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The "Negative" Assimilation of Immigrants: a Counter-Example from the Canadian Labor Market

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Abstract With Canadian data ranging from 1991 to 2011, this paper investigates the effects of the number of years since migration on the earnings of immigrants from the United States and the United Kingdom in Canada. The aim is to test whether the "negative assimilation" hypothesis proposed by Chiswick and Miller (Ind Labor Relat Rev 64(3):502–525, 2011) for immigrants to the United States is a universal finding for immigrants from countries with similar economic standing and skill transferability to those of the destination country. We also expand on Chiswick and Miller's work by doing regressions for both males and females and by comparing to Chinese immigrants, a representative group from a less developed country. We find that the negative assimilation hypothesis does *not* hold for the Canadian labor market. Specifically, the assimilation rate is close to zero for U.K. immigrants and strictly positive for U.S. immigrants (although lower than that of a comparison group of Chinese immigrants). The assimilation rates are also higher for females than for males.

Keywords Immigrants · Negative assimilation · Canada · Skill transferability

JEL Classifications J15 · J24 · j61

Introduction

The research on the labor market assimilation of immigrants has consistently found that the economic performance of immigrants generally shows *positive* assimilation, i.e., they improve their economic status over time (see, for example, Chiswick 1978;

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Bloom et al. 1995; Aydemir and Skuterud 2005; and Campolieti et al. 2013). This is because, as time goes on, immigrants invest in human capital that is specific to the new country, such as learning the language and becoming familiar with the labor market practices and institutions. However, a recent article by Chiswick and Miller (2011, hereafter CM) found that, in certain circumstances, *negative* assimilation may occur, in which case the earnings decline with duration in the destination country. According to CM, the model of negative assimilation is applicable only to immigrants from developed countries with similar culture, language, and labor market practices to those of the host society.

Earnings may decrease with duration in the host society because the economic rent that motivated the initial migration declines over time. For instance, those immigrants who experience negative assimilation are likely to be a selected group of individuals in the first place, who were attracted to the destination country because of higher returns to their skills than expected elsewhere. The relatively high wage that motivated their initial migration, however, may not last indefinitely. Additionally, the decline may indicate a selection bias in return migration. Those migrants who come with globally transferable skills may not stay long in the destination country, especially when they see the economic rent decline as time passes; they have the ability to move to another country to pursue better opportunities. This mobility pattern may lead to a gradual reduction in the observed immigrants' average wages by leaving behind those who are less able to receive higher wages elsewhere. The selection bias can also reflect the growing costs of return migration over time. The immigrants who stay in the host country are likely to form families or establish new personal networks and it becomes more difficult for them to move back or onward.

CM found evidence of negative assimilation for some English-speaking immigrants in the United States and Australia, and for some Scandinavian language-speaking immigrants in Sweden, using the U.S. Census, the Australian Census, and the SIEPS (Swedish Institute for European Policy Studies) database.

One may wonder whether English-speaking immigrants to Canada also show negative assimilation. There are both similarities and differences between the Canadian and the U.S. immigrant labor markets. Canada and the U.S. are similar in many fundamental aspects, such as having democratic governments, having English as primary language (although the U.S. and Canada have significant minorities of Spanish-speakers and French-speakers respectively), being both former British colonies from which they share many fundamental beliefs and ideas, and being both large immigration countries. However, they are also different in their immigration policies, labor market institutions, tax rates and social protection systems. Canadian immigration policy in recent decades has been based on a "point system", whose goal is to match the inflow of skilled immigrants to the observed shortages of the Canadian labor market. It is different from the family reunification emphasis of the U.S. immigration policy. The differences between the policies of the two countries affect the composition of immigration by source country and the self-selection behavior of immigrants. In addition to the differences in immigration policy, structural and institutional dissimilarities in the labor markets of the two countries are likely to influence the type of immigrants who are attracted to each destination. With better-established labor unions, higher minimum wages, and more generous national health insurance, employment insurance and welfare systems, workers in the lower end of the income

distribution are generally better off in Canada than in the United States (Borjas 1993; Antecol et al. 2003; Hunt and Mueller 2013).

Furthermore, although both countries have experienced a widening in income inequality over the past three decades, in the United States real incomes have fallen dramatically for less-skilled workers, whereas, in Canada, the decline in the bottom half of the income distribution has been much more moderate (Freeman and Katz 1994; Ross et al. 2000; Foster and Wolfson 2010).

This paper tests the negative assimilation hypothesis with a sample of United States and United Kingdom immigrants in Canada. We use four databases: the 1991, 2001 and 2006 Canadian censuses, and the 2011 National Household Survey. This time period partly overlaps the one of CM, who studied the years 1980, 1990 and 2000, but it also contains the more relevant recent period. Furthermore, the U.S. and U.K. immigrants are compared to Chinese immigrants, a representative group of non-English speaking immigrants from a less developed country for which we expect positive assimilation. Unlike CM who did their analysis only for males, we consider both males and females separately as well as in regressions for both genders combined. The factors that lead to negative assimilation may differ between male and female immigrants and it is interesting to compare their estimated assimilation rates. For instance, in a family investment model, immigrant wives may play a supportive role while the major investments in human capital are made by the husbands. Thus, we would expect to see less negative assimilation for females than for males if immigrant wives play such a role.

From this analysis, we find that negative assimilation does *not* occur in the Canadian labor market. The result for the U.K. immigrants is that the assimilation rate is at the border between positive and negative assimilation. For the U.S. immigrants, there is a significant positive assimilation, but the rate is much lower than that of the comparison group of Chinese immigrants.

The next section of this paper introduces the data, the variables and the models that are estimated. The core part of the analysis presents the results. This is followed by a discussion of the possible explanations of our findings. The last section is a conclusion that summarizes the key findings of this study.

