities of major gateway cities. Meanwhile, many slower-growth regions would welcome more immigrants as a way to generate population growth. Moreover, a wider dispersion of newcomers would help to reduce spatial disparities in the socio-demographic composition of the receiving society's population.

Both existing and proposed policies aimed at directing immigrants away from major gateway cities have focused on the choice of initial destination. Little effort has been made to affect subsequent mobility (see reviews of these policies in Canada and other developed countries by Andersson 2003; CIC 2001; Robinson and Coleman 2000). This policy orientation is understandable, as policy intervention tends to have little effect on the geographic labour mobility of the general population (Lin 1998). However, policies designed to affect immigrants' initial destination will work only if non-gateway regions can either keep those immigrants who initially settle there or maintain balanced flows of immigrants through in- and out-migration.

This study examines to what extent Canada's immigrant groups, arriving over the past two decades, have altered their geographic concentration through time. The literature suggests that many immigrant groups become further concentrated geographically rather than dispersed over time (Belanger and Rogers 1992; Beaujot 2003), but this tendency may have changed among more recent arrivals. Therefore, this study compares immigrants who came in the 1970s, 1980s, and 1990s, first, in the concentration levels of their initial destinations, and second, in their subsequent geographic dispersal. Special attention is given to the dispersal pattern of those immigrant or refugee groups whose initial settlements were heavily influenced by government policies. Finally, this study examines the role of pre-existing immigrant communities in the geographic distribution of major immigrant groups.

2. Past research and theoretical framework

Many Canadian and U.S. studies have examined the internal migration patterns of international immigrants, often comparing them to the migration patterns of the native-born. These studies have found that differences in mobility depend on the places moved to and from (Belanger and Rogers 1992; Gurak and Kritz 2000; Lin 1998; Rogers and Henning 1999; Trovato 1988). Lin (1998) found that immigrants, as a whole, have lower interprovincial migration rates than the Canadian born, partly because immigrants are older and have larger households, but also because immigrants are highly concentrated in Ontario and British Columbia. And as other studies have shown (CIC 2001;

Edmonston 2002), immigrants are less likely to leave Ontario and British Columbia and more likely to leave other provinces than non-immigrants. During the 1980s and 1990s, immigrants were less likely to move away from Canada's three major gateway centres—Toronto, Vancouver, and Montreal—than non-immigrants. Finally, out of these three cities, immigrants were more likely to move into Toronto and Vancouver but less likely to move into Montreal than non-immigrants (Hou and Bourne 2005).

Previous studies show that immigrants and non-immigrants are similarly responsive to certain determinants of migration. Individual socio-demographic characteristics (e.g., age, education, family structure) and economic factors (e.g., regional differences in employment opportunities, earning potentials, and generosity of welfare benefits) have similar effects on the migration behaviour of immigrants and non-immigrants (Edmonston 2002; Gurak and Kritz 2000; Lin 1998; Moore and Rosenberg 1995; and Newbold 1996).

Even given a certain amount of mobility, geographic concentration of immigrants does not appear to change with time. Based on the 1980 U.S. census data, Bartel and Koch (1991) observe no clear increase in the geographic dispersion of immigrants after 15 years of residence in the United States. A similar pattern appears in the geographic dispersion across provinces of immigrants who came to Canada after the 1970s (Edmonston 2002), even though some Canadian studies suggest that internal migration accentuates immigrant concentration in large metropolitan areas and in the provinces of Ontario and British Columbia (CIC 2000; Moore and Rosenberg 1995; Nogle 1994).

This constant, or even increasing, geographic concentration of some immigrant groups is often explained by the group affinity hypothesis, which posits that pre-existing ethnic communities have a strong effect in both attracting and retaining immigrants (Gurak and Kritz 2000; Kritz and Nogle 1994; Lieberson and Waters 1987; and Newbold 1999). Social networks and institutional resources are more likely to flourish in large, viable ethnic communities. Therefore, the social and economic amenities provided by these ethnic communities not only ease the adjustment of new arrivals, but attract more established immigrants as well (Nogle 1994; Rogers and Henning 1999; Speare, Kobrin and Kingkade 1982; Trovato 1988; and Trovato and Halli 1983).

Some empirical studies have found a strong relationship between the initial destination of new immigrants and pre-existing immigrant communities (Buckley 1996; McDonald 2003; and Zavodny 1999). Zavodny, for one, concludes that the presence of other immigrants is the primary determinant of new immigrants' locational choices within the United States, while economic conditions play a minor role. This observation led her to suggest that "… governments may have little power to influence the settlement patterns of most new legal immigrants unless government policies affect where earlier immigrants live" (1999: 1027). Other studies have found that pre-existing immigrant communities strongly influence internal migration patterns (Gurak and Kritz 2000; Kritz and Nogle 1994; Moore and Rosenberg 1995; and Newbold 1999). According to these studies, pre-existing immigrant communities in a location reduce the likelihood of out-migration, while at the same time, attracting immigrants from other places. Thus, immigrants from the same ethnic/cultural group would be attracted to some locations but avoid moving to others. Consequently, internal migration can only increase geographic concentration.

In testing the group affinity hypothesis, previous studies have primarily used the size (absolute or relative) of the foreign-born population (total or from a specific country/region) or of the population with a common ethnic/cultural origin as the proxy for the retaining or pulling effects of pre-existing immigrant (or ethnic/cultural) communities. However, previous studies are subject to model specification errors. They have not adequately separated the observed association between the size of pre-existing immigrant communities and migratory behaviours, from the effects of other locational attributes.

Such potential model misspecification can be illustrated in a frequently-cited U.S. study by Kritz and Nogel (1994). This study found that nativity concentration, defined as the natural log of the immigrant population from a source country in a state, discourages interstate migration. But only two other locational attributes, New York residence and state unemployment rate 5 years before, were included in the model. Such a simplistic specification would certainly not ensure that the significant effect of nativity concentration did not reflect the impact of other variables. For example, state differences in wages, employment growth (which is not the same as unemployment rate in a given year), and size and functions of metropolitan areas may help to explain the effect of nativity concentration.

Kritz and Nogel (1994) found little variation in the effect of nativity concentration among immigrant groups from different countries. In fact, immigrants from the United Kingdom and India respond to nativity concentration in a similar way. This seems odd, since there are reasons to suspect that group affinity does not work uniformly across immigrant groups. The effect of group affinity is probably stronger among groups whose ethnic population is more concentrated, however. Groups are also different in their attachment to ethnicity and in available institutional resources (e.g., schools, church, media, and friends). And Asian and South European groups may have stronger group attachment than other European immigrants (McDonald 2003; Moore and Rosenberg 1995). Therefore, the observation that nativity concentration works more or less uniformly across groups probably reflects the effect of other locational attributes.

The potential problem with model misspecification cannot be easily corrected by including more locational attributes in the models, as some studies have attempted to do. Unmeasured locational attributes could still bias the estimated effect of pre-existing immigrant communities. For instance, major gateway cities may attract new immigrants simply because they are the only places immigrants have heard of before leaving their source countries. Without controlling for such location "fixed effects," empirical models, at most, can only reveal the variation in immigrant migratory behaviour across locations with different sizes of pre-existing immigrant populations. Such a variation does not reveal whether it is the size of pre-existing immigrant populations, or the existence of a network of kin and close friends that makes a difference. In the latter case, we may observe that areas with larger immigrant communities attract more immigrants simply because they proportionately have more small kinship networks. With special survey data, Rebhun (2003) shows that the effect of the size of pre-existing immigrant communities is distinguishable from that of individuals' social networks. He reports that the size of Jewish population in a state turns out insignificant in influencing the migration of Jews in the United States once individual affiliation to the ethnic community is controlled for. Meanwhile, he finds that the proportion of close friends who are from within the same religio-ethnic group and frequency of synagogue attendance remain important determinants of migration.

A distinction between the size of pre-existing immigrant communities and the presence of kin and close friends has important policy implications. On the one hand, if the size of a pre-existing immigrant community has a strong retention and pulling effect, then areas with larger pre-existing communities would attract more newcomers, and continuing immigration would further increase the geographic concentration of immigrants from the same source country. On the other hand, if it is the existence of a network of kin and friends that matters, individual immigrants will move to and stay in non-gateway regions, as long as they have relatives or friends there.

Accordingly, policies aimed to direct new immigrants to non-gateway cities may work if immigrants with close ties are clustered together. Indeed, when asked, immigrants reported that joining family or friends is the most important reason for their choice of initial destination—major gateway centres and small cities alike (Chui 2003). Nor did refugees report the size of ethnic communities as their major reason for relocating away from their initial destination. For them, the most common reason for relocation is better employment/education opportunities, followed by general quality of life, the desire to be closer to family and friends, and finally, dissatisfaction with community services (Krahn, Derwing and Abu-Laban 2003).

The present study addresses the limitations of previous studies by examining to what extent the size of pre-exiting immigrant communities affects the geographic distribution of major immigrant groups in Canada in three unique ways. First, it examines how successive cohorts of immigrants from a same source country differ in their choice of initial destination. On the one hand, a consistent increase in the concentration level at the initial destination across successive cohorts does not necessarily reflect the influence of pre-existing immigrant communities. On the other hand, an inconsistent change would suggest that other factors could swamp the influence of pre-existing immigrant communities. Immigrant policies, macro-economic conditions at the time of immigration, and changes in the characteristics of immigrants are among the potentially important factors affecting initial destination distribution.

