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THE "NEGATIVE" ASSIMILATION OF IMMIGRANTS: A SPECIAL CASE*

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ABSTRACT

Research on the economic or labor market assimilation of immigrants has to date focused on the degree of improvement in their economic status with duration in the destination. The theoretical underpinning for this finding is the international transferability of skills. This paper addresses whether positive assimilation will be found if skills are very highly transferable internationally. It outlines the conditions for "negative" assimilation in the context of the traditional immigration assimilation model, and examines the empirical relevance of the hypothesis using data on immigrants from the English-speaking developed countries (i.e., the UK, Ireland, Canada and Australia/New Zealand) to the United States. Comparisons with the native born are also presented to test whether the findings are sensitive to immigrant cohort quality effects. Even after controlling for cohort effects, "negative" assimilation (a decline in earnings with duration) is found for immigrants in the US from the English-speaking developed countries. Negative assimilation is also found for immigrants from the English-speaking developed countries in Australia and from Nordic countries in Sweden.

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I. INTRODUCTION

From the start of the research on the economic or labor market assimilation of immigrants, the literature has focused on the degree of improvement in their economic status with duration in the destination (Chiswick, 1978, 1979). This improvement has been found for all the immigrant receiving countries, time periods and data sets that have been studied. The theoretical underpinning for this finding is the international transferability of skills. This paper addresses whether positive assimilation will be found if skills are very highly transferable internationally. Indeed, might there be the appearance of negative assimilation, that is, earnings declining with duration in the destination, if the skills are very highly transferable across countries?

Section II summarizes the immigrant assimilation model, and outlines the conditions for "negative" assimilation. The main empirical application (Section III) is for immigrants from the advanced English-speaking developed countries to the United States. Similar findings for immigrants from the English-speaking developed countries in Australia and for Nordic immigrants in Sweden are also reported in Section III. Comparisons with the native born are presented in Section IV to test whether the findings for the US are sensitive to immigrant cohort quality effects. A summary and conclusion is in Section V.

II. THE ASSIMILATION MODEL

The immigrant assimilation model begins with the assumption that immigrants have a set of skills acquired in the lower income origin that are not perfectly transferable to the higher income destination. These skills may be schooling, on-the-job training, language, labor market information, labor market networks, occupational licensing or credentials, occupation-specific technical training, or the customs or cultural characteristics that influence productivity, and hence earnings, in the origin and destination labor markets.

When the immigrant moves from the origin to the destination at least some of these skills are less than perfectly transferable. This gives the immigrant incentives to make explicit (*e.g.*, schooling) or implicit (*e.g.*, learning-by-living) investments in destination-specific skills. Some of these investments may be intended to increase the transferability of skills acquired in the origin, such as when an immigrant physician studies for the Foreign Medical Examination. Other investments may be undertaken to acquire new skills, such as when an immigrant lawyer studies for an MBA.

The immigrant has an incentive to make these investments sooner rather than later for three reasons. If these post-migration human capital investments are profitable, in the sense that their internal rate of return exceeds the discount rate or interest cost of funds, the net present value of the investment is greater if they are made sooner rather than if they are delayed. Moreover, a delay in making these investments reduces the number of future time periods in which the benefits will be received, thereby lowering the rate of return from the investment. Finally, with duration in the destination, explicit investments, and even learning-by-living, will increase the immigrant's knowledge and other skills relevant for the destination labor market, thereby raising the opportunity cost of the time devoted to investment in destination skills. This, of course, lowers the rate of return on these investments (Ben-Porath, 1967).

If measured skills are not readily transferable internationally earnings will be lower than for natives with similar measured skills. Moreover, the greater the extent to which investments are made in destination skills, the lower is the reported earnings during the investment period. Earnings then increase as the extent of investment decreases over time (*i.e.*, the most profitable destination investments are made first), and as returns are received on previous investments. As a result, the earnings-duration profile is upward rising, but at a decreasing rate. The steepness of the profile is greater, the greater the extent of investments in destination human capital and the greater the rate of return from these investments. By implication, the earnings-duration profile would be horizontal if there were no investment, explicit or implicit, in destination human capital.

Now, let us consider two countries with equal average levels of earnings for individuals with a given level of schooling, labor market information and other human capital relevant in the origin or destination. Also consider the skills to be perfectly internationally transferable between the two countries and that there is no skill employed in one that is not also used in the other country. Moreover, for simplicity, let us assume that in neither the origin nor the destination are there investments in on-the-job training.

Consider also that for each skill level there is variation in the distribution of wage offers around the mean. Workers in country X search not only in X, but also in country Y.[1] A worker will migrate from X to Y if and only if by random selection the worker

[1] The search process may involve a temporary or short-duration sojourn in country Y.

receives a sufficiently high wage offer in Y so that this wage offer is greater than the best wage offer in X by an amount sufficient to compensate for the out-of-pocket, time and psychic costs of migration. A worker receiving this high wage offer will move from X to Y, and under the assumptions postulated will not make any destination human capital investments. Similarly, workers in country Y will search in both countries and some Y workers will move to country X. In this circumstance migration is a two way street.

The high randomly drawn wage offer that attracted the migrant from country X to country Y need not persist indefinitely. Since it is a high wage draw from the distribution of wage offers in country Y, with the passage of time the immigrant can expect to experience a "regression to the mean" in his wages, certainly in terms of real wages if not in nominal wages.[2] If so, with the passage of time, there is the appearance of negative assimilation in terms of earnings.

The high initial wage offer in the destination may arise from factors other than random wage draws. For example, it might arise from an unanticipated exogenous increase in demand in the destination labor market for workers with a particular set of skills, perhaps specific to a particular occupation or industry. If so, with the passage of time for the labor market to adjust, the wages of the immigrants would regress to the mean. Note that if the higher initial wages in the destination of the migrants are merely due to their higher level of ability (or unmeasured dimensions of human capital) their earnings would not decline with duration.

[2] Even if nominal wages in a particular job do not decline, even in a recession, the nominal earnings a worker receives may decline because of reduced hours worked or following unemployment the worker accepts a new job offer at a lower nominal wage.

But would the immigrant remain in country Y? The immigrant would return to the origin, X, if the subsequently lowered earnings in the destination, Y, are below his best random draw from country X by an amount sufficient to compensate for the cost of return migration. Some will return to country X, other migrants will remain in the destination, Y.

One implication of this model would be a propensity for two-way migration and return migration between two countries of equal levels of income and income inequality between which human capital is perfectly transferable.[3] Another implication of the model is immigrants initially experiencing higher earnings than the native born in the destination, *ceteris paribus*, with earnings declining toward that of the native born with duration in the destination. The decline in earnings is not the result of deterioration in skills, but a decline in earnings for a given set of skills. We refer to the decline in earnings with duration as negative assimilation.

Suppose the international job search occurs just after leaving school and before marriage and family formation. Shortly thereafter marriage and having children occur in both the origin and destination. This “family capital” raises the cost of migration, thereby discouraging migration, including return migration by immigrants who have experienced negative assimilation. This would strengthen the argument for negative assimilation.

Alternative hypotheses that would give the appearance of negative assimilation in cross-sectional data would, of course, be that there has been an increase over time in the unmeasured dimensions of the quality of immigrants (*i.e.*, newer immigrants are more

[3] According to their local censuses, in 2006 about 226,000 Americans lived in Canada, and 30,000 Americans and Canadians and 94,000 Americans and Canadians lived in the Irish Republic and Australia, respectively (Sources: 1996 Censuses of Irish Republic, Australia, and Canada). See also Dumont and Lemaitre (2005).

able) or that it is the most successful in the destination who are more likely to exit (*i.e.*, to die, return to the origin, or move elsewhere). It is not obvious why there would have been an increase over time in the unmeasured dimensions of skill or ability. This hypothesis is tested, however, by analyzing immigrant-native earnings differentials over time. If immigrant quality increased over time, the ratio of immigrant to native earnings, within intervals for duration of residence in the destination, would be higher in recent data than in earlier data, *ceteris paribus*.

Nor is it obvious why the most successful of the immigrants in the destination would have a higher propensity to exit from the data. Exit from the data may occur because of death or return migration. There are no data on the selectivity, other variables being the same, out of the US labor market of adult male immigrants. In a matched sample of immigrants in the 1983 and 1995 Censuses of Israel, however, Beenstock, Chiswick, and Paltiel (2005) found that those who died between 1983 and 1995 had lower earnings in 1983, presumably because they were in poorer health. They also found that there was no difference in 1983 earnings between those who emigrated over the 12 year period and those who were successfully interviewed again in 1995. Thus, they found no evidence that among immigrants in Israel the "exits" were positively selected on unmeasured characteristics, other variables being the same. Indeed, within the context of the negative assimilation model, it would be expected that those who experience the steepest regression to the mean, that is, the greatest negative assimilation, would be the most likely to return to their origin. Their exit would reduce the appearance of negative assimilation among those who remain.