Data and Methodology

We employ the public use microdata on individuals from the 1991, 2001 and 2006 Canadian censuses, and from the 2011 National Household Survey (NHS).[1] We focus on the United States, United Kingdom and Chinese immigrants to test whether "negative" assimilation exists in the Canadian labor market. The data include individuals aged 25 to 64 years who reported having positive wages and salaries during the year preceding the data collection. Our model is based on the standard concept of economic assimilation and is specified empirically as in Chiswick (1978), CM and

[1] We do not use the restricted confidential microdata for this research since the groups of immigrants and the variables that we use are clearly identified in the public use data. Since the groups of immigrants that we are analyzing are important within the immigrant populations, the sample sizes that we have are large enough to do a satisfactory analysis.

many others. The dependent variable is the natural logarithm of individual earnings during the previous year.[2]

The model stipulates that human capital accumulated in the host society, commonly measured as the number of years since migration (YSM), is a key predictor of immigrant earnings. In the Canadian data, the variable YSM is derived from the information on the year during which an immigrant landed. Unlike the U.S. public use data used by CM in which the number of categories for period of immigration is small, the Canadian data provide single years of landing for the recent immigrants and groupings of two- to five-year categories for most of the older immigrants. The groupings are not exactly the same for all data sets, but they are fine enough not to cause major problems in estimating the number of years since migration.[3]

The other variables in our model are the usual ones of the human capital earnings function. We use years of schooling[4] and potential experience (defined as age minus schooling minus 6) and its square. Marital status is a dummy variable that takes the value one if someone is currently married or living with a common-law partner, and the value zero otherwise.

Gender is another dummy variable taking the value of one for females and the value of zero for males. Unlike CM who did their analysis only for males, our regressions are done separately for each gender and for both genders together. Actually, adding women to the analysis may provide interesting insight in the context of the negative assimilation hypothesis. In a standard family investment immigration model, it is often assumed that females play a supportive role in the family while the major investments in human capital are made by the males. Consequently, assimilation would be faster for males than for females. Baker and Benjamin (1997) provided some evidence to that effect. In the context of potential negative assimilation, the situation is different: if males are more likely than females to receive the high wage offers that lead to migration and that females are tied movers, then we would expect the negative assimilation hypothesis to apply less to females than to males. However, given the trend towards gender equality (at least for the recent periods), it may no longer be true that females play a subsidiary role in the family (Adserà and Ferrer 2014). In any case, given the potential differences in assimilation by gender, we do our analysis separately for males and females.

Since the dependent variable is the annual earnings, independent variables for the amount of time worked must be included. Therefore, the log of the number of weeks worked during the year and a dummy variable for part-time versus full-time during the

[2] Only positive earnings are included. As often done in earnings regressions, some outliers are removed. Very low wages (less than $500 a year) and very large wages (more than $200,000 a year) are dropped to minimize the problem of outliers in the data.

[3] More precisely, counting both single and multiple year categories, there are 27 categories for year of immigration in the 1991 census, 36 in the 2001 census, 34 in the 2006 census and 29 in the 2011 NHS. In 1991 and 2001, there is an exception for people living in the Atlantic Provinces where the numbers of categories are respectively 4 and 8. However, this is not a major problem since a very small number of immigrants reside in those provinces. When the period of immigration was a range of years, we took the midpoints of the period to estimate years since migration.

[4] Schooling is measured in years in the 1991 and 2001 censuses, but in 2006 and 2011, it is measured in levels. We assigned a number of years based on the highest degree received. From the variable hdgree in the codebook we have: (*hdgree* = 1) 8 years, (*hdgree* = 2) 12 years, (*hdgree* = 3, 4, 5) 13 years, (*hdgree* = 6, 7) 14 years, (*hdgree* = 8) 15 years, (*hdgree* = 9) 16 years, (*hdgree* = 10) 17 years, (*hdgree* = 12) 18 years, (*hdgree* = 11, 13) 22 years. To make that variable comparable across all our data sets, we also used that definition for 1991 and 2001.

previous year are also included. To account for language skills, a dummy variable is included for individuals who are bilingual in English and French. Finally, a set of dummy variables is included to represent the province or region of residence within Canada (with Ontario as the reference category).[5]

The crucial coefficients of our analysis are those of the variable YSM. In the traditional model, the effect of YSM is specified as a quadratic equation, where the coefficient of YSM is expected to be positive, and the coefficient of YSM squared is expected to be negative, implying that immigrants' earnings improve at a decreasing rate with duration in the host country. This is the traditional pattern of positive assimilation. As in CM, we also specify a simpler model in which YSM enters only linearly. This provides a more direct and straightforward measure of assimilation. If the coefficient of YSM is negative and significant, it shows evidence of negative assimilation, earnings declining with the passage of time in the destination country. This is what CM found with English speaking immigrants in the U.S.

We run the regressions for the two countries from which English-speaking immigrants in our sample originate – the U.S. and the U.K., first together and then separately for the U.S. and the U.K. This is accompanied with a regression on Chinese immigrants as a point of comparison with the previous two countries. As we expect positive assimilation for the Chinese immigrants, we can see by how much the assimilation rates in the U.S. and U.K. differ from those of a typical developing country.

Descriptive Statistics

Table 1 reports the mean values of some key variables for the various sub-samples. There are substantial differences in wages between workers born in the two developed countries and those born in China. For example, immigrants from the U.K. and the U.S. earn on average $57.1 thousands and $52.4 thousands per year respectively in 2011, while the immigrants from China earn only $39.4 thousands per year. Similar differences are observed in the earlier years. The average age of the U.S. and U.K. immigrants increases during the period, reflecting the general ageing of the population, while the Chinese immigrants' average age remained relatively constant. The average U.S. immigrant in 2011 has about 15 years of schooling and it did not change much during the period. The same is true for the U.K. immigrants with a slightly lower level of schooling. In contrast, the education of the Chinese immigrants increased substantially during the period, an indication of the immigration policy that favoured highly skilled immigrants. The U.S. and U.K immigrants have been in Canada longer than the Chinese immigrants, around 30 years on average in 2011, compared to only 13 years for the Chinese. Over the period, the average number of years since migration increased for the U.S. and U.K. immigrants, while it decreased for the Chinese immigrants.

[5] The independent variables in our regressions are similar to those of CM, but there are a few small differences. CM use dummy variables for South and Rural to control for region, while we use six categories for the major regions of Canada (Atlantic, Quebec, Ontario, Prairies, Alberta, and British Columbia). For the time worked, we use the log of the number of weeks worked during the previous year as well as an indicator of full-time or part-time; CM use only the log of the number of weeks worked. For language skills, we have a bilingual indicator (in English and French), while CM have indicators for Very Well/Well and Not Well/Not at All knowledge of English (with those who speak only English at home as the reference category).

