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Preparing for Success in Canada and the United States: The Determinants of Educational Attainment Among the Children of Immigrants

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- ^p preliminary
- ^r revised
- x suppressed to meet the confidentiality requirements of the [Statistics Act](#)
- ^E use with caution
- F too unreliable to be published

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Abstract

This paper reviews the recent research on the determinants of the educational attainment among the children of immigrants born in Canada and the United States, also known as the second generation. The focus is on the gap in educational attainment between the second and *third-and-higher generations* (the children of domestic-born parents), as well as the intergenerational transmission of education between immigrants and their children.

On average, the children of immigrants have educational levels significantly above those of their counterparts in Canada with Canadian-born parents. In the U.S., educational levels are roughly the same between these two groups. In both countries, conditional on the educational attainment of the parents and location of residence, the children of immigrants attain higher levels of education than the third-and-higher generations. Parental education and residential location are major determinants of the numerically positive gap in educational attainment between the children of immigrants and the children of Canadian-born or American-born parents. However, even after accounting for these and other demographic background variables, much of the positive gap between the second generation and the third-and-higher generations remains in Canada.

In Canada, parental education is less important as a determinant of educational attainment for the children in immigrant families than for those with Canadian-born parents. Less educated immigrant parents are more likely to see their children attain higher levels of education than are their Canadian-born counterparts.

Outcomes vary significantly by ethnic/source region group in both countries. In the U.S., some second-generation ethnic/source region groups, such as those with Mexican, Puerto Rican and other Central/South American backgrounds, have relatively low levels of education (unadjusted data with no controls). However, conditional on background characteristics, these second-generation groups achieve higher levels than their third-and-higher-generation counterparts. In contrast, in Canada, children of the larger and increasingly numerically important immigrant groups (Chinese, South Asians, Africans, etc.) register superior educational attainment levels to those of the third-and-higher generations. This result is partly related to the high levels of parental education and of group-level “ethnic capital” among these immigrant groups.

Executive summary

Many immigrant groups have a long tradition of turning to education as the mechanism best suited to promoting their children's success. From the host countries' perspective, the level of education achieved by the children of immigrants is one critical measure of the long-term, multi-generational integration of immigrants. Since the children of immigrants are a significant component of the total population in Canada and the U.S., it is important to know whether and why the children of various immigrant groups are performing, educationally, at levels above or below those of their counterparts with Canadian-born or American-born parents.

This paper reviews current Canadian and American research on the educational attainment achieved by the second generation (the children of immigrants born in the host country, either Canada or the U.S.), and its determinants. Educational outcomes in the two countries are addressed separately and from two perspectives. First, how does the educational attainment of the second generation compare to that of the third-and-higher generations (i.e., the children of domestic-born parents), and what are the determinants of the educational attainment gap between these two groups? The second perspective is intergenerational. How are the children of immigrants doing compared to their parents?

On average, in Canada the children of immigrants have educational levels significantly above those of their counterparts with Canadian-born parents. In the U.S., educational levels are roughly the same between these two groups (unconditional comparisons). In both countries, conditional on the educational attainment of the parents and location of residence, the children of immigrants outperform the third-and-higher generations in terms of educational attainment. Parental education and urban location are major determinants of the gap in educational attainment between the children of immigrants and children with Canadian-born or American-born parents. However, even after one has accounted for these and other demographic background variables, in Canada much of the positive gap between the second generation and the third-and-higher generations remains.

In Canada, parental education is less important as a determinant of educational attainment among the children in immigrant families than among those with Canadian-born parents. Less educated immigrant parents are more likely to see their children attain higher levels of education than are their Canadian-born counterparts. In the U.S., the extent to which the parents' advantage (or disadvantage) in educational attainment is passed on to their children appears to be about the same among immigrant and American-born families.

Outcomes vary significantly by ethnic/source region group in both countries. In the U.S., some second-generation ethnic/source region groups, such as those with Mexican, Puerto Rican and other Central/South American backgrounds, have relatively low levels of education, even though, conditional on background characteristics, they outperform their third-and-higher-generation counterparts. This result is in part related to the low levels of education among their immigrant parents. An increasing share of U.S. immigration since the 1980s has been from Central and South America, particularly Mexico.

In contrast, in Canada, children of the larger and increasingly numerically important immigrant groups (Chinese, South Asians, Africans, etc.) register superior educational attainment levels to those of the third-and-higher generations. This result is partly related to the high levels of parental education and of group-level "ethnic capital" among these immigrant groups. The educational attainment among entering immigrants has been rising since the 1980s in Canada.

1 Introduction

Educational attainment is frequently viewed as the most important means of social mobility and labour market success. Many immigrant groups have a long tradition of turning to education as the mechanism best suited to promoting success for their children. For many immigrants, this is an important factor in the selection of Canada or the U.S. as a destination. From the host countries' perspective, the level of education achieved by the children of immigrants is one important measure of the long-term, multi-generational integration of immigrants.

The outcomes of the children of immigrants are important for many reasons. In 2006 second-generation Canadians comprised about 15% of the population of Canada and second-generation Americans comprised 11% of the U.S. population. These numbers surpass those of any Western nation except Australia. Furthermore, the determinants of the "gaps" in educational attainment between the children of immigrants and the children of the domestic-born (American or Canadian) provide an important measure of the long-term integration of immigrant families. Societies need to know why immigrant groups, and their children, are performing at levels above or below those of the domestic-born population and its children.

Both Canada and the U.S. are major immigrant receiving countries. However, in recent decades immigration patterns have differed in important ways in the two countries, influencing outcomes for the second generation. Prior to the 1960s, both countries used country of origin as a primary determinant of immigrant selection, focusing on Western Europe. In the 1960s, both countries altered their immigration policies; this led to what many researchers refer to as the "new" immigration.

Smith and Edmonston (1997) and Green and Green (2004) provide overviews of immigration history for the U.S. and Canada, respectively. There are three differences between Canada and the U.S. in the post 1960s "new" immigration that are important for second-generation outcomes (Aydemir and Sweetman 2007).

First, immigration rates have been higher in Canada than in the U.S. since the 1940s; hence, the first-generation and second-generation populations are (relative to population size) more significant in Canada than the U.S. Second, the distribution of immigration by source regions developed very differently in the two countries. The U.S. has always had a greater share of its immigration from Central and South America. This is significant, since the second-generation educational outcomes for these groups are often inferior to those of other groups, such as Asians and Africans, to which Canada has turned for much of its "new" immigration.

