Is it Possible to Speak English Without Thinking American? On Globalization and the Determinants of Cultural Assimilation

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Abstract*

Based on research in linguistics and psychology I use language speech as a reflection o f accultu ration. I use in dividual and city -level data from the Lak e Ontario area in Canada and study the determinants of cultural assimilation. I focus on education, age, incom e, and in part icular, on som e va riables typica lly discussed when globalizati on issues come up, such as immigration, television viewing, borders, and residence history of the individuals. I find that actual contact does m atter as a determ inant of cultural homogenization. Virtual contact appears to be irrelevant. This finding is robust to changes in specification and to different empirical methods.

Key Words: Integration, Globalization, Languag e, Culture, Governance, North America

1. Introduction

The ultimate criticism to globalization is that it homogenizes culture. It has been argued that, whereas there might be economic gains as a result of trade liberalization, increased foreign investment, human capital re-allocation, and the like, such economic gains do not compensate for the cultural losses resulting from integration in society. In fact, the notion that cultural uniqueness should be protected has not gone unnoticed by policymakers who have frequently linked globalization with American cultural dominance as reflected by the world presence of American icons, changing tastes in food and movies and in particular, the widespread use of American English around the world. Interestingly, there is no evidence to support the assertion above, and more generally the determinants of cultural assimilation, despite the fact that this is essentially an empirical question.[1] Unsurprisingly, the reason for this is lack of data, as culture-related information has been particularly difficult to produce in an objective, quantifiable, and thus, comparable manner.

In this paper I take advantage of the fact that language and culture are intimately related.[2] In particular, I use English-language speech in a specific region in Ontario along the Canadian-American border to study some basic economic and non-economic determinants of cultural acculturation in Canada. I focus on specific nuances in spoken English language in this country with respect to the United States, mainly in the area known as the Golden Horseshoe, the western tip of Lake Ontario. [3] Mostly using individual-level data for this area, I construct a simple "Canadian English" index, that captures specific nuances in spoken Canadian English with respect to American English and explore whether commonality in language nuances within English are correlated with a set of characteristics, with special emphasis on variables typically linked with globalization. I focus on closeness in nuances in spoken language as a proxy for cultural integration, as affinity in spoken language reflects commonality in culture that elicits

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[1] On the other hand, research in other disciplines has put in doubt a straightforward positive link between globalization and cultural homogenization. For instance, in political science, Huntington (2004) argues that some issues related with globalization produce cultural cleavages in a society.

[2] Perhaps, the classic, but by no means unique example of the intimacy between language and culture is the case of Quebec in Canada, where language laws even stricter than those in France are explicitly used to protect culture and heritage.

[3] The Golden Horseshoe covers an from Oshawa to Niagara Falls, including Scarborough, Toronto, Mississauga, Oakville, Burlington, Hamilton, Saint Catharines, and Welland, very close to the United States border. Over five million people, more than one sixth of Canada's population live in this 120-mile strip. The fact that the focus of this study centers on a highly transited area between two countries that speak the same language and which are culturally very close provides a higher testing bar than simply comparing two random neighboring countries.

shared values, beliefs, custom s, and expectat ions (Chambers, 2003; Cha mbers and Heisler, Pinker, 2000). Notice that this is true even among individuals who speak the sam e language, as particular accents, rhythms, slang, and other nuances will further bring a sense of cultural affinity to people. I n f act, f or years soc ial scien tists, socia l lingu ists and co gnitive scie ntists have emphasized the im portance of language as indica tor of cultural identi fication (Chambers, 2003, Clarke, 1991; Pinker, 2000). As argued by several linguists, language is so highly correlated with cultural identity that a language is considered a medium from which culture cannot be extricated so much so that the loss of a language is considered as a loss of cultural di versity (Hale et al., 1992). Even in econom ics, researchers have argue d that culture and language are im plicitly linked in such a m anner that langu age is a crucial tool that eith er em bodies culture or is the crucial element conducive to cultural assimilation (Lazear, 2003).[4]

2. Data

The data on Canadian English in this res earch com e from two large individual-leve l representative surveys performed by the Department of Linguistic s of the University of Toront o and funded by the Social Sciences and Hum anities Research Council of Canada in the Canadian Golden Horseshoe area in 1991 and 2000. Overall, the questionnaire include s 76 questions that ask for linguistic inform ation in the following categories: pronunciati on, general vocabulary, special vocabulary, morphology, syntax, and usage. Each survey includes about 800 respondents and for each one of them there are 11 personal records and 81 linguistic records.