Table 1 Means of some of the variables in the earnings function, 25 to 64-year-old immigrants with positive earnings from the U.S., the U.K., and China, 1991, 2001 and 2006 census of Canada, 2011 National Household Survey

Variables	US immigrants				UK immigrants				Chinese immigrants			
	1991	2001	2006	2011	1991	2001	2006	2011	1991	2001	2006	2011
Earnings in constant 2011 dollars	46,712	49,045	49,310	52,441	51,470	52,978	53,657	57,149	35,454	33,126	32,982	39,396
Age	41.3	44.3	46.3	47.4	44.5	47.0	48.8	49.5	45.4	42.7	42.8	43.4
Years of schooling	14.5	14.8	14.7	14.8	13.2	13.4	13.8	14.1	11.7	13.5	14.3	14.7
Years Since Migration (YSM)	20.0	24.7	27.2	29.2	25.0	30.1	33.2	33.9	16.1	12.2	12.1	13.3
Weeks worked	44.4	45.8	45.07	45.0	46.5	46.77	45.6	45.4	45.0	42.6	42.2	43.0
Part-time	.172	.207	.189	.186	.142	.160	.159	.158	.097	.132	.135	.138
Married	.777	.764	.825	.796	.794	.764	.798	.777	.870	.854	.851	.818
Gender (female)	.520	.561	.538	.544	.466	.471	.476	.483	.434	.485	.490	.506
Bilingual	.148	.166	.157	.166	.098	.093	.089	.094	.023	.025	.021	.027
Atlantic	.079	.083	.054	.046	.032	.031	.014	.021	*	*	.0004	.003
Quebec	.089	.089	.100	.092	.029	.025	.025	.022	.063	.061	.073	.074
Ontario	.421	.413	.427	.451	.600	.573	.575	.564	.438	.513	.518	.519
Prairies	.054	.054	.039	.040	.039	.039	.028	.025	.043	.021	.006	.017
Alberta	.125	.129	.116	.129	.095	.114	.120	.131	.116	.093	.089	.099
BC	.232	.232	.265	.241	.205	.220	.238	.237	.340	.312	.313	.287
Sample size	3538	3220	2560	2320	11,087	8365	6064	5285	2203	3962	4893	6589

Atlantic: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick; **Prairies:** Manitoba, Saskatchewan

***:** Asterisk indicates that the information is not available because the sample is too small

Source: Censuses of Population of Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

Among the other characteristics, the number of weeks worked is similar for all groups of immigrants, but the U.K. and U.S. immigrants are more likely to work part-time. The U.S. and U.K. immigrants are less likely to be married than the Chinese ones. They are also more likely to be bilingual in English and French than the Chinese immigrants. Finally, the majority of immigrants live in the larger provinces of Ontario, British Columbia and Alberta. However, among the U.S. immigrants, a slightly larger proportion lives in Quebec and in the Atlantic Provinces.

Looking at the sample sizes, there were more than six thousand immigrants from China in our sample in 2011, more than five thousand from the U.K. and more than two thousand from the U.S.[6] The numbers differ across the period, reflecting the changes in the composition of immigration and the ageing of the U.S. and U.K. immigrants who belong to earlier cohorts. In 1991, there were about two thousand immigrants from China in our sample, eleven thousand from the U.K. and three and a half thousands from the U.S.

Estimation of Assimilation Rates

We focus on the assimilation rates, that is, the coefficients of YSM in the human capital earnings regressions. All the regressions control for education, labor market experience and its square, whether currently married or common-law,[7] the log of weeks worked, whether the respondent works full-time or part-time, whether bilingual or not, and place of residence. We do not discuss the coefficients of those variables as they are in line with those usually reported in the literature. Full regressions results are reported in Appendix Tables 8 (U.S. and U.K. immigrants) and 9 (Chinese immigrants) for our sample that combines both genders.[8]

Table 2 reports the coefficients of the years since migration variables for the U.S. and U.K immigrants, along with the t-statistics. Two specifications are reported: the usual one with YSM and YSM squared, and the simpler one with a linear YSM. The model is estimated in turn for males, females, and both genders. In this specification, both countries of origin are put together and a dummy variable is included to show if there is any gap between U.K. and U.S. immigrants.

The most striking result is that, unlike CM's finding, there is no evidence of negative assimilation in any of our sub-samples. The linear specifications show that assimilation rates are positive but small. For the male sample, in all four data bases, immigrants from the U.S. and the U.K. assimilate at a slow rate (between 0.1 % and 0.2 % per year) in the linear specification, but the coefficients are not statistically significant at the 5 % level. The quadratic specification shows that, except for 1991, the usual concave pattern prevails for males, with significant coefficients. In the female sample, the assimilation rates in the linear specification are statistically significant and higher than those of males, although still small, between 0.2 % and 0.6 % per year. The quadratic specification also exhibits the standard concave pattern in all years. The sample that includes

[6] The sample proportions of the public use data are: Censuses of Population of Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF.

[7] One reviewer expressed the concern that marital status may be endogenous. We did the regressions without that variable and the results with respect to years since migration were the same.

[8] Other regressions can be obtained from the authors.

Table 2 Coefficients of years since migration (YSM) in earnings regressions, quadratic and linear specifications, 25 to 64-year-old, immigrants from the U.S. and the U.K., males, females and both genders