III. THE APPLICATION TO IMMIGRANTS

The model of negative assimilation developed above has several stringent requirements. Namely, the origin and destination are of the same level of income and that skills acquired and required in one country are perfectly transferable to the other country. There are no cases of countries in which these conditions are strictly observed.

Language is a particularly important form of country-specific human capital, and skill transferability is greater among the highly developed economics than between developed and less developed countries or among less developed countries. This suggests that an appropriate test of the "negative" assimilation hypothesis for international migrants would be among developed countries that have a language in common, and for which the relevant data exists. The closest approximation in the international arena would be migration among the English-speaking developed countries (ESDC), namely the US, Canada, Ireland, Australia, New Zealand and the United Kingdom. Immigrants to the United States and Australia born in other English-speaking developed countries satisfy these requirements. Moreover, immigrants to Sweden from the other Nordic or Scandinavian countries would also satisfy these criteria.

The main empirical testing of the model of negative assimilation is done for the United States. Using the 1980, 1990 and 2000 Censuses of Population of the United States (one percent PUMS data in 1980, five percent in 1990 and 2000), adult male immigrants born in Canada, the United Kingdom (UK), Ireland, Australia and New Zealand are analyzed.[4] It is also performed for Australia using the date on the ESDC in

[4] An alternative test would be migration among the states of the United States with similar levels of income. The US Census provides information on state of birth, state of

the 2001 Census of Australia. The findings on immigrant adjustment in Sweden, comparing Nordic and other EU immigrants, are also reported.

(A) United States

The estimating equation for the United States regresses the natural logarithm of annual earnings in the year prior to the US census among the adult (age 25 to 64) male immigrants from the other English-speaking developed countries on: years of education, years of labor market experience (measured by age minus years of education minus 5), and its square, whether the respondent is currently married (spouse present), the natural logarithm of weeks worked in the reference year, whether a language other than English is spoken by the respondent at home, and urban/rural and region control variables.[5] The immigration variables include years since migration to the US and country of origin dichotomous variables. Brief descriptions of all variables are provided in Appendix A. If the negative assimilation hypothesis is to be supported by the data, the coefficient on years since migration would have a negative sign. If the unmeasured dimensions of immigrant quality have increased over time, the ratio of immigrant to native earnings, *ceteris paribus*, would be higher in 2000 than in the earlier census data. Separate analyses are also computed for the US by country of origin.

The crucial variable for this analysis is the year of immigration. The detail on this in the public use samples for the censuses in the US has changed over time. As shown in Table 1, progressively more detail has been presented over time on the year of

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residence 5 years ago, and current state of residence, but this offers too little detail on the timing of inter-state migration.

[5] The language variable is included in large part because of French Canadians. It is not possible to distinguish immigrants from Quebec from other Canadian immigrants in the US Census, other than through their speaking French at home.

immigration, with single years being used in 2000.[6] The literature (*e.g.*, Chiswick, 1978) is followed, and a continuous variable is formed by using the mid points of the period of immigration categories for analyses of the 1980 and 1990 Census data.

Table 1
Year of Immigration Data in US Censuses

Census	Number of Categories used for Year of Immigration Data	Year of Immigration Information
1980	6	1975-1980; 1970-1974; 1965-1969; 1960-1964; 1950-1959; Before 1950.
1990	10	1987-1990; 1985-1986; 1982-1984; 1980-1981; 1975-1979; 1970-1974; 1965-1969; 1960-1964; 1950-1959; Before 1950.
2000	In single years	In single years.

Source: 1980, 1990, and 2000 US Censuses of Population.

Appendix Table A.1 reports the means and standard deviations for the natural logarithm of earnings and for the explanatory variables. There is a pronounced increase, by one log point, in the natural logarithm of earnings between 1980 and 2000. However, as consumer prices more than doubled over this period (change in the consumer price index from 100 to 208.5), immigrant average real incomes have declined slightly over the two decades. The mean educational attainment increased by 1.2 years over the 20 year period analyzed. Immigrants from ESDC in the 2000 data have resided in the US 1.5 years less than was the case in 1990.

Slightly more than 14 percent of the sample of immigrants from ESDC in the US reported speaking a language other than or in addition to English at home in the 2000 Census, and about 12 percent in each of the earlier data sets (Table 2). The importance of

[6] Note, however, that this information is self-reported, and there is bunching in the data around the years ending in zero or five.

Irish Gaelic among immigrants from Ireland, and French among immigrants from Canada is shown in Table 2. Separate analyses are conducted for "French" Canadians, defined here as immigrants from Canada who speak French at home, and other Canadians. Due to small sample sizes, however, further consideration cannot be given to those immigrants speaking Irish Gaelic at home in the US.

Table 2
Percent of Adult Male Immigrants from ESDC in the US Speaking English Only and the Top Five non-English Languages, by Country of Origin, 2000

Group	% English Only	Top 5 Languages Spoken (% speaking them)
Total	85.84	French (6.60); Spanish (1.18); Irish Gaelic (0.96); German/Austrian/Swiss (0.73); Italian (0.59).
United Kingdom	90.67	French (2.23); Spanish (1.07); German/Austrian/Swiss (0.53); Gujarathi (0.41); Polish (0.37).
Ireland	86.19	Irish Gaelic (9.39); French (1.35); Spanish (1.27); German/Austrian/Swiss (0.36); Italian (0.25).
Canada	80.59	French (12.64); Spanish (1.22); German/Austrian/Swiss (1.02); Italian (0.80); Greek (0.52).
Australia and New Zealand	90.48	Greek (1.54); Spanish (1.43); Italian (1.10); French (0.70); German/Austrian/Swiss (0.51).

Source: 2000 US Census of Population, PUMS, 5 percent sample.

Table 3 reports the estimated earnings functions for adult male immigrants from the advanced English-speaking developed countries.[7] These analyses are based on two specifications of the earnings equation: the first contains a quadratic in years since migration (YSM) and the second uses only a linear variable for YSM. These estimates have all the characteristics of recent research on immigrant earnings, particularly the

[7] There is little research on the earnings of immigrants among the English-speaking developed countries. Lindner (1989) develops a joint emigration-earnings model for emigrants from the US to Canada. Card (2003) considers Canadian emigrants in the US, focusing on their educational attainment. Both studies find favorable selectivity among the migrants. Neither study reports on the effect of duration in the destination on the earnings of the immigrants or on the selectivity of return migrants.

steady increase over time for immigrants in the payoff to schooling (from 6.4 percent in 1980 to 10.4 percent in 2000), the decline in the elasticity of earnings with respect to weeks worked, from 1.15 to around unity, and the decline in the north-south earnings differential. Other than marginally significant lower earnings among immigrants from Ireland in 1980, other variables the same, earnings do not differ significantly from the benchmark, the UK, across the immigrant groups identified in the analysis.

The estimates for the variables for duration in the US (YSM) support the negative assimilation hypothesis. In 1980, neither the linear nor the squared YSM terms were statistically significant when a quadratic YSM specification was used. When only a linear duration variable was employed the statistically significant (t = -2.11) coefficient of -0.003 indicated a decline of earnings at 0.3 of one percentage point per year in the US.

In the 1990 data, when a quadratic YSM specification was used, both coefficients were negative, but only that for the squared variable was statistically significant. When a linear specification was used the statistically significant (t = -6.29) estimated coefficient of -0.004 indicated a decline of earnings at 0.4 of one percentage point per year.

For the 2000 data, the quadratic specification showed that the YSM variable had a significant negative coefficient but the squared YSM term was not significant. The linear specification resulted in a highly significant (t = -13.42) negative coefficient on the duration variable, -0.007. That is, there is decline in ESDC immigrant earnings at the rate of 0.7 of one percentage point per year of duration in the US.[8]

[8] This does not imply a decrease in real earnings. The change in real earnings will be given by the sum of the impacts of labor market experience and years since migration.