The study looks at changes in the geographic distribution of initial destinations separately for each major immigrant group, as the geographic distribution of different immigrant groups has important sociological ramifications. As Lieberson and Waters (1987) suggest, the relative concentration of a given group is related to the degree of the group's social influence, visibility, intermarriage, and interaction with other groups. From a policy perspective, the selective locations of immigrant groups require a corresponding distribution of government services to meet group-specific needs (Camarota and McArdle 2003). Furthermore, although we know that overall the initial destinations of immigrants have become more concentrated in the major gateway areas (CIC 2001), it is not clear whether this is due to a shift in source countries, or it is a phenomenon common to most immigrant groups. If the shift in source countries is the main reason, the receiving country can alter overall initial distribution by influencing the numbers of immigrants admitted across source countries (Green and Green 1995). But this policy option would have little effect if concentration levels of initial destination have increased among most immigrant groups.

The second unique way in which this study examines the possible role of pre-existing immigrant communities is by tracing changes in the geographic distribution of immigrants in the years following their arrival. As discussed earlier, if the size of pre-existing immigrant communities has strong retaining and pulling effects, then redistribution over time will increase levels of geographic

concentration. From a policy perspective, it is important to know whether immigrants gradually spread out or remain concentrated in their ports-of-entry. The scope and duration of policies directed at assisting the adjustment of immigrants and supporting the receiving cities depend on the degree of immigrant redistribution (Bourne 1999). More specifically, the effectiveness of policies designed to influence the choice of initial destination depends on how immigrants alter their geographic distribution over time. Thus, this study pays close attention to the redistribution of immigrant and refugee groups whose initial destinations were influenced by government interventions.

In tracing redistribution after immigration, this study will overcome some analytical limitations of previous studies (e.g., Bartel and Koch 1991) which have relied on one-time cross-sectional data (with the exceptions of Funkhouser 2000 and Ram and Shin 1999). These studies are unable to follow a given cohort of immigrants over a long period. Nor can they distinguish differences in the concentration of initial destinations across successive cohorts, from subsequent geographic redistribution after arrival. Such distinction is critical, since we know that the initial destination of more recent cohorts has become more concentrated. To follow a given cohort, this study, unlike previous studies, uses pooled cross-sectional data from five consecutive censuses, covering a period of 20 years.

Most previous studies have focused on the internal migration of immigrants rather than on changes in geographic distribution. As in-migration may offset out-migration, and return migration may compensate for an earlier migration, mobility studies often do not provide a clear picture about the changes in geographic concentration. For instance, a U.S. study shows that while Latin American-born and Asian-born immigrants exhibited increasing geographic concentration during the 1970s and 1980s, their internal migration patterns showed a decline in spatial focus. The opposite was true for European-born immigrants (Rogers and Henning 1999). The present study focuses on changes in geographic concentration, the net outcome of mobility in various directions.

Furthermore, most mobility studies to date have examined the internal migration of immigrants across broad regions (four regions of the U.S., states/provinces, and metropolitan areas) with no specific focus on major gateway areas. These studies do not specifically address whether immigrants eventually disperse from or become more concentrated in gateway areas. Funkhouser (2000) has demonstrated the merits of focusing on these areas. He found some interesting results not revealed by other studies, as for example, a significant movement away from the most concentrated metropolitan areas to other geographic areas among U.S. immigrants from Asia, Central America, and Eastern Europe. Moreover, most of the movement toward de-concentration takes place after 10 years of living in the United States. Using an approach similar to Funkhouser's (2000), the present study examines immigrant redistribution away from major gateway areas.

The third and final unique critical angle of this study is its statistical isolation of the effects of the size of pre-existing immigrant communities, from the impact of other locational attributes. To this end, it takes advantage of pooled data from five consecutive censuses, and applies conditional logit choice modeling. By incorporating time-varying locational attributes, the study can examine whether changes in the size of pre-existing immigrant communities affects immigrant geographic distribution, after accounting for location "fixed effects"— i.e., other conditions that make an area attractive to a specific immigrant group.

3. Data and methods

The present study uses the 20% sample micro data files from five consecutive censuses of Canada, over the period from 1981 to 2001. Although census data do not follow individuals over time, it is possible to examine changes in the geographic concentration of a cohort of immigrants who arrived in a given period of time. To avoid small sample size, immigrants are grouped into cohorts by a five-year period: 1976-1980, 1981-1985, 1986-1990, 1991-1995, and 1996-2000. The earliest arrivals, the 1976-1980 cohort, had stayed in the country for 1 to 5 years by the time of the 1981 Census, and 21 to 25 years by the 2001 Census. Immigrant cohorts arriving before 1976 were not chosen, since their geographic concentration in the initial years after immigration could not be observed in the 1981 Census.

In this study, the author focuses on fifteen immigrant groups that were among the top 10 source countries, in either the 1981 or the 2001 Census, based on the number of immigrants who arrived in the preceding five years (See Appendix 1). Four countries (the United States, China, India, and the Philippines) were among the 10 top source countries in both the 1981 and 2001 Censuses.[1] Another six (United Kingdom, Portugal, Guyana, Haiti, Vietnam, Jamaica) were only in the list of the 10 top source countries in the 1981 Census, and five (Pakistan, Iran, South Korea, Sri Lanka, the former USSR, Romania) were only in the 2001 list.[2] Sri Lanka was also on the 2001 top ten list, but was not selected, since the number of immigrants prior to 1981 was very small.[3] Together, the selected 15 groups accounted for about 65 % of total recent immigrants (i.e., who had lived in Canada for five years or less) in 1981 and 63% in 2001. Among the 15 groups, Vietnamese who arrived during the late 1970s and early 1980s, Iranians who arrived during the late 1980s and early 1990s, and Romanians who arrived in the late 1980s, consist mostly of refugees.

The analysis focuses on the distribution of immigrants across eight geographic locations: Toronto, Montreal, Vancouver, the rest of Ontario, the rest of Quebec and Atlantic region, the rest of British Columbia (plus the Territories), the Prairies (Manitoba and Saskatchewan), and Alberta.[4] In 2001,

1. Immigrants from China included those from the People's Republic (P.R.) of China, Hong Kong and Taiwan. P.R. China, Hong Kong and Taiwan accounted for 30%, 32% and 38% of recent immigrants in this group respectively in 1981, and 57%, 24% and 19% in 2001.

2. Countries of the former USSR are combined in this study since they were not coded separately prior to the 1996 Census. About 45% of recent immigrants in this group are from the Russian Federation and 30% from the Ukraine in 2001.

3. Only 1,000 recent immigrants from Sri Lanka were in the 1981 Census. For each of the other 15 groups, their minimum number of recent immigrants was over 2,800 in either 1981 or 2001. The number of recent immigrants from the United States, United Kingdom, China, India, Philippines, Vietnam, and Jamaica was over 10,000 in both the 1981 and 2001 Censuses.

4. This is similar to the approach by McDonald (2003). The author also tried to use three different groupings of geographic locations: (1) 259 local areas consisting of census metropolitan areas for residents in large urban areas and census divisions for those living in other areas; (2) 38 locations consisting of census metropolitan areas plus the rest of each province; and (3) 18 regions consisting of 3 major gateway centres, the next 10 metropolitan areas with a large share of immigrants, and 5 remaining regions. However, such finer groupings produce a sample size too large even for a powerful computer server to handle in estimating the conditional logit models (see footnote 8 for details). More importantly, lots of empty cells make the estimates unreliable.

about 62% of Canada's immigrants lived in the three largest metropolitan areas. The Toronto metropolitan area has the largest population of most immigrant groups. Vancouver has the second largest population of some groups, and Montreal the second largest of others. Among the selected major groups, only immigrants from Haiti are primarily concentrated in Montreal.

In testing the group affinity hypothesis, the author uses both the absolute and relative size of the pre-existing community for each of the selected immigrant groups. The absolute size of immigrants from a source country in a local area may reflect the "institutional completeness" of an ethnic community (Breton 1964), and larger communities are more likely to develop religious, educational, and welfare institutions that serve a minority group. Since the distribution of immigrant groups is highly skewed, the natural log of the group size is used in the analysis (Kritz and Nogle 1994). The relative size of immigrants from a source country, measured as the share of an immigrant group in the total local population, reflects the importance of the group relative to the total local population and the potential exposure among the group members (Moore and Rosenberg 1995).[5]

To establish a time ordering for the effect of a pre-existing immigrant community on the current distribution of an immigrant population, both the absolute and relative size of pre-existing immigrant communities are derived from the previous census (McDonald 2003).[6] Furthermore, since immigrant communities may grow at different rates across localities, the absolute and relative size measures are calculated for each census and have a time-varying nature.

In examining the effect of a pre-existing immigrant community, this study will take into consideration possible confounding factors, mostly demographic and economic conditions in different areas (e.g., Gurak and Kritz 2000; Moore and Rosenberg 1995; Newbold 1999). These factors include the population size (natural log) of the census metropolitan area (CMA, or the mean size of CMAs in regions outside the three major gateway centres), and unemployment rate.[7] These variables are derived from each census and thus have a time-varying nature.