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
Males								
YSM	.0010	.001	.007	.001	.011	.002	.010	.001
	(0.35)	(1.36)	(2.32)	(1.42)	(3.72)	(1.63)	(3.57)	(0.52)
$YSM^2/100$	.0002	*	−.010	*	−.016	*	−.017	*
	(0.03)		(1.98)		(3.37)		(3.60)	
UK	.129	.129	.124	.123	.113	.111	.138	.133
	(6.98)	(6.99)	5.33)	(5.29)	(4.27)	(4.18)	(5.03)	(4.84)
Adj R^2	0.364	0.364	0.337	0.336	0.345	0.344	0.316	0.313
Sample Size	7617	7617	5844	5844	4361	4361	3792	3792
Females								
YSM	.009	.002	.010	.003	.016	.006	.009	.004
	(2.78)	(2.66)	(3.15)	(2.77)	(5.39)	(6.03)	(2.77)	(3.97)
$YSM^2/100$	−.013	*	−.014	*	−.017	*	−.008	*
	(2.09)		(2.42)		(3.57)		(1.56)	
UK	.043	.046	−.006	−.007	.091	.089	.052	.049
	(2.12)	(2.26)	(0.27)	(0.30)	(3.64)	(3.53)	(2.00)	(1.89)
Adj R^2	0.443	0.443	0.381	0.380	0.434	0.433	0.431	0.431
Sample size	7008	7008	5741	5741	4263	4263	3813	3813
Both genders								
YSM	.004	.001	.008	.002	.013	.004	.009	.002
	(1.86)	(2.49)	(3.64)	(2.70)	(6.27)	(5.07)	(4.24)	(3.04)

Table 2 (continued)

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
YSM^2/ 100	−.005 (1.20)	*	−.011 (2.96)	*	−.016 (4.83)	*	−.012 (3.43)	*
UK	.091 (6.59)	.092 (6.66)	.054 (3.28)	.053 (3.23)	.107 (5.86)	.105 (5.76)	.091 (4.80)	.087 (4.59)
Adj R^2	0.492	0.492	0.409	0.408	0.422	0.421	0.405	0.404
Sample Size	14,625	14,625	11,585	11,585	8624	8624	7605	7605

Value of heteroskedasticity-consistent t-statistics in parentheses

***:** Asterisk indicates that the variables is not entered in the regression

Notes: The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, and place of residence

See appendix Table 8 for the full sets of result for the sub-sample that includes both genders; other results available from the authors

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

both genders confirms the previous results, with a small but positive assimilation rate of U.S. and U.K. immigrants.

Another interesting result is that the U.K. immigrants earn more than the U.S. immigrants. For males, the gap is between 11 % and 13 %. For females, it is smaller, between 4 % and 9 %. This may reflect differences in which immigrants are selected in the two countries.

The previous regressions assumed the same assimilation rates for both the U.K. and the U.S. immigrants. To further examine the potential differences between the two countries of origin, we now consider them separately. Table 3 reports the coefficients of YSM (in the linear specification) for males, females and both genders. There are indeed differences between the two countries. The U.S. immigrants have a small positive assimilation rate for both males and females (sometimes at the margin of statistical significance). Again, there is no evidence of negative assimilation for them. The situation is different for the U.K. For the males, the assimilation rate is not statistically different from zero in any of the data bases. For females, the assimilation rate is consistently positive, but again it is small. Putting those results together, this may provide a little bit of evidence of negative assimilation, or more appropriately, zero assimilation for the U.K. immigrant males. If the negative assimilation model assumes that males are the primary workers in the migration decisions, then we would expect males to have a lower assimilation rate than females, which is what we observed. Overall, in the sample that includes both genders, the U.K. immigrants exhibit a very small positive assimilation rate, but it is only at the margin of statistical significance.

Comparisons with Chinese Immigrants

To provide a point of comparison to what assimilation rates are expected to be for the majority of immigrants who come from less developed countries, Table 4 reports the same results for immigrants from China.[9] The quadratic specifications show clearly the usual concave pattern, with all the coefficients (except one) being statistically significant at the 5 % level. The linear specification shows high assimilation rates that are between 1 % and 2 % per year. This is consistent with the assimilation patterns usually observed in the literature. We also note that males and females are very similar to each other in terms of assimilation rates. The results of the sample that includes both genders are almost the same as the ones of each gender separately.

This comparison with Chinese immigrants shows that, although our results do not support the hypothesis of negative assimilation for the U.S. and U.K immigrants, they do not entirely negate the existence of the factors that lead to it. Those factors are just not strong enough to cancel the tendency of positive assimilation, as evidenced by the much smaller assimilation rate than the one of the Chinese immigrants. We also found that, for the U.S. and the U.K. immigrants, assimilation rates tend to be higher for

[9] We also did the regressions for immigrants from South Asia (mainly, India, Pakistan and Sri Lanka) which is a group of less developed countries where English is predominantly used. The results were similar to those of Chinese immigrants, indicating that the English language, by itself, is not a major factor that drives negative assimilation.

Table 3 Coefficients of years since migration (YSM) in earnings regressions, linear specification, 25 to 64-year-old, immigrants from the U.S. and the U.K. separately, males, females and both genders

Variable	1991		2001		2006		2011	
	U.S.	U.K.	U.S.	U.K.	U.S.	U.K.	U.S.	U.K.
Males								
YSM	.005	−.0004	.004	.0004	.003	.0008	.003	−.0006
	(2.75)	(0.51)	(2.20)	(0.40)	(1.70)	(0.73)	(1.69)	(0.50)
Adj R^2	0.379	0.353	0.325	0.338	0.376	0.328	0.334	0.303
Sample size	1697	5920	1415	4429	1184	3177	1058	2734
Female								
YSM	.002	.003	.004	.003	.008	.005	.006	.003
	(1.16)	(2.57)	(2.04)	(2.34)	(4.47)	(4.33)	(3.38)	(2.69)
Adj R^2	0.472	0.429	0.395	0.376	0.440	0.425	0.405	0.445
Sample size	1841	5167	1805	3936	1376	2887	1262	2551
Both genders								
Years Since Migration (YSM)	.004	.0008	.004	.001	.006	.003	.004	.001
	(2.83)	(1.16)	(2.98)	(1.69)	(4.46)	(3.14)	(3.31)	(1.42)
Adj R^2	0.488	0.490	0.401	0.412	0.441	0.408	0.394	0.407
Sample Size	3538	11,087	3220	8365	2560	6064	2320	5285

Value of heteroskedasticity-consistent t-statistics in parentheses

Notes: The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, and place of residence

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

Table 4 Coefficients of years since migration (YSM) in earnings regressions, quadratic and linear specifications, 25 to 64-year-old, immigrants from China, males, females and both genders