A large section of the s urvey is stru ctured along the basic lines of the f our basic speech differences of Canadian English with respect to Am erican English. In fact, several North American linguists (Cham bers, 1995, 2000; Cl arke, 1991; Labov, 1991) agree that there are distinguishable differences in average Canadian English an d Am erican English sp eech, which linguists have summarized in four categories, (i) unification of diphthongs or merger of low back vowels (e.g., the pair of words such as *don* and *dawn*, a nd *stocking* and *stalking*, have no phonological distinction); (ii) presence of phonetic rising or higher vowel at the onset of the diphthong (e.g., the phrase *about the house* would sound som ething like " *aboot the hoose*" to Americans; (iii) differences in vocabulary, and (iv) conjugation and "*wh*" differences (e.g., *whine*

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[4] Historical examples that support the idea that language and culture are inextricably linked. For instance, during the nineteenth century migrants in Bohemia and H ungary learned German and in a few generations their descendants

and *wine* tend to be distinct as such sound still retain an *[hw]* phonetic property. The questions in the survey are designed to capture these speech characteristics in such a manner that allows a great deal of confidence on the objectivity of the responses. While typical questions on vocabulary or differences in verb tenses are asked in a straight forward manner (e.g., what is the past tense of "dive"?) the questions used to elicit the presence of diphthong usage or phonetic rising are somewhat more elaborated as phonetic synonyms are employed (e.g., does news sound like "nyooze" or "nooze"?). While respondents are called upon their own judgment to assess their speech, particularly in the latter regard, objectivity is hardly compromised, as it has been shown that individuals have a very clear sense of what are correct and incorrect ways in which words should be pronounced in their social context (Pinker, 2000). Furthermore, in some survey subsampling, supervisors reported virtually no divergence between the way a particular word was pronounced and the corresponding chosen answer (Chambers, 2000).[5] Table 1 presents the Canadian speech questions included, grouped according to the four basic Canadian English categories described above. A "Canadian English Index" is constructed according to the four categories described above. For each question in each category either a value of zero is assigned when the answer coincides with the characteristic described as more typical of Canadian English speech. A value of one is assigned otherwise. In total, there are 18 questions in the four broad categories considered. They are summarized in an aggregate index, which is merely the simple sum of one-values assigned to each question. To simplify, if a respondent has one, two or three one-values, independently of the questions they come from, the index takes value one. If a respondent has four, five or six one-values, independently of the questions they come from, the index takes value two; and successively. Thus, this index ranges from zero to six for each respondent.[6] The higher the score, the more culturally Canadian the individual is.

A key potential determinant of cultural assimilation is the mobility background of the individual as it captures the extent to which the person has been exposed to a globalized or non-domestic environment. In fact, according to linguists, a critically important variable is the linguistic background of the individual, as mobility may be a leveler of accent and dialect. When

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became German not only in terms of language but in terms of sentiment (McNeill, 1976).

[5] Additionally, other linguists that have used oscillators that test the hertz-frequency pattern of speech to show that again, the response given by individuals coincides with the such patterns described by oscillators (Labov, Ash and Boberg, 2003; Handke, 2000).

