



Citizenship and
Immigration Canada

Citoyenneté et
Immigration Canada

SPECIAL STUDIES

STRATEGIC RESEARCH RECHERCHE ET EXAMEN
AND REVIEW STRATÉGIQUES

Immigration and Canadian Demographics: State of the Research

May 1998

RESEARCH UNIT UNITÉ DE RECHERCHE



Canada

Produced by Strategic Policy, Planning and Research

For additional copies, please contact:

Communications Branch
Citizenship and Immigration Canada
Ottawa, Ontario K1A 1L1
Tel.: (613) 954-9019
Fax: (613) 954-2221
Internet: <http://www.cic.gc.ca>

© Minister of Public Works and Government Services Canada, 2000
Cat. No. MP22-16/2-2000E
ISBN 0-662-28823-8

Aussi disponible en français sous le titre *Immigration et données démographiques canadiennes : État de la recherche.*



**Immigration and
Canadian Demographics:
State of the Research**

by
Roderic Beaujot
Population Studies Centre
Department of Sociology
University of Western Ontario
London, Ontario N6A 5C2
Beaujot@sscl.uwo.ca

for
Strategic Policy, Planning and Research

May 26, 1998

The opinions and interpretations expressed herein are those of the author and do not necessarily reflect the views of Citizenship & Immigration Canada.

Citizenship and Immigration Canada recommends immigration levels each fall for the coming year. This levels planning exercise follows in part on the objective, as stated in the Immigration Act, “to support the attainment of such demographic goals as may be established by the Government of Canada from time to time in respect of the size, rate of growth, structure and geographic distribution of the Canadian population.” On the other hand, the Immigration Legislative Review (1997: 2) observes that

Canada has no demographic policy for us to consider. Levels of immigration – on which the Minister is bound by law to seek advice – are found by some to be an intriguing topic. It seems to us, however, that the real question that needs to be asked in this regard is what, if any, relation immigration levels have to the resources available for integration and effective program management.

Part of the difficulty is that there are no official demographic goals. The world is not that simple. Another difficulty may be that demographic questions are formulated in ways that are not sufficiently engaging for the public or for persons in policy positions. This lack of information can lead to simplistic conclusions, such as “the immigration minister holds the key to the future of the country” and “immigration is changing the face of Canada” or “without immigration the Canada Pension Plan will go bankrupt since there will be no one to support the baby boom in retirement.”

It is my view, as stated in Population Change in Canada: The Challenges of Policy Adaptation (Beaujot, 1991) that, given the fundamental nature of the demographic processes to societies and their regeneration, we have a vested interest to ensure that the processes operate to produce a net benefit. This is not just a question of numbers, but numbers are a significant part of the consideration. In other words, the well being of individuals is partly a function of macro questions including the size and demographic structure of the communities and societies in which they live.

The purpose of this brief paper is to review the state of the research regarding the effect of immigration on the evolution of the demographics of Canada. This is a complex question since immigrants are not just numbers, they have various characteristics and they interact with the existing population. However, the present review will focus on the three questions of population: size, age composition, and geographic distribution. A more complete, but less policy oriented, treatment is provided in Beaujot (1996).

Immigration and Population Growth

There are several ways of looking at the impact of immigration on **population growth**. The annual population estimates provide a summary measure of the direct impact of immigration. These estimates provide only the impact through arrivals and departures, that is in the first generation. For instance, over the period 1901 to 1996, the total immigration of some 12 million persons and emigration of some 6 million produced a net gain of 6 million, representing a fifth of

the population growth over the period (Table 1). The contribution of net international migration to population growth varies considerably over history, reaching a peak in the 1901-11 decade. However, the 1991-96 period shows that slightly more than half of population growth is due to net migration.

Table 1.
Immigration, emigration and contribution to population growth
Canada, 1851-1996

	Immigration	Emigration	Contribution to population growth
1851-61	352,000	170,000	23.0%
1861-71	260,000	410,000	-32.6%
1871-81	350,000	404,000	- 8.5%
1881-91	680,000	826,000	-28.7%
1891-1901	250,000	380,000	-24.2%
1901-11	1,550,000	740,000	44.1%
1911-21	1,400,000	1,089,000	19.7%
1921-31	1,200,000	970,000	14.5%
1931-41	149,000	241,000	- 8.1%
1941-51	548,000	379,000	7.9%
1951-61	1,543,000	463,000	25.5%
1961-71	1,429,000	707,000	21.7%
1971-81	1,429,000	636,000	28.6%
1981-91	1,381,000	490,000	27.7%
1991-96	1,166,000	228,000	50.9%

Sources: Beaujot and Rappak, 1988: 27; Statistics Canada, Annual Demographic Statistics, 1996: 62, 244, 247.

While the trends in immigration show considerable annual variations, over the medium term, we can probably speak of **five phases since 1850**.

- (1) The period 1850-1896 can be described as one of low immigration, in effect of net out migration as there was more movement toward the earlier industrializing New England

states and as world trade suffered a long period of depression (Beaujot, 1991: 104-107).

- (2) The first wave of post-Confederation immigration built from a low point of 17,000 immigrants in 1896 to reach 400,000 in 1913. The numbers achieved in the years 1910-1913 have never been surpassed.
- (3) There followed a phase of relatively low immigration, including two world wars and the Depression of the 1930s, although the 1920s experienced higher migration than in the remaining part of this period.
- (4) The fourth phase saw a second wave of post-Confederation immigration after 1945.
- (5) While there are various fluctuations in the post-war period, it can be suggested that the 1990s have brought higher levels of migration and a larger contribution of migration to population growth.

In the period 1951-91, net migration accounted for about a quarter of population growth, but this has reached 51 percent in the 1991-96 period. While in some regards the period before the first world war remains unique, it is interesting to observe that only the six consecutive years 1909-1914 had levels above 150,000 while there have now been eleven years with such levels (1987-97). Using the symbolic figure of 200,000, there were four consecutive years in the earlier period (1910-1913) and more recently eight years (1990-1997) with these levels. This means that the 1996 census shows a large number of recent immigrants. In effect, the immigrants who arrived in the 1991-96 period numbered 1,038,990, almost as many as in the ten years spanning 1981-90 when the figure was 1,092,400.

It is also useful to take into account **births to immigrants** as a further impact of immigration. Using past vital rates to determine the population size without international migration, Duchesne (1993) finds that over the period 1871-1991 there is very little difference in ultimate population size. This is because it took a long time to compensate for the departures toward the United States of the period 1871-1895. However, over the period 1966-91, the direct plus indirect contribution of international migration amounted to 41 percent of total population growth.