Some individual level factors are included in the multivariate models to control for cohort differences in population characteristics. These factors include sex (men=0, women=1), age, education, home language, and family structure. Education level includes four categories: university degree, some post-secondary, high school graduation, and less than high school. Home language,

5. A measure of relative concentration is also often used in the literature. It is defined as the proportion of people in area j that belong to an immigrant group k divided by the proportion of people in the whole country from group k (e.g., McDonald 2003). This measure can avoid underweighting small groups when many immigrant groups are analysed in a same regression model (Bertrand, Luttmer and Mullainathan, 2000). However, this concern does not apply to the present study that analyses each immigrant group separately. In this case, the relative concentration measure is simply the relative size divided by a constant.

6. Since the 1976 Census did not contain corresponding information, the size of pre-existing immigrant communities for 1981 was estimated from the 1981 census, following a procedure used by Kritz and Nogle (1994). The estimates were based on those residents who had stayed in the local area for at least five years and migrants were allocated back to their place of residence five years ago.

7. I also tried to include median employment earnings and average share of family income from government transfers. These variables do not contribute substantially to the model goodness-of-fit, but create multi-collinearity problems.

i.e., language most often spoken at home, includes English, French, and all others. Family structure is based on economic families and includes four categories: unattached individuals, two or more adults without children, two or more adults with children, and lone-parent families. The last category in each of the above categorical variables is used as the reference base (see Appendix 2).

In this study, the author uses a Conditional Logit Choice Model (McFadden 1973) to estimate the distribution of immigrants across eight geographic locations. Such a specification is appropriate when the choice among alternatives is modelled as a function of the characteristics of the alternatives. Let X_i stand for the characteristics of individual i and Z_{ij} for the attributes of the jth alternatives for individual i, with the corresponding vectors denoted by β and α, respectively. The probability that individual i chooses alternative j is given by

$$P_{ij} = \exp(Z_{ij}\alpha + X_i\beta) / \sum_j \exp(Z_{ij}\alpha + X_i\beta)$$

Without the attributes of the alternative choices, the conditional logit choice model is the same as a multinomial logit model.

For each of the 15 selected immigrant groups, two conditional logit choice models are estimated sequentially (see Appendix 2).[8] The first includes seven dummy variables for the choice of geographic locations (with Toronto as the reference). These dummy variables act as location fixed effects (Davis, Greenwood and Li 2001). Their inclusion in the model controls for whatever pre-existing, but not time-varying, conditions make a location attractive to the settlement of immigrants. The first model also includes variables for estimating the effects of arrival cohorts, year(s) since immigration and a squared term of this variable, as well as the interaction between arrival cohorts and year(s) since immigration. The purpose of this model is to examine whether successive arrival cohorts are different in the choice of initial destination, whether the initial distribution changes over time, and whether various cohorts differ in their redistribution.

The second model adds individual characteristics, population size, unemployment rate and the size of pre-existing immigrant communities at alternative locations. The purpose of this model is to estimate the effect of the pre-existing immigrant community, controlling for changes in population characteristics, as well as variations in local demographic and economic conditions. Here, the absolute and relative size of pre-existing immigrant communities is included in separate models. To compare the results with those from previous studies, the author will show the effect of the size of pre-existing immigrant community both with and without accounting for location fixed effects.

8. In estimating conditional logit choice models with STATA clogit procedure, the data have to be arranged in a way that each individual contributes J (the number of alternative choices, J=8 in this study) observations. The J observations for each individual have same values for individual-level variables, but different values for alternative-specific attributes. The individual is indicated by a variable *id*. The actual choice made by an individual is indicated with a dummy variable *choice* that equals 1 for the region where the individual is located and 0 for others. The dependent variable is *choice*. Among the independent variables are J-1 dummy variables that identify each alternative region. In the present study, there are 7 dummy variables for the choices, with Toronto as the reference group. The alternative-specific attributes, including population size, unemployment rate, and size of pre-existing immigrant communities can be entered directly into the model. To examine how individuals' characteristics (e.g., arrival cohort, year(s) since immigration, etc) affect the choice of locations, one must interact these characteristics with J-1 dummy variables for the choices.

These conditional logit choice models produce a large number of coefficients, and the magnitude of the coefficients for individual-level variables does not have a simple interpretation (see Appendix 3 for example).[9] To provide an overall picture, the author simplifies the presentation of model results. The author first estimates the distribution of immigrants across the eight regions by arrival cohort and year(s) since immigration, based on the estimation of each model. The author then summarizes the distribution across eight regions, in an index of dissimilarity. The index compares the difference between a given cohort of immigrants in a certain year after immigration, and the native-born population in its distributions across the eight regions.[10] The index value ranges from 0 to 1, indicating the proportion of persons in the immigrant group that would have to change their area of residence in order for this group to have the same distribution as the native-born.

In the next section, the author describes the change in population distribution between 1981 and 2001, for the total immigrant population and for each of the selected major groups. The author goes on to describe geographic distribution by arrival cohort and length of stay in Canada, for the total immigrant population and for each of the selected groups. Finally, the author discusses the results obtained from the conditional logit choice models.

4. Results

4.1. Changes in the choice of initial destinations among major immigrant groups

During the 20-year period from 1981 and 2001, the distribution of Canada's immigrant population became more concentrated in Toronto and Vancouver, as shown in Table 1.

This trend is particularly strong among immigrant groups that comprise the major source countries in the 1990s, although it also holds for other groups. The only exception is immigrants from the United Kingdom, whose distribution shifted toward Ontario outside Toronto, and British Columbia outside Vancouver.

9. For instance, there are 63 coefficients in the first model—7 dummy variables for alternative locations, 4 cohort dummies (1996-2000, 1991-1995, 1986-1990, 1981-1985, with the 1976-1980 cohort as reference) each interacting with the 7 choice dummies, year(s) since immigration and its squared term each interacting with the 7 choice dummies, the two interaction terms between year(s) since immigration and the 1990s arrivals and 1980s arrivals with each terms interacting with the 7 choice dummies. The second model contains 136 coefficients—63 coefficients from Model 1 plus 70 (10 individual demographic variables interacting with the 7 choice dummies) and 3 for the locational attributes.

10. The index is calculated as $D = .5\Sigma \left| xj/X - yj/Y \right|$ over all areas j. X and Y are the total population of group x and y in the country, x_i and y_i are the population of group x and y in region j. The group x refers to a given cohort of immigrants in a specific year after arrival. The group y here is the native-born population in a concurrent year. For instance, the 1976 distribution of the native-born was used in computing the dissimilarity index for the 1976-1980 cohort of new immigrants. The 1986 distribution of the native-born was used for the same cohort of immigrants 10 years after their arrival.

Table 1. Percentage distribution of immigrants by geographic regions, 1981 and 2001

		Toronto	Vancouver	Montreal	Rest of Quebec, and Atlantic provinces	Rest of Ontario	Prairies	Alberta	Rest of B.C.
Canadian-born	1981	9.2	4.6	12.3	26.4	23.8	8.6	9.1	6.0
	2001	10.7	5.0	11.4	23.4	24.4	7.8	10.3	7.1
All immigrants	1981	29.7	10.0	11.9	3.6	23.3	5.9	9.3	6.4
	2001	37.3	13.5	11.4	2.6	18.7	3.3	8.1	5.1
By country of birth									
China	1981	32.8	31.0	5.4	1.5	8.9	4.1	12.3	4.2
	2001	41.1	36.6	4.6	0.8	6.3	1.5	7.6	1.6
India	1981	33.4	20.4	7.2	2.0	13.3	3.2	9.0	11.6
	2001	46.5	21.6	4.4	0.8	8.8	2.0	7.9	7.9
Philippines	1981	40.0	16.2	6.0	1.0	8.7	16.0	9.8	2.3
	2001	44.3	19.8	5.7	0.5	7.0	9.7	10.6	2.3
Former USSR	1981	27.3	7.2	9.8	0.9	21.8	17.3	11.3	4.5
	2001	46.6	7.1	10.6	1.0	15.6	7.0	7.9	4.2
Pakistan	1981	45.8	4.4	15.3	2.0	15.0	3.9	11.3	2.3
	2001	64.4	6.3	8.1	0.6	11.8	1.3	6.9	0.8
Iran	1981	32.8	21.3	19.8	1.6	13.0	0.8	6.1	4.7
	2001	48.6	24.2	10.0	0.9	10.7	1.1	3.4	1.2
U.S.A.	1981	12.3	8.7	7.1	13.8	23.0	8.8	14.1	12.2
	2001	15.8	9.7	6.4	11.9	25.7	5.3	11.6	13.6
South Korea	1981	51.9	16.4	3.3	0.8	11.2	2.9	12.1	1.4
	2001	44.2	29.4	3.8	1.0	10.3	1.1	7.3	2.8
Romania	1981	22.5	5.5	25.7	1.4	24.8	7.0	9.5	3.8
	2001	34.4	7.8	22.0	2.3	22.2	2.6	6.3	2.3
U.K.	1981	26.0	11.7	4.2	3.6	30.4	5.5	9.2	9.4
	2001	23.6	11.4	2.4	3.7	33.1	3.9	9.8	12.1
Jamaica	1981	71.1	2.0	8.0	0.4	11.2	2.3	4.1	0.8
	2001	76.7	1.8	4.9	0.3	11.0	1.6	3.1	0.7
Vietnam	1981	17.5	7.5	18.7	6.4	17.7	9.9	17.6	4.8
	2001	35.5	14.9	14.3	1.4	13.3	3.3	14.8	2.5
Guyana	1981	71.9	2.0	5.6	0.4	12.6	2.8	4.2	0.5
	2001	80.1	1.2	3.7	0.4	10.0	1.6	2.6	0.4
Haiti	1981	0.6	0.1	90.9	4.8	3.2	0.2	0.3	0.0
	2001	1.4	0.3	85.7	4.1	7.3	0.2	0.5	0.4
Portugal	1981	47.2	4.0	13.2	1.2	22.7	4.5	3.1	4.0
	2001	51.4	3.5	12.8	1.0	21.9	3.5	2.9	3.0

Source: 1981 and 2001 Censuses, 20% sample micro files.