[6] This simplification does not affect the empirical results presented below regardless of the econometric method employed.

people from different regions com e together, they bring with them numerous differences in the way they talk. This index provides a m easure of the subjects' links to the region, where those with lower scores are more representative to the region, while those receiving higher scores are less indigenous to the region. In fact, the questions employed are: (i) *where were you raised from ages 8 to 18?; (ii) Where were you born?; (iii) Where do you live now?; (iv) Where was your father born?; and (v) Where was your mother born?* W e closely follow Chong (2006) and Chambers and Heisler (1999) and assign a base sc ore for each respondent of one, determined by the place where the person was rais ed from 8 to 18.[7] To that score of one, a score be tween zero and two is added for (i) the place where the respondent was born, (ii) the place where the respondent lives now, a nd (iii) the place where the responde nt's parents were born.[8] I also include individual socio-economic infor mation to m atch the background inform ation above; in particular, the survey includes the respondent's age, sex, social cl ass, and education. Whereas the variables above are at the individual level, I also employ city-level variables from Statistics Canada (1996, 2001) that are frequently linked w ith openness and globalization, such as the percentage of immigrants in the city of inte rest, the percentage of foreign television viewing, and the physical distance of the city to the nearest American border, in this case, Niagara Falls.[9]

In particular, the specification employed is as follows:

$$CEI = \alpha Education + \beta Age + \gamma Gender + \delta Income + \eta White\ Collar + \Pi\ Globalization + \mu \quad (1)$$

where CEI represents the Canadian English Index variable and Π is a vector of proxies typically believed to be related with ope nness and globalization, such as the percentage of imm igrants from the United S tates to a partic ular city in th e Golden H orseshoe area, television viewing of programs from the United States, and physical dist ance of cities in the Go lden Horseshoe area to the Niagara Falls bord er (Evans, 2003; Cham bers, 2003; Facchin i and Mayd a, 2006). The definitions of all the variab les used are shown in Table 1. Summ ary statis tics are presented in Table 2.

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[7] This is considered the crucial formative years for dialect development (Chambers and Heisler, 1999)

[8] If a woman lived in Toronto from ages 8 to 18, then Toronto is the region she represents. She receives 1, and if she was also born there, I add 0. If she lives in Toronto now, I add another zero. If one or both of her parents were born in Toronto, I add zero. Her "mobility index" is 1. In t he case of a l ong-time resident of Toronto who was raised in Montreal from 8 to18 I would add a 2 to his base score of 1. If he was born in Montreal, I add 2 more. If one or both of his parents were born in Peru, I add 2 more. His mobility index would be *7*.

[9] In total, there are 61 cities included in the survey (Statistics Canada, 1991, 2000).

3. Findings

Given the c haracteristics of th e dependent variable, we use an ordered probit technique to adequately assess the em pirical evidence. [10] The basic res ults when using the cross-s ection household data for 1991 are presented in Table 3. [11] As shown in the first colum n, both years of education and schooling yield negative coefficients that are sta tistically sign ificant at one percent. That is, the older the individual and th e more the years of education, the m ore Canadian and thus, less *americanized* the individuals becom e, as m easured by their closeness to Canadian English sp eech. In f act, this is qu ite consis tent with th e f indings in the lingu istics liter ature (Chambers, 1995). [12] As also sho wn in th is table, gend er is not a sta tistically signif icant determinant of cultural assim ilation, although average household incom e is. S imilarly, the higher the incom e, the lower th e chances that i ndividuals will beco me culturally sim ilar to Americans when m easured by th eir likeness to Ca nadian English speech. In terestingly, the f act

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[10] The empirical model follows the following specification:

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\begin{aligned}
\Pr ob\,(Y_i = 1) &= \Phi(\mu_1 - \beta'X) \\
\Pr ob\,(Y_i = 2) &= \Phi(\mu_2 - \beta'X) - \Phi(\mu_1 - \beta'X) \\
&\vdots \\
\Pr ob\,(Y_i = 6) &= 1 - \Phi(\mu_5 - \beta'X)
\end{aligned}
\tag{2}
$$