Third, family reunification has been and remains the main immigrant selection program in the U.S. In addition to such a program, Canada employs a "skilled immigrant class," under which about one-quarter of immigrants are selected directly and another one-quarter are selected indirectly (spouses and children). This program utilizes a points system which selects immigrants based on their educational attainment, language skills, occupation, and so on. As a result, immigrants to Canada are now more highly educated than those entering the U.S. Educational attainment of immigrants has increased over time in Canada, while remaining flat in the U.S. These trends influence educational attainment of the children of immigrants in the two countries.

This paper reviews existing research on the educational attainment achieved by the second generation in Canada and the U.S., and its determinants. Relevant literatures from both sociology and economics are reviewed. Educational outcomes in Canada and the U.S. are addressed separately, and from two perspectives. Under the first perspective, how does second-generation (the children of immigrants born in the host country) educational attainment

compare to that of the third-and-higher generations (i.e., the children of domestic-born parents), and what are the determinants of the educational attainment gap between these two populations? Much of the available economics research in particular addresses this question. It focuses on outcomes at a point in time, asking why some groups are doing better than others. The second perspective is intergenerational: how are the children of immigrants doing compared to their parents? This requires a longer longitudinal perspective, often comparing the educational outcomes of the children (as adults), in the 2000s for example, to those of their parents twenty five years or so earlier.

There is a significant American *sociological* literature on second-generation integration, focusing not only on educational outcomes, but on family formation and other outcomes. Much of this work is driven by the “segmented assimilation” theory. This theory states that a variety of factors may lead to successful assimilation, but that they can also lead to poorer second-generation outcomes. According to this theory, determinants such as family socio-economic status, the immigrant family type (particularly single parents), the social context within which immigrants are received, and discrimination can play a major role, particularly in the poorer outcomes. The theory predicts very different outcomes for different ethnic groups in the U.S.. This theory is discussed in Portes and Fernandez-Kelly (2008), Zhou (1997), and Zhou et al. (2008), among many others, and is largely applicable to the U.S. It is rarely invoked to explain outcomes in Canada.

The *economics* literature turns to traditional determinants to explain the gaps in educational attainment between the first generation, the second generation, and the third-and-higher generations. These include immigrant parents’ education and income, location of residence (educational attainment is superior in large cities), source region or ethnicity, ethnic capital (the effect of characteristics of the ethnic group, independent of that of the family), parents expectations, and visible minority status, and, at times, the language spoken at home. Discrimination is rarely addressed directly in this literature.

2 Educational outcomes among the children of immigrants in Canada

2.1 The educational attainment gap between the second generation and the third-and-higher generations

Second-generation Canadians register educational outcomes that are superior to those of the third-and-higher generations. Numerous researchers, using different data and measures, have reached this conclusion. Boyd (2002) finds, for example, that the second generation, whether members of a visible-minority group or individuals who are not members of a visible-minority group, outperforms the third-and-higher generations in terms of educational attainment. In fact, educational attainment is highest among the visible-minority second generation (Table 1). Among the population aged 20 to 64, 24.1% of the second-generation visible-minority group had a university degree in 1996, compared to 22.2% of individuals of the second generation who are not visible minorities and 16.6% of the third-and-higher generations.

Table 1
Educational outcomes for the Canadian population, aged 20 to 64, 1996

	Visible minority		Non-visible minority	
	Third-and-higher generation	Second generation	Third-and-higher generation	Second generation
Percentage with university degree	16.6	24.1	16.6	22.2
Average number of years of education	13.1	14.8	13.2	14.0
Average number of years of education, age standardized	13.0	14.2	14.7	15.4
Fathers' education				
Percentage with university degree	9.2	25.2	7.4	10.8
Average number of years of education	10.5	12.1	9.9	10.4
Average number of years of education, age standardized	10.9	11.7	12.2	12.5
Mothers' education				
Percentage with university degree	3.9	9.6	4.1	6.0
Average number of years of education	10.8	11.2	10.1	10.3
Average number of years of education, age standardized	10.5	10.6	9.6	9.8

Source: Boyd (2002) with data from the Survey of Labour and Income Dynamics.

Some of this difference may be due to the fact that the second generation tends to be younger than the third-and-higher generations and that younger adults tend to have higher levels of education. However, age-standardized outcomes remained more or less unchanged, the children of immigrants having higher educational levels than the third-and-higher generations.

Aydemir and Sweetman (2007) came to a similar conclusion using 2001 Canadian Census of Population data. They observed that 37.8% of the second generation had a bachelor's degree or higher-level degree in the Census, compared to 31.8% of the third-and-higher-generation population that does not belong to a visible minority.

Abada, Hou, and Ram (2008) turn to both the Ethnic Diversity Survey (2002) for Canada, published by Statistics Canada, and to the 2001 and 2006 Canadian censuses and find similar results. Hum and Simpson (2007), Aydemir, Chen, and Corak (2008), and Bonikowska (2008) also observe the higher educational attainment among the second generation. Finnie and Mueller (2010), using Statistics Canada's Youth in Transition survey to focus on the related issue of the probability of attending college or university, find similar results. Second-generation Canadians have a university participation rate of 54.3%, compared to 37.7% for the third-and-higher generations.

Recent research has asked what drives the superior educational outcomes for second-generation Canadians. Boyd (2002) observed that the educational attainment of the immigrant parents of the second generation was higher than that of the parents of the third-and-higher generations; immigrants for many years have tended to have higher levels of education than the Canadian population. Not surprisingly, higher levels of parents' education are associated with higher attainment levels among the children, as is well known.¹ However, even conditional on the educational attainment of the parents (as well as on age and gender), the educational gaps persist: the second-generation visible-minority population has about 1 year of education more than the third-and-higher-generation individuals who are not members of a visible minority. Hence, educational attainment of the parents, along with age and gender, accounted for less than half of the educational advantage of the second-generation members of a visible minority over the third-and-higher-generation individuals who are not members of a visible minority.

Bonikowska (2008), using the Ethnic Diversity Survey, finds that controlling for both parents' education and location of residence (immigrant families are more likely to live in urban areas, where educational attainment is higher) tends to reduce the educational advantage of the second generation over the third-and-higher generations, but some of the gap nevertheless remains.