Table 3
Analyses of Immigrant Earnings, 25-64 Year Old Male Immigrants from English-Speaking Developed Countries, 1980, 1990 and 2000 US Censuses[(a)]

Variable	1980		1990		2000	
Constant	3.601	3.630	4.252	4.271	4.526	4.525
	(13.43)	(13.51)	(33.84)	(34.04)	(35.70)	(35.67)
Educational Attainment	0.064	0.064	0.077	0.077	0.104	0.104
	(12.27)	(12.28)	(28.83)	(28.85)	(42.36)	(42.42)
Experience (EXP)	0.058	0.059	0.047	0.047	0.048	0.048
	(10.80)	(11.14)	(19.19)	(19.49)	(19.17)	(19.21)
$EXP^2/100$	-0.094	-0.096	-0.073	-0.074	-0.074	-0.074
	(9.06)	(9.48)	(14.33)	(14.65)	(14.82)	(14.91)
Years Since Migration (YSM)	**0.002**	**-0.003**	**-0.000**	**-0.004**	**-0.007**	**-0.007**
	(0.49)	**(2.11)**	**(0.26)**	**(6.29)**	**(4.31)**	**(13.42)**
$YSM^2/100$	**-0.011**	**(b)**	**-0.007**	**(b)**	**0.000**	**(b)**
	(1.15)		**(2.06)**		**(0.09)**	
Log Weeks Worked	1.151	1.154	1.129	1.131	0.975	0.975
	(16.84)	(16.93)	(36.02)	(36.13)	(33.56)	(33.62)
Married	0.256	0.255	0.244	0.243	0.256	0.256
	(6.49)	(6.46)	(16.52)	(16.46)	(19.42)	(19.43)
South	-0.173	-0.175	-0.133	-0.134	-0.069	-0.069
	(4.23)	(4.29)	(8.34)	(8.38)	(5.15)	(5.16)
Rural[(c)]	-0.046	-0.048	-0.102	-0.102	-0.295	-0.295
	(0.74)	(0.78)	(5.22)	(5.21)	(6.16)	(6.16)
English Very Well/Well	-0.107	-0.107	-0.073	-0.072	-0.029	-0.029
	(2.29)	(2.29)	(3.29)	(3.26)	(1.66)	(1.66)
English Not Well/Not at All	-0.135	-0.131	-0.041	-0.041	0.074	0.074
	(0.52)	(0.50)	(0.47)	(0.47)	(0.94)	(0.94)
Ireland	-0.092	-0.086	0.003	0.002	-0.003	-0.003
	(1.92)	(1.81)	(0.17)	(0.13)	(0.14)	(0.14)
Canada	0.015	0.016	-0.011	-0.011	-0.007	-0.007
	(0.49)	(0.54)	(0.79)	(0.77)	(0.53)	(0.53)
Australia & New Zealand	-0.074	-0.084	-0.062	-0.065	-0.007	-0.007
	(0.90)	(1.03)	(1.47)	(1.55)	(0.26)	(0.25)
$\bar{R}^2$	0.3289	0.3288	0.3061	0.3060	0.2707	0.2707
Sample Size	3,480	3,480	18,046	18,046	21,777	21,777

Notes: (a) Absolute value of heteroskedasticity-consistent 't' statistics in parentheses; (b) Variable not entered; (c) Definition of variable changes appreciable across data sets.
Sources: US Censuses of Population 1980 1 percent Public Use Microdata Sample (PUMS); 1990 5 percent PUMS; 2000 5 percent PUMS.

Thus, these results from analyses of the 1980, 1990 and 2000 US Censuses indicate strong support for the negative assimilation hypothesis.

Under the negative assimilation hypothesis, the initial high US labor market entry wage is driven by a favorable draw from the distribution of wage offers. In this situation, the negative relationship between earnings and duration of residence should be less intense, or even non-existent, among immigrants who arrived in the US as children—they will be tied movers. The relationship between earnings and years since migration could still be negative for immigrants who arrived as children where the high wage draw for their parents is partly a reflection of initial settlement in a tight labor market, and this results in a favorable initial wage offer for the foreign-born children of immigrants. However, this influence should be weaker the younger the age at migration.

To assess this, separate earnings equations were estimated for immigrants who arrived in the US as children and those who arrived as adults. A difficulty with this approach is that an age at migration has to be inferred from the census self reports on age and year of arrival in the US. The bunching in the data on year of arrival (at years ending in 5 and, particularly, zero) suggests that separating groups that arrived as adults and as children will be imprecise. Consideration is therefore given to a number of ages of arrival as the adult-children threshold, and most emphasis is placed on the broad patterns that emerge from this analysis.

Table 4 lists selected findings from this analysis of age at migration. This exercise is reported only for the 2000 Census data because of the greater detail on year of arrival and for simplicity only using the linear specification of the duration variable. The coefficients on educational attainment and duration are listed for selected adult-children thresholds, together with the sample sizes.

Table 4
Selected Estimates of Earnings Functions for Immigrants Arriving as Adults and as Children, 25-64 Year Old Male Immigrants from English-Speaking Developed Countries, 2000 US Census [(a)]

Arrival Age Threshold for Adults	Arrived as Children			Arrived as Adults		
	Educational Attainment	YSM	Sample Size	Educational Attainment	YSM	Sample Size
12+	0.111	-0.003	5,429	0.102	-0.007	16,348
	(17.15)	(0.88)		(35.84)	(7.78)	
13+	0.109	-0.002	5,696	0.101	-0.006	16,081
	(18.06)	(0.69)		(35.32)	(7.25)	
14+	0.108	-0.004	5,943	0.102	-0.006	15,874
	(18.42)	(1.23)		(35.11)	(7.11)	
15+	0.108	-0.005	6,188	0.102	-0.007	15,589
	(19.17)	(1.99)		(34.88)	(7.05)	
16+	0.107	-0.005	6,475	0.102	-0.007	15,302
	(19.62)	(2.07)		(34.43)	(6.68)	
17+	0.105	-0.004	6,759	0.102	-0.006	15,018
	(20.09)	(2.02)		(33.90)	(6.31)	
18+	0.106	-0.005	7,085	0.102	-0.006	14,692
	(20.97)	(2.59)		(33.30)	(6.00)	

Note: (a) Absolute value of heteroskedasticity-consistent 't' statistics in parentheses.
The estimating equation includes all of the independent variables included in Table 3.
Source: 2000 US Census of Population 5 percent PUMS.

The results in Table 4 for the adult samples are similar for each threshold age and similar to the results in Table 3: the payoff to education is a little over 10 percent, and the coefficient on the YSM variable is between -0.006 and -0.007, with both coefficients highly statistically significant. Among the samples of child immigrants, the payoff to education is similar to that of adults (11 percent compared to 10 percent) and the coefficient on the YSM variable is smaller in absolute value. The similar coefficient on schooling for the adult immigrants compared to the child immigrants is consistent with the ESDC immigrants coming with a high degree of skill transferability and relatively low costs of immigration (Chiswick and Miller, 2008a)[9].

While the coefficient on duration is negative in all of the equations in Table 4 among adult immigrants its magnitude is similar to that in Table 3 and is highly statistically significant. Among the child immigrants, however, the magnitude is smaller, decreases, and becomes statistically insignificant as older children are excluded. Indeed the coefficient is not significant in the samples for young children, that is, when age at arrival is 14 or younger. These results are supportive of the negative assimilation hypothesis.

The Table 3 results also indicate that the negative assimilation effect has intensified over time. The strengthening of the negative assimilation effect could be an economic phenomenon or the result of the change in the detail on year of immigration used in the analysis (see Table 1). To ascertain whether the latter is important, the year of immigration data in the 2000 Census were first recoded into 10 categories analogous to those available for the 1990 data, and an alternative YSM variable created using the mid-points of these categories. Re-estimation of the earnings equation using this alternative variable resulted in an estimate of the negative assimilation effect for 2000 of -0.006 (t-ratio = -13.15), instead of the -0.007 (t-ratio = - 13.42) using the full detail. This shows that the presentation of the YSM data is of modest importance for the statistical analyses undertaken here. Moreover, this apparent slight diminution of the estimated impact of the duration variable when less detailed categorical information is used serves to

[9] Among adult native born males the schooling coefficient is about 10.6 percent and for the foreign born about 5.2 percent in the 2000 Census (Chiswick and Miller, 2008a).

strengthen the evidence in support of the negative assimilation hypothesis. It indicates that the effects estimated for 1980 and 1990 are biased somewhat toward zero by the use of the less detailed categorical information on years since migration.

Table 5 presents estimates of the payoff to schooling and the estimated coefficients for the duration variables from the separate analyses undertaken for the UK, Ireland, Canada and Australia/New Zealand. For the UK and Canada, where sample sizes are relatively large, the negative assimilation effect is alive and well, and there is evidence for it increasing over time. A similar pattern is evident for the much smaller samples of immigrants from Australia and New Zealand. In the somewhat larger sample for Australia and New Zealand in 2000 (1,250 observations), the coefficient on duration in the quadratic specification is negative and significant, and in the linear specification is negative, although not statistically significant.