where Y_i is a random vari able i ndicating t he c orresponding category of t he *Canadian English Index*; and X is a vector of household, regional, demographics, and other characteristics. After some manipulation in order to remove indeterminacy, the log-likelihood can be derived by defining, for each individual, $d_{ij} = 1$ if alternative j is chosen by individual i, and 0 if not, for t he six possi ble outcomes. For each i, one and only one of the d_{ij}'s is 1. In particular, the log-likelihood is:

$$
\ln L = \sum_{i=1}^{n}\left\{ d_{i1}\ln\Phi(\mu_1 - \beta'x) + \sum_{j=2}^{5} d_{ij}\ln\left[\Phi(\mu_j - \beta'x) - \Phi(\mu_{j-1} - \beta'x)\right] + d_{i6}\ln\left[1 - \Phi(\mu_5 - \beta'x)\right] \right\}
\tag{3}
$$

By manipulation of (2) the marginal effects of he attributes on the corresponding probabilities are:

$$
\begin{aligned}
\frac{\partial prob\,(Y_i = 1)}{\partial x_k} &= -\phi(\mu_1 - \beta'X)\beta_k \\
\frac{\partial prob\,(Y_i = 2)}{\partial x_k} &= [\phi(\mu_1 - \beta'X) - \phi(\mu_2 - \beta'X)]\beta_k \\
&\vdots \\
\frac{\partial prob\,(Y_i = 6)}{\partial x_k} &= \phi(\mu_5 - \beta'X)\beta_k
\end{aligned}
\tag{4}
$$

Finally, a fit measure may be obtained through the following restricted log-likelihood:

$$
\ln L_0 = \sum_{j=1}^{6} n_j \ln\left(\frac{n_j}{n}\right) = \sum_{j=1}^{6} n_j \ln p_j
\tag{5}
$$

where p_j is the sample proportion of observations corresponding to the particular category.

[11] All the regressions are corrected for potential clustering at the city level. Also, I applied ordinary least squares and simple probit specifications and obtain qualitatively identical results. These findings may be provided upon request.

[12] Fur thermore, when we study th e sp ecific age eff ects we f ind th at ag e b ecomes a n on-statistically sig nificant variable begi nning at age 18. Also the older one is, the less significa nt the educational effect. Thes e findings are remarkably consistent with findings in psychology and linguistics.

that individuals' professional (white-collar or blue-collar) backgrounds do not have a bearing on their English-speaking characteristics may indicate that social status is not a determinant of cultural homogeneity measured by commonality in speech.[13]

Furthermore, the mobility background of the individual yields a negative coefficient that is statistically significant at one percent. Individuals who are closely attached to the Golden Horseshoe area are more likely to show Canadian English features in their speech and thus are less influenced by American culture. Interestingly, physical distance to the border does matter. In fact, the corresponding coefficient yields a positive sign that is statistically significant at one percent. That is, individuals who reside in cities that are farther from the border are less influenced by American culture. This is shown in the second column in Table 3. This finding is somewhat surprising, as one would expect that, in an age of generalized wired and wireless communication, physical contact would become less important as a determinant of acculturation. Not only does this appear not to be the case, but the coefficient of television viewing of programs from the United States, as shown in the third column in Table 3, is only weakly statistically significant. Furthermore, this variable is not robust as demonstrated by the fact that the corresponding coefficient changes sign, as shown in column 7.[14] Along the same lines, column 4 includes the percentage of immigrants from the United States in a determined city in the Golden Horseshoe area. We find that this variable is negative and highly statistically significant at conventional levels. Thus, the higher the percentage of Americans living in Canada, the more American acculturation.