The distribution of the Canadian-born changed on a much smaller scale. The share of the Canadian-born population decreased in the Atlantic provinces, Quebec (including Montreal), and the Prairie provinces; but increased in Ontario (including Toronto), Alberta, and British Columbia (including

Vancouver). Among the three largest census metropolitan areas, Montreal still surpassed the other two in its share of the Canadian-born population, although its gap with Toronto was closing fast.

Meanwhile, Vancouver replaced Montreal as Canada's second largest immigrant city. In 1981, close to 40% of Canada's immigrants lived in Toronto and Vancouver. Two decades later, this number had increased to 51 percent. The increased concentration of immigrants in Toronto and Vancouver resulted primarily from changes in the choice of initial destination by more recent immigrants. As shown in Table 2, immigrants who arrived in the 1980s and 1990s are more concentrated in their initial destinations than are those who arrived in the 1970s. The increased concentration occurred mostly between the 1970s and 1980s. Toronto, and to a lesser extent, Vancouver and Montreal, attracted proportionally more recent immigrants in the 1980s than in the 1970s. In sum, changes in the initial destinations over this period were characterized by a large shift from the rest of the nation to the three major gateway centres.

It was a rather different trend between the 1980s and 1990s. Changes in the distribution of initial destinations were smaller in scale than during the previous decade. More significantly, the share of immigrants outside the three major metropolitan areas in the late 1990s decreased only 3.7 percentage points, compared with a decline of 13.3 percentage points in the previous decade. This suggests that the tendency of new arrivals to increasingly congregate in major gateway centres had subsided by the 1990s. Among the three major gateway centres, only Vancouver had a substantial gain in its share of recent immigrants, while Montreal's share of immigrants actually declined. This may reflect the greater preference for Vancouver among more recent immigrants, particularly from China, Philippines, Eastern Europe, Iran, and South Korea.

Not just immigrants from newer source regions had a greater tendency to choose Toronto and Vancouver as their initial destination in the 1980s and 1990s. Immigrants from the United States, Portugal, and the Caribbean showed a similar trend. Even immigrants from the United Kingdom had an increased concentration in these two metropolitan areas. If we hold the composition in immigrant source regions constant, the general trend towards increased concentration among most immigrant groups would account for about 58% of the increase in Toronto and Vancouver's share of recent immigrants (i.e., those arrived within five years) between the late 1970s and the late 1990s. Put differently, if we assume each immigrant group maintained the same degree of concentration over the entire period, changes in the composition of immigrant source countries would only contribute to about 42% of the increase in Toronto and Vancouver's share of recent immigrants.

These results contradict a common perception that the shift in source regions is the major factor driving up the geographic concentration of immigrants. In fact, by the end of the 1970s, immigrants from the United Kingdom and the United States made up only about 20% of the total new arrivals. Their further decline in numbers did not have an overwhelming impact on the geographic distribution of all immigrants. Meanwhile, immigrants from South Europe (e.g., Portugal and Italy) and the Caribbean were highly concentrated geographically, even more so than Asian immigrants, and their declining shares would somewhat reduce the overall level of concentration for all immigrants. These factors all help to explain why the shift in the source regions during the past two decades, albeit important, was not the primary reason for the increase in the geographic concentration of immigrants.

It is even more revealing when the roles of shifts in source regions and the general trend of increased concentration are examined separately for the periods between the 1970s and 1980s, and between the 1980s and 1990s. On the one hand, the share of new arrivals choosing Toronto and Vancouver as their initial destination increased 12.8 percentage points, from 42.7% in the late 1970s to 55.4% in the late 1980s. Among the total increase, about 8.6 percentage points (67%) are attributable to the general trend of increased concentration among most immigrant groups. The remaining 4.2 percentage points (or 33%) are attributable to the shifts in source regions. On the other hand, between the late 1980s and the late 1990s, the share of new arrivals choosing Toronto and Vancouver as their initial destination increased only 5.6 percentage points. Among this total increase, about 1.7 percentage points (31%) are attributable to the general trend of increased concentration while 3.9 percentage points (or 69%) to the shift in source regions. These results suggest that the general tendency of increased concentration among most immigrant groups played a dominant role between the 1970s and 1980s, but its impact diminished in the following decade.

4.2. Redistribution after immigration

Compared with the large differences across arrival cohorts in their concentration levels at their initial destinations, redistribution after immigration has a much smaller impact. As is shown in Table 2, upon arrival, about 44% of total immigrants who came between 1976 and 1980 were located in regions outside the three major gateway centres. Ten years later, 39% of the immigrants from the cohort remained in these regions. In other words, redistribution over 10 years produced a difference of only five percentage points. In comparison, upon arrival the 1976-1980 and 1986-1990 immigrant cohorts had a difference of 13 percentage points in locating in non-gateway regions.

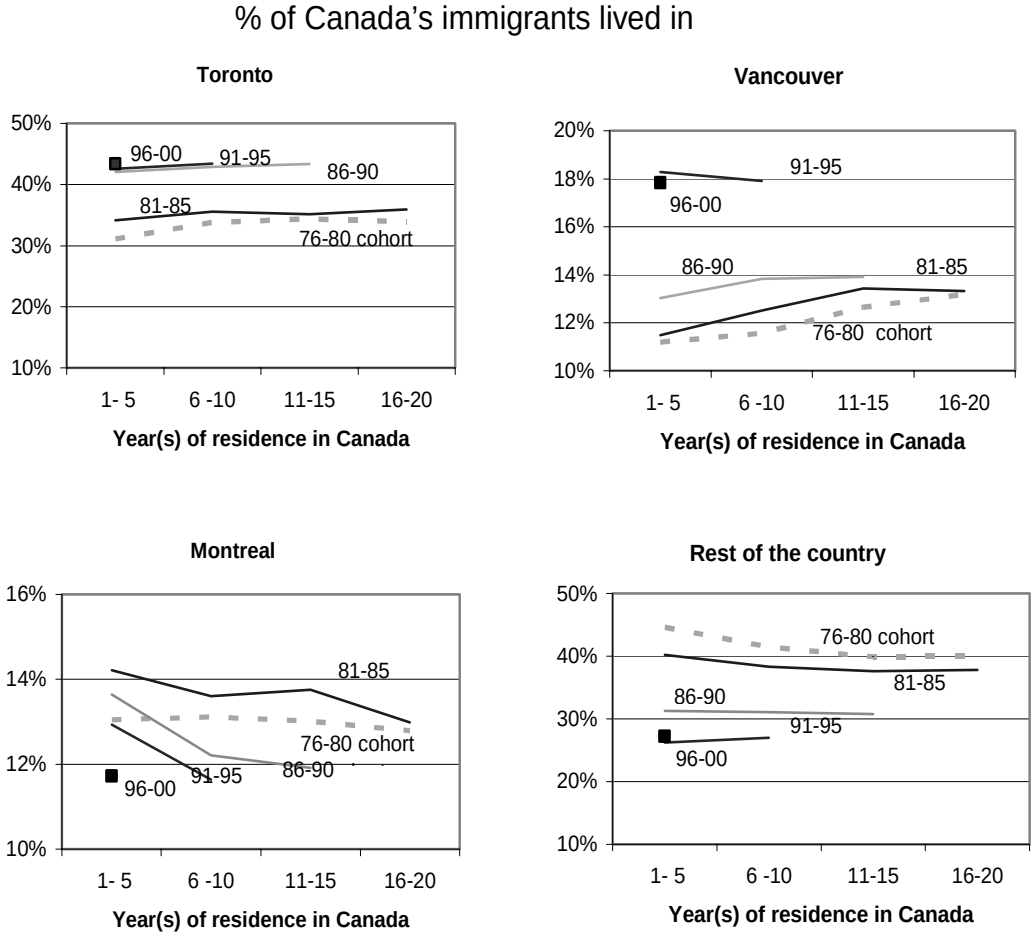
Furthermore, the effect of redistribution was different across successive arrival cohorts. As shown in Table 2 and Figure 1, among those who arrived in the late 1970s and early 1980s, redistribution reduced the proportion of immigrants located in Montreal and non-gateway regions. Meanwhile, among those who arrived in the late 1980s, redistribution reduced the proportion of immigrants located in Montreal, but had no effect on the proportion of immigrants located in non-gateway regions. In contrast, among the early 1990s arrivals, redistribution increased the proportion of immigrants located in non-gateway regions. Clearly, the contention of previous studies that internal migration of immigrants would increase their geographic concentration does not apply to those who arrived in the 1990s.