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
Males								
YSM	.043 (7.40)	.011 (6.08)	.041 (7.31)	.020 (10.22)	.042 (8.22)	.020 (10.67)	.020 (4.65)	.013 (7.79)
YSM^2/ 100	−.079 (−5.81)	*	−.054 (−4.08)	*	−.057 (−4.70)	*	−.018 (−1.87)	*
Adj R^2	0.395	0.379	0.361	0.356	0.428	0.423	0.347	0.346
Sample size	1247	1247	2040	2040	2493	2493	3258	3258
Females								
YSM	.035 (4.85)	.012 (5.33)	.044 (7.92)	.020 (10.54)	.039 (7.86)	.020 (10.87)	.034 (7.59)	.015 (8.90)
YSM^2/ 100	−.063 (3.31)	*	−.058 (4.56)	*	−.048 (4.11)	*	−.049 (4.62)	*
Adj R^2	0.379	0.373	0.415	0.409	0.453	0.450	0.423	0.419
Sample size	956	956	1922	1922	2400	2400	3331	3331
Both genders								
YSM	.040 (8.93)	.011 (8.18)	.042 (10.65)	.020 (14.59)	.040 (11.19)	.020 (15.00)	.027 (8.58)	.014 (11.66)
YSM^2/ 100	−.071 (6.67)	*	−.056 (6.02)	*	−.052 (6.15)	*	−.033 (4.55)	*
Adj R^2	0.415	0.404	0.400	0.395	0.450	0.446	0.398	0.396
Sample Size	2203	2203	3962	3962	4893	4893	6589	6589

Value of heteroskedasticity-consistent t-statistics in parentheses

The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, and place of residence

See appendix Table 9 for the full sets of result the sample that includes both genders; other results available from the authors

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

females than for males, which is what to expect from the negative assimilation hypothesis if females are secondary workers. We did not find such a difference for Chinese immigrants.

Robustness Checks

The results so far suggest that, contrary to what was found by CM, the negative assimilation hypothesis does not apply to immigrants in Canada. The closest case to negative assimilation is the one of the U.K. immigrant whose assimilation rate is very small and actually virtually zero for males. In this section, we provide further tests of our main results.

As noted by CM, the negative assimilation hypothesis, which implies that immigrants get an initially large wage offer which does not persist in the long run, is more relevant for those who arrived as adults than for those who arrived as children. Therefore, we divide our samples in two groups: immigrants who arrived at age 20 years old or more, that is, in their working ages, and those who arrived at age less than 20 years old. For this analysis, we focus on the samples that include both genders[10] and the results are reported in Table 5. Again, there is no evidence of negative assimilation; furthermore, assimilation rates are sometimes higher for the immigrants who arrived as adults than for those who arrived as children, contrary to what the negative assimilation hypothesis would predict.

Another matter is related to language. In our sample, we found that the large majority of immigrants from the U.S. and the U.K. use an official Canadian language at home. However, French plays an important role in the labor market in Quebec. To provide an environment where English is the main labor market language, we redid the estimations by excluding the immigrants who reside in Quebec. The results are reported in Table 6. Comparing the sample sizes to those of Table 3, we can see that the large majority of the immigrants from the U.S. and the U.K. live in the English-speaking provinces. Not surprisingly, the results of Table 6 are very similar to those of Table 3 and do not support the negative assimilation hypothesis.

Finally, as has been shown by Borjas (1985) and many others, assimilation rates estimated from a single cross-sectional data set may not be representative of the true assimilation if the cohorts of immigrants that arrived at different points in time differ in their unobserved attributes. For Canadian immigrants in general, it has been shown that the "quality" of the various cohorts has been decreasing over time (Bloom et al. 1995), which would tend to overestimate the coefficients of YSM in cross-sectional regressions. As a further check, Table 7 shows regression results with pooled samples from the four data sets that includes the Canadian-born and the immigrant workers from the U.S. and the U.K. We provide estimates for the sample that includes both genders, U.S. and U.K. combined, with the data pooled in two different ways. As in CM, we proceed in this manner since the results may depend on the choice of the pooled data sets. In the first one, we pool all four data sets (1991, 2001, 2006 and 2011), and the second one we pool only three of

[10] We also did the estimations for genders separately and they support the results that we report in this section.

Table 5 Coefficients of years since migration (YSM) in earnings regressions, linear specification, 25 to 64-year-old, immigrants from the U.S. and the U.K. separately, immigrants who arrived at age 20 or younger, and immigrants who arrived after age 20, both genders

Variable	1991		2001		2006		2011	
	U.S.	U.K.	U.S.	U.K.	U.S.	U.K.	U.S.	U.K.
Arrived at age less than 20								
Years Since Migration (YSM)	.003	−.002	.006	.0008	−.002	.004	.005	.001
	(0.99)	(1.31)	(1.90)	(0.40)	(0.44)	(1.91)	(1.24)	(0.66)
Adj R^2	0.468	0.491	0.474	0.394	0.392	0.420	0.319	0.413
Sample Size	1249	4482	1385	4523	1144	3532	1153	3251
Arrived at age 20 or more								
Years Since Migration (YSM)	.004	.006	.00010	.006	.009	.007	.001	.002
	(1.57)	(4.36)	(0.03)	(3.05)	(3.42)	(3.11)	(0.35)	(0.86)
Adj R^2	0.499	0.490	0.357	0.433	0.475	0.395	0.455	0.404
Sample Size	2289	6605	1835	3842	1416	2532	1167	2034

Value of heteroskedasticity-consistent t-statistics in parentheses

The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, and place of residence

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

Table 6 Coefficients of years since migration (YSM) in earnings regressions, linear specification, 25 to 64-Year-Old, immigrants from the U.S. and the U.K. separately, both genders, excluding Quebec

Variable	1991		2001		2006		2011	
	U.S.	U.K.	U.S.	U.K	U.S.	U.K.	U.S.	U.K.
Years Since Migration (YSM)	.004 (3.10)	.0008 (1.11)	.004 (3.07)	.001 (1.63)	.006 (4.39)	.002 (2.97)	.004 (3.04)	.001 (1.31)
Adj R^2	0.485	0.487	0.397	0.407	0.440	0.410	0.394	0.405
Sample Size	3222	10,766	2932	8160	2305	5913	2106	5168

Value of heteroskedasticity-consistent t-statistics in parentheses

The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, and place of residence

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

Table 7 Estimates of Cohort Model for Canada, 1991, 2001 and 2006 census, 2011 National Household Survey