With the persistence of below replacement fertility and current levels of immigration, the impact of migration can only increase. For instance, over the period 1986-2036, Statistics Canada (1990) projections imply that, with a fertility rate of 1.7 births per woman and immigration of 200,000 per year, over 90 percent of the change in population size over the period 1986-2036 will be due to migration.

Another approach to studying the impact of immigration on the population is simply to consider the **proportion foreign born** in the census data (e.g. Badets and Chui, 1994). This indicates that the proportion foreign born has increased slowly from 15 to 17 percent over the censuses from 1951 to 1996. The **second generation**, that is persons whose parents are foreign born, have not been captured in the censuses since 1971. This census found that 33.8 percent of the population was either foreign born or had at least one foreign-born parent (Kalbach and McVey, 1979: 179). Using data on births and deaths, Edmonston (1996) calculates that over the period 1951-91 about 35 percent of the Canadian population has been first or second generation, while about half have been in the first three generations. It is unfortunate that recent censuses have not included this "birthplace of parents" question. The resulting data would permit some rather straightforward analyses on the integration and adaptation of the second generation. Given the difficulty of

properly measuring the economic performance of the first generation, which is a function of the diversity of circumstances, it is unfortunate that census data are not available on the second generation (see Boyd and Norris, 1994 and Boyd and Grieco, 1997).

When considering the impact of immigration on **future population growth**, it is useful to review the series of assumptions that have been adopted in the five generations of Statistics Canada projections following the censuses since 1971. The national level assumptions for fertility and immigration are as follows:

<u>Projection following</u>	<u>Total fertility rate</u>	<u>Immigration</u>
1971 census	1.8, 2.2, 2.6	120,000 and 160,000
1976 census	1.7, 2.1	125,000, 150,000 and 175,000
1981 census	1.4, 1.7, 2.2	100,000 and 150,000
1986 census	1.2, 1.7, 2.1	140,000 and 200,000
1991 census	1.5, 1.7, 1.9	150,000, 250,000 and 330,000

Except following the 1991 census, the immigration assumptions have not involved a very wide range. The projections from the 1986 census had indicated that, with fertility constant at 1.7 births per woman, the natural increase would become negative around 2020 and population would start to decline after 2026 with immigration of 140,000, or after 2035 with immigration of 200,000. These results and subsequent analyses on questions like labour force growth may have been part of the reason for moving to higher immigration levels by the late 1980s. In effect, the projections based on the 1991 census indicate that a total fertility rate of 1.5 and immigration of 150,000 would show population decline only after 2033. Combinations of fertility at 1.7 and immigration at 250,000 show continued growth to the end of the projection period, that is 2041.

To be useful, population projections should use assumptions that are plausible at the time that they are developed. That is, they should indicate plausible future scenarios, as envisaged by the analyses available at a given time. For instance, this author would argue that the assumptions of fertility involving 1.2 and 2.1 births per woman in the projections based on the 1986 census were both unrealistic. Most analysts would say that below replacement fertility is here to stay. On the other hand, fertility of 1.2 for a long period of time also seems unrealistic. In effect, by using such a large range of fertility assumptions, and relatively narrow range of immigration assumptions (140,000 and 200,000), the projections from the 1986 census exaggerated the relative role of fertility alternatives in Canada's demographic future. It could be said that the projections based on the 1991 census have presented the opposite problem. Especially given the slight variations in fertility over the past 20 years and the average of 1.64 for the fifteen-year period 1982-96, the fertility assumptions of 1.5, 1.7 and 1.9 used after the 1991 census seem like plausible alternatives. This time it is the immigration assumptions that take the wide range of 150,000 to 330,000. The average over the period 1982-96 is 159,000 immigrants per year. While 330,000 is not far from the one percent of population that is used in various discussions, persistent figures of this magnitude may be unrealistic. It is my view that immigration assumptions of 150,000, 200,000 and 250,000 would present plausible scenarios over the medium to long term. The figure of 150,000 is close to the post-war average and it seemed to be preferred by the MacDonald Commission (Royal Commission on the Economic Union and Development Prospects for Canada, 1986: 668). The figure of 200,000 might be taken as an

intermediate assumption, corresponding to the average of the period 1986-96. In its extensive review of the Economic and Social Impacts of Immigration, the Economic Council of Canada (1991: 135) suggested moving slowly from 168,000 in 1991 to 340,000 (or one percent of the population) in 2015. According to this trajectory, the levels would have only reached 200,000 in 1997 and 220,000 in the year 2000. The figure of 250,000 would be a high figure in the context that only the individual years 1957, 1992 and 1993 have exceeded this figure in the post-war period. The proposal of the Economic Council of Canada would have reached 250,000 only in the year 2004. They also recommend that “these levels should be reviewed every five years, to verify that the integration of immigrants is being successfully managed” (p. 133).

Table 2.
Variations in demographic projections by level of immigration
Canada, 2016 and 2041

Level of immigration	Population	
	2016	2041
150,000	35,300,000	38,000,000
250,000	37,100,000	42,900,000
Difference	1,800,000 (5.1%)	4,900,000 (12.9%)
150,000	35,300,000	38,000,000
330,000	38,600,000	46,800,000
Difference	3,300,000 (9.3%)	8,800,000 (23.2%)

Note: Fertility hypothesis at 1.7, mortality at 78.5\84.0, and emigration at the average of rates of the period 1988-93.

Source: Statistics Canada, 1994, Demographic Projections for Canada, Provinces and Territories, 1993 2016: 89.

Since the Statistics Canada projections are used extensively as a base for thinking of the demographic future, more analyses should be done of the relative impact of the various assumptions. This would require that the medium fertility assumption be paired with the various immigration assumptions, so that one could more readily determine the impact of alternative immigration scenarios. Table 2 gives some of these results. It can be seen that, compared to immigration of 150,000, the level of 250,000 produces a 2016 population that is 5.1 percent larger and a 2041 population that is 12.9 percent larger. The continued immigration level of 330,000 gives 9.3 percent more in 2016, and 23.2 percent more in 2041, always in comparison to the projection using immigration of 150,000. More important, as indicated earlier, even a fertility of 1.5 births per woman and immigration of 150,000 persons per year involves population decline only after 2033. Combinations of fertility at 1.7 and immigration at 250,000 show continued growth to the end of the projection period, that is 2041.