The results for Ireland appear to be different from those of the UK, Canada and Australia/New Zealand. In the quadratic specification the coefficient on the duration term is positive and the squared term is negative, and they are both statistically significant in 1990. In the linear specification for Ireland, the coefficients of the duration variable have mixed signs and they are not statistically significant. The lower level of income in Ireland, and the ease (low cost) of migration to the UK, as distinct from migration to the US, may be responsible for this effect.

Table 5
Selected Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants by Country of Origin, 1980, 1990 and 2000 US Censuses [(a)(b)]

Variable[(d)]	1980		1990		2000	
United Kingdom: Sample Sizes 1980: 1,268; 1990: 7,439; 2000: 8,917						
Educational	0.077	0.077	0.085	0.085	0.109	0.109
Attainment	(8.68)	(8.67)	(20.15)	(20.19)	(28.08)	(28.09)
Years Since	-0.004	-0.002	-0.002	-0.005	-0.009	-0.009
Migration (YSM)	(0.64)	(1.18)	(0.88)	(5.35)	(3.68)	(11.01)
$YSM^2/100$	0.005	(c)	-0.005	(c)	0.002	(c)
	(0.35)		(0.93)		(0.38)	
Ireland: Sample Sizes 1980: 367; 1990: 1,857; 2000: 2,029						
Educational	0.022	0.020	0.051	0.051	0.072	0.072
Attainment	(1.50)	(1.37)	(7.51)	(7.48)	(9.26)	(9.24)
Years Since	0.027	0.004	0.010	0.002	0.008	-0.001
Migration (YSM)	(1.58)	(0.70)	(2.01)	(0.89)	(1.40)	(0.67)
$YSM^2/100$	-0.046	(c)	-0.018	(c)	-0.020	(c)
	(1.33)		(1.95)		(1.77)	
Canada: Sample Sizes 1980: 1,733; 1990: 7,956; 2000: 9,581						
Educational	0.065	0.064	0.077	0.076	0.108	0.108
Attainment	(8.96)	(9.08)	(18.31)	(18.25)	(28.74)	(28.87)
Years Since	0.002	-0.004	0.001	-0.004	-0.004	-0.006
Migration (YSM)	(0.27)	(1.99)	(0.32)	(4.19)	(2.00)	(8.12)
$YSM^2/100$	-0.014	(c)	-0.009	(c)	-0.003	(c)
	(0.89)		(1.87)		(0.57)	
Australian and New Zealand: Sample Sizes 1980: 112; 1990: 794; 2000: 1,250						
Educational	0.070	0.069	0.091	0.091	0.104	0.103
Attainment	(2.14)	(2.21)	(6.53)	(6.52)	(11.14)	(11.08)
Years Since	-0.011	-0.003	-0.000	-0.000	-0.014	-0.004
Migration (YSM)	(0.35)	(0.55)	(0.03)	(0.11)	(2.21)	(1.42)
$YSM^2/100$	0.018	(c)	-0.000	(c)	0.026	(c)
	(0.25)		(0.02)		(1.71)	

Notes: (a) Full set of results available from the authors upon request; (b) Absolute value of heteroskedasticity-consistent 't' statistics in parentheses; (c) Variable not entered; (d) The estimating equation includes all of the independent variables included in Table 3.
Sources: US Censuses of Population 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Two further sets of analyses were undertaken to test the robustness of the findings for the US with respect to the language variable. In the first the variables for proficiency in the English language were omitted from the specification. It has been shown that English proficiency among immigrants is strongly linked to duration of residence, and the inclusion of the language proficiency variable in the earnings equation could distort measurement of the assimilation effect. Table 6 presents the findings for the duration of residence variables from this set of analyses. These estimates mirror those from the earnings function that included the English proficiency variables (compare Tables 3 and 5). The language variable is therefore of little consequence for the quantification of the negative assimilation effect. This is not surprising given that all of the immigrants under study reported that they were born in an English-speaking developed country.

Table 6
Selected Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants by Country of Origin, Without Language Variables, 1980, 1990 and 2000 US Censuses [(a)(b)]

Variable	1980		1990		2000	
Total Sample: Sample Sizes 1980: 3,480; 1990: 18,046; 2000: 21,777						
Years Since Migration (YSM)	0.003 (0.54)	-0.003 (1.90)	-0.000 (0.28)	-0.004 (6.17)	-0.007 (4.36)	-0.007 (13.41)
$YSM^2/100$	-0.011 (1.15)	(c)	-0.007 (1.99)	(c)	0.001 (0.15)	(c)
United Kingdom: Sample Sizes 1980: 1,268; 1990: 7,439; 2000: 8,917						
Years Since Migration (YSM)	-0.004 (0.59)	-0.002 (1.05)	-0.002 (0.85)	-0.005 (5.35)	-0.010 (3.70)	-0.009 (11.00)
$YSM^2/100$	0.005 (0.33)	(c)	-0.005 (0.96)	(c)	0.002 (0.40)	(c)
Ireland: Sample Sizes 1980: 367; 1990: 1,857; 2000: 2,029						
Years Since Migration (YSM)	0.026 (1.54)	0.004 (0.68)	0.010 (2.09)	0.002 (1.03)	0.008 (1.42)	-0.001 (0.61)
$YSM^2/100$	-0.045 (1.30)	(c)	-0.018 (1.99)	(c)	-0.020 (1.76)	(c)
Canada: Sample Sizes 1980: 1,733; 1990: 7,956; 2000: 9,581						
Years Since Migration (YSM)	0.003 (0.37)	-0.004 (1.76)	0.001 (0.31)	-0.004 (4.12)	-0.004 (1.94)	-0.006 (8.18)
$YSM^2/100$	-0.015 (0.93)	(c)	-0.009 (1.84)	(c)	-0.003 (0.65)	(c)
Australian and New Zealand: Sample Sizes 1980: 112; 1990: 794; 2000: 1,250						
Years Since Migration (YSM)	-0.010 (0.33)	-0.003 (0.52)	-0.004 (0.46)	-0.002 (0.45)	-0.015 (2.30)	-0.004 (1.64)
$YSM^2/100$	0.018 (0.25)	(c)	-0.006 (0.32)	(c)	0.025 (1.71)	(c)

Notes: (a) Full set of results available from the authors upon request; (b) Absolute value of heteroskedasticity-consistent 't' statistics in parentheses; (c) Variable not entered; (d) The estimating equation includes all of the independent variables included in Table 3.
Sources: US Censuses of Population 1980 1 percent Public Use Microdata Sample (PUMS); 1990 5 percent PUMS; 2000 5 percent PUMS.

In the second experiment, the data for Canada for 2000 were analyzed separately according to whether the immigrants were French Canadians (defined as speaking French in their home in the US) or other Canadians. For each sample the estimate of the assimilation effect was a highly significant -0.006, where the t-ratios were t = - 2.61 for French Canadians and t = -7.91 for other Canadians. This estimate was not sensitive to whether information on the degree of proficiency in English was included in the model. Hence, the negative assimilation effect observed for Canadians appears to be independent of whether they also speak French at home.

(B) Australia

Further evidence regarding the negative assimilation effect among immigrants in the ESDC from the ESDC is provided in a recent study of immigrant earnings in Australia (Chiswick and Miller, 2008b, see Table 7). Using the Australian 2001 Census data for adult foreign-born men, other variables being the same, earnings increased with duration in Australia among those who were not born in the ESDC. Among those born in the ESDC, however, earnings decreased with duration, other variables the same.

Table 7
Partial Effect of Duration of Residence on the Earnings of Adult Male Immigrants from the ESDC, 2001 Australian Census.

Period of Immigration	ESDC	Other Countries
1991 – 1995	- 0.040	0.011
	(0.92)	(0.32)
1986 – 1990	- 0.055	0.031
	(1.58)	(0.85)
Before 1986	-0.085	0.107
	(3.31)	(3.65)

Notes: The sample size is 3,127, the benchmark immigration category is "Immigrated after 1995", and t-ratios are in parentheses. The estimating equation includes variables for schooling, labor market experience, marital status, and log weeks worked.
Source: Chiswick and Miller (2008b), Table 1, S48.

The coefficients imply 5.5 percent lower earnings for those who migrated from the ESDC in 1988 compared to those who immigrated in 1998. This compares with a decline of 7 percent over a ten year period for ESDC immigrants in the US 2000 Census (Table 3, column iv).