Importantly, Bonikowska (2008) observes that the above-average educational attainment of the second generation is driven largely by children from the less educated families. Put another way, children from immigrant families where the parents have a university degree, for example, do not attain higher levels of education than their counterparts from university educated families with Canadian-born parents (with controls for age and ethnic origin). However, children with less educated immigrant parents do outperform their counterparts with Canadian-born parents. Having parents with lower levels of education is less of an impediment to educational outcomes for children of immigrants than for children of the Canadian-born. For example, among the third-and-higher generations, having a parent with a university degree results in 3.2 more years of schooling than does having a parent with less than high school. However, among the second generation, this difference is only 2.2 years. Hum and Simpson (2007), using different data, the Survey of Labour and Income Dynamics, come to a similar conclusion. They find that the effect of parental education on the education of the children is weaker among families with immigrant parents than among families with Canadian-born parents.

This fits with observations by Aydemir, Chen, and Corak (2008) on the intergenerational transmission of educational attainment. They conclude that the persistence in years of schooling across the generations is rather weak between immigrants and their Canadian-born children. It is only about one-third as strong as for the children of Canadian-born parents. Although

1. For example, if the father had a degree, the child had 1.5 more years of schooling compared to a father who had high school graduation only, after one has controlled for age, visible-minority status, and gender. Location (large urban vs. rural) is not included. Unfortunately, in this and many other studies, the regression generational status is not interacted with parents' education; hence, these results are driven largely by the third-and-higher generations, and this effect is assumed to be the same across all generations. The correlation between parents' and children's education is not known for the second generation; hence, it is not known whether it differs between the second generation and the third-and-higher generations.

educational attainment of the parent is an important determinant of education outcomes of the children, it is less important among immigrant families than among domestic families.

Turning to the role of family income as a determinant of children's educational attainment in immigrant families, Aydemir, Chen, and Corak (2008) find that, after controlling for parents' educational attainment, it is a weak predictor. This finding is consistent with results for the Canadian population as a whole.² Among immigrants, this observation may also be in part related to the relatively poor economic outcomes among many highly educated immigrant families, particularly recent immigrants. Many lower-income immigrant families have relatively high levels of education in Canada.³

2.2 Ethnic group differences

The discussion to this point referred to the second generation in general. However, there is significant variation in outcomes by ethnic group/source country background. Ethnic group differences in parents' human capital and family socio-economic status are expected to result in some inter-group differences in outcomes. However, after accounting for such differences, ethnic group/source region background differences persist. These differences are only partially understood. The "ethnic capital" of the ethnic community—the overall educational attainment and income levels of the group—can enhance educational and other outcomes of the children of immigrants in that group (Borjas 2000; Zhou and Kim 2006). Differences among ethnic groups in these and other determinants (some unknown) can result in variation among groups in educational outcomes.

Abada, Hou, and Ram (2008) found significant differences in educational attainment of the children of immigrants from different countries. In 2006, university completion rates among 25-to-34-year-olds varied from 62% among children from Chinese families, to 17% among those from Portuguese families. The children of Canadian-born parents (the third-and-higher generations) registered a completion rate of 23%. Only two of the eighteen second-generation groups had rates below those of the third-and-higher generations (Table 2). Besides the Chinese, other second-generation groups with very high rates included children of immigrants from India, Africa, West Asia/Middle East, and other Asian countries.

Abada, Hou, and Ram (2008) asked to what extent five sets of explanatory variables — basic demographics (age, family type, and individuals place of residence), parents' education, individuals' mother tongue and family language environment, ethnic capital⁴, and parents' location of residence—accounted for the gap in the university completion rates between any particular second-generation ethnic group and the third-and-higher generations. For most of the individual second-generation groups identified in Table 2, the five groups of explanatory variables accounted for more than half of the (positive) gap between the second generation and the third-and-higher generations, and often for all of it. The major exception was the children of Chinese immigrants, who registered the highest educational attainment gap. The five groups of variables accounted for only one-quarter of the gap with the third-and-higher generations in their case. Other factors, not accounted for in the analysis, were driving the gap.

2. This finding also holds for the population as a whole (see: Frenette 2005; Finnie, Laporte and Lascelles 2004). After controlling for educational attainment of parents and other variables, one finds that family income is barely associated with, for instance, the likelihood of attending university in Canada. Furthermore, the unadjusted (raw) data suggest that access to post-secondary education is more equitable in Canada than in the U.S. Children from bottom and second income quartiles are equally likely to attend university, and top-quartile students are twice as likely to do so as those from the bottom quartile. In the U.S., second quartile students are twice as likely to attend, and top-quartile children are four times as likely to do so as those from the bottom income quartile (Frenette 2005).

3. See Picot 2008, Picot and Sweetman 2005, and Reitz 2007 for reviews.

4. Ethnic group's educational attainment and ethnic group's average family income.

Table 2
Percent of second generation with a university degree, population aged 25 to 34, by source region of immigrant parents

	Second generation with a university degree percent
Africa	50.1
Caribbean	27.8
Latin America	23.3
China	62.4
Philippines	33.0
India	50.1
West Asia, Middle East	41.1
Other Asia	44.8
U.S.	35.1
UK	33.3
Germany	33.0
Italy	31.4
Portugal	17.4
Netherlands	30.0
Other Northern and Western Europe	36.8
Eastern Europe	41.1
Other Europe	34.5
Other countries	33.0
Children of Canadian born parents	23.8

Source: Abada, Hou and Ram (2008) with data from Statistics Canada, 2006 Census.

Some variables had more explanatory power than others. Overall, parental education accounted for more of the gap than any other group of variables, followed by the group “ethnic capital” and parents’ location of residence. Of the average gap of about 13 percentage points between the second-generation groups and the third-and-higher generations, parental education accounted for about 6 percentage points, “ethnic capital” for about 3.7 points, and location for about 1.6 points. Consistent with earlier research focusing on the second generation as a whole, this ethnic-group-based research suggests that parental education is a major determinant of educational outcomes (although less so than among Canadian-born families) and accounts for perhaps half of the gap between the second generation and the third-and-higher generations.

There was tremendous variation among ethnic groups regarding the extent to which any of these variables accounted for the gaps. In general, parental education accounted for more of the gap for groups from the developed Western nations than for those from the Asian or African nations. Parental education seems to be a stronger predictor of children’s educational outcomes among immigrant families from the developed Western nations (and families with Canadian-born parents). This may be related to the notion that, among families with an Asian background, even children from less educated families are strongly encouraged to attend university (Finnie and Mueller 2010).