It might be noted that the various immigration assumptions in these projections involve a slow movement from the levels in 1993-94, to the long-term levels cited above. Thus, the low

immigration series moves from 250,000 in 1993-94 to 150,000 in the year 2005-2006. The medium assumption is closest to the actual experience to date since it stays at 250,000 throughout the projections. The high assumption moves from 250,000 in 1993-94 to 330,000 in 2005-2006. Clearly, it is the long-term assumptions that are particularly relevant for the long-term results, but in the short term, since the projections were made, the medium assumption is closest to the actual experience.

Other projections use a variety of assumptions in order to **measure the impact of immigration**. For instance, Denton et al. (1997) use immigration levels of 100,000 increments ranging from zero to 500,000, showing projection results every five years. The zero and 100,000 immigration assumptions involve population decline after 2016, while all others show continuous growth to the end of the projection period in 2036. In the zero assumption, the 2036 population is 0.7 percent smaller than that of 1996, in the 100,000 assumption the overall growth is 15.5 percent to 2036, and these figures become 31.7 percent with 200,000 immigrants, 47.8 with 300,000, 64.0 with 400,000 and 80.2 with 500,000. This might be compared to the 86.3 percent growth that Canada experienced in the previous forty years, that is 1956-96. However, this growth over the period 1956-96 occurred with a very different combination of fertility and immigration experiences, since the average immigration was 155,000 per year.

Ryder (1997) uses three alternative assumptions to project the population to the **point of stability**. In the sub-replacement model, fertility is fixed at its current level and there is no migration. This yields a population that grows over the next twenty years, but then declines to 18.0 million or 60 percent of its current size after 100 years. In the replacement fertility model, fertility is immediately raised to replacement, with no immigration; the population in 100 years is 33.2 million or 12.3 percent larger than at the outset. In the model called replacement migration, fertility stays at current levels but there is a level of immigration sufficient to yield the same ultimate population size as in the replacement fertility model. Of interest here is that the net immigration in this third model is 167,225 persons per year that is about 10 percent lower than that of the 1991-96 period. This is an important result, implying that immigration of around 200,000 is sufficient to avoid population decline. Using the average emigration of the 1991-96 period, immigration would need to be 213,000. Using the average emigration of the 1971-96 period, immigration would need to be 220,000 per year. This is similar to results from Avery and Edmonston (1988) showing that net migration of 163,000 (or immigration of 212,000) prevents population decline under a fertility assumption of 1.7 births per woman.

For Quebec, Ledent (1992) considers various scenarios that produce stationary populations. These vary between immigration of 15,000 paired with a fertility of 2.1 births per woman, and immigration of 75,000 paired with a fertility of 1.5. An intermediate result indicates that immigration of 45,000 with a fertility of 1.8 births per woman produces, after a hundred years or so, a stationary population where 19 percent are foreign born. This compares to the 1991 population of Quebec where 9.2 percent are foreign born.

All of these projections assume that the foreign born and subsequent generations have the same **vital rates** as the native born population. For the most part, this is a reasonable assumption. Various analyses conclude that the foreign born have a slight advantage in health and mortality (e.g. Chen et al., 1996; Trovato, 1996; Choinière, 1993). Immigrant fertility was lower than the Canadian average in the past, but above the average in the 1991 census (Maxim, 1996; Beaujot, 1997). In the 1961 and 1971 censuses, for each age group, the foreign born had a lower number

of children ever born than the Canadian born population (Ram and George, 1990). In 1981, this pattern applied to age groups 30 and over. In 1991 the foreign-born age groups 30-44 had higher fertility but the differences were minor.

Available research would therefore suggest that immigration of some 200,000 persons per year would be sufficient to **prevent population decline**. This assumes that medium level assumptions for fertility and mortality are reasonable. Alternative mortality assumptions will not have a large impact on the size of the whole population, though they play a more significant role on specific older age groups. While there are clearly uncertainties with regard to fertility, the last twenty years have demonstrated remarkable stability around 1.6 to 1.7 births per woman on average. While some countries have lower fertility, such as 1.4 for the European average and 1.2 in Italy, the average for the whole of the more developed countries is also 1.6. That is, it would be my view that these projections are based on reasonable assumptions concerning the components of population growth besides immigration.

Age Composition

There are two erroneous conclusions regarding the impact of immigration on aging. One is that immigration would be a solution to population aging. Clearly, aging will continue regardless of the level of immigration. It is equally erroneous to look at the age composition of the foreign born, and to conclude that immigration ages the population.

The impact of immigration on the age structure can best be appreciated by comparing the **median age of immigrants at arrival** to that of the Canadian population. The median age of immigrants has been relatively stable, averaging 25 years for each year between 1956 and 1976, then increasing to 27 years in 1981-86, 28 years in 1986-90 and 30 in 1994 (Beaujot et al., 1989; Beaujot and Hou, 1993; Citizenship and Immigration, 1997b: 40). The median age of the entire Canadian population has changed much more, increasing from 26.3 in 1961 to 35.3 in 1996. In effect, the median age of arriving immigrants has been about a year younger than that of the receiving population over the period 1945-71, changing to two years younger by 1981 and close to five years younger in 1991-96. Both immigrant arrivals and the receiving population have been aging, but arrivals remain younger on average. However, the overall impact is rather small given that immigrant arrivals represent a small part of the total population. Clearly, other demographic phenomenon, including the movement of the baby boom through the age structure, lower fertility and mortality reductions at older ages, have a larger impact on the age structure than the arrival of immigrants. While slightly younger on average, immigrant arrivals are in fact spread out over ages.

Simulations and projections enable a more precise estimate of the impact of immigration on the age structure. For instance, **simulating population change** as a function of only births and deaths since 1951, Le Bras (1988: 12) finds that the average age of the 1981 population is 0.5 years older than the actual average observed in that year. That is, the international migration of the period 1951-81 reduced the average age in Canada by a half year. The population model at

Statistics Canada could be used to update these estimates (Dionne and Kerr, 1996).

Table 3.
Population projections for Canada showing impact of immigration
1986-2036

	Population	Percent growth due to immigration	Median Age	Percent 65+
1986	26,204,000	...	31.6	10.6
2036				
Zero immigration	26,819,000	0.0	46.9	27.0
140,000 immigration	30,787,000	86.6	45.7	25.6
200,000 immigration	33,994,000	92.1	44.7	24.5

Note: Projections are based on fertility assumption of 1.7, immigration of zero, 140,000 and 200,000 persons per year, emigration of 0.0, 0.25 and 0.25 persons per 100 population per year.

Sources: Statistics Canada 1989 and 1990.