Table 4 provides the corresponding marginal effects for regression shown in column 7 in Table 3. Notice that while the marginal effects on the aggregate Canadian English index is statistically non-significant in the case of television viewing of programs from the United States (column 6) it is statistically significant in the cases when there is actual interaction with individuals from the other side of the border may have occurred, such as individual mobility background, physical distance to the border, and the percentage of immigrants from the United States. Thus, the findings above strongly suggest that, in order for actual acculturation to occur, interaction among individuals matters. This does not occur through television viewing, but

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[13] Whereas income is correlated with social status (0.56) its exclusion does not change any of our findings.
[14] In other specifications it yields no statistical significance at conventional levels

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through exposure to im migrants from other count ries, and actual physical contact w ith people from other cultures. In short, real contact matters.[15]

We repeat the sam e exercise by pooling su rvey data from 1991 and 2000. W e us e the exact s ame specification s em ployed in Table 3 but also add a du mmy that equals 1 when the observation comes from the 2000 survey and, as be fore, we run ordered pr obits. The findings or our m ain variab les of inte rest are shown in Table 5. [16] A s bef ore, the indiv idual m obility background variable is negative and statistically significant, again suggesting that the m ore indigenous the individual to the Golden Horseshoe area, the less influenced by American culture as reflected by speech. Furtherm ore, the farth er the dis tance of the city of residence of the individual with respect to the Ni agara Falls border, the less American influence. Also, as before, the perc entage of American im migrants to th e Golden Horseshoe area does have an im pact in terms of the cultural influence in the region, as the corresponding sign of this variable is negative and statistically significant at conventional levels. The results in Table 5 confirm our previous findings, nam ely that real co ntact am ong individual m atters. Viewing of Am erican programs does not have a bearing on the ac culturation process in the Golden Horseshoe area. This is illustrated by the fact that the corre sponding televi sion vie wing variab le is weakly statistically significant in som e spe cifications and change s sign and becom es insignificant in the m ost comprehensive specification shown (last colum n). This is also show n in Table 5. Margina l effects are shown in Table 6. Overall, the results are quite similar to the ones in Table 4.[17]

Finally, endogeneity does not s eem to be of particular conc ern for the variables included in this paper. This, in particular, as the focus of my research is not on language acquisition, and thus, human capital issues, of which has been written extensively, but on the signals provided by language nuances within one language that serve as proxies for cultural assimilation.[18]

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[15] Ch ambers and H eisler (1999) provide th e str iking ex ample o f a sm all child who could no t sp eak En glish ev en though he was encouraged to watch as m uch television as pos sible in o rder to learn English, as b oth parents we re deaf and mute.

[16] For th e sak e of econ omy w e do no t report th e co efficients of the rest of va riables i ncluded in t he regressi ons, namely, age, education, income (Table 5) as th e results are qu antitatively id entical as t hose obtained when running cross-section ordered probits for 1991. These findings are available upon request.

[17] W e a pply f ormal Levi ne-Renelt (1 992) a nd Sal a-i-Martin (1 997) rob ustness tests an d co nfirm th at, in fact, th e foreign telev ision v ariable is statistica lly n ot robu st. On the o ther h and, we find th at mobility b ackground and physical distance to the border are highly robust variables, while percentage of immigrants is a robust determinant of acculturation.

[18] Still, I ap plied an i nstrumental v ariable ap proach t o poten tially en dogenous variables, in particular, in come (Chong, 200 6) u sing sim ilar in struments as in Kn ack and K eefer (1997) und er t he prem ise that the linki ng

4. Conclusions

Based on existing research in linguistics, psycho logy, and econom ics, in this paper we create a Canadian English Index as a proxy for cultural assimilation in order to assess the extent to which a sam ple of the population in the Golden Horses hoe area in Ontario, Canada has experienced assimilation into American culture. We find that economic and non-economic variables do have a bearing on cultural assi milation. The extent to which indivi duals move matters, as do physical distance to the bo rder the p ercentage of im migrants. In terestingly, w e f ind tha t A merican television viewing in Canada doe s not have a robust link with cult ural homogeneity in Canada. In short, it a ppears that some variab les usu ally linked with globalization do have an im pact on cultural assimilation, in particular those where actual contact among individuals occurs.

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mechanism are related with social capital and trust. The results do not change. These findings are not reported here but are available upon request.