However, the results were very different when the focus was on the differences in children’s educational outcomes between source region groups themselves, rather than when a comparison with the third-and-higher generations was made. Controlling for the five groups of variables did little to attenuate group differences. In the raw data, the children’s university completion rates ranged from 25.8% to 69.5% among the 18 ethnic groups in the study. When

one assumed that all ethnic groups had the same characteristics (as defined by the five groups of variables mentioned above), the range was from 12.3% to 59.3%. There are determinants of the differences in ethnic groups beyond those captured by these five groups of variables, as much ethnic group difference remains.

Finnie and Mueller (2010) had perhaps the richest data set to address the issue of the gap in educational attainment between the second generation and the third-and-higher generations. Using Statistics Canada’s longitudinal Youth in Transition Survey (YITS-A), they used as their outcome variable the probability of attending college or university during the 2000s among the first, second, and third-and-higher generations. The probability of attending university was 16.6 percentage points higher among the second generation than among the third-and-higher generations. Basic controls reduced this gap to 12.9 percentage points, largely as a result of the effect of the urban/rural (location) variable. Family income increased the gap (immigrant families generally have lower incomes than their Canadian counterparts); parental education reduced it somewhat, but by only 2.6 percentage points. After accounting for these more or less standard variables, 11.4 percentage points of the original 16.6-percentage-point gap remained. Accounting for differences in reading test scores and self-reported high school grades (children of immigrants tend to have higher grades than children of the Canadian-born reduced the gap by 2.1 percentage points.⁵ This data set also has information on parental expectations, such as whether they expect their children to attend university. Controlling for group differences in this variable reduced the gap by 2.5 percentage points, a significant reduction.

Table 3
Gap between second and third-and-higher generations in probability of attending university

	No controls	Controls				
		Basic variables ¹	Column 2 plus family income	Column 3 plus parental education	Column 4 plus grades and schools	Column 5 plus parental expectation re: attending university
			percentage points			
Overall	16.6	12.9	14.0	11.4	9.3	6.8
By country of origin (both parents from same origin)						
Americas	-2.0	-6.5	-4.9	-3.0	5.5 *	-7.6 *
Africa	44.7	39.6	39.7	36.2	25.6	25.5
China	43.8	38.3	40.3	39.9	30.7	31.0
Other East and South East						
Asia	19.6	15.0	19.7	19.5	16.6	11.5
Other Asia	29.9	26.4	30.3	25.3	14.2 *	13.6 *
Western and Northern						
Europe	19.2	17.2 *	19.0 *	8.8 *	8.2 *	7.4 *
Southern and Eastern						
Europe	5.5	0.0 *	4.4 *	9.1	6.1 *	3.6 *
Anglosphere ²	4.0	0.0 *	-2.7 *	-3.9	-5.1 *	4.9 *

* Not significant

1. Basic variables include urban/rural, province, whether linguistic minority, family type.

2. “Anglosphere” includes English-speaking countries such as England, the U.S., New Zealand, Australia and Ireland.

Source: Finnie and Mueller (2010) with data from Statistics Canada’s Longitudinal Youth in Transition Survey.

5. This variable may well be endogenous, as noted by the authors (i.e., the desire to go to university drives marks higher).

Overall, a significant portion of the gap persists even after one has accounted for these variables, including parents' education. These results were also produced by source region background (Table 3). Large gaps remain after controlling for these variables.⁶

However, the results related above apply largely to children of immigrants who arrived three to seven decades ago, since the research typically covers the population aged 25 to 64. Will the decline in earnings of the successive cohorts of immigrants who have arrived since 1980 negatively affect their children's educational outcomes? To produce some preliminary evidence, Bonikowska and Hou (2011) focus on the university attainment of the children of immigrants, but only those who arrived as immigrants themselves at age 12 or younger. This group of young immigrants is referred to as the 1.5 generation, and other research has shown that it often displays outcomes similar to that of the true second generation.

The raw data suggest a large and increasing (unconditional) positive gap from the 1960s to the 1980s cohorts in the university completion rate between the 1.5 generation and the third-and-higher generations. This increasing positive gap across cohorts is driven primarily by the shift towards increasing numbers of immigrants from Asian countries; they tend to send their children to university at a much higher rate than do other groups, as noted above. Regarding the effect of the decline in family income between the 1960s and 1980s immigrant cohorts, this had only a very small (and at times statistically insignificant) effect on the educational attainment of the children of immigrants.⁷ This result is consistent with the above-mentioned evidence, which suggests that family income has only a minor effect on the educational attainment of the children of immigrant families. The results also suggest that the deterioration in earnings among entering immigrants over the 1980s to early 2000s may have a small negative effect on the educational outcomes of their children. However, the educational attainment of immigrants to Canada rose dramatically in the 1990s, and this positive effect on their children's educational outcomes may more than offset any negative effect from declining family income.

2.3 Summary

The children of immigrants in Canada (second-generation Canadians) have a significantly higher level of educational attainment than the children of Canadian-born parents (third-and-higher generations), on the basis of the unadjusted raw data. This higher level of educational achievement is most noticeable among the visible-minority second generation. There is significant variation among ethnic/source region groups; children from Chinese and South Asian immigrant families register the highest educational attainment. However, very few second-generation ethnic groups do not outperform, educationally, the third-and-higher generations. Immigrants to Canada are more highly educated than the Canadian-born population as a whole, and this higher parental education accounts for perhaps one-half of the (numerically positive) educational attainment gap between the second generation and the third-and-higher generations. Location of residence is important, as the second generation lives disproportionately in large urban areas, where educational attainment is higher. "Ethnic capital,"

6. These results suggest that the explanatory variables employed account for only part of the gap between the second and the third-and-higher generations. These results do not mean, however, that these variables are not strong determinants of the likelihood of attending university (rather than strong determinants of the gap in this likelihood). For example, in the model with all controls except grades and expectations, a child whose parent has a BA is 28.4 percentage points more likely to attend university than someone with a high-school-educated parent. Even with grades and expectations included, this coefficient remains at 20.8 percentage points. Unfortunately, this model is estimated for the entire population, and typically in this type of analysis one is unable to determine whether there is any difference, regarding the effect of parents' education, between the second generation and the third-and-higher generations.