Similar results are obtained with **projections** into the future. The Statistics Canada (1990) population projections based on the 1986 census produce a median age in 2036 that is almost two years younger under high immigration than under zero immigration (Table 3). The population aged 65 and over in 2036 is 24.5 percent, 25.6 and 27.0 percent under high, low and zero migration assumptions. Clearly, the immigration assumptions have a rather small impact on the age structure. Nonetheless, the impact is to reduce the aging of the population. For instance, immigration of 140,000 per year yields a median age of 40.5 in 2009 while this median age is reached in 2011 with immigration of 200,000 per year.

In the projections based on the 1991 census, an immigration level of 330,000 per year with a fertility rate of 1.9 produces a median age of 40.7 in 2026, compared to a median of 43.7 with immigration of 150,000 and a fertility rate of 1.5 (Statistics Canada, 1994: 71). These results are nonetheless simplistic because the age distribution of immigrants at arrival is held constant. The aging of the world population would imply that this assumption is unlikely to hold true. That is, the impact of immigration on the age structure is likely to be even less than that implied by these projections.

Other projections have analysed the impact of immigration on the age structure, but they are still based on a constant age structure of immigrants on arrival. Denton et al. (1997: 41) use immigration levels ranging from zero to 500,000 per year, producing the following proportions over 65:

<u>Immigration level</u>	<u>Percent over 65</u>	
	<u>2016</u>	<u>2036</u>
Zero	18.1	29.1
100,000	17.3	26.7
200,000	16.6	24.8
300,000	16.0	23.4
400,000	15.5	22.2
500,000	15.0	21.3

In comparison, the proportion aged 65 and over changed from 10.5 percent in 1986 to 12.2 in 1996, that is 1.7 percentage points over ten years. In 2016, each additional 100,000 immigrants would reduce the proportion over 65 by some 0.6 percentage points, or by about four years of aging. In 2036, each 100,000 immigrants would have reduced the proportion over 65 by 1.6 percentage points or the equivalent of eleven years of aging. While the impact is larger as one moves further into the future, the assumption of a constant age structure of immigrant arrivals becomes increasingly unrealistic.

In the stable population models that Ryder (1997) has used for projections into the future, the median age at equilibrium is 45.0 years with present fertility and no migration, compared to 40.9 with replacement fertility and no migration, and 44.0 with present fertility and sufficient migration to assure population replacement. That is, compared to zero migration, net immigration of 167,225 per year (immigration of some 212,000) reduces the average age by 1.5 years in the stable population that is reached at the point of equilibrium. Since the median age in Canada increased from 31.6 years in 1986 to 35.3 in 1996, this level of net migration would ultimately reduce the average age by some two and a half years of aging. Clearly, the movement from current fertility to replacement fertility would have a larger impact, ultimately reducing the average age by 4.1 years.

Nonetheless, each of these scenarios involves a population that ages considerably from its present state. Even with 500,000 immigrants per year, the proportion over 65 would increase from 12.2 in 1996 to 15.0 in 2016 and 21.3 in 2036. Denton et al. (1997: 23) conclude, “immigration is clearly not an effective tool for offsetting the process of population aging.”

Various calculations have been made of **dependency ratios**, seeking to measure those dependent on persons who are at labour force ages, or employed. These results show declines in dependency since the baby boom period, and increases only after 2011 when the baby boom starts moving into retirement ages. In this regard, we are living in an ideal time as the proportion of children has declined and the proportion of elderly has not risen that much, maximizing the proportion of persons at labour force ages. After 2011, all of the dependency measures and immigration levels show increased dependency (Denton et al., 1997: 40-41). Nonetheless, this dependency remains lower in 2036 than it was in 1971 when the baby boom was at young ages. These authors have also attempted various simulations of immigration levels that might prevent the anticipated increase in dependency. They find that the levels would have to be far in excess of a million persons per year at the current age distribution of immigrants (p. 20).

Another approach to the measure of the age distribution is to consider the growth of the **labour force**. There has been considerable growth of the labour force, especially since the baby boom, and since more women took paid employment. The peak growth was a 17.9 percent increase

between 1971 and 1976, and the growth has since declined to 4.2 percent between 1991 and 1996 (Denton et al.: 38-39). At the same time, the contribution of net immigration to labour force growth has increased from 9.6 percent in 1976-81 to 71.0 percent between 1991 and 1996. Under their base assumption of 200,000 immigrants per year, the size of the labour force declines slightly in the period 2026 to 2036, but the size in 2036 is 16 percent larger than in 1996. They also attempt various scenarios to determine the level of immigration that would be needed to maintain the labour force growth that was experienced between 1986 and 1996. For the period 1996-2006, annual immigration of some 227,000 would be sufficient, but after 2016 levels in excess of 500,000 would be needed (p. 44).

However, there is nothing magical about the labour force growth rate of the 1986-96 period, which is in fact significantly lower than that of the earlier decade. If one considers the alternative of **avoiding decline of the labour force**, immigration just above 200,000 per year is sufficient. With zero net immigration, the labour force would decline after 2006, with a total decline of some 20 percent in the next two decades. An immigration level of 100,000 per year involves a peak labour force size in 2016 with a decline of eight percent in the next fifteen years. Immigration of 200,000 per year produces labour force growth of 16 percent between 1996 and 2016 and basic stability to 2036. In comparison, immigration of 300,000 per year produces continuous labour force growth, for a total of 33 percent between 1996 and 2036.

Some authors have suggested that the age of immigrants could be subject to **deliberate policy control**. In particular, Foot (1989) had suggested that while the baby boom was moving into labour force ages, immigration should be used to fill-in the baby bust part of the age structure. However, I would argue that we cannot see immigrants as disembodied demographic entities who are admitted simply on the basis of their age. Integration is facilitated by the migration of family groups, where there are necessarily a variety of ages. The age range that produces the maximum points in the points system is ages 21-44, having been 18-35 until January 1986. However, the increase in the average age at arrival is probably mostly a function of aging in the places of origin.

My conclusion is that immigration cannot be seen as a means of preventing population aging. Since immigrants are somewhat younger than the receiving population at arrival, immigration slightly reduces the average age. However, the impact is limited, and probably exaggerated in projections that assume a constant age structure at arrival while the populations at places of origin are aging. While immigration attenuates aging and dependency, its impact is relatively minor.

Geographic Distribution

Over the four decades 1956-96, the two provinces of Ontario and British Columbia have consistently had a percentage of immigrant arrivals that exceeded their percentage of the Canadian population (Denton et al., 1997: 42). What is more, except for Manitoba and Alberta in 1976-86, Ontario and British Columbia are the only provinces to have more immigrants than their share of the population. That is, in this consideration of ten provinces times four periods, the cases where immigration has been larger than the share of population is limited to 10 of the 40 comparisons.