(C) Sweden

Immigration among the Nordic countries might offer another test of the negative assimilation hypothesis. The four Nordic countries (except Finland) are of roughly similar levels of income and the languages are quite similar, although many of the ethnic Swedish and ethnic Finnish migrants to Sweden know Swedish.[10] Many of the cultural characteristics and institutions are similar across the countries. There is unrestricted labor mobility across the Nordic countries.

Pedersen *et al*. (2008, pp 105-6, Table 5.8) study the wages in 2005 of immigrants in Sweden from the 10 Eastern European countries that joined the European Union in May 2004 and the four other Nordic countries. The immigrants in Sweden from the EU-10 "have lower wages than the natives and those who have arrived recently have lower wages than those coming earlier, controlling for age, education, and gender. For those coming from the Nordic countries the pattern is quite different. The wage differential is much smaller and those who have arrived earlier have a wage disadvantage compared to those who arrived in more recent periods" (Pedersen *et al*., 2008, pp 105-6, see also Table 5.8). Indeed, recent immigrants from each of the four Nordic countries have higher earnings than those born in Sweden, other variables the same, with the earnings

[10] The Finnish language is of central Asian origin, as is Hungarian, and is quite different from the other Scandinavian languages.

advantage declining with duration and eventually becoming negative. This pattern is consistent with the negative assimilation hypothesis.

IV. IMMIGRANT VERSUS NATIVE EARNINGS OVER TIME

Tables 8 and 9 list the coefficients of the duration of residence variables from the regression equations estimated on pooled samples of the native born and foreign born in the US for each census year. Table 8 contains results for 1990 and 2000. Table 9 contains results for 1980, 1990 and 2000. The analyses for 1990 and 2000 which are common to the two tables differ by the level of detail on the duration of residence variables, to the extent permitted by the census with the least amount of information in the set of comparisons conducted (*i.e.*, the 1990 Census when only 2000 and 1990 data are compared, and the 1980 Census when 1980, 1990 and 2000 data are compared—see Table 1 for details).

For the native born, a 25 percent subset of the one percent PUMS for each census was used in these analyses, a sampling procedure that yielded over 100,000 observations for the native born, which is more than adequate for the comparisons conducted. The regression equations contain the set of standardizing variables used in Table 3, and a set of birthplace variables (for immigrants from the UK, Ireland, Canada and Australia/New Zealand, respectively). One set of the estimates (column ii) is from equations that constrain the estimates of each of the human capital and demographic variables from Table 3 to be the same for the native born and the foreign born. The second set includes a full set of interaction terms between these variables and birthplace (column iii). The inclusion of these interaction terms has minimal impact on the comparisons that can be made across the duration of residence categories. It has, however, a marked impact in some analyses on the magnitude of the native born-immigrant comparisons, *ceteris paribus*, a result consistent with previous findings (see, for example, Funkhouser and Trejo, 1995).

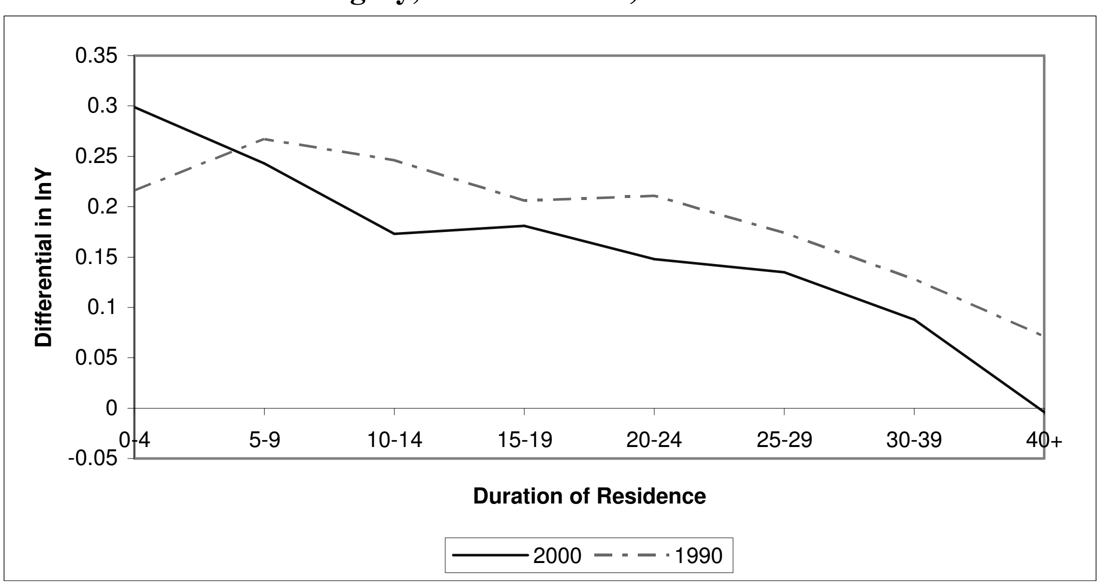
Table 8
Coefficients on Birthplace and Duration of Residence Variables from Analysis on Pooled Sample of Native-born and Foreign-Born Workers, 1990 and 2000 US Census[(a)]

	1990			2000		
Variable	Difference in Mean Earnings[(b)] (i)	Without Birthplace Interactions (ii)	With Birthplace Interactions (iii)	Difference in Mean Earnings (i)	Without Birthplace Interactions (ii)	With Birthplace Interactions (iii)
Birthplace (native born as benchmark)						
UK	0.360	0.149	0.216	0.399	0.315	0.299
	(30.45)	(8.16)	(1.66)	(36.67)	(21.17)	(2.27)
Ireland	0.261	0.182	0.225	0.223	0.319	0.302
	(13.08)	(8.05)	(1.74)	(11.14)	(14.82)	(2.28)
Canada	0.247	0.145	0.206	0.322	0.303	0.289
	(20.66)	(7.50)	(1.58)	(30.33)	(21.02)	(2.20)
Australia	0.248	0.081	0.156	0.392	0.304	0.290
and N.Z.	(5.56)	(1.94)	(1.12)	(13.10)	(11.19)	(2.19)
Duration of Residence (0-4 years as benchmark)						
5-9 yrs	(c)	0.071	0.051	(c)	-0.046	-0.056
		(2.88)	(2.09)		(2.31)	(2.82)
10-14 yrs	(c)	0.060	0.030	(c)	-0.101	-0.126
		(2.11)	(1.04)		(4.78)	(5.88)
15-19 yrs	(c)	0.024	-0.010	(c)	-0.085	-0.118
		(0.84)	(0.36)		(3.81)	(5.27)
20-24 yrs	(c)	0.035	-0.005	(c)	-0.117	-0.151
		(1.52)	(0.22)		(4.99)	(6.40)
25-29 yrs	(c)	0.007	-0.042	(c)	-0.125	-0.164
		(0.32)	(1.75)		(4.91)	(6.32)
30-39 yrs	(c)	-0.033	-0.088	(c)	-0.155	-0.211
		(1.49)	(3.66)		(8.20)	(10.35)
40+ yrs	(c)	-0.079	-0.145	(c)	-0.232	-0.303
		(2.57)	(4.34)		(10.73)	(12.62)
R^2	0.0100	0.3749	0.3754	0.0158	0.3316	0.3319
Sample Size	140,344	140,344	140,344	155,254	155,254	155,254

Notes: (a) Full set of results available from the authors upon request; Absolute value of heteroskedasticity-consistent 't' statistics in parentheses; (b) Difference in mean log earnings from the native born; (c) Variable not entered; (d) The estimating equation includes all the variables included in Table 3.
Sources: US Censuses of Population 1990 and 2000 US Census PUMS (1 percent and 5 percent files).

Table 8 has five main features. First, according to the figures in column (i), the mean earnings of immigrants from the UK, Canada and Australia/New Zealand relative to the native born increased between 1990 and 2000. The mean earnings of immigrants from Ireland, however, fell by four percentage points relative to the mean earnings of the native born over this period. Second, regardless of the specification of the estimating equation (*i.e.*, column (ii) or column (iii)), there is evidence of positive adjustment in the 1990 data over the first decade in the US. Beyond this point, however, the estimates are consistent with the negative assimilation hypothesis; earnings decline with a longer duration. Third, the 2000 data exhibit a pattern consistent with the negative assimilation hypothesis across all duration intervals. Fourth, as illustrated in Figure 1, beyond 5 years of residence, the profiles of the immigrant-native born earnings differentials by duration of residence for 2000 and 1990, for all intents and purposes, have a negative slope and are parallel.

Figure 1
Earnings for Foreign Born Relative to Native Born Adult Men by Duration of Residence Category, *Ceteris Paribus,* 1990 and 2000 US Census



<u>Source</u>: Authors' calculations from Table 7, column (iii).