7. As the authors point out, this does not necessarily mean that this effect is causal; unobserved differences in abilities of immigrants across successive cohorts may be resulting in both lower immigrant earnings and a smaller university completion rate among their children.

typically measured by the educational and income levels of the group as a whole, plays a role, accounting for perhaps one-quarter of the gap, and likely much of the inter-source region group differences in educational outcomes. Parents' expectations also play a role, perhaps a significant one, although the research on this point is sparse. Nevertheless, much of the gap persists even after adjusting the data for all of these effects, particularly among the higher achieving ethnic/source region groups, such as the second generation with Chinese and South Asian immigrant parents, two of the larger immigrant groups in recent decades.

The effect of parents' education on the educational attainment of the children is weaker among families with immigrant, rather than Canadian-born, parents. Put another way, the intergenerational transmission of education is weaker (only about one-third as strong) among immigrant families than among Canadian-born families. This weaker association results largely from the fact that children from less educated immigrant families are more likely to achieve a higher level of education than are their Canadian-born counterparts from families with similar (low) levels of education. This is a positive effect for immigrant families, since lower educational levels of the parents are less likely to be passed on to the children of immigrants than is the case for the children with Canadian-born parents. As regards the effect of parents' income on the educational outcomes of the children, it is well known that, in general, after accounting for the education of the parents, parents' income has only a weak effect on the educational outcomes of the children. In immigrant families, this result appears to be even more pronounced, since family income is found to have little effect on the educational outcome of the children (after controls for parents' education and other factors) and little effect on the intergenerational transmission of education.

Finally, the positive (unconditional) educational attainment gap between the second generation and the third-and-higher generations appears to have grown between the 1960s and 1980s entering immigrant cohorts (on the basis of evidence using the 1.5 generation as a proxy for the second generation). The rising positive gap was driven primarily by the rising share of Asians and other visible minorities among the entering immigrant population. These groups are more likely to send their children to university than immigrants from other source countries. This increase in the positive gap may continue in the future, for reasons discussed in the conclusion.

3 Educational outcomes among the children of immigrants in the U.S.

3.1 The educational attainment gap between the second generation and the third-and-higher generations

The second generation (the U.S.-born children of immigrants) is found to achieve levels of educational attainment similar to those of the third-and-higher generations when unconditional comparisons (no controls) are made (see Card, DiNardo, and Estes 2000). Using data from the 1940s to the mid 1990s for those aged 16 to 66, Card, DiNardo, and Estes find that both the mean number of years of education and the distribution of educational attainment between these two groups are very similar. Furthermore, this similarity has been long lasting, observed in the 1940, 1970, and mid-1990s data (Card, DiNardo, and Estes 2000).⁸ Using Current Population Survey (CPS) data from the mid 1990s, Chiswick and DebBurman (2004) find that the second generation has a slightly higher level of educational attainment, 0.5 years more than the third-and-higher generations. Card (2005) also finds a 0.4 year advantage for second-generation over third-and-higher-generation immigrants, after controlling for age only. Using more recent CPS data (from the early 2000s), Aydemir and Sweetman (2007) find that (unconditional) years of schooling are roughly the same between the two generations.

However, Card, DiNardo and Estes (2000) find that conditional on parental background, second-generation Americans have higher levels of education than the third-and-higher generations. Other things equal (notably parents' education), being a child of an immigrant parent in the U.S. tends to result in higher educational outcomes. Card (2005) shows that second-generation sons whose fathers had as little as 10.4 years of schooling (well below the mean) ended up ahead of their third-and-higher-generation counterparts. Furthermore, the sons of Mexican immigrants who had very low levels of schooling (5.5 years less than domestic-born fathers) ended up with 12.2 years of schooling, closing 80% of the education gap with the third-and-higher generations faced by their fathers.⁹ These findings are consistent with those for Canada by Bonikowska (2008), who finds that the educational advantage of the second generation is driven by sons and daughters from families with lower levels of educational attainment. However, even after controlling for family background, notably parents' education, the second generation outperforms the third-and-higher generations educationally in the U.S. (Card 2005). The low educational attainment of the parents in Mexican and other Hispanic immigrant families remains an important feature of the immigrant landscape. It has important implications for the educational outcomes of future cohorts of second-generation Americans. This issue is discussed in the conclusion.

3.2 Ethnic group differences

The American sociological literature, concerned with a host of second-generation outcomes, including educational outcomes, turns to the theory of "segmented assimilation." This theory predicts that some second-generation ethnic groups will experience very different outcomes (see Portes and Fernandez-Kelly 2008, Zhou 1997, and Zhou et al. 2008). The theory outlines exogenous factors at play and the principal barriers confronting immigrant children, and produces predictions of the path (upward or downward) that may be followed by the second

8. Interestingly, the educational attainment of immigrants (the first generation) is lower than those of the third-and-higher generations in the U.S., while in Canada it is higher.

9. The mean level of education of third-and-higher generations sons is 13.3 years (14.4 for daughters), and it was 12.2 for second-generation male Mexicans (12.4 for females).

generation of a particular ethnic group, as determined by these two earlier components. These components are defined as follows:

A) Exogenous factors (important determinants of outcomes of the children of immigrants)

- human capital of parents
- social context that immigrant groups face
- composition of the immigrant family (single-parent vs. two-parent family)

B) Barriers

- possible discrimination
- “bifurcated” labour markets (a “hollowing out” of the occupational structure, with fewer middle-earning jobs and more low-paid and high-paid jobs).
- lifestyle choices

This theory is driven by the particular context that exists in the U.S. Boyd (2002), for example, has argued that it does not apply to Canada. The theory predicts significant variation in outcomes by ethnic group. Portes and Fernandez-Kelly (2008) note that parents’ human capital and family socio-economic status (SES) are closely associated with national origins in the U.S.: high human capital immigrants come predominantly from China, India, the Philippines, and South Korea. Low human capital immigrants originate from nearby Latin American and Caribbean nations, particularly Mexico. Hence, second-generation outcomes are stratified along these lines.