The regional integration of immigrants follows especially on economic questions and the links established between sending and receiving areas. In their theoretical syntheses, Massey et al. (1994) propose that globalization creates both migrant populations following on economic displacements and employment opportunities in large cities. With more efficient means of communication, migratory exchanges are perpetuated between places of origin and destination. Consequently, recent immigrants are concentrated in the large Canadian cities, especially Toronto, Montreal and Vancouver.

Considering five **Canadian regions**, in comparison to the Canadian born population, immigrants are more concentrated in Ontario and British Columbia, and less concentrated in the Atlantic region and Quebec (Table 4). For instance, in 1996 Quebec represented 27.1 percent of the Canadian born population but 13.4 percent of the foreign born. In comparison, Ontario had 33.5 percent of the Canadian born but 54.8 percent of the foreign born population. Among Canadian born, the largest province exceeds the second by 24 percent, but foreign-born are four times as numerous as in Quebec.

Clearly, the distribution of the Canadian born population changes only very slowly, but the distribution of immigrants differs considerably. Since natural increase varies little over the provinces, migration is the overwhelming component in differential growth. It is less clear whether internal or international migration plays the largest role. At the 1991 census, 12.7 percent of the population involved Canadian born persons who were not living in their province of birth, and another 16.2 percent were foreign born (Statistic Canada, 1992: Tables 2, 3 and 5). This would imply that international migration has a slight edge over internal migration. Yet, for all but two provinces the proportion born in another province was larger than the proportion foreign born. It was only in Quebec and Ontario that the proportion foreign born was larger than the proportion born in another province.

Adding the **foreign born and the internal migration of native born** in the 1991 census shows that only four provinces had made net gains: Ontario, British Columbia, Alberta and Quebec. This is a rather striking observation. While Canada is a country of immigration, enumerating 4.4 million persons born outside of the country at the 1991 census, the net impact of both international and internal migration is positive for only four provinces. In all other provinces, population movement has been to their net disadvantage. Among the provinces that have gained, it is noteworthy that those born in another province or outside of the country represent 51.6 percent of the population of British Columbia.

Table 4.
Regional distribution of Canadian born and immigrants by arrival cohorts
Censuses of 1971 to 1996, Canada

	1971	1981	1991	1996
<u>Canadian born</u>				
Atlantic	10.3	10.9	9.9	9.5
Quebec	30.7	28.9	27.5	27.1
Ontario	33.2	32.2	33.4	33.5
Prairies	16.5	17.8	17.7	17.7
British Columbia	9.3	10.3	11.1	11.8
Total	100.0	100.0	100.0	100.0
<u>Immigrants 1961-70</u>				
Atlantic	2.1	2.1	1.8	1.9
Quebec	18.0	16.0	14.2	13.9
Ontario	55.5	55.5	57.4	57.1
Prairies	11.3	11.3	10.5	10.4
British Columbia	13.0	15.1	15.9	16.6
Total	100.0	100.0	100.0	100.0
<u>Immigrants 1971-80</u>				
Atlantic	---	2.4	1.9	1.9
Quebec	---	14.1	13.6	13.3
Ontario	---	51.6	52.5	52.5
Prairies	---	15.1	14.3	13.7
British Columbia	---	16.8	17.6	18.5
Total	---	100.0	100.0	100.0
<u>Immigrants 1981-91</u>				
Atlantic	---	---	1.3	1.3
Quebec	---	---	15.8	14.4
Ontario	---	---	54.0	54.9
Prairies	---	---	13.1	12.3
British Columbia	---	---	15.7	17.0
Total	---	---	100.0	100.0
<u>Immigrants 1991-96</u>				
Atlantic	---	---	---	1.1
Quebec	---	---	---	14.5
Ontario	---	---	---	54.2
Prairies	---	---	---	9.3
British Columbia	---	---	---	20.8
Total	---	---	---	100.0

Note: Total includes the Territories

Sources: Beaujot and Rappak, 1990: 113; 1991 Census: 93-316 Tables 3 and 6, 1996 Census: N03-0411.IVT

Not only is the distribution of the immigrant population rather different from that of the Canadian born, but the subsequent **internal migration of the foreign born** tends to accentuate these differences, in favour of Ontario and British Columbia (Table 4). In addition, from cohort to cohort, the immigrant concentration especially favours British Columbia: in the 1996 census

20.8 percent of recent immigrants were in this province, compared to 13.0 percent in the 1971 census. In comparison, Quebec had 18.0 percent of recent immigrants in 1971 and 14.5 percent in 1996. In a further analysis, Edmonston (1996) finds that both the foreign born and the native born are more likely to move to provinces that have larger populations, more economic opportunities, and higher proportions of foreign born population. At the same time, immigrants are more likely to stay in a province that has a higher proportion of foreign born of the same ethnicity, and they are more likely to leave provinces with low relative incomes. Consequently, he finds no evidence of an increased dispersion of immigrants over time. Similar results are available in the 1981 census [Bélanger (1993)]. The provinces that were receiving disproportionate numbers of immigrants were less likely to see their departures for other provinces. Projecting these probabilities to the point of stability, Bélanger concludes that the internal migration of the immigrant population brings a greater concentration of this population.

The initial arrival of immigrants has the largest impact on population distribution. To some extent this impact is reduced by the emigration of immigrants, which comprises about half of emigration from Canada (Beaujot and Rappak, 1989; Michalowski, 1991). The subsequent internal migration of immigrants has less impact, but at the same time it does not bring greater dispersion of the foreign born.

The geographic impact is even more visible at the level of **census metropolitan areas**. While post-war immigration has largely been a metropolitan phenomenon, the Review of Demography (1989) more correctly concluded that this has involved the metropolitan areas west of the Quebec-Ontario boarder, plus Montreal. East of this border, the highest proportion of immigrants is in Halifax, but this is still under half of the national average (Statistics Canada, 1997b). Even Winnipeg, Oshawa, Ottawa-Hull, Thunder Bay, Regina, Saskatoon and Sudbury have a smaller proportion of immigrants than the national average of 17.4 percent foreign born. In these distributions, it is especially Toronto and Vancouver that stand out, with 41 and 35 percent foreign born respectively by 1996. In the Canadian born population, Montreal retains its historical position as the largest Canadian city, but the immigrant population of Toronto is three times that of Montreal.