In compiling Figure 1, the duration of residence coefficients from the model with birthplace interaction terms have been used. The intercept points are given by the coefficients on the dummy variable for immigrants from the UK. This brings us to the fifth feature of the results in Table 8: the intercept point for 2000 (or the earnings advantage that immigrants have over the native born, *ceteris paribus*) is higher in that year than for 1990. This is generally taken as evidence for an increase over time in the unobservable qualities of immigrants relative to the native born. At each of the other durations of residence, however, the earnings profile for the foreign born for 1990 is above that for 2000. In other words, when looking at the data for 1990 and 2000, the evidence on the unobservable change in the qualities of immigrant cohorts is ambiguous.

Table 9 presents the information for the analyses of the 1980, 1990 and 2000 Censuses. The pattern of earnings effects with duration of residence for 1980 is a diluted version of that which characterized the data a decade later in 1990. The immigrant earnings advantage over the native born in 1990 and 2000 is considerably greater than in 1980, suggesting that the 1980s and 1990s were characterized by different selection among immigrants from English-speaking developed countries than in earlier years. The large negative coefficients on the birthplace variables for 1980 in the specification with birthplace interaction effects are due mainly to different earnings effects of the weeks worked variable: the coefficient on this for the foreign born was 1.149, and that for the native born 1.062. In comparison, in 2000 the coefficients on the weeks worked variable was 0.975 for the foreign born and 1.024 for the native born.[11]

Table 9
Coefficients on Birthplace and Duration of Residence Variables from Analysis on Pooled Sample of Native-born and Foreign-Born Workers, 1980, 1990 and 2000 US Census[(a)(b)]

	1980[(c)]		1990		2000	
Variable	Without Birthplace Interactions	With Birthplace Interactions	Without Birthplace Interactions	With Birthplace Interactions	Without Birthplace Interactions	With Birthplace Interactions
Birthplace (native born as benchmark)						
UK	0.048	-0.337	0.149	0.218	0.315	0.307
	(1.13)	(1.24)	(8.19)	(1.68)	(21.19)	(2.33)
Ireland	-0.018	-0.424	0.183	0.228	0.318	0.308
	(0.31)	(1.54)	(8.07)	(1.76)	(14.78)	(2.32)
Canada	0.063	-0.321	0.144	0.206	0.302	0.295
	(1.33)	(1.18)	(7.44)	(1.58)	(20.97)	(2.24)
Australia	-0.038	-0.410	0.082	0.158	0.305	0.298
and N.Z.	(0.47)	(1.46)	(1.95)	(1.13)	(11.20)	(2.24)
Duration of Residence (0-4 years as benchmark)						
5-9 yrs	0.109	0.079	0.071	0.052	-0.046	-0.056
	(1.65)	(1.18)	(2.89)	(2.11)	(2.30)	(2.78)
10-14 yrs	0.127	0.076	0.060	0.031	-0.101	-0.125
	(2.24)	(1.29)	(2.12)	(1.07)	(4.77)	(5.82)
15-19 yrs	0.056	-0.002	0.024	-0.009	-0.085	-0.116
	(1.03)	(0.04)	(0.85)	(0.32)	(3.81)	(5.17)
20-29 yrs	0.050	-0.002	0.020	-0.023	-0.120	-0.154
	(1.03)	(0.04)	(1.00)	(1.09)	(6.19)	(7.78)
30+ yrs	-0.007	-0.069	-0.045	-0.100	-0.185	-0.242
	(0.14)	(1.19)	(2.12)	(4.25)	(10.98)	(12.81)
R^2	0.3221	0.3222	0.3748	0.3754	0.3315	0.3318
Sample Size	107,402	107,402	140,344	140,344	155,254	155,254

Notes: (a) Full set of results available from the authors upon request; (b) Absolute value of heteroskedasticity-consistent ‘t’ statistics in parentheses; (c) The mean earnings advantage in 1980 for the foreign born compared to the native born is 0.258 for immigrants from the UK, 0.139 for immigrants from Ireland, 0.162 for immigrants from Canada and 0.126 for immigrants from Australia/New Zealand; (d) The estimating equation includes all the variables included in Table 3.
Sources: 1990 and 2000 US Census PUMS (1 percent and 5 percent files).

[11] The decline in the elasticity of annual earnings with respect to weeks worked would be consistent with a decline in the seasonality of employment among immigrants.

The relatively flat earnings-duration of residence profile in 1980 and the steeper negative profile in 1990 and 2000, together with the increases in the positive immigrant-native born earnings differential over time, *ceteris paribus,* suggest there may be merit to the estimation of a cohort model. In this application, the approach follows Funkhouser and Trejo (1995).

The cohort model may be written as:

$$\ln Y_i \;=\; \alpha + X_i\beta + YSM_i\gamma + C_i\delta + T_i\phi + \varepsilon_i\,,$$

where income (Y) is the annual earnings from wage and salaried employment and self-employment, X_i a set of human capital and demographic standardizing variables used above, YSM_i is the number of years an immigrant has spent in the United States, C_i is a vector of dummy variables indicating the immigrant cohort of arrival, T_i is a vector of dummy variables for the Census year, and ε_i is a stochastic disturbance term. In this earnings equation, γ captures the pattern of immigrant assimilation, and δ captures cohort differences in the intercept of the earnings profile. This specification constrains the coefficients on the X_i variables to be the same across birthplace groups and across time periods. Estimates are also presented, however, from a model where the β are allowed to differ for the native born and the foreign born.[12]

Two models are estimated: the first based on a pooling of the data for 1990 and 2000, and the second based on a pooling of the data for 1980, 1990 and 2000. It is also

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[12] Estimates for the more complex specification which allowed the coefficients on all the X_i variables to change over time, as well as across birthplace groups, were also obtained, but are not reported here. The results from the more complex specification were slightly more favorable to the negative assimilation hypothesis than those reported.

noted that sample inclusions that are sometimes used to mimic a synthetic cohort (*e.g.*, restrict the analysis to 25-44 year olds in 1980, 35-54 year olds in 1990 and 45-64 year olds in 2000) are not imposed in this analysis. The sample used is simply a pooled version of the samples used in the separated analyses of the 1980, 1990 and 2000 data above. Table 10 lists the relevant information from this cohort approach.

Table 10
Estimates of Cohort Model for the United States, 1980, 1990 and 2000 US Censuses[(a)(b)]

Arrival Cohort	Data Sets	
	1990+2000	1980+1990+2000
1995-2000	0.411	0.298
	(4.51)	(3.47)
1990-1994	0.373	0.238
	(4.07)	(2.74)
1985-1989	0.291	0.150
	(3.22)	(1.77)
1980-1984	0.359	0.196
	(3.94)	(2.29)
1975-1979	0.357	0.154
	(3.86)	(1.80)
1970-1974	0.360	0.154
	(3.79)	(1.76)
1965-1969	0.380	0.158
	(3.95)	(1.80)
1960-1964	0.367	0.122
	(3.68)	(1.37)
1950-1959	0.354	0.089
	(3.38)	(0.98)
Before 1950	0.392	0.075
	(3.32)	(0.76)
Years since Migration	**-0.006**	**-0.002**
	(3.48)	**(1.76)**
R^2	0.3717	0.4144
Sample Size	295,598	403,000

Notes: (a) Full set of results available from the authors upon request; (b) Absolute value of heteroskedasticity-consistent 't' statistics in parentheses; (c) The estimating equation includes all the variables included in Table 3.
Sources: US Censuses of Population 1980, 1990 and 2000 US Census PUMS (1 percent and 5 percent files).

The results in Table 10 reveal consistent evidence that immigrants in the 1995-2000 cohort have higher earnings relative to the native born than the earlier arrival cohorts, although the advantage is not great. From the analysis based only on the 1990 and 2000 Census data, the variations in earnings by arrival cohort are modest: the smallest earnings effect relative to the native born (of +0.29) is associated with the 1985-1989 arrival cohort. All other arrival cohorts are associated with positive earnings effects compared to the native born, of between 0.35 and 0.41. The analysis based on the 1980, 1990 and 2000 Census data indicates that the earlier arrival cohorts have a smaller earnings advantage over the native born than the more recent arrival cohorts. In other words, the unmeasured dimensions of immigrant quality have increased over time compared to the native born.

The years since migration variable is negative and statistically significant in each of the sets of analyses presented in Table 10, albeit only at the 8 percent level of significance in the study based on the 1980, 1990 and 2000 Census data. The estimated coefficient is -0.002 in the analyses based on all three data sets, and -0.006 in the analyses based only on the 1990 and 2000 Census data. This compares favorably with values of between -0.003 to -0.007 in the cross-sectional analyses reported above. In other words, adjustment for differences in the quality of immigrant cohorts, in a situation where there is an apparent increase in unobserved dimensions of immigrant quality over time, results in only a slightly weaker assimilation effect. The effect remains negative: negative assimilation.