In contrast, Zhou et al. (2008) point out that one has to be careful of such generalizations. Most children of newcomers in the “new” immigration (since the early 1970s), consisting of a much larger proportion of visible-minority groups, achieve rates of social and economic mobility that are comparable to, or better than, those of earlier waves of European immigrants (Alba and Nee 2003; Bean and Stevens 2003). For example, recent data suggest that Mexican immigrants have made considerable gains over three generations in narrowing the educational and income gaps with U.S.-born Whites (Perlmann and Waldinger 1997; Smith 2003).¹⁰ As well, as noted above, conditional on parents’ background characteristics, on average, the children of Mexican immigrants educationally outperform the children of the third-and-higher generations.

Zhou (1997), in a review of the sociological literature, asks what constituted some of the major determinants of the educational attainment of contemporary second-generation Americans. Parents’ socio-economic status (measured by educational attainment and occupation) clearly mattered. However, Steinberg (1996) found that ethnicity played a strong role, even after accounting for explanatory variables such as the payoff of schooling, peer group effects, and attributional styles. This tendency of ethnicity, even after controls, to strongly affect schooling outcomes has been an enduring puzzle in the sociological literature (Feliciano 2005). In her review, Zhou (1997) points to other important determinants of second-generation educational outcomes, including family structure. Children of immigrants from two-parent families demonstrate higher academic achievement and stronger educational aspirations than those from single-parent families (Rumbaut 1994 and 1997, and Portes 1995). In addition, describing factors that resemble what economists would call “ethnic capital,” Zhou (1997), for example, contends that, the greater the involvement in one’s ethnic community, the tighter the ethnic community, and that, the greater the conformity to the group’s expectations, the superior the outcomes. She argues that community characteristics such as persistence in the bottom economic stratum, particularly for Mexicans, and discrimination encountered in childhood play an important role (Ogbu 1991; Perlmann and Waldinger 1997; Portes and MacLeod 1999).

10. Labour market outcomes of these groups are discussed in more detail in a companion paper (Picot and Hou 2011).

Using data from the Children of Immigrants Longitudinal Study in California, Rumbaut (2005) assesses the determinants of the number of years of schooling for these children in 2005, on the basis of their characteristics as reported during the 1991-to-1995 period. Rumbaut employs four groups of variables: basic characteristics,¹¹ family SES context,¹² educational expectations, and early academic achievement scores. Parental socio-economic status is significant, even after controls for expectations and early academic achievement. Ethnic group differences¹³ persist even after controlling for family context (parents' education, proportion of single parents, etc.), just as they did in Canada.

Rumbaut (2005) finds that the children of Mexican immigrant parents receive less schooling, and the Vietnamese the most schooling, even after controls for family background. However, many of these ethnic group differences become insignificant or marginally significant when parents' expectations and students' efforts are added to the regression. This finding suggests that these variables may account for much of the intergroup differences that persist after controlling for the basic variables such as parents education and family type. This was not the case in the Canadian research reported earlier, however. Educational expectations is a strongly significant variable (within the context of many other controls), as are, not surprisingly, early educational achievement scores.

The above-reported results are based on sociological research. Economists have also noted the heterogeneity in education and earnings outcomes by source region background of the children's parents. Card, DiNardo and Estes (2000) show that, in the mid-1990s, male second-generation Americans whose parents were from Mexico and other Central/South American countries had fewer average years of education (unconditional) than the third-and-higher generations (11.7 vs. 13.0). Those children whose parents were from Europe (13.8), Asia (13.5), and the Caribbean/ Africa (13.2) had more years of education. The same general pattern is evident among immigrants themselves (the first generation who are the potential parents of the second generation). Those from Mexico and other Central/South American countries have fewer years of education, while those from the other three regions exhibited higher levels.

Since educational attainment of the parents is a major determinant of the educational outcomes of the children, the low levels of parental educational attainment among Central/South American parents is clearly significant, as suggested by the "segmented assimilation" theory. It is also significant in the U.S. because the share of immigrants from Central/South America has been rising, increasing from 14% in 1970 to 42% by the mid 1990s (Card, DiNardo and Estes 2000). Hence the share of the second generation with parents from these countries (parents who tend to have low levels of educational attainment) will increase in the future. Lower levels of educational attainment among the immigrant parents have tended to result in lower levels of education among the second-generation children in the U.S.

3.3 The intergenerational transmission of education among immigrant families

The degree of upward educational mobility between immigrant parents and their children is one of the most important determinants of immigrant economic integration in the long run. A high degree of intergenerational "stickiness" among groups where the immigrant parents have low educational levels will result in relatively poor educational outcomes for the children.

11. Age, education, and ethnicity.

12. Parental SES, including education and occupation, family type, and number of children.

13. Mexican, Cambodian, Filipino, and Vietnamese compared to Asian reference group.

Overall, the degree of “stickiness” in the intergenerational transmission of education among immigrants appears to be similar to, or somewhat higher than, that of American-born families. The intergenerational correlations of education (the extent to which the child’s education is dependent on the father’s) were in the 0.40 to 0.45 range, and changed little over the two periods covered, 1940–70, and 1970–95 (Card, DiNardo and Estes 2000). This means that between 40% and 45% of the educational advantage (or disadvantage) of the parent is passed on to the child. More recent work by Card (2005) suggests an intergenerational correlation in education of around 0.30 for immigrant families, about the same as among the American-born population. The lower intergenerational correlation of education means that the rate of educational assimilation (1 minus the correlation) may be increasing among more recent cohorts of immigrants to the U.S.

Card, DiNardo and Estes (2000) find that, at least for the transmission between immigrant parents in 1970 to their children in 1995, it is the fathers’ education, not the fathers’ earnings, that matters to their children’s educational attainment. Fathers’ earnings exerted no influence on the educational and labour market outcomes of the second generation, after controls for fathers’ education were applied. This is consistent with other recent Canadian research suggesting that family income had little effect on the intergenerational transmission of education among immigrants (Aydemir, Chen, and Corak 2008).

The degree of educational mobility appears to be higher in Canada than in the U.S. Aydemir, Chen, and Corak (2008) found only a weak association between the educational attainment of immigrant parents and that of their children, and estimated intergenerational correlations of education in the 0.13-to-0.16 range (i.e., only about 15% of the educational advantage or disadvantage of the parent was passed on to the child). Intergenerational educational mobility was higher among members of this group than among their U.S. counterparts, and perhaps more importantly, higher than among the third-and-higher generations in Canada.