In terms of total numbers, the three metropolitan areas of **Toronto, Montreal and Vancouver** stand out, with 60.2 percent of the foreign born compared to 26.9 percent of the Canadian born population (Table 5). A fifth of the 1996 populations of Toronto and Vancouver consist of immigrants who have arrived since 1981 (Statistics Canada, 1997b: 5). Over the immigrant arrival cohorts, Toronto and Vancouver have increased their share of immigrants, while this share is stable for Montreal, has declined slightly for the total of other metropolitan areas, and it has declined significantly for the non-metropolitan areas. Consequently, the non-metropolitan population comprises 43.0 percent of the Canadian born population but only 6.5 percent of immigrant arrivals of the period 1991-96.

Immigrants to Quebec are highly concentrated in Montreal. In 1996, 88 percent of Quebec's foreign born were in Montreal. Projecting these trends with 40,000 arrivals to the province per year, Termote (1988) finds that Montreal's population would increase significantly. This would add some 1,150,000 to the population over 40 years, compared to a 1986 size of 1,750,000.

Table 5.
Distribution of Canadian born and immigrants by arrival cohorts, by metropolitan areas
Canada, 1991 and 1996

	Canadian Born	Before 61	1961-70	1971-80	1981-91	1991-96
-1991-						
Toronto	10.2	25.1	35.4	36.5	39.4	---
Montreal	11.3	9.5	12.8	11.7	14.0	---
Vancouver	4.8	8.4	9.8	12.6	12.9	---
Sub-total	26.3	43.0	58.0	60.8	66.3	---
Other CMAs	28.0	30.3	26.0	25.8	24.5	---
Other	45.6	26.6	16.0	13.4	9.2	---
Total	100.0	100.0	100.0	100.0	100.0	---
-1996-						
Toronto	10.4	25.1	34.2	36.2	40.0	42.4
Montreal	11.4	9.4	12.4	11.6	12.8	12.9
Vancouver	5.0	8.1	10.0	13.0	13.7	18.3
Sub-total	26.8	42.6	56.6	60.8	66.5	73.6
Other CMAs	30.1	30.2	26.8	24.9	23.9	19.8
Other	43.0	27.1	16.6	14.3	9.7	6.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: CMA: census metropolitan area. In 1996 the Canadian born includes non-permanent residents

Sources: Special tabulations based on 1991 public use sample.

1996 Census: N03-04111VT and Population by age group, sex and marital status.

These types of projections need to be done for other metropolitan areas. It would appear that the metropolitan destination of immigrants is **pushing the urbanization trend**. There is a need for more analyses of the impact of immigration on the relative growth of the urban population, including any impact that it may be having on the movement of the Canadian born towards urban areas. In the recent censuses, the metropolitan areas as a whole have been increasing through immigration but declining as a result of net internal migration (Table 6). Over the 25 metropolitan areas, the net internal migration of the 1991-96 period represents a net departure of 156,000 persons, while 971,000 immigrants had arrived in the five years that preceded the census. Internal migration is positive in ten of the metropolitan areas, but except in Victoria recent immigrants are more numerous than net internal migration. In eight metropolitan areas the immigrant arrivals are insufficient to compensate for the net departure by internal migration. However, in the remaining seven cities (Edmonton, Halifax, London, Montreal, Sherbrooke, St. Catharines-Niagara and Toronto) there was a negative net migration of 167,485 persons but a net

international arrival of 627,265 persons over the period 1991-96. Not only is immigration pushing the urbanization trend, but also in most of the largest cities it is helping to compensate for the net departure through internal migration.

Table 6.
Immigrants of the 1991-96 period and net internal migration of the period 1991-96
by metropolitan area

	Immigrants of 1991-96	Net internal migration
Total CMA	971,040	-156,425
Calgary	33,775	9,275
Chicoutimi-Jonquiere	285	-4,060
Edmonton	27,270	-23,615
Halifax	4,850	-3,730
Hamilton	17,940	820
Kitchener	12,600	1,480
London	11,770	-3,440
Montreal	134,535	-47,880
Oshawa	3,785	13,005
Ottawa-Hull	38,040	1,695
Quebec	5,175	1,670
Regina	2,675	-4,520
Saskatoon	3,555	-3,960
Sherbrooke	2,095	-1,225
St. Catharines-Niagara	5,715	-190
St. John's	895	-3,950
Saint John	245	-1,520
Sudbury	745	-2,400
Thunder Bay	945	-3,585
Toronto	441,030	-87,405
Trois-Rivieres	470	730
Vancouver	189,660	12,095
Victoria	6,250	9,715
Windsor	10,655	1,545
Winnipeg	16,080	-16,975

Source: 1996 Census: N03-0411.IVT; Statistics Canada, Daily, 14 April 1988

Given that immigrants are likely to settle mostly in metropolitan areas and to follow the pathways established by earlier cohorts, immigration will probably continue to accentuate the inequalities in Canada's regional population distribution. While there are efficiencies associated

with more concentration of population, this also means that immigration cannot be seen as a means of demographic redistribution toward areas that have smaller populations.

The inequalities in demographic growth are likely to be accentuated, as immigration becomes the principle component of change. On most characteristics, the impact of immigration in terms of the differences that they represent, lessens over time (Beaujot, 1998). For instance, their fertility and mortality comes to resemble that of the Canadian born, as do their economic characteristics.

Even the visibility of minorities lessens over time as styles of dress and speech become more similar with a longer length of residence, and certainly into the second and third generation. However, on geographic distribution, where immigration accentuates the uneven distribution of the population, the subsequent internal migration of immigrants brings a further concentration to the main areas of primary destination.

Summary and Discussion

The immediate demographic results of this review are rather straightforward. Immigration can make a significant contribution to population growth, but it has a minor impact on aging and accentuates the inequalities in population distribution.

Over the period 1991-96, immigration has comprised half of **population growth**. At levels of slightly more than 200,000 per year, immigration can effectively prevent population decline, at current levels of fertility. Given that fertility has been very stable over the past 20 years, this could be taken as a plausible prognosis. Similarly, this level of immigration would prevent decline in the labour force, though the amount of increase in the labour force will continue to be smaller from decade to decade reaching a point of stability around 2016.

Aging will continue, but immigration brings a slight attenuation of this process. At the same time, the measures of dependency indicate declines since 1971 and into the next decade, as a maximum proportion of the population is of labour force ages. Unless one weights the elderly more than the young in dependency, the dependency levels will remain lower than they were in 1971 for the foreseeable future. On the other hand, it would take immigration levels in excess of one million persons per year to prevent an increase in dependency from its current low levels.