Table 2. Percentage distribution of immigrants by source country, cohort and year(s) since immigration

	Arrival cohort	1-5 years after immigration				11-15 years after immigration			
		Toronto	Vancouver	Montreal	Other	Toronto	Vancouver	Montreal	Other
China	1976-1980	35.6	29.2	4.9	30.2	39.8	30.1	4.3	25.8
	1986-1990	47.4	31.3	5.0	16.3	49.0	32.7	3.7	14.6
	1996-2000	39.9	38.1	5.3	16.7				
India	1976-1980	34.0	21.7	6.5	37.8	37.1	26.1	5.7	31.1
	1986-1990	50.0	22.0	5.3	22.7	50.1	23.0	3.1	23.8
	1996-2000	56.4	17.0	4.5	22.1				
Philippines	1976-1980	39.2	15.6	5.6	39.6	39.2	17.3	4.7	38.7
	1986-1990	46.8	17.1	6.3	29.7	48.6	17.0	5.9	28.5
	1996-2000	41.3	26.1	6.3	26.2				
Former USSR	1976-1980	45.8	6.3	11.1	36.7	55.6	5.6	11.4	27.3
	1986-1990	65.1	3.6	8.7	22.6	61.9	5.0	9.1	24.0
	1996-2000	57.2	9.4	13.0	20.4				
Pakistan	1976-1980	47.8	4.0	13.7	34.4	56.8	3.5	10.4	29.2
	1986-1990	59.2	8.0	10.0	22.9	58.2	10.0	8.6	23.1
	1996-2000	70.3	5.1	6.5	18.1				
Iran	1976-1980	33.5	26.1	18.8	21.6	35.7	26.9	16.4	21.1
	1986-1990	43.3	15.2	15.5	26.0	48.4	21.2	10.6	19.8
	1996-2000	50.1	26.9	7.2	15.8				
U.S.A.	1976-1980	14.9	8.1	6.9	70.2	14.9	9.1	6.6	69.4
	1986-1990	18.0	12.3	8.2	61.4	16.6	10.2	8.0	65.2
	1996-2000	24.6	12.2	8.0	55.3				
South Korea	1976-1980	50.1	16.8	3.8	29.3	49.6	21.2	2.9	26.4
	1986-1990	39.8	26.3	13.1	20.9	45.9	21.9	8.8	23.4
	1996-2000	41.0	34.5	2.4	22.0				
Romania	1976-1980	40.5	7.0	21.7	30.8	32.7	5.9	28.3	33.1
	1986-1990	30.7	4.9	20.5	44.0	33.2	8.8	19.9	38.2
	1996-2000	41.4	8.1	21.7	28.8				
U.K.	1976-1980	26.7	11.8	4.4	57.1	24.7	12.8	2.5	59.9
	1986-1990	27.9	13.9	2.9	55.3	27.2	12.1	2.0	58.6
	1996-2000	24.8	14.1	3.3	57.8				
Jamaica	1976-1980	70.6	2.6	7.5	19.2	72.9	2.3	6.0	18.8
	1986-1990	79.4	0.7	6.6	13.3	79.2	1.1	6.6	13.2
	1996-2000	84.3	1.0	2.8	11.8				
Vietnam	1976-1980	18.3	7.9	12.5	61.4	32.6	13.4	14.1	39.9
	1986-1990	34.9	10.9	11.2	43.1	36.2	16.4	11.1	36.3
	1996-2000	39.5	14.6	12.4	33.5				
Guyana	1976-1980	74.3	1.5	3.8	20.4	77.7	0.9	3.7	17.7
	1986-1990	83.8	0.3	4.4	11.4	86.2	0.3	3.8	9.6
	1996-2000	89.5	0.8	1.5	8.2				
Haiti	1976-1980	0.5	0.0	93.6	5.8	1.0	0.2	91.2	7.6
	1986-1990	0.9	0.1	85.8	13.2	1.4	0.5	84.2	14.0
	1996-2000	1.6	0.4	81.1	16.9				
Portugal	1976-1980	46.5	4.2	12.9	36.4	50.1	2.6	15.4	31.9
	1986-1990	58.8	1.3	11.1	28.9	58.6	1.3	13.9	26.2
	1996-2000	65.1	3.2	7.8	23.9				
Total	1976-1980	31.1	11.6	13.1	44.2	34.4	13.3	13.0	39.3
	1986-1990	42.0	13.4	13.6	30.9	43.4	13.9	11.9	30.8
	1996-2000	43.2	17.8	11.7	27.2				

Source: 1981 and 2001 Censuses, 20% sample micro files.

Figure 1. Changing patterns of redistribution after immigration across cohorts

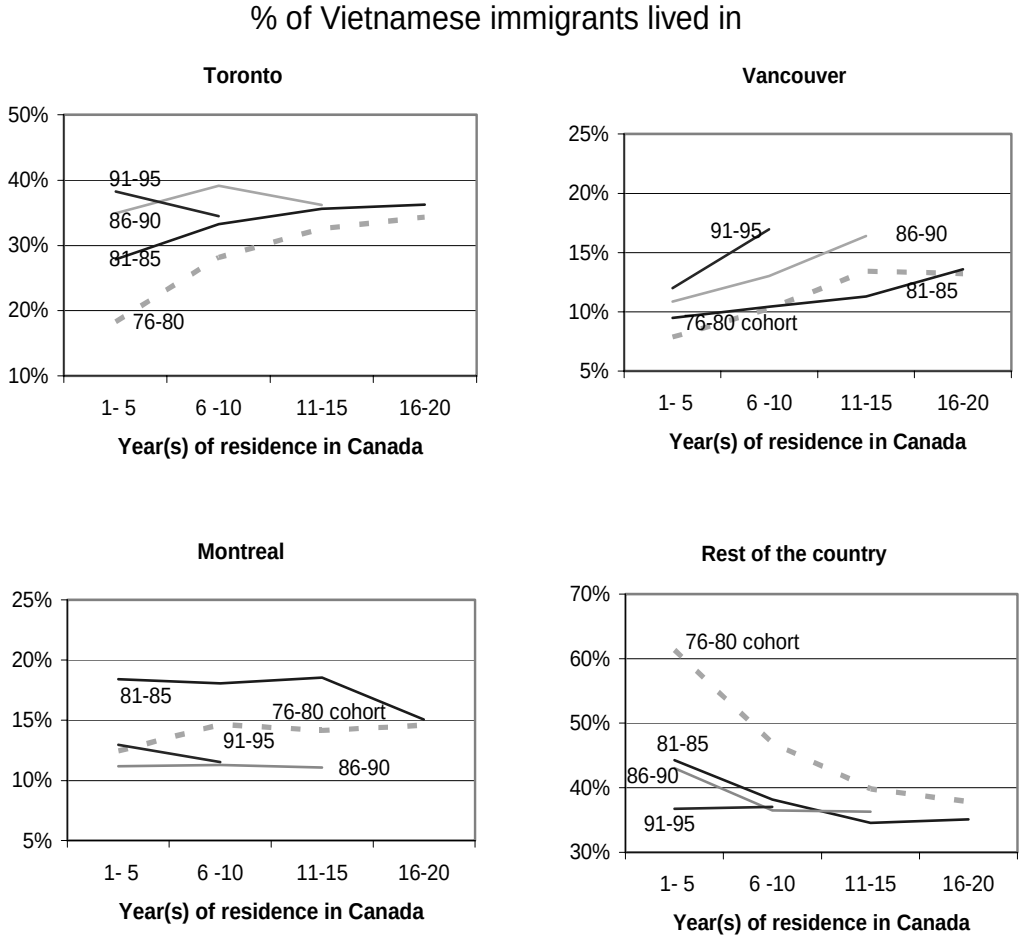


This general pattern, whereby redistribution has only a small effect on the concentration of initial destinations, holds for most of the major immigrant groups. An exception is the Vietnamese, particularly those who arrived in the late 1970s. The majority (93%) of the 1976-1980 cohort were refugees, whose initial placement was assigned by government agents or private sponsors. Many who were initially located in non-gateway regions quickly moved to Toronto and Vancouver. As shown in Figure 2, non-gateway regions initially received more than 60% of this Vietnamese cohort. Five years later, these regions retained only about 47% of the same cohort. The share of the cohort in these regions was reduced further, to 40% after another five years, changing little afterwards. By way of contrast, about 37% of the 1991-1995 cohort of Vietnamese, among which only a small fraction were refugees, lived in non-gateway regions upon arrival, and this proportion remained the same 5 years later.

This result is consistent with previous studies, which have observed that refugees whose initial destinations were mostly assigned have very high mobility (Desbarats 1985; Simich 2003). What these studies do not show, however, is that in spite of their high mobility, most refugees who initially settled in non-gateway regions stayed outside the gateway centres long after their initial settlement. In the case of the 1976-1980 cohort of Vietnamese, 57% of those who initially lived in

non-gateway regions had not moved to gateway centres 15 years after their initial placement. Those who initially settled in "second-tier" cities—large regional urban areas but not major gateway centres—had a particularly high retention rate. For instance, in 1981, Ottawa, Hamilton, Winnipeg, Calgary and Edmonton, the five largest metropolitan areas next to the three major gateway centres, together had about 13,000 of the 1976-1980 cohort of Vietnamese. Twenty years later, they retained over 9,000 Vietnamese from the same cohort.