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Table 1. Definition of Variables

Canadian English Index	
I. Diphthong Index	The index measures the presence of Yod-Dropping. It includes the following variables: (i) Does news sound like nyooze (0) or nooze (1)?, (ii) Does the u in student sound like oo in too (1), or the u in u (0)?, (iii) Does the beginning of coupon sound the same as cue (0), or coo (1)?, (iv) Does mom, as in "My mom's gone fishing with my dad", rhyme with tum (0) or Tom (1)?, and (v) avenue sounds like you (0) or oo (1)? Source: University of Toronto (2000)
II. Vocabulary Index	The index measures the usage of words to refer to pieces of furniture, bath accessories and meal accessories. It includes the following questions: (i) What do you call the upholstered piece of furniture that 3 or 4 people sit on in the living room? Chesterfield (1) / Rest (0), (ii) What do you call the piece of furniture where you keep your socks, underwear, and other clothing? Bureau (1) / other (0), (iii) What do you call the small cloth you use for washing your face? Wash cloth (1) / other (0), and (iv) At meal, people are sometimes given a cloth to wipe their fingers on. What do you call it? Serviette (1) / other (0). Source: University of Toronto (2000)
III. Raising Index	The index measure the way of pronunciation and rhyme of some words in Canadian English. The index is formed by the following variables: (i) Does route, as in 'paper route', rhyme with shoot (1) or shout (0)?, (ii) Is the ei of either pronounced like the ie of pie (1), or the ee of bee (0)?, (iii) Does leisure rhyme with measure (1), or with seizure (0)?, and (iv) In the word tomato do you pronounce the middle part of the word as eight (0), or as at, or as ought (1)?.Source: University of Toronto (2000)
IV. Verbs and WH Index	The index measures the way of usage of some verbs and WH-loss in Canadian English. The index is formed from the following questions (i) Which do you say? He has drank three glass of milk (0) or he has drunk three glasses of milk (1), (ii) Which do you say? Yesterday he dove into the quarry (0) or Yesterday he dived into the quarry (1), (iii) Which do you say? The submarine dived to the floor of the a (1) or The submarine dove to the floor of the a (0), (iv) Do whine and wine sound exactly the same? Same (0) / Different (1), and (v) Do witch and which sound exactly the same? Same (0) / Different (1). Source: University of Toronto, 2000.
V. Canadian English index	The Canadian English index is formed by adding up the following indices: (I) Diphthong index, (ii) Vocabulary index, (iii) Canadian Raising index, and (iv) Verbs and WH index. It index ranges from 0 to 18, where higher values represent more culturally close to Canada. To simplify the score is re-scaled from zero to six. Source: University of Toronto (2000)
Independent Variables:	
Years of Education	Number of years of schooling. Source: University of Toronto, 2000
Age	Age of individual. Source: University of Toronto, 2000.
Gender	The variable equals 1 if the Canadian surveyed is female, and 0 if female. Source: University of Toronto, 2000
Mobility Background Index	This variable provides a measure of the subject's links to the region. The index is a function of four main components: (i) the place where the subject was raised from 8 to 18, (ii) the place where the subject was born, (iii) the place where the subject lives now, and (iv) the place where the subject's parents born. The index ranges from 1 to 7, with the best representatives of the region receiving a score of 1 (born, raised, living in the same place as parents), and the poorest representatives receiving a score of 7 (living in the region, but born and raised outside of province). Source: University of Toronto, 2000
White Collar	The variable equals 1 if the subject surveyed performs white collar activities, and 0 otherwise. Source: University of Toronto, 2000
Log Population	Logarithm of population at Census Divisions and Subdivisions level in 1991. Source: Statistics Canada, 1991
Log. Average family income	Logarithm of average family income at Census Divisions and Subdivisions level. Source: Statistics Canada, 1991, 1996
Distance to Niagara Falls	Logarithm of distance from subject's city of residence to Niagara Falls measured in miles. Source: Statistics Canada, 2000
Immigrants from USA	Immigrants from USA as a percentage of Total immigrants at Census Divisions and Subdivisions level. Source: Statistics Canada, 1996
Television Viewing from USA	Percentage of US television viewing time at Census Metropolitan Area level. Source: Statistics Canada, 1991, 1996

Source: University of Toronto (1991, 2000).