Variable	1991 + 2001 + 2006 + 2011 US & UK & Canada		2001 + 2006 + 2011 US & UK & Canada	
	Quadratic	Linear	Quadratic	Linear
constant	6.365 (878.59)	6.365 (878.56)	6.305 (718.53)	6.305 (718.51)
pre1960	−.168 (3.28)	−.175 (3.41)	−.172 (2.34)	−.186 (2.53)
cohort196165	−.162 (3.15)	−.149 (2.89)	−.163 (2.25)	−.141 (1.94)
cohort196670	−.171 (3.36)	−.155 (3.06)	−.194 (2.72)	−.163 (2.30)
cohort197175	−.146 (2.87)	−.131 (2.59)	−.149 (2.11)	−.115 (1.64)
cohort197680	−.137 (2.69)	−.126 (2.47)	−.165 (2.34)	−.135 (1.92)
cohort198185	−.118 (2.29)	−.119 (2.30)	−.143 (2.01)	−.124 (1.76)
cohort198690	−.133 (2.55)	−.149 (2.86)	−.153 (2.15)	−.154 (2.16)
cohort199195	−.108 (2.01)	−.127 (2.37)	−.116 (1.59)	−.150 (2.06)
cohort19962000	−.099 (1.77)	−.146 (2.64)	−.102 (1.33)	−.175 (2.35)
cohort200105	−.162 (2.84)	−.221 (3.92)	−.163 (2.07)	−.253 (3.32)
cohort200610	−.122 (2.02)	−.191 (3.24)	−.119 (1.45)	−.224 (2.86)
YSM	.010 (7.16)	.002 (4.60)	.012 (4.44)	.001 (1.34)
YSM^2/ 100	−.013 (5.97)	*	−.016 (4.24)	*
Adj R^2	0.4207	0.4207	0.4086	0.4086
Sample Size	1,133,410	1,133,410	850,354	850,354

Value of heteroskedasticity-consistent t-statistics in parentheses

***:** Asterisk indicates variables are not available

Note: The estimating equations hold constant education, labor market experience and its square, log of weeks worked, whether currently married or common-law partner, whether the respondent is full-time or part-time worker, whether bilingual or not, place of residence, place of birth (i.e. country of origin, UK, US, and Canada) with the Canadian native-born as the country benchmark, census indicators for 1991, 2001, 2006 and 2011

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

them (2001, 2006 and 2011). A set of five-year cohort dummy variables is added to our earlier specification, with the Canadian-born as the reference group. All the coefficients of the cohort dummy variables are negative, indicating that U.S. and U.K immigrants earn less than comparable Canadian-born workers at entry. This is different from CM who found positive coefficients for their cohort dummy variables. However, like them, we do not find evidence of the deterioration of cohort quality over time. Therefore, there is no evidence of overestimation of the assimilation rates

in cross-sectional data. In the linear specifications, the two pooled samples indicate assimilation rates of 0.2 % and 0.1 %, which are of the same order of magnitude as those reported in Table 2. Therefore, this cohort analysis supports our results of the absence of negative assimilation for the English speaking immigrants in Canada.

Potential Explanations

The U.K. and the U.S. are as developed countries as Canada, and the skills that immigrants bring to Canada are expected to be valued highly when they first arrive. However, we failed to confirm the "negative" assimilation hypothesis in the Canadian labor market. We discuss some possible reasons for the U.S. and U.K. immigrants respectively.

The U.S.

Although the U.S. immigration policy is known to emphasize family reunification, in the context of a growing worldwide competition for global talent, the winner is still the U.S., which has the ability to attract PhDs and graduates not only from emerging countries, but also from Europe and Canada. Some emerging economies are also successful in attracting highly skilled migrants, while they continue to experience significant outflows of high-skilled workers. Canada, with a centralized and clear immigration program for professionals, attracted many skilled immigrants from the rest of the world (Boeri et al. 2012). However, at the same time, vigorous debates took place across the country about the migration of highly skilled Canadians to the United States (Mueller 2006). Although the recent facts suggest that Canadians need not worry about the brain drain anymore, the assimilation rates estimated in this study and those of CM may reflect a situation of the past, where many highly skilled Canadians received well-paid offers from U.S. employers.

We know that even if the point system used in Canada might be particularly effective at selecting immigrants at the top of the education distribution, the skilled immigrants to the U.S. are more likely than those to Canada to possess exceptionally high capacities. Canadians, on average, earn less than Americans, so the U.S. attracts talented Canadians who want to enjoy higher wages, especially in the fields of engineering and computer science (Zarifa and Walters 2008). Based on this background, even though its immigration policy does not emphasize skills as much as the Canadian one, the U.S. has a highly competitive labor market, and the very best among the highly skilled people find an advantage to move there. This could explain the negative assimilation results for Canadian immigrants to the U.S. found by CM. Hunt and Mueller (2013) did simulations that show that migration from Canada to the U.S. would be substantially lower if Canadian tax rates were reduced to the average U.S. levels.

In contrast, with a more equal society and a more peaceful social and economic environment, Canada may also attract some U.S. immigrants for its less aggressive life. Americans are attracted by their perspective of Canada's more liberal culture, such as the universal public health-care system, more rigorous gun control laws, positive attitudes toward gays and lesbians and multiculturalism (Hardwick 2010).

In addition, the high Canadian tax rates, the complex and multi-jurisdictional regulations of the Canadian economy and the low value of the Canadian dollar, at least during some periods (such as the 1990s), are still an obstacle for the highly talented U.S. people to have the willingness to move to Canada. Thus, the people who

want to migrate to Canada might be from the less-highly capable class, or from those who experience a hard time to find a job in the U.S.