Given the lower role of natural increase, immigration is also accentuating the differentials in **population distribution**, in favour of Ontario and British Columbia, and particularly the Vancouver and Toronto metropolitan areas. In effect, immigration is driving the urbanization trend and in some of the largest cities, including Toronto and Montreal, it is compensating for the net departures through internal migration.

While these immediate demographic questions are reasonably established, the role that they should play in determining immigration levels is much less clear. While demographic objectives are long term, the short-term implications involve questions of integration and public acceptance.

At the same time, there are a variety of advantages to a program that moves only slowly to different levels, and it would make sense to stay around levels of 200,000 arrivals per year given this inertia.

In my view, it would be best if immigration had a supportive rather than an essential role in influencing the future demographics of Canada. When population renewal occurs through migration rather than through births, it brings much change. On the other hand, there is little choice; persistent below replacement fertility ultimately means either population decline or a large role for immigration in population replacement. Already, immigration comprises half of population growth. Once natural increase becomes negative, after about 2025, immigration will be the only source of growth.

This point of view assumes that maintaining population growth, or at least avoiding population decline, is a valuable objective. While environmentalists question this objective, it would be my view that Canada has profited from population growth in the past and that population decline would be unfortunate. For one thing, population decline would undermine some investments as there would be too many roads, schools and other facilities (Lapierre-Adamcyk, 1986). More important, it would mean a labour force that is not renewing itself and thus would have less of the flexibility necessary to take advantage of changing opportunities.

As immigration becomes an ever increasing share of population change, it is particularly important to ensure that this experiment remains successful. In their book on The Fear of Population Decline, Teitelbaum and Winter (1985: 150) had proposed that rapid changes in cultural and ethnic composition would generate opposition, and consequently that large-scale immigration would not likely be a politically viable response to declining population. In effect, I think we should take seriously the readings from opinion polls suggesting that there are as many respondents who think there are “too many” as those who say that the level is “about right” (Palmer, 1997). This report concludes that support for the levels policy is “very soft,” and that the concerns are largely in economic terms, associated especially with unemployment, while respondents are more likely to express an appreciation for the cultural contribution of immigrants. It is also observed that attitudes are more favourable among persons who are more educated, younger, employed and living in larger urban centres. Similarly, the review by the Economic Council of Canada (1991) has some encouraging results, especially that those who are in greater contact with immigrants are more likely to be favourable toward immigration. However, they also observe that rapid changes, especially at the neighborhood level, can bring uncertainties. My own conclusion on this is that we need to maintain a continuous watchful eye and be willing to admit that immigration could produce social tensions. If that happens, we can question our integration policies, but we can also question the levels of immigration. That is, it is more important to maintain cohesiveness as a society than to avoid population decline.

Demographic arguments alone cannot be used to justify the level of Canadian immigration. Even in demographic terms, there is nothing magical about the orientation to maintain population growth or avoid population decline. While one can argue that significant declines or particularly high growth may be problematic, it is not clear where the optimum may lie and it probably changes over time. One might argue that Canada has profited from reasonably high population growth in the past, but it is not clear that this would apply to the future. Environmental arguments in particular would favour smaller populations (Barrett et al., 1987).

I would conclude, somewhat with the Economic Council of Canada (1991), that we should not say that Canada “needs” immigration either from a demographic or an economic point of view. This view that Canada needs immigration is probably based on nation-building myths and the role of immigration in our past, where some even think of Canada as a nation of immigrants.

The research is not as conclusive as to indicate a demographic or economic “need” for immigration. From a demographic point of view, a minimal level of immigration, producing a population that would start to slowly decline in some 25 years, is not necessarily to be avoided. Similarly, immigration makes positive contributions to the economy, but it probably benefits capital more than labour and the measurable difference in terms of average income is very small, in the order of one or two percentage points (Economic Council of Canada, 1991; Stafford, 1993; Veugelers and Klassen, 1994; Simmons, 1994). By way of contrast, and probably based on alternative nation-building myths, demographers from Sweden tend to conclude that the absence of cheap immigrant labour has prompted policies aimed at full-employment and family-friendly policies that ensure strong labour force participation for women (Hoem and Hoem, 1997).

Rather than on demographic or economic terms, it is especially in socio-cultural terms that a case for immigration should be made (Economic Council of Canada, 1991). As long as integration can ensure equal opportunity, immigration brings diversity, richness and contact with a broader world. However, it may also bring resentment, conflict and socio-cultural disintegration. While research can contribute to this determination, it is very much a political judgement involving the public and its political leaders.

A broad-ranging book entitled Age of Migration argues both that migration is a constant phenomenon in human history, and that it was never as significant as today in terms of the diversity that it brings to most countries (Castles and Miller, 1993). Canada is part of this picture, especially in terms of the role of immigration in the growth and distribution of the Canadian population, to say nothing of ethnic diversity. This presents both a challenge to maintain a cohesive society and an opportunity to profit from diversity and contact with a broader world.

References

- Avery, Roger and Barry Edmonston, 1988, Canada's Stationary Population Equivalent: The Effect of Variations in Population Conditions. Paper presented at the meetings of the Population Association of America, New Orleans, April 1988.
- Badets, Jane and Tina W.L. Chui, 1994, Canada's Changing Immigrant Population, Ottawa: Statistics Canada Cat. No. 96-311.
- Barrett, Michael et al. 1987, Potential Environmental Impact of Changes in Population Size, Age and Geographic Distribution. Canadian Studies in Population 14(2): 261-277.
- Beaujot, Roderic, 1991, Population Change in Canada: The Challenges of Policy Adaptation, Toronto: McClelland and Stewart.
- Beaujot, Roderic, 1996, "Metropolis Literature Review: The Demographic Perspective", Report prepared for Strategic Research and Analysis Division, Immigration, Citizenship and Immigration Canada.
- Beaujot, Roderic, 1997, "Comportements démographiques et statut socio-économique des immigrants canadiens." Pp. 147-164 in J.L. Rallu, Y. Courbage and V. Piché, Old and new minorities, Monrouge: Editions John Libbey Eurotext.
- Beaujot, Roderic, 1998, "Immigration and Demographic Structures" forthcoming in S. Halli and L. Driedger, The Immigration Challenge 2000.
- Beaujot, Roderic, Suzanne Shiel and Lorraine Schoel, 1989, "Immigration and the Population of Canada", Report prepared for Immigration Policy Branch, Employment and Immigration.
- Beaujot, Roderic and Feng Hou, 1993, "Projecting the Visible Minority Population of Canada: The Immigration Component", Ottawa: Statistics Canada Employment Equity Data Program.
- Beaujot, Roderic and J. Peter Rappak, 1988, "The Role of Immigration in Changing Socio-demographic Structures". Ottawa: Report for Review of Demography, Health and Welfare.
- Beaujot, Roderic and J. Peter Rappak, 1989, "The Link Between Immigration and Emigration in Canada, 1945-1986". Canadian Studies in Population 16(2): 201-216.
- Bélangier, Alan, 1993, "La migration interprovinciale des personnes nées à l'étranger, Canada, 1981-1986", Cahiers québécois de démographie 22(1): 153-178.
- Boyd, Monica and Elizabeth Grieco, 1997, "Triumphant Transitions: Socioeconomic Achievements of the Second Generation in Canada", Florida State University: Center for the Study of Population, WPS 97-135.
- Boyd, Monica and Doug Norris, 1994, "Generating Success: Educational and Occupational Achievements of the Second Generation in Canada", Working Paper, Centre for the Study of Population, Florida State University.
- Castles, Stephen and Mark Miller, 1993, The Age of Migration: International Population Movements in the Modern World, Houndmills: MacMillan.
- Chen, Jiajian, Edward Ng and Russell Wilkins, 1996, "The Health of Canada's Immigrants in