Table 2. Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Canadian English Index	1606	4.58	0.95	1.00	6.00
Years of Education	1808	13.16	2.82	4.50	16.00
Age	1810	31.17	18.05	16.50	85.00
Gender (female=1)	1808	0.38	0.48	0.00	1.00
Mobility Background	1810	3.31	1.99	1.00	7.00
White Collar	1810	0.54	0.50	0.00	1.00
Log Average Family Income	1804	11.02	0.17	10.70	11.49
US Television Viewing (%)	1804	72.54	2.99	68.20	77.10
Log Population	1804	11.25	1.90	6.52	13.36
Log Distance to Niagara Falls (miles)	1804	4.29	1.00	0.92	6.10
Immigrants from USA (%)	1804	0.05	0.05	0.00	0.37

Source: University of Toronto (1990, 2001) and Statistics Canada (1991, 1996, 2001).

Table 3. Determinants of Cultural Assimilation
Dependent Variable: Canadian English Index
Golden Horseshoe, Ontario 1991

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Years of Education	0.0841	0.0869	0.0843	0.0826	0.0853	0.0855	0.086
	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***	(0.0156)***	(0.0156)***
Age	0.0345	0.0355	0.0348	0.0351	0.0358	0.035	0.036
	(0.0025)***	(0.0025)***	(0.0025)***	(0.0025)***	(0.0025)***	(0.0025)***	(0.0026)***
Gender (female=1)	0.0746	0.0689	0.0655	0.0682	0.065	0.0673	0.0766
	(0.0801)	(0.0799)	(0.0804)	(0.0801)	(0.08)	(0.0804)	(0.0803)
Log Average family income	0.7756	0.2977	0.5652	0.5325	0.1992	0.5456	0.2287
	(0.2523)***	-0.289	(0.2778)**	(0.2597)**	-0.2874	(0.2779)**	(0.2863)
White collar	0.0405	0.0234	0.0269	0.0439	0.0294	0.0287	0.0453
	(0.0787)	(0.0789)	(0.079)	(0.0784)	(0.0786)	(0.0791)	(0.079)
Log Population						-0.0352	0.0036
						(0.0335)	(0.0382)
Mobility Background	-0.0988	-0.1039	-0.1011	-0.0999	-0.1038	-0.0993	-0.103
	(0.0197)***	(0.0197)***	(0.0198)***	(0.0197)***	(0.0197)***	(0.0198)***	(0.0198)***
Log Distance to Niagara Falls		0.1266			0.1025		0.1819
		(0.0363)***			(0.0381)***		(0.0580)***
Television Viewing from the USA			-0.0275			-0.0406	0.0538
			(0.0157)*			(0.0207)*	(0.0333)
Immigrants from USA				-2.2263	-1.7307		-2.4014
				(0.7806)***	(0.8138)**		(0.9110)***
Observations	839	839	839	839	839	839	839
Wald Chi^2	260.52	268.69	263.02	266.56	272.39	261.21	274.73
Prob > Chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R^2	0.139	0.1439	0.1403	0.1434	0.1465	0.1408	0.1484

Robust standard errors in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. Determinants of Cultural Assimilation
Dependent Variable: Canadian English Index
Marginal Effects