Figure 2. Geographic distributions of Vietnamese immigrants by cohort and year since immigration



Similar patters were observed among Iranians and Romanians who arrived in the late 1980s, as shown in Table 2. During that period, about half of the immigrants in these two groups consisted of refugees. Compared with those who came before and after that period, they were more likely to locate in non-gateway regions. Even though they showed a stronger tendency than other immigrant groups to shift their concentration towards Toronto and Vancouver over time, over two-thirds of those who initially settled in non-gateway regions remained there 10 years later.

Another interesting case, shown in Table 2, is that of South Korean immigrants who arrived near the end of the 1980s. The initial destination of this cohort of Koreans was strongly influenced by Quebec's aggressive recruitment of business or investment immigrants from Korea. As a result, a much higher proportion (13%) of this cohort initially settled in Montreal than those cohorts arriving in the late 1970s or late 1990s. The number of Koreans in Montreal from this cohort declined by about 40% over a period of 10 years. Regardless of the high mobility, 10 years after immigration, the proportion of the 1986-1990 cohort of Koreans located in Montreal was much higher than earlier Korean cohorts. The Korean case, together with the observations of refugee groups, suggests that high mobility after immigration has not completely altered the distribution of initial destinations, even for groups whose initial destinations were heavily influenced by government interventions.

The estimated dissimilarity indexes by cohort and year(s) since immigration, as shown in Table 3, confirm that the scale of redistribution was small for most groups. These indexes are derived from the first conditional logit choice model for each immigrant group, as explained in the Data and Methods section. This model serves to overcome two limitations of the data presented in Table 2.

First, the census data contain the information on initial destination (say, in the first years after immigration) only for those who arrived in the year prior to the census. Grouping a five-year cohort would not fully reflect initial distributions since some of those who had been in the country for several years might have made a secondary migration. With the conditional logit choice model, we can estimate the geographic distribution for a cohort of immigrants in a given year after immigration, taking into account their secondary migration. The only assumption in the regression model is that immigrants in a given five-year cohort have the same pattern of redistribution. The estimated geographic distribution from this model is very close to the observed pattern for all groups. Second, the percentage distribution of immigrants across geographic regions shown in Table 2 does not present an overall picture about how immigrants differ from the Canadian-born. To address this limitation, the dissimilarity index is derived by comparing the estimated geographic distribution with the concurrent distribution of the Canadian-born.

In Table 3, in most cases, the dissimilarity index changed no more than 0.05 in value by 15 years after immigration. This suggests that redistribution in 15 years led to a difference of 5%, more or less, of immigrants who would need to change locations in order to have the same distribution as the Canadian-born. There were only four cohorts of immigrants whose index increased over 0.05 in value over 15 years; three such cases were related to refugees.

Although redistribution is generally small in scale, it tended to increase the geographic concentration for Chinese and Vietnamese, but to reduce it for immigrants from the United States, United Kingdom, and South Korea. For immigrants from other major source countries, while redistribution did not have a consistent effect across arrival cohorts, it mostly reduced the level of concentration among those who arrived in the late 1990s.

Table 3. The index of dissimilarity between immigrants and the Canadian-born in the geographic distribution, by source country, cohort and year since immigration, without control

	Arrival cohort	The dissimilarity index				% change in the index compared with year 1		
		Year(s) since immigration						
		1	5	10	15	year 5	year 10	year 15
China	1976-1980	0.538	0.561	0.578	0.593	5.2	9.1	12.7
	1986-1990	0.622	0.637	0.653	0.654	3.0	6.2	6.5
	1996-2000	0.611	0.630			4.0		
India	1976-1980	0.500	0.507	0.510	0.512	1.8	2.6	3.0
	1986-1990	0.544	0.556	0.567	0.566	2.8	5.4	5.2
	1996-2000	0.574	0.571			-0.6		
Philippines	1976-1980	0.556	0.537	0.518	0.519	-4.3	-8.5	-8.4
	1986-1990	0.518	0.516	0.520	0.526	-0.5	0.5	2.0
	1996-2000	0.527	0.507			-4.9		
Former USSR	1976-1980	0.479	0.473	0.467	0.473	-1.6	-3.2	-1.6
	1986-1990	0.526	0.528	0.534	0.530	0.3	1.8	0.8
	1996-2000	0.519	0.515			-1.1		
Pakistan	1976-1980	0.453	0.449	0.456	0.477	-1.2	0.8	6.5
	1986-1990	0.515	0.517	0.523	0.518	0.6	2.0	0.9
	1996-2000	0.604	0.581			-4.8		
Iran	1976-1980	0.541	0.526	0.508	0.507	-3.5	-7.6	-8.0
	1986-1990	0.470	0.491	0.511	0.540	5.8	10.9	18.7
	1996-2000	0.606	0.622			3.3		
U.S.A.	1976-1980	0.216	0.191	0.173	0.158	-14.7	-25.0	-33.6
	1986-1990	0.195	0.178	0.166	0.155	-10.8	-18.7	-25.7
	1996-2000	0.233	0.212			-11.2		
South Korea	1976-1980	0.581	0.567	0.539	0.530	-3.0	-8.9	-10.8
	1986-1990	0.551	0.526	0.510	0.507	-5.5	-9.3	-9.9
	1996-2000	0.607	0.582			-5.1		
Romania	1976-1980	0.462	0.428	0.405	0.415	-9.2	-15.5	-12.7
	1986-1990	0.336	0.338	0.351	0.359	0.8	5.4	8.4
	1996-2000	0.458	0.399			-16.1		
U.K.	1976-1980	0.356	0.356	0.361	0.354	0.0	1.6	-0.8
	1986-1990	0.333	0.341	0.347	0.347	3.0	5.1	5.1
	1996-2000	0.308	0.306			-1.0		
Jamaica	1976-1980	0.631	0.628	0.625	0.633	-0.6	-1.2	0.4
	1986-1990	0.680	0.686	0.692	0.694	1.1	2.2	2.6
	1996-2000	0.698	0.699			0.2		
Vietnam	1976-1980	0.270	0.322	0.385	0.431	23.7	53.2	74.4
	1986-1990	0.341	0.388	0.420	0.412	17.0	28.8	26.1
	1996-2000	0.388	0.406			5.9		
Guyana	1976-1980	0.659	0.661	0.659	0.663	0.4	0.0	0.7
	1986-1990	0.734	0.736	0.737	0.732	0.4	0.4	-0.3
	1996-2000	0.780	0.793			2.1		
Haiti	1976-1980	0.794	0.796	0.796	0.800	0.3	0.3	0.8
	1986-1990	0.731	0.740	0.739	0.738	1.4	1.4	1.2
	1996-2000	0.712	0.686			-4.5		
Portugal	1976-1980	0.387	0.404	0.416	0.433	5.6	9.5	14.9
	1986-1990	0.468	0.489	0.497	0.495	5.7	7.7	7.1
	1996-2000	0.549	0.535			-3.3		

Source: 1981 and 2001 Censuses, 20% sample micro files.

4.3. The role of the size of pre-existing immigrant communities

Two observations in the earlier sections are directly relevant to the question of whether the size of a pre-existing immigrant community affects an immigrant group's geographic distribution. One observation is the subsiding tendency of new arrivals to congregate in major gateway centres during the 1990s. In particular, immigrants from China, the Philippines, and the former USSR were less likely to choose Toronto, where their largest pre-existing communities were located, than they were in the 1980s. Thus, the size of a pre-existing immigrant community alone does not necessarily enhance a place's attractiveness to future newcomers. The other observation is that redistribution is small in scale and actually reduces the concentration in the initial destination of some immigrant groups, suggesting that a large pre-existing immigrant community does not necessarily increase a place's ability to attract those already in the country. Taken together, these two observations cast serious doubt on the group affinity hypothesis.

Table 4 illustrates the effect of the size of pre-existing communities on the distribution of major immigrant groups from the estimates of conditional logit choice modelling. In the top panel of this table, the effect of the relative and absolute size of a pre-existing immigrant community is estimated without controlling for location fixed effects (without including the seven dummy variables for location choices). This is similar to the approach used in most previous studies, and the results are consistent with theirs, in that the locational choices of individual immigrants are significantly associated with the size (both absolute and relative) of pre-existing immigrant communities. There are only two exceptions here. First, the relative size of a pre-existing immigrant community was negatively associated with the locational choice of immigrants from the United States. This may reflect the fact that U.S. immigrants are the least concentrated group and the only group for which the relative group size is not correlated with the absolute size across regions. Second, the absolute size for Vietnamese in a location was not significantly associated with their locational choices. This may reflect that most Vietnamese who arrived before the 1990s were refugees.

The results are very different when location fixed effects are accounted for, as in the bottom panel of Table 4. The relative size of the pre-existing immigrant population did not have a significant effect on immigrants' locational choices for most groups. Only among immigrants from the United States and the United Kingdom, the two least concentrated groups, did a large share of previous immigrants in a region tend to attract additional immigrants.

Similarly, the absolute size of a pre-existing immigrant community has no significant effect on the locational choice for most immigrant groups. When significant, it tends to reduce rather than increase the likelihood of choosing a location. Therefore, the results suggest that the size of pre-existing immigrant community *per se* does not have a strong pull or retention effect on immigrants, once other locational attributes that make a location attractive to an immigrant group are accounted for.