Smith (2003) looked at educational and wage integration across generations for the Hispanics in the U.S. It is among this population that sociologists in particular have been concerned about poorer educational outcomes. This concern is related to the notion that, as a result of low parental education levels and the preponderance of single-parent families, these particular groups are not likely to integrate towards the middle class, and demonstrate little advancement intergenerationally. Smith contends that this view is based on a misinterpretation of the data. He notes that *cross-sectional* data on the first and second generations of Hispanics indeed show little intergenerational gains in educational attainment or wages.¹⁴

However, he points out that one needs longitudinal, not cross-sectional data, to study the degree of integration that takes place between the first and second generations. This integration is measured by the change in the educational attainment and/or wage gap between the first or second generations, and the comparison group, the third-and-higher generations. Smith (2003) points out that cross-sectional data are not appropriate because the first generation (immigrants) included in the sample are not the parents of the second generation (the children of immigrants) included in the sample, and hence one is not measuring intergenerational change in assimilation or integration. Smith sets up quasi longitudinal data by creating 25-year lags between the parents and the children (as adults) to approximate a comparison of the first-generation parents with their second-generation children. When the data are set up this way, Smith finds two things. First, there are large educational attainment gains between the first and second generations among Mexicans specifically and among Hispanics in general. For

14. The Smith study compares the first and the second generations with the third-and-higher generations of the same age at any given time, for example, the mid-1990s. The data show that the educational attainment gap with the third-and-higher generations is roughly the same for the first and second generations; this finding suggests that little catch-up has taken place. The same is observed for the wage gaps with the third-and-higher generations.

example, Mexican immigrants born between 1945 and 1949 had 7.8 years of schooling, while their American-born sons had 12.1 years. The same was true for Hispanics as a whole. Blau and Kahn (2005) also concluded that the educational attainment of Mexican-Americans increases substantially between the first and second generations. This finding is not unexpected, since intergenerational educational attainment was rising for the American population as a whole over this period.

Of more interest is the comparison of both first-generation and second-generation Hispanics to third-and-higher-generation White men. Smith (2003) finds a declining (negative) educational attainment gap. For example, among this same cohort of immigrant Mexicans born between 1945 and 1949, the age-adjusted educational attainment gap with the third-and-higher-generation Whites was 5.6 years of education for the immigrant parents (a deficit) and only 1.0 years for their American-born children. For Hispanics as a whole, the comparable numbers were 3.8 and 0.7. Hence, unlike the cross sectional data, which showed little difference in the educational attainment gap between the first and second generations, compared with the third-and-higher generations, the longitudinal data demonstrate a major closing of the gap intergenerationally.

3.4 Summary

On average, American children with immigrant parents have (unadjusted) educational attainment levels roughly equal to, or marginally higher than, those of the children of American-born parents. However, parental educational attainment is lower, in the aggregate, among immigrant families than American-born families. Hence, on the basis of adjusted data (accounting for differences in parents educational attainment, location, family status, and other variables), the second generation is seen to outperform the third-and-higher generations educationally.

In Canada, there are significant ethnic group/country of origin differences. In the U.S., Latin American and Caribbean immigrants have significantly fewer years of schooling than immigrants from China, India, the Philippines, and South Korea, for example. These differences result in the inter-ethnic group differences in the educational attainment of the children of immigrants. However, even after accounting for ethnic group differences in family background and other standard variables, much of the ethnic group difference in educational attainment of the children persists in the U.S., just as it does in Canada.

The American sociological literature turns to the theory of “segmented assimilation” for guidance regarding a host of outcomes of the children of immigrants, including educational attainment. Like economists, sociologists find parents’ education and socio-economic status important, but, even after accounting for these factors, they observe that differences in educational outcomes among ethnic groups persist. Parental expectations regarding educational attainment appears to play a major role, as does family status: second-generation children from two-parent families are observed to have higher levels of education.

The extent to which the parents’ advantage (or disadvantage) in educational attainment is passed on to their children appears to be about the same (or marginally greater) among immigrant as among American-born families, but is greater than that observed among immigrant families in Canada. There may be dimensions of the Canadian education system that result in higher levels of educational mobility between generations; it is seen among both the Canadian-born and the immigrant community. As in the Canadian case, some U.S. research suggests that within the second generation in that country the major intergenerational educational gains are made by children whose parents have very low levels of education. Also as seen in Canada, it is

the parents' education, not the parents' income, that is the primary determinant of educational outcomes of the children.

Much of the concern regarding the educational outcomes of the second generation in the U.S. focuses on the Hispanic immigrant community. However, significant gains in relative educational attainment (relative to the third-and-higher generations) are observed as one moves from the immigrants themselves, to their children, and even to the third-and-higher generations. Nonetheless, the low levels of educational attainment among Hispanic immigrants have been associated with lower levels of education among their second-generation children, in spite of the gains that they are making.

4 A summary of determinants

The determinants of second-generation *educational* outcomes suggested by this review include the following:

- Parental educational attainment

This variable accounts for perhaps half of the positive unadjusted gap in educational attainment between the second generation and the third-and-higher generations in Canada. After adjusting for parental educational attainment, a positive gap develops between the second generation and the third-and-higher generations in the U.S. While parents' education is major determinant of the outcomes of children of immigrant families, its effect on the children's educational outcomes is less among immigrant families than domestic-born families, at least in Canada. Growing up in a family with less educated parents appears to be less of a disadvantage among immigrant groups than among the Canadian-born.

- Location of residence

Families living in large urban areas tend to have higher levels of educational attainment than others. The second generation tends to live in such urban areas.

- Ethnic capital

Usually measured by the ethnic group's average education and income, this variable may account for one-quarter of the gap between the second generation and the third-and-higher generations.

- Ethnic group/Source region/Visible-minority status

Even after adjusting for variables such as those mentioned above, ethnic group differences in educational attainment persist among the second generation. Blacks (in Canada) and Hispanics (in the U.S.) tend to have lower levels of educational attainment, and Asians higher levels.

- Parental expectations

This variable is used in selected American and Canadian research. Its effect persists even after accounting for parental educational attainment, and in at least one study, is seen to be as important (Rumbaut 2005). In another study, it accounted for a significant share of the ethnic group differences in second-generation outcomes (Finnie and Mueller 2010).

- Family type and composition

The American sociological literature suggests that children from two-parent immigrant families demonstrate higher levels of academic achievement and stronger educational aspirations than those from single-parent families. This variable is seen as particularly important among Blacks and Hispanic ethnic groups.