Some U.S. immigrants also came to Canada during periodic economic recessions (such as the early 1980s and the early 2000s). Thus, they may not have received the high initial wages that is assumed by the "negative" assimilation hypothesis. Borjas (1993) noted: "In general, Canadian immigrants in the United States do quite well in the labor market. The most recent arrivals enumerated in the 1980 census earn about 20 percent higher wages than American natives and have about two more years of schooling. In contrast, American immigrants in Canada are less successful. The most recent arrivals enumerated in the 1981 census earn 4.5 percent less than Canadian natives, yet have 4.5 years more schooling" (Borjas 1993, page 37). In his previous work, Borjas argued that the return migration propensity and the skill mix of immigrants are the main determinants of the skill composition of immigrant flows (Borjas 1987). The evidence indicates that the Canadian income distribution is more compressed than that of the United States, so that high-skilled Canadians are likely to have a greater motivation to migrate to the United States than low-skilled Canadians (Hunt and Mueller 2013). This can explain why the low-skilled Americans may have higher willingness to come to Canada than the high-skilled ones. The self-selection generated by the differential economic opportunities available to skilled and unskilled workers in the two countries greatly dilutes the expected impact of Canada's point system, which is supposed to bring highly skilled talents.

The U.K.

Our results show that the U.K. immigrants are doing well in the Canadian labor market. It might be because of the long history of the British-friendly environment in Canada. As a former British colony, Canada was familiar and welcoming to them. The U.K. primary language is English and their lifestyle was not entirely "foreign". The U.K. immigrants in Canada might have difficulty adjusting to the climate and to the greater degree of equality in society, but they were familiar not only with the dominant language, but also with the political institutions and the legal system. They were seen as culturally similar to Canadians. The U.K. immigrants in Canada were "invisible immigrants", much more than would probably have been the case in the U.S. (Erickson and Gables 1972).

The U.K. was considered distinct from the other countries' immigrants by the early writers that studied immigrant assimilation. Most of the early commentators suggested that the U.K. immigrants were most likely able to fit into the Canadian labor market on terms similar to the native-born English-speaking Canadians. Thus, most British immigrants arrived with, or rapidly developed, skills that allowed them to fit into the better-paid end of the Canadian labor market (Knowles 2007).

Canadian studies tend to find that until about 1970, immigrants in Canada were at less of an initial disadvantage than more recent immigrants were, but that they also experienced relatively lower rates of assimilation than during the later years (Baker and Benjamin 1994; Bloom et al. 1995). For example, using data for 1971, Bloom, Grenier and Gunderson (page 994) estimate that the assimilation rate of immigrants to Canada was 0.35 % per year, while it was 0.84 % in 1986. Those

earlier immigrants were mainly from Britain and Northwestern Europe. The very low assimilation rate that we estimated for the British immigrants may reflect that earlier situation.

British immigrants to Canada formed a much larger proportion of the total stream of immigration to Canada than to the United States. However, there is very limited information on the types of British immigrants moving to Canada rather than the U.S. It is possible that Canada attracted English immigrants with less human capital than did the United States (Fitzpatrick 1980, page 131).

All these phenomena above may explain why the U.K. immigrants in Canada did not show "negative" assimilation as they did in the U.S. labor market. However, unlike most other immigrants, there is no sign of positive assimilation either. Thus, as "invisible" migrants who have been in Canada for a relatively long time, the U.K. immigrants live as native-born Canadians.

Summary and Conclusion

The policy and structural differences between the Canadian and U.S. labor markets provide suitable conditions to study the existence of "negative" assimilation for Canadian immigrants. The standard labor market adjustment literature on immigration has focused on the positive assimilation hypothesis. However, the "negative" assimilation hypothesis under the assumption of highly transferable skills concludes that immigrants may go through decreasing wages as the time spent in the host country goes on. In the Chiswick and Miller (2011) model, negative assimilation happens in the context of similar earnings, cultures, and labor market institutions, which are the conditions of highly transferable skills. The Canadian labor market provides a counter example to the negative assimilation hypothesis.

Based on data from the 1991, 2001 and 2006 Canadian censuses, as well as from the 2011 National Household Survey for immigrants from English-speaking developed countries – the U.S. and the U.K., the analyses did not find evidence of negative assimilation for those immigrants. This is contrary to what Chiswick and Miller (2011) found for English-speaking immigrants in the United States. That kind of migration takes place when a worker gets a job offer that provides higher earnings than that of the native born. Afterwards, with the passage of time, the economic rent diminishes and earnings undergo a relative decline. This does not seem to be the case for Canada: as an immigrant friendly country, the fact that immigrants usually come before they receive a high wage job offer in Canada might be an important reason to explain the absence of negative assimilation. Furthermore, Canada's sound social protection system may induce most of the immigrants to choose to stay once they settle down in Canada.

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Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Appendix

Table 8 Regression of Immigrant Earnings, quadratic and linear YSM, 25 to 64-year-old immigrants from U.S. & U.K., both genders, 1991, 2001, 2006 census of Canada, 2011 National Household Survey

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
Constant	6.026 (93.51)	6.046 (96.87)	6.295 (72.85)	6.357 (75.83)	5.844 (56.80)	5.909 (57.87)	6.437 (58.14)	6.502 (59.56)
Education (edu)	.062 (29.99)	.062 (30.00)	.0625 (25.78)	.0623 (25.70)	.0752 (23.96)	.0748 (23.82)	.0747 (21.92)	.0738 (21.69)
Experience (exp)	.028 (12.53)	.028 (12.66)	.024 (7.58)	.024 (7.81)	.028 (7.25)	.032 (8.20)	.031 (7.62)	.033 (8.32)
$Exp^2/100$	−.044 (10.21)	−.045 (10.36)	−.040 (6.69)	−.041 (6.97)	−.050 (6.92)	−.056 (7.97)	−.056 (7.59)	−.061 (8.38)
Log Weeks Worked (lnweeks)	.806 (61.06)	.806 (61.15)	.773 (45.05)	.775 (45.17)	.820 (40.95)	.825 (41.20)	.082 (3.93)	.726 (34.25)
Part-time (parttime)	−.789 (46.38)	−.789 (46.40)	−.813 (40.71)	−.813 (40.70)	−.880 (38.38)	−.879 (38.30)	−.921 (37.60)	−.922 (37.61)
Married	.079 (5.61)	.078 (5.57)	.134 (8.04)	.132 (7.93)	.132 (6.52)	.126 (6.24)	.082 (3.93)	.078 (3.75)
Gender (female)	−.423 (35.73)	−.423 (35.73)	−.312 (21.37)	−.312 (21.35)	−.224 (13.63)	−.223 (13.54)	−.214 (12.23)	−.211 (12.08)
Bilingual	.062 (3.20)	.063 (3.22)	.067 (2.71)	.068 (2.74)	.026 (0.91)	.026 (0.90)	−.014 (0.48)	−.012 (0.42)
Atlantic	−.1912 (6.82)	−.1909 (6.81)	−.263 (7.58)	−.261 (7.55)	−.173 (3.37)	−.164 (3.19)	−.185 (3.60)	−.181 (3.53)
Quebec	−.094 (3.18)	−.095 (3.20)	−.140 (3.58)	−.143 (3.65)	−.124 (2.96)	−.126 (3.00)	−.021 (0.44)	−.024 (0.51)
Prairies	−.154 (5.46)	−.154 (5.46)	−.201 (5.74)	−.202 (5.77)	−.123 (2.68)	−.122 (2.65)	−.016 (0.32)	−.013 (0.26)
Alberta	−.101 (5.29)	−.100 (5.29)	−.098 (4.34)	−.096 (4.27)	−.047 (1.85)	−.048 (1.90)	.126 (4.82)	.123 (4.71)