Table 4. The coefficients of relative and absolute size of existing immigrant community in the conditional logit choice model, controlling for individual-level variables, size of metropolitan areas and unemployment rates

	Relative size		Absolute size	
	Log odds ratio	Standard Error	Log odds ratio	Standard Error
	Without location fixed effects			
Country of birth				
China	0.040 ***	0.005	0.612 ***	0.029
India	0.326 ***	0.044	0.286 ***	0.044
Philippines	0.476 ***	0.056	0.799 ***	0.041
Former USSR	0.609 ***	0.176	0.825 ***	0.073
Pakistan	1.336 ***	0.354	0.835 ***	0.081
Iran	0.762 **	0.238	0.276 ***	0.058
U.S.A.	-0.451 ***	0.053	0.944 ***	0.070
South Korea	0.418 *	0.205	0.183 ***	0.052
Romania	1.894 **	0.656	0.575 ***	0.076
U.K.	0.195 ***	0.015	0.575 ***	0.044
Jamaica	1.392 ***	0.063	0.854 ***	0.033
Vietnam	0.312 **	0.096	0.037	0.022
Guyana	2.083 ***	0.146	0.831 ***	0.048
Haiti	2.703 ***	0.242	0.868 ***	0.061
Portugal	0.642 ***	0.071	0.856 ***	0.052
	With location fixed effects			
China	-0.004	0.006	-0.074	0.052
India	-0.032	0.055	-0.334 **	0.063
Philippines	-0.030	0.065	-0.057	0.084
Former USSR	-0.522	0.353	-0.194	0.163
Pakistan	0.539	0.382	0.136	0.119
Iran	0.462	0.247	-0.123	0.071
U.S.A.	0.488 ***	0.128	-0.189	0.149
South Korea	-0.050	0.221	-0.096	0.102
Romania	0.269	0.716	0.252	0.148
U.K.	0.087 ***	0.030	-0.265 **	0.102
Jamaica	0.592	0.447	-0.245 *	0.110
Vietnam	-0.042	0.110	-0.128 ***	0.027
Guyana	0.372	0.330	-0.121	0.180
Haiti	-0.599	0.400	0.067	0.199
Portugal	0.243	0.156	-0.628 **	0.221

Note: The conditional logit choice model is run separately for immigrants from each country of birth.
* p<.05; **<.01; ***<.001.
Source: 1981 and 2001 Censuses, 20% sample micro files.

Accounting for location fixed effects has a smaller impact on the significance of the other two time-varying, locational attributes in the model: the total population size of the metropolitan area(s); and regional unemployment rates. Before controlling for location fixed effects, the population size of the metropolitan area(s) has a positive and significant association with immigrants' locational choice for all groups in the study. This positive association remains significant after accounting for location fixed effects for all groups, with two exceptions—immigrants from the former USSR and Jamaica, for whom the association becomes statistically insignificant. This result suggests that immigrants were attracted to urban areas experiencing population growth.

Similarly, before controlling for location fixed effects, regional unemployment rate had a negative and significant association with immigrants' locational choices for 8 groups: those from China, the Philippines, Iran, the United States, South Korea, United Kingdom, Vietnam, and Guyana. It had a positive and significant association with the location choices of immigrants from Romania and Haiti. For the remaining five groups, the association was not significant. After controlling for location fixed effect, the effect of regional unemployment rate remained negative and significant for immigrants from China, Iran, the United States, United Kingdom, and Guyana. The effect was not significant for other groups.

5. Summary and Discussion

New immigrants to Canada are much more likely to choose Toronto and Vancouver as their initial destination today than they were two decades ago. Even so, there are strong indications that the 1970s' and 1980s' rise in concentration levels at the initial destinations of immigrants subsided during the 1990s. Most of the rising concentration over the 1970s and 1980s was attributable to the widespread increase in the concentration of initial destination among most immigrant groups. This widespread increase probably reflects the general tendency of immigrants to be drawn to global cities because of a high demand for both high-skilled and ancillary workers (Massey et al. 1994). In the 1980s, the employment in managerial and professional occupations increased 69% in Toronto and 49% in Vancouver, as compared to a 43% increase in the rest of the nation. Similarly, employment in sales and services increased 25% and 31% in Toronto and Vancouver, respectively, with a corresponding 17.8% increase in the rest of Canada.[11]

In the 1990s, the rise in the concentration level of immigrants at their initial destination primarily results from the continuing shift in immigrant source regions. Given that changes in the source countries have mostly stabilized since the early 1990s, however, the source country's effect on overall immigrant concentration will not likely continue to increase. In fact, within major immigrant groups, there was little increase in their tendency to concentrate in Toronto and Vancouver between the 1980s ad 1990s. Both metropolitan areas experienced a much slower employment growth in managerial and professional occupations (20% and 29%) and in sales and services (12% and 16%) from 1991 to 2001 than in the previous decade, although they still outgrew the rest of the country. Meanwhile, recent immigrants' employment and earnings relative to non-immigrants further deteriorated during the 1990s (Aydemir and Skuterud, 2004; Reitz 2001). Since most of Canada's recent immigrants live in major gateway centres, their poor performance in the labour market may discourage the further concentration of new arrivals in these centres.

11. The author calculated these numbers from the 1971, 1981, 1991, and 2001 census 20% sample micro data files. A same occupational classification system was used for each ten-year period.

Over the past two decades, changes in the concentration level of immigrants at their initial destination were clearly the major factor determining the geographic distribution of immigrants. Redistribution after immigration had a much smaller effect on augmenting or counter-balancing the changing concentration of initial destinations. Redistribution increased geographic concentration for a few groups, but reduced it for others. For immigrants as a whole, redistribution increased the concentration towards Toronto and Vancouver among those who arrived in the 1970s and 1980s. However, the same no longer holds among the arrivals of the 1990s. Finally, for most of the major immigrant groups, the effect of redistribution is not consistent across arrival cohorts.

Overall, redistribution was small in scale for most immigrant groups. This was true even for immigrant groups and refugees whose initial settlement was strongly influenced by government intervention. As a result of the Quebec provincial government's active recruitment, for example, the Korean immigrants who arrived in the late 1980s were four times more likely to settle in Montreal than were those who came before them. Ten years later, this cohort of Korean immigrants was still three times more likely to stay in Montreal than were earlier cohorts. The majority of Vietnamese who arrived in the late 1970s and early 1980s were refugees whose initial destinations were assigned by government agents or private sponsors. Most of those who first settled in non-gateway regions remained there 15 years later; large, non-gateway cities had higher retention rates than small cities and rural areas. The mobility after initial placement was very high among refugees, but did not completely alter the distribution of their initial destinations, probably due either to return migration or to the exchange of out- and in-flows.

Finally, this study finds that the size of the pre-existing immigrant community does not have an independent effect on increasing the geographic concentration of immigrants when location fixed effects are controlled for. For some immigrant groups, a large absolute size of the pre-existing immigrant community even discourages further concentration. These results suggest that a location's overall attractiveness to immigrants, rather than the sheer size of pre-existing immigrant communities, plays a major role in location choices. Immigrant communities developed and grew in major gateway cities because of the existence of economic and non-economic opportunities there. The size of pre-existing immigrant communities correlates very strongly with size of the city of settlement, and the latter is virtually collinear with presence of amenities and opportunities. So, the size of pre-existing immigrant communities is actually a poor measure of group affinity effects. Meanwhile, these results do not mean that the social networks of families, relatives and friends do not matter. Once established, such networks attract immigrants in a similar way, whether in gateway or non-gateway regions.

Appendix 1. Recent immigrants (living in Canada 5 years or less) by source country

Source country	Rank	2001 Size	% of all recent immigrants	Rank	1981 Size	% of all recent immigrants
China, Hong Kong, Taiwan	1	124,900	20.0	2	48,800	9.1
India	2	91,600	9.5	5	31,700	5.9
Philippines	3	55,500	5.8	6	26,700	5.0
Former USSR	4	24,900	5.7		7,100	1.3
Pakistan	5	43,100	4.5		4,700	0.9
Iran	6	31,100	3.2		3,700	0.7
United States	7	29,700	3.1	4	42,500	8.0
South Korea	8	29,200	3.0		3,200	0.6
Sri Lanka	9	25,200	2.6		1,000	0.2
Romania	10	20,000	2.1		3,000	0.6
United Kingdom		19,800	2.1	1	71,500	13.4
Jamaica		12,200	1.3	7	19,400	3.6
Vietnam		11,100	1.2	3	43,200	8.1
Guyana		8,600	0.9	9	11,500	2.2
Haiti		7,200	0.7	10	11,100	2.1
Portugal		2,900	0.3	8	17,500	3.3

Source: 1981 and 2001 Censuses, 20% sample micro files.

Appendix 2. Specifications for conditional logit choice models

Variables	Model 1	Model 2
y1…y7: 7 dummies for location alternatives	√	√
Cohort9600 * (y1...y7)	√	√
Cohort9195 * (y1...y7)	√	√
Cohort8690 * (y1...y7)	√	√
Cohort8185 * (y1...y7)	√	√
Year(s) since immigration* (y1...y7)	√	√
Year(s) since immigration^2* (y1...y7)	√	√
Cohort90s*YSM* (y1...y7)	√	√
Cohort80s*YSM* (y1...y7)	√	√
Age* (y1...y7)		√
Female* (y1...y7)		√
Male (reference)		
University* (y1...y7)		√
Some postsecondary* (y1...y7)		√
Highschool* (y1...y7)		√
Less than high school (reference)		
English* (y1...y7)		√
French* (y1...y7)		√
Non-official language (reference)		
Two_adults_kids* (y1...y7)		√
Two_adults_no_kids* (y1...y7)		√
Unattached* (y1...y7)		√
Lone-parent families (reference)		
CMA population size		√
Unemployment rate		√
Size of the pre-existing immigrant community		√

Source: 1981 and 2001 Censuses, 20% sample micro files.