	(1)	(2)	(3)	(4)	(5)	(6)
Years of Education	-0.0001	-0.0038	-0.0149	-0.0154	0.0269	0.0073
	(0.0001)	(0.0009)***	(0.0029)***	(0.0032)***	(0.0051)***	(0.0015)***
Age	-0.0001	-0.0016	-0.0063	-0.0064	0.0113	0.0030
	(0.0000)	(0.0003)***	(0.0006)***	(0.0007)***	(0.001)***	(0.0004)***
Gender (female=1)	-0.0001	-0.0033	-0.0132	-0.0139	0.0239	0.0066
	(0.0001)	(0.0034)	(0.0137)	(0.0148)	(0.0249)	(0.0071)
White Collar	-0.0001	-0.0020	-0.0079	-0.0080	0.0142	0.0038
	(0.0001)	(0.0035)	(0.0138)	(0.0139)	(0.0248)	(0.0066)
Log Average family income	-0.0003	-0.0100	-0.0397	-0.0408	0.0716	0.0194
	(0.0005)	(0.0125)	(0.0498)	(0.0515)	(0.0897)	(0.0242)
Log Population	-0.0000	-0.0002	-0.0006	-0.0007	0.0011	0.0003
	(0.0001)	(0.0017)	(0.0066)	(0.0068)	(0.0119)	(0.0032)
Mobility Background	0.0002	0.0045	0.0179	0.0184	-0.0322	-0.0087
	(0.0001)	(0.0012)***	(0.0038)***	(0.0037)***	(0.0064)***	(0.0019)***
Log Distance to Niagara Falls	-0.0003	-0.0080	-0.0316	-0.0325	0.0569	0.0154
	(0.0002)	(0.0029)***	(0.0104)***	(0.0107)***	(0.0184)***	(0.0052)
Television Viewing from USA	-0.0001	-0.0024	-0.0093	-0.0096	0.0168	0.0046
	(0.0001)	(0.0015)	(0.0058)	(0.0060)	(0.0105)	(0.0028)
Immigrants from USA	0.0035	0.1051	0.4171	0.4288	-0.7513	-0.2032
	(0.0027)	(0.0444)**	(0.1590)***	(0.1688)**	(0.2865)***	(0.0811)***

Marginal effects of specification 7 in Table 3. Robust standard errors in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. Globalization and Cultural Assimilation
Dependent Variable: Canadian English Index
Golden Horseshoe, Ontario 1991-2000

	(1)	(2)	(4)	(3)	(5)	(6)	(7)
Mobility Background	-0.1103	-0.1128	-0.11	-0.1115	-0.1129	-0.1106	-0.1148
	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***	(0.0155)***
Log Distance to Niagara Falls		0.1139			0.0751		0.1889
		(0.0296)***			(0.0323)**		(0.0516)***
Television Viewing from USA			-0.0241			-0.0308	0.0732
			(0.0125)*			(0.0153)**	(0.2275)
Immigrants from USA				-2.5628	-2.0432		-2.5636
				(0.6524)***	(0.7046)***		(0.7423)***
Observations	1597	1597	1597	1597	1597	1597	1597
Wald Chi^2	443.83	456.84	446.37	455.14	461.35	445.48	474.58
Prob > Chi^2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R^2	0.1259	0.1291	0.1267	0.1304	0.1316	0.1269	0.1333

Full specification not shown. Controls not reported are the same ones included in Table 3 for each corresponding column. Robust standard errors in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 6. Globalization and Cultural Assimilation
Dependent Variable: Canadian English Index
Golden Horseshoe, Ontario 1991-2000
Marginal Effects

	(1)	(2)	(4)	(3)	(5)	(6)
Mobility Background	0.0001	0.0027	0.0273	0.0139	-0.0256	-0.0184
	(0.0000)	(0.0006)***	(0.0038)***	(0.0022)***	(0.0038)***	(0.0026)***
Log Distance to Niagara Falls	-0.0001	-0.0045	-0.0449	-0.0229	0.0422	0.0303
	(0.0001)	(0.0014)***	(0.0124)***	(0.0065)***	(0.0118)***	(0.0084)***
Television Viewing from USA	-0.0000	-0.0117	-0.0174	-0.0189	0.1163	0.1117
	(0.0000)	(0.0007)**	(0.0067)***	(0.0034)	(0.0062)	(0.0044)
Immigrants from USA	0.0014	0.0609	0.6099	0.3112	-0.5724	-0.4110
	(0.0011)	(0.0207)***	(0.1803)***	(0.0912)***	(0.1684)***	(0.121)***

Marginal effects of specification 7 in Table 5. Robust standard errors in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%