5 Conclusion

Conditional on family background, location, and other basic demographic variables, the children of immigrants attain higher levels of education than children with domestic-born parents in both countries. Unconditionally, the second generation attains levels much higher than those of the third-and-higher generations in Canada and levels roughly equal to those of the third-and-higher generations in the U.S. There is significant variation by ethnic group in both countries, driven in part by differences in the parents' educational attainment, "ethnic capital," family composition, and possibly parents' expectations regarding higher education. However, even after accounting for the effects of such variables, inter-ethnic group differences remain. Nevertheless, in Canada, there are few second-generation ethnic groups that do not educationally outperform the third-and-higher generations, while in the U.S., those with Mexican, and other Central/South American backgrounds attain, unconditionally, lower levels of education than the third-and-higher generations. The shift in source regions/ethnic groups over time is a major part of the story regarding changes in educational outcomes of the children in both countries.

During the 1970s and 1980s in particular, there was a major shift in immigrant source regions in both countries. In Canada, this meant an increased share of immigrants from Asia (notably China and South Asia) and Africa; in the U.S., this translated into increasing shares from Mexico and other Central/South American countries (Appendix Text table 1). At the same time, Canada moved to a "points" system for skilled economic migrants, which emphasized educational attainment. This change resulted in an immigrant inflow with educational levels higher than those of the Canadian-born population. In the U.S., immigration is driven primarily by family reunification objectives, where education is not necessarily accentuated. Hence, educational levels are lower. These differences hold important implications for second-generation outcomes, given the importance of parental education as a determinant of the children's educational attainment.

For the larger source region immigrant groups in the U.S., the educational level of the parents is below that of the American-born population. Thus, some of the larger second-generation groups register, unconditionally, relatively low levels of education compared to the third-and-higher generations, notably those with Mexican and other Central/South American backgrounds. This holds even though, conditional on family backgrounds, these same groups achieve levels of education similar to those of third-and-higher-generation Whites.

Canada faces a very different situation because the children of the major immigrant ethnic groups (Chinese, South Asians, etc.) come, on average, from families with high levels of educational attainment, usually higher than those of Canadian families in general. These immigrant groups also have high levels of "ethnic capital." In addition, there may be some characteristics of the Canadian education system that promote educational mobility among generations, particularly upward mobility in less educated families. For example, although in general Americans are more likely to attend university than Canadians, Canadians from lower income families (the bottom quartile of the family income distribution) are more likely to attend university than their American counterparts.¹⁵

The overall result of all of these factors is a very high level of educational attainment among second-generation immigrants in Canada, particularly the visible-minority groups. And in Canada future immigrant parents of second-generation children are even more highly educated

15. There may be a number of reasons for this. The more obvious ones might include a more homogeneous elementary-secondary school system in Canada that likely provides a more comparable education to rich and poor families alike, the method of school funding, which, being provincial, tends to distribute resource more equitably to rich and poor neighbourhoods alike, unlike the situation where funding is local, and, finally, possibly some differences between the two countries in student loan and financing arrangements.

and more likely to come from countries with high “ethnic capital”, given the change in characteristics of entering immigrants over the 1990s and 2000s. Trends in the U.S. are different. There has not been an overall increase in educational attainment among future immigrant parents of second-generation children (i.e. recent immigrants entering during the 1990s and 2000s), and they have increasingly come from Mexico and other Central/South American countries, with lower levels of education.

Appendix 1

Text table 1

Composition of source regions and educational attainment of new immigrants aged 25 to 54 in the United States and Canada

	Men				Women			
	1980	1990	2000	2005	1980	1990	2000	2005
	percent							
United States								
Source region								
North America	2.6	2.0	2.6	1.8	2.8	2.1	2.8	2.1
Carribbean	7.0	7.2	6.9	5.1	7.6	7.7	7.8	6.2
South and Central America	25.1	32.2	40.6	49.3	24.8	30.9	36.6	40.9
Northern Europe	4.4	3.9	3.3	2.6	4.4	3.5	2.7	2.1
Western Europe	2.7	2.5	3.0	2.2	3.4	2.9	2.9	2.0
Southern Europe	4.5	1.9	1.7	1.3	3.8	1.5	1.6	1.2
Eastern Europe	6.0	6.2	7.7	5.5	6.0	5.8	8.7	7.0
Africa	3.9	3.9	5.8	5.9	2.1	2.3	5.0	5.5
South Asia	5.4	5.6	8.7	8.5	4.1	4.1	7.1	7.2
Southeast Asia	13.4	9.3	5.6	5.2	16.2	13.7	8.4	9.4
East Asia	12.8	15.6	10.4	9.1	14.4	17.2	12.9	12.7
West Asia	6.4	4.4	2.9	2.5	4.8	3.7	2.6	2.6
Oceania and other	5.8	5.2	0.9	1.0	5.6	4.6	1.0	1.1
With a university degree	33.0	33.9	36.3	35.0	19.7	26.0	32.3	36.0
Canada								
Source region								
North America	6.9	2.4	1.6	1.9	7.9	3.5	2.1	2.4
Carribbean	6.8	4.5	3.0	2.9	7.2	6.0	3.6	3.2
South and Central America	6.4	8.8	4.4	7.2	6.6	9.2	5.2	7.7
Northern Europe	17.3	4.7	2.6	3.0	15.0	4.9	2.0	2.1
Western Europe	5.7	2.5	3.6	3.4	5.6	2.7	3.2	2.7
Southern Europe	7.9	5.3	5.3	2.4	7.2	4.3	4.8	2.1
Eastern Europe	5.7	12.9	10.3	9.9	5.5	11.3	11.0	10.8
Africa	6.5	8.6	9.6	12.7	5.4	5.8	7.4	9.7
South Asia	6.2	9.8	18.7	20.3	6.9	7.3	15.1	17.8
Southeast Asia	14.9	11.2	6.5	7.2	15.6	15.7	9.9	10.5
East Asia	10.0	19.2	25.1	20.4	11.9	21.4	27.9	23.1
West Asia	4.4	9.3	8.6	8.0	3.6	7.1	7.3	7.2
Oceania and other	1.5	0.7	0.6	0.8	1.5	0.7	0.5	0.6
With a university degree	26.2	28.2	52.9	59.7	16.4	21.1	41.7	51.1

Note: New immigrants include those who immigrated to Canada within the previous 5 years.

Source: Bonikowska, Hou and Picot (2011), Census of Population, Canada and United States.

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