Appendix 3. Examples of conditional logit choice model estimates: models for Chinese immigrants

	Model 1			Model 2		
	B	Std error	P	B	Std error	P
y1	-2.127	0.032	0.000	-1.568	0.097	0.000
y2	-0.231	0.016	0.000	0.317	0.206	0.123
y3	-3.670	0.066	0.000	-2.177	0.638	0.001
y4	-1.694	0.026	0.000	-0.398	0.542	0.463
y5	-2.233	0.034	0.000	-1.426	0.555	0.010
y6	-0.965	0.020	0.000	-0.334	0.366	0.362
y7	-2.499	0.038	0.000	-1.079	0.603	0.073
c9601_y1	-0.037	0.048	0.443	-0.154	0.073	0.036
c9601_y2	0.192	0.023	0.000	0.268	0.039	0.000
c9601_y3	-0.080	0.099	0.420	-0.627	0.125	0.000
c9601_y4	0.003	0.042	0.943	-0.069	0.056	0.217
c9601_y5	-1.661	0.079	0.000	-1.530	0.103	0.000
c9601_y6	-1.057	0.039	0.000	-0.991	0.043	0.000
c9601_y7	-1.202	0.082	0.000	-1.010	0.093	0.000
c9195_y1	-0.063	0.039	0.105	-0.143	0.057	0.012
c9195_y2	0.254	0.019	0.000	0.255	0.028	0.000
c9195_y3	-0.187	0.082	0.023	-0.530	0.100	0.000
c9195_y4	-0.649	0.036	0.000	-0.610	0.044	0.000
c9195_y5	-1.440	0.058	0.000	-1.308	0.075	0.000
c9195_y6	-0.828	0.028	0.000	-0.792	0.031	0.000
c9195_y7	-1.101	0.058	0.000	-0.979	0.066	0.000
c8690_y1	-0.299	0.036	0.000	-0.288	0.048	0.000
c8690_y2	-0.176	0.018	0.000	-0.183	0.022	0.000
c8690_y3	-0.921	0.081	0.000	-0.925	0.090	0.000
c8690_y4	-0.566	0.031	0.000	-0.588	0.037	0.000
c8690_y5	-1.244	0.046	0.000	-1.177	0.057	0.000
c8690_y6	-0.870	0.025	0.000	-0.832	0.028	0.000
c8690_y7	-1.166	0.051	0.000	-1.093	0.055	0.000
c8185_y1	-0.025	0.040	0.543	-0.005	0.044	0.907
c8185_y2	-0.151	0.021	0.000	-0.144	0.021	0.000
c8185_y3	-0.390	0.087	0.000	-0.351	0.091	0.000
c8185_y4	-0.229	0.035	0.000	-0.223	0.036	0.000
c8185_y5	-0.352	0.046	0.000	-0.325	0.047	0.000
c8185_y6	-0.210	0.027	0.000	-0.199	0.027	0.000
c8185_y7	-0.610	0.056	0.000	-0.576	0.056	0.000
ysim_y1	-0.037	0.005	0.000	-0.027	0.006	0.000
ysim_y2	-0.003	0.003	0.302	-0.003	0.003	0.313
ysim_y3	-0.090	0.011	0.000	-0.098	0.012	0.000
ysim_y4	-0.038	0.005	0.000	-0.048	0.005	0.000
ysim_y5	-0.067	0.006	0.000	-0.070	0.007	0.000
ysim_y6	-0.016	0.004	0.000	-0.019	0.004	0.000
ysim_y7	-0.034	0.007	0.000	-0.039	0.007	0.000
yrsqu_y1	0.002	0.000	0.000	0.001	0.000	0.000
yrsqu_y2	0.000	0.000	0.139	0.000	0.000	0.032
yrsqu_y3	0.003	0.001	0.000	0.004	0.001	0.000
yrsqu_y4	0.001	0.000	0.000	0.001	0.000	0.000
yrsqu_y5	0.001	0.000	0.044	0.001	0.000	0.007
yrsqu_y6	0.000	0.000	0.273	0.000	0.000	0.210
yrsqu_y7	0.001	0.001	0.018	0.002	0.001	0.002
y90s_y1	0.012	0.009	0.172	0.008	0.009	0.413
y90s_y2	0.008	0.004	0.063	0.015	0.005	0.003
y90s_y3	0.045	0.019	0.019	0.052	0.020	0.011
y90s_y4	0.012	0.009	0.148	0.031	0.009	0.000
y90s_y5	-0.021	0.014	0.142	-0.006	0.014	0.647
y90s_y6	0.022	0.007	0.002	0.022	0.007	0.003
y90s_y7	0.016	0.015	0.280	0.028	0.015	0.064
y80s_y1	0.012	0.005	0.034	0.008	0.006	0.146
y80s_y2	0.001	0.003	0.690	0.002	0.003	0.560
y80s_y3	0.046	0.012	0.000	0.050	0.012	0.000
y80s_y4	0.025	0.005	0.000	0.031	0.005	0.000
y80s_y5	0.025	0.007	0.000	0.031	0.007	0.000
y80s_y6	0.001	0.004	0.706	0.001	0.004	0.748
y80s_y7	0.045	0.007	0.000	0.049	0.007	0.000

continued on the next page

Appendix 3 continued

	Model 1	Model 2

Appendix 3. Examples of conditional logit choice model estimates: models for Chinese immigrants (concluded)

	Model 1			Model 2		
	B	Std error	P	B	Std error	P
age_y1				-0.005	0.001	0.000
age_y2				-0.001	0.000	0.001
age_y3				-0.005	0.002	0.001
age_y4				-0.002	0.001	0.002
age_y5				0.000	0.001	0.814
age_y6				0.003	0.000	0.000
age_y7				0.001	0.001	0.260
sex_y1				0.028	0.020	0.162
sex_y2				0.014	0.009	0.139
sex_y3				-0.106	0.050	0.033
sex_y4				-0.032	0.018	0.084
sex_y5				0.016	0.030	0.593
sex_y6				0.001	0.015	0.947
sex_y7				-0.019	0.033	0.568
ude_y1				-0.059	0.028	0.033
ude_y2				-0.327	0.013	0.000
ude_y3				0.291	0.064	0.000
ude_y4				0.440	0.023	0.000
ude_y5				-0.026	0.040	0.525
ude_y6				-0.345	0.022	0.000
ude_y7				-0.592	0.050	0.000
pos_y1				-0.108	0.026	0.000
pos_y2				0.055	0.012	0.000
pos_y3				-0.298	0.071	0.000
pos_y4				-0.069	0.025	0.006
pos_y5				-0.242	0.040	0.000
pos_y6				-0.189	0.019	0.000
pos_y7				-0.292	0.042	0.000
hig_y1				-0.003	0.032	0.923
hig_y2				-0.027	0.015	0.074
hig_y3				-0.271	0.094	0.004
hig_y4				-0.215	0.034	0.000
hig_y5				-0.284	0.052	0.000
hig_y6				-0.249	0.025	0.000
hig_y7				-0.169	0.053	0.001
eng_y1				-0.370	0.036	0.000
eng_y2				0.052	0.015	0.001
eng_y3				0.823	0.065	0.000
eng_y4				0.588	0.024	0.000
eng_y5				0.552	0.040	0.000
eng_y6				0.317	0.022	0.000
eng_y7				0.800	0.042	0.000
fre_y1				5.310	0.184	0.000
fre_y2				-0.545	0.297	0.066
fre_y3				7.002	0.192	0.000
fre_y4				2.942	0.214	0.000
fre_y5				0.974	0.606	0.108
fre_y6				0.399	0.397	0.315
fre_y7				-0.046	1.017	0.964
adk_y1				-0.226	0.078	0.004
adk_y2				-0.068	0.040	0.090
adk_y3				0.034	0.148	0.819
adk_y4				-0.252	0.070	0.000
adk_y5				0.240	0.148	0.103
adk_y6				0.011	0.069	0.877
adk_y7				-0.208	0.126	0.097
adn_y1				-0.251	0.080	0.002
adn_y2				-0.110	0.041	0.007
adn_y3				-0.466	0.158	0.003
adn_y4				-0.451	0.071	0.000
adn_y5				0.030	0.150	0.842
adn_y6				-0.067	0.070	0.334
adn_y7				-0.414	0.129	0.001
una_y1				-0.091	0.088	0.304
una_y2				-0.277	0.045	0.000
una_y3				-0.240	0.181	0.186
una_y4				0.001	0.076	0.985
una_y5				0.323	0.158	0.040
una_y6				0.017	0.075	0.819
una_y7				-0.038	0.138	0.783
log CMA size				0.433	0.228	0.057
Unemployment rate				-1.260	0.370	0.001
Relative group size				-0.004	0.006	0.509
Pseudo R^2		0.3189			0.3316	

Source: 1981 and 2001 Censuses, 20% sample micro files.

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