Table 8 (continued)

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
BC	−.090 (6.27)	−.089 (6.25)	−.063 (3.56)	−.063 (3.58)	−.067 (3.47)	−.068 (3.53)	−.040 (1.89)	−.041 (1.98)
Years Since Migration (YSM)	.004 (1.86)	.001 (2.49)	.008 (3.64)	.002 (2.70)	.013 (6.27)	.004 (5.07)	.009 (4.24)	.002 (3.04)
YSM^2/ 100	−.005 (1.20)	*	−.011 (2.96)	*	−.016 (4.83)	*	−.012 (3.43)	*
UK	.091 (6.59)	.092 (6.66)	.054 (3.28)	.053 (3.23)	.107 (5.86)	.105 (5.76)	.091 (4.80)	.087 (4.59)
Adj R^2	0.492	0.492	0.409	0.408	0.422	0.421	0.405	0.404
Sample Size	14,625	14,625	11,585	11,585	8624	8624	7605	7605

Value of heteroskedasticity-consistent t-statistics in parentheses

*: Asterisk indicates variables are not available;

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

Table 9 Regression of immigrant earnings, quadratic and linear YSM, 25 to 64-year-old immigrants from China, both genders, 1991, 2001, 2006 census of Canada, 2011 National Household Survey

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
Constant	5.943 (36.71)	5.878 (36.02)	6.098 (50.10)	6.108 (49.96)	5.567 (48.46)	5.618 (48.85)	6.145 (61.24)	6.183 (61.73)
Education (edu)	.057 (11.66)	.058 (11.64)	.058 (14.92)	.055 (14.18)	.079 (20.52)	.076 (19.85)	.077 (22.38)	.076 (22.21)
Experience (exp)	.030 (4.54)	.039 (5.85)	.006 (1.09)	.012 (2.45)	−.008 (1.80)	−.005 (1.04)	.009 (2.22)	.012 (3.21)
$Exp^2/100$	−.059 (5.12)	−.074 (6.58)	−.023 (2.36)	−.034 (3.66)	.008 (0.89)	.002 (0.19)	−.020 (2.53)	−.026 (3.47)
Log Weeks Worked (lnweeks)	.710 (20.87)	.743 (21.85)	.768 (32.45)	.793 (33.90)	.873 (37.96)	−.029 (0.94)	.746 (37.12)	.754 (37.57)
Part-time (parttime)	−.466 (9.02)	−.465 (8.91)	−.567 (15.02)	−.567 (14.98)	−.665 (20.31)	−.665 (0.21)	−.741 (25.46)	−.741 (25.44)
Married	.037 (0.84)	.042 (0.93)	.006 (0.18)	−.009 (0.27)	−.012 (0.39)	−.029 (0.94)	.030 (1.19)	.024 (0.93)
Gender (female)	−.238 (7.78)	−.214 (6.97)	−.178 (7.04)	−.180 (7.10)	−.099 (4.53)	−.099 (4.50)	−.117 (6.01)	−.115 (5.93)
Bilingual	.197 (1.95)	.201 (1.96)	−.069 (0.81)	−.053 (0.61)	−.025 (0.30)	−.007 (0.09)	.080 (1.27)	.087 (1.37)
Atlantic	*	*	*	*	−.031 (0.06)	−.056 (0.11)	.447 (2.46)	.413 (2.27)
Quebec	−.350 (5.50)	−.350 (5.44)	−.299 (5.33)	−.300 (5.33)	−.234 (5.20)	−.241 (5.34)	−.271 (6.81)	−.275 (6.90)
Prairies	−.354 (4.81)	−.366 (4.93)	−.310 (3.56)	−.325 (3.72)	−.144 (1.05)	−.150 (1.09)	−.050 (0.68)	−.076 (1.03)

Table 9 (continued)

Variable	1991		2001		2006		2011	
	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear	Quadratic	Linear
Alberta	−.224 (4.67)	−.223 (4.62)	−.111 (2.50)	−.094 (2.11)	.011 (0.27)	−.0003 (0.01)	.184 (5.58)	.172 (5.23)
BC	−.051 (1.52)	−.058 (1.71)	−.051 (1.80)	−.049 (1.72)	−.102 (4.15)	−.106 (4.30)	−.053 (2.38)	−.059 (2.64)
Years Since Migration (YSM)	.040 (8.93)	.011 (8.18)	.042 (10.65)	.020 (14.59)	.040 (11.19)	.020 (15.00)	.027 (8.58)	.014 (11.66)
YSM^2/ 100	−.071 (6.67)	*	−.056 (6.02)	*	−.052 (6.15)	*	−.033 (4.55)	*
Adj R^2	0.415	0.404	0.400	0.395	0.450	0.446	0.398	0.396
Sample Size	2203	2203	3962	3962	4893	4893	6589	6589

Value of heteroskedasticity-consistent t-statistics in parentheses

*: Asterisk indicates variables are not available;

Source: Censuses of Population Canada: 1991 3 % PUMF; 2001 2.7 % PUMF; 2006 2.7 % PUMF; National Household Survey Canada: 2011 2.7 % PUMF

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