1994-95", Health Reports 7(4): 33-45.

Choinière, Robert, 1993, "Les inégalités socio-économiques et culturelles de la mortalité à Montréal à la fin des années 1989" Cahiers Québécois de Démographie 22(2): 339-361

Citizenship and Immigration, 1994, Facts and Figures: Overview of Immigration, Ottawa: Citizenship and Immigration Canada.

Citizenship and Immigration, 1994c, A Broader Vision: Immigration and Citizenship Plan 1995-2000. Ottawa: Immigration and Citizenship.

Citizenship and Immigration, 1997b, Citizenship and Immigration Statistics 1994. Ottawa: Citizenship and Immigration.

Denton, Frank, Christine Feaver and Byron Spencer, 1997, "Immigration, Labour Force and the Age Structure of the Population" McMaster University: QSEP Research Report No. 335.

Dionne, Claude and Donald Kerr, 1996, "Intergenerational Relationships and Population Estimation". Paper presented at the meetings of the Canadian Population Society, St. Catharines, June 1996.

Duchesne, Louis, 1993, "Evolution de la population au Québec et au Canada depuis un siècle et demi en l'absence de migrations", Cahiers québécois de démographie 22(1): 1-22.

Edmonston, Barry, 1996, "Interprovincial Migration of Canadian Immigrants", Paper presented at the meetings of the Population Association of America, New Orleans, May 1996.

Economic Council of Canada, 1991, Economic and Social Impacts of Immigration. Ottawa: Economic Council of Canada.

Foot, David, 1986, "Population Aging and Immigration Policy in Canada: Implications and Prescriptions" Population Working Paper No. 1, Canada Employment and Immigration Commission.

Hoem, Britta and Jan M. Hoem, 1997, "Sweden's Family Policies and Roller-Coaster Fertility", Stockholm Research Reports in Demography # 115.

Immigration Legislative Review, 1997, Not Just Numbers: A Canadian Framework for Future Immigration. Ottawa: Minister of Public Works.

Kalbach, W.E. and W.W. McVey, 1979, The Demographic Bases of Canadian Society. Toronto: McGraw-Hill.

Lapierre-Adamcyk, Evelyne, 1986, "Plaidoyer pour une recherche sur l'impact économique de la stagnation, voire de la décroissance démographique". Ottawa: Report for Review of Demography, Health and Welfare.

Le Bras, Hervé, 1988, "The Demographic Impact of Post-War Migration in Selected OECD Countries". OECD Working Party on Migration.

Ledent, Jacques, 1992, L'impact de l'immigration internationale sur l'évolution démographique du Québec. Québec: Ministère des Communautés culturelles et de l'immigration.

Massey, Douglas et al., 1994 "An Empirical Evaluation of International Migration Theory: The North American Case", manuscrit.

- Maxim, Paul S., 1996, "Estimating Fertility Differentials Between Immigrant and Non-Immigrant Women in Canada", Paper presented at the meetings of the Canadian Population Society, St. Catharines, June 1996.
- Michalowski, Margaret, 1991b, "Foreign-born Canadian Emigrants and their Characteristics, 1981-1986", International Migration Review 25(1): 28-59.
- Ram, Bali and M.V. George, 1990 "Immigrant Fertility Patterns in Canada, 1961-1986". International Migration 28(4): 413-426.
- Review of Demography, 1989, Charting Canada's Future. Ottawa: Health and Welfare.
- Royal Commission on the Economic Union and Development Prospects for Canada, 1986, Report, 3 vols. Ottawa: Supply and Services.
- Ryder, Norman, 1997, "Migration and Population Replacement", Canadian Studies in Population 24(1): 1-26.
- Simmons, Alan B., 1994, "Canadian Immigration Policy in the Early 1990s." Canadian Journal of Sociology 19(4): 525-534.
- Stafford, James, 1993, "Welcome But Why: Recent Changes in Canadian Immigration Policy," Annual Review of Canadian Studies 22(2): 235-258.
- Statistics Canada, 1990, Population Projections for Canada and the Provinces and Territories, 1989-2011. Ottawa: Statistics Canada Cat. No. 91-520.
- Statistics Canada, 1992, Immigration and Citizenship, Ottawa: Statistics Canada Cat. No. 93-316.
- Statistique Canada, 1994, Projections démographiques pour le Canada, les provinces et les territoires, 1992-2016. Ottawa: Statistique Canada Catalogue 91-520.
- Statistics Canada, 1997a, Annual Demographic Statistics, 1996, Ottawa: Statistics Canada Cat. No. 91-213.
- Statistics Canada, 1997b, "The Daily, 4 November 1997". Ottawa: Statistics Canada.
- Termote, Marc, 1988, "Ce que pourrait être une politique de migration". L'Action nationale 78(5): 308-322.
- Teitelbaum, Michael S. and Jay M. Winter, 1985, The Fear of Population Decline. Orlando: Academic Press.
- Trovato, Frank, 1996, "Marital Status and Mortality Among Immigrants in Canada", Paper presented at the meetings of the Canadian Population Society, St. Catharines, June 1996.
- Veugelers, John W.P. and Thomas R. Klassen, 1994, "Continuity and Change in Canada's Unemployment-Immigration Linkage (1946-1993)." Canadian Journal of Sociology 19(3): 351-370.