V. SUMMARY AND CONCLUSION

The international migration literature has to date been dominated by empirical testing of the immigrant assimilation hypothesis. The main testable implication of this hypothesis is that immigrant earnings—and other labor market and economic outcomes—will improve with duration of residence in the destination country. Evidence consistent with this hypothesis has been found for all the major immigrant-receiving countries, time periods and data sets that have been examined.

This paper has addressed whether such positive assimilation will be found if skills are highly transferable internationally. It argues that where countries are of approximately equal economic standing, and skills are highly transferable, international migration among these countries will typically occur when the individual experiences a favorable draw from the distribution of wage offers in the potential destination relative to the wage available in the country of origin and there will be little or no post-migration investment in destination-specific human capital. A relatively high wage offer that attracts the immigrant, particularly if it is a high random wage, need not persist indefinitely. With the passage of time, a "regression to the mean" would be expected, which will be reflected empirically by a negative relationship between earnings and duration of residence in the destination. This "negative" assimilation is not due to a deterioration of skills (quantity of human capital) but due to a relative decline in the wage rate (price).

The analysis of the earnings of adult, foreign-born men from the English-Speaking Developed Countries (ESDC) in the 1980, 1990 and 2000 US Censuses reveals strong support for the negative assimilation hypothesis. It also indicates that this "negative" assimilation has strengthened over time. An examination of immigrant earnings relative to the earnings of the native born, using both a standard cross-section approach and a cohort model, also showed strong support for the negative assimilation hypothesis. Note that the "negative" assimilation found among immigrants to the US born in the other English-Speaking Developed Countries occurs in the same Census data in which positive assimilation (earnings increasing with duration) is found for immigrants born in other countries.

The reporting of analyses for immigrants from the other ESDC for Australia (2001 Census) and for Nordic immigrants in Sweden also reveals a relative decline in earnings with duration of residence, while the earnings of other immigrants in these countries increase with duration. This is consistent with the negative assimilation hypothesis developed in this paper.

Whether immigrant earnings assimilation is positive or "negative" depends on the degree of the international transferability of skills, the extent of post-migration investment in human capital, and the rate of return on this investment.

Negative, rather than positive, assimilation is the pattern that characterizes the earnings-duration of residence relationship among immigrants from the English-speaking developed countries in the US, Australia, and among Nordic immigrants in Sweden. As with Chiswick's (1978, 1979) model of three decades ago, it is hoped that future research for other countries, data sets and time periods, will test whether this is a universal finding for immigrants from countries of similar economic standing and very high skill transferability to that of the destination country.

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APPENDIX A

DESCRIPTION OF VARIABLES
FOR ANALYSIS FOR THE UNITED STATES

Data Source: 2000 Census of Population of the United States, Public Use Microdata Sample (PUMS), 5 percent sample, 1990 Census of Population of the United States, Public Use Microdata Sample (PUMS), 5 percent sample, and 1980 Census of Population of the United States, Public Use Microdata Sample (PUMS), 1 percent sample.

Definition of Population: Foreign-born and native-born men aged twenty-five to sixty-four. The foreign born are limited to those born in Canada, the UK (and its constituent units), Ireland, Australia and New Zealand. Only residents of the 50 States and the District of Columbia are considered.

Dependent Variable:
Earnings (LNEARN): The natural logarithm of earnings in the year prior to the census year for those reporting that they worked in that year. Earnings are the sum of wage and salary and self employment earnings. Values less than 100, including zero and negative values, are assigned the value 100.

Independent Variables:
Years of Education (EDUC): This variable records the total years of full-time equivalent education. It has been constructed from the Census data on educational attainment by assigning the following values to the Census categories: completed less than fifth grade (2 years); completed fifth or sixth grade (5.5); completed seventh or eighth grade (7.5); completed ninth grade (9); completed tenth grade (10); completed 11th grade (11); completed 12th grade or high school (12); attended college for less than one year (12.5); attended college for more than one year or completed college (14); Bachelor's degree (16); Master's degree (17.5); Professional degree (18.5); Doctorate (20).

Potential Experience: This is the individual's age minus years of education minus 6.

Years Since Migration (YSM). This is computed from the year the foreign-born person came to the United States to stay.

Log of Weeks Worked: This is the natural logarithm of the number of weeks the person worked in the year prior to the census year (*i.e.*, 1999 for the 2000 census and so on).

Marital Status (MARRIED): This is a dicotomous variable that distinguishes individuals who are married, spouse present (equal to 1) from all other marital states.

English Proficiency: Two dichotomous variables are used to summarize the individual's proficiency in spoken English. The first is for those who speak a language other than English at home and speak English very well or well. The second is for those who speak a language other than English at home and speak English not well or not at all. The reference group is those who speak only English at home.

Country of Origin: Separate dichotomous variables for persons born in Canada, the UK (and its constituent units), Ireland, Australia/New Zealand. French Canadians are distinguished from Other Canadians by whether they report speaking French at home. Because of sample sizes and the similarities of their origins, Australians and New Zealanders are combined.

Location: The two location variables record residence in a non-metropolitan area (NON-MET) or in the Southern States (SOUTH). The states included in the latter are: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.

Table A.1
Means and Standard Deviations of Variables in Immigrant Earnings Function, 25-64 Year Old Male Immigrants from English-Speaking Developed Countries, 1980, 1990 and 2000 US Censuses

Variable	*1980*	*1990*	**2000**
Log Earnings	9.731 (0.97)	10.313 (1.03)	10.725 (1.02)
Educational Attainment	13.644 (3.60)	14.276 (2.94)	14.866 (2.70)
Experience (EXP)	25.785 (12.83)	22.327 (11.69)	23.115 (10.88)
Years Since Migration (YSM)	22.049 (12.63)	21.575 (13.87)	20.480 (14.71)
Log Weeks Worked	3.827 (0.38)	3.818 (0.40)	3.825 (0.39)
Married	0.809 (0.39)	0.711 (0.45)	0.677 (0.47)
South	0.162 (0.37)	0.217 (0.41)	0.258 (0.44)
Rural[(a)]	0.074 (0.26)	0.140 (0.35)	0.015 (0.12)
English Very Well/Well	0.116 (0.32)	0.116 (0.32)	0.134 (0.34)
English Not Well/Not at All	0.006 (0.08)	0.006 (0.08)	0.007 (0.09)
United Kingdom	0.364 (0.48)	0.415 (0.49)	0.413 (0.49)
Ireland	0.105 (0.31)	0.106 (0.31)	0.095 (0.29)
Canada	0.498 (0.50)	0.434 (0.50)	0.436 (0.50)
Australia and New Zealand	0.032 (0.18)	0.045 (0.21)	0.057 (0.23)
Sample Size	3,480	18,046	21,777

Note: (a) Definition of variable changes appreciable across data sets.
Sources: US Censuses of Population, Make similar change on all of the tables that follow 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

STATISTICAL APPENDIX B

Table B-1
Means and Standard Deviations of Variables in Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from the United Kingdom, 1980, 1990 and 2000 US Censuses

Variable	1980	1990	2000
Log Earnings	9.796	10.377	10.776
	(0.93)	(1.01)	(1.03)
Educational Attainment	14.485 (3.19)	14.747 (2.72)	15.181 (2.54)
Experience (EXP)	23.973	21.802	23.220
	(12.43)	(11.25)	(10.72)
Years Since Migration (YSM)	19.583 (12.68)	19.322 (13.35)	19.549 (13.81)
Log Weeks Worked	3.835	3.828	3.828
	(0.38)	(0.39)	(0.39)
Married	0.804	0.714	0.683
	(0.40)	(0.45)	(0.47)
South	0.195	0.248	0.291
	(0.40)	(0.43)	(0.45)
Rural[(a)]	0.068	0.130	0.011
	(0.25)	(0.34)	(0.10)
English Very Well/Well	0.047 (0.21)	0.064 (0.25)	0.088 (0.28)
English Not Well/Not at All	0.002 (0.05)	0.003 (0.05)	0.006 (0.08)
Sample Size	1,268	7,439	8,917

Note: (a) Definition of variable changes appreciable across data sets.

Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-2
Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from the United Kingdom, 1980, 1990 and 2000 US Censuses

Variable	1980		1990		2000	
Constant	2.785	2.778	3.950	3.962	4.306	4.303
	(8.14)	(8.10)	(24.32)	(24.50)	(20.94)	(20.92)
Educational	0.077	0.077	0.085	0.085	0.109	0.109
Attainment	(8.68)	(8.67)	(20.15)	(20.19)	(28.08)	(28.09)
Experience	0.071	0.070	0.053	0.054	0.050	0.050
(EXP)	(8.76)	(8.92)	(14.78)	(14.89)	(12.81)	(12.70)
$EXP^2/100$	-0.117	-0.116	-0.088	-0.088	-0.077	-0.077
	(7.22)	(7.37)	(11.43)	(11.51)	(10.05)	(9.96)
Years Since	-0.004	-0.002	-0.002	-0.005	-0.009	-0.009
Migration	(0.64)	(1.18)	(0.88)	(5.35)	(3.68)	(11.01)
(YSM)						
$YSM^2/100$	0.005	(b)	-0.005	(b)	0.002	(b)
	(0.35)		(0.93)		(0.38)	
Log Weeks	1.292	1.292	1.172	1.172	0.995	0.994
Worked	(16.59)	(16.66)	(29.33)	(29.38)	(20.32)	(20.35)
Married	0.203	0.205	0.245	0.244	0.228	0.228
	(3.69)	(3.69)	(10.86)	(10.79)	(10.86)	(10.89)
South	-0.067	-0.066	-0.145	-0.145	-0.102	-0.102
	(1.44)	(1.42)	(6.56)	(6.59)	(5.13)	(5.14)
Rural[(a)]	0.072	0.072	-0.096	-0.096	-0.416	-0.415
	(1.04)	(1.04)	(3.10)	(3.09)	(5.91)	(5.91)
English Very	0.036	0.036	-0.128	-0.128	-0.092	-0.092
Well/Well	(0.41)	(0.41)	(2.64)	(2.64)	(2.65)	(2.66)
English Not	-0.816	-0.815	-0.312	-0.314	-0.071	-0.071
Well/Not at All	(0.54)	(0.54)	(2.01)	(2.03)	(0.58)	(0.57)
$\bar{R}^2$	0.4407	0.4411	0.3432	0.3432	0.2724	0.2725
Sample Size	1,268	1,268	7,439	7,439	8,917	8,917

Notes: (a) Definition of variable changes appreciable across data sets; (b) Variable not entered.
Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-3
Means and Standard Deviations of Variables in Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Ireland, 1980, 1990 and 2000 US Censuses

Variable	1980	1990	2000
Log Earnings	9.677	10.278	10.600
	(0.84)	(0.88)	(0.92)
Educational Attainment	12.568	13.233	13.899
	(3.74)	(3.02)	(2.71)
Experience (EXP)	28.311	25.096	23.145
	(11.10)	(12.60)	(11.85)
Years Since Migration (YSM)	23.270	22.029	18.982
	(10.22)	(14.30)	(13.80)
Log Weeks Worked	3.846	3.816	3.810
	(0.38)	(0.38)	(0.43)
Married	0.809	0.715	0.621
	(0.39)	(0.45)	(0.49)
South	0.076	0.113	0.148
	(0.27)	(0.32)	(0.36)
Rural[(a)]	0.038	0.080	0.007
	(0.19)	(0.27)	(0.08)
English Very Well/Well	0.093	0.107	0.129
	(0.29)	(0.31)	(0.34)
English Not Well/Not at All	0.000	0.007	0.009
	(0.00)	(0.08)	(0.09)
Sample Size	367	1,857	2,029

Note: (a) Definition of variable changes appreciable across data sets.

Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-4
Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Ireland, 1980, 1990 and 2000 US Censuses

Variable	1980		1990		2000	
Constant	5.780	5.851	4.886	4.873	6.326	6.354
	(6.31)	(6.08)	(17.37)	(17.32)	(12.63)	(12.62)
Educational	0.022	0.020	0.051	0.051	0.072	0.072
Attainment	(1.50)	(1.37)	(7.51)	(7.48)	(9.26)	(9.24)
Experience	0.043	0.051	0.030	0.036	0.008	0.012
(EXP)	(2.72)	(3.31)	(4.33)	(5.58)	(0.98)	(1.64)
$EXP^2/100$	-0.081	-0.094	-0.046	-0.056	-0.015	-0.023
	(3.10)	(3.70)	(3.61)	(4.71)	(1.02)	(1.70)
Years Since	0.027	0.004	0.010	0.002	0.008	-0.001
Migration	(1.58)	(0.70)	(2.01)	(0.89)	(1.40)	(0.67)
(YSM)						
$YSM^2/100$	-0.046	(b)	-0.018	(b)	-0.020	(b)
	(1.33)		(1.95)		(1.77)	
Log Weeks	0.630	0.652	1.065	1.071	0.810	0.812
Worked	(2.61)	(2.65)	(14.68)	(14.81)	(8.49)	(8.48)
Married	0.511	0.520	0.279	0.277	0.286	0.288
	(3.71)	(3.75)	(6.63)	(6.59)	(6.66)	(6.70)
South	-0.164	-0.169	-0.151	-0.151	-0.122	-0.128
	(1.03)	(1.06)	(2.31)	(2.31)	(2.29)	(2.38)
Rural[(a)]	0.136	0.132	-0.133	-0.135	0.085	0.093
	(0.58)	(0.56)	(1.92)	(1.92)	(0.30)	(0.33)
English Very	0.054	0.034	-0.094	-0.096	-0.064	-0.064
Well/Well	(0.44)	(0.28)	(1.62)	(1.66)	(1.20)	(1.20)
English Not	(b)	(b)	0.225	0.228	-0.007	-0.019
Well/Not at All			(1.03)	(1.04)	(0.03)	(0.09)
$\bar{R}^2$	0.1948	0.1924	0.3268	0.3259	0.2105	0.2099
Sample Size	367	367	1,857	1,857	2,029	2,029

Notes: (a) Definition of variable changes appreciable across data sets; (b) Variable not entered or not relevant.

Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-5
Means and Standard Deviations of Variables in Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Canada, 1980, 1990 and 2000 US Censuses

Variable	1980	1990	2000
Log Earnings	9.699	10.264	10.699
	(1.01)	(1.05)	(1.03)
Educational Attainment	13.138	13.987	14.729
	(3.68)	(2.99)	(2.77)
Experience (EXP)	27.172	22.606	23.334
	(13.16)	(11.81)	(10.88)
Years Since Migration (YSM)	24.252	24.444	22.447
	(12.44)	(13.71)	(15.64)
Log Weeks Worked	3.815	3.811	3.828
	(0.40)	(0.40)	(0.39)
Married	0.821	0.716	0.685
	(0.38)	(0.45)	(0.46)
South	0.152	0.212	0.254
	(0.36)	(0.41)	(0.44)
Rural[(a)]	0.086	0.169	0.021
	(0.28)	(0.37)	(0.14)
English Very Well/Well	0.174	0.168	0.185
	(0.38)	(0.37)	(0.39)
English Not Well/Not at All	0.010	0.009	0.009
	(0.10)	(0.09)	(0.09)
Sample Size	1,733	7,956	9,581

Note: (a) Definition of variable changes appreciable across data sets.
Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-6
Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Canada, 1980, 1990 and 2000 US Censuses

Variable	1980		1990		2000	
Constant	3.779	3.833	4.241	4.283	4.322	4.328
	(9.93)	(10.26)	(21.90)	(22.08)	(24.74)	(24.73)
Educational	0.065	0.064	0.077	0.076	0.108	0.108
Attainment	(8.96)	(9.08)	(18.31)	(18.25)	(28.74)	(28.87)
Experience	0.052	0.053	0.047	0.048	0.052	0.052
(EXP)	(6.56)	(6.64)	(12.23)	(12.35)	(13.76)	(13.90)
$EXP^2/100$	-0.083	-0.084	-0.072	-0.074	-0.081	-0.081
	(5.41)	(5.59)	(8.94)	(9.15)	(10.55)	(10.77)
Years Since	0.002	-0.004	0.001	-0.004	-0.004	-0.006
Migration	(0.27)	(1.99)	(0.32)	(4.19)	(2.00)	(8.12)
(YSM)						
$YSM^2/100$	-0.014	(b)	-0.009	(b)	-0.003	(b)
	(0.89)		(1.87)		(0.57)	
Log Weeks	1.137	1.140	1.123	1.125	0.986	0.987
Worked	(12.37)	(12.43)	(23.11)	(23.19)	(24.38)	(24.45)
Married	0.233	0.233	0.227	0.226	0.280	0.280
	(3.86)	(3.87)	(10.21)	(10.18)	(14.17)	(14.17)
South	-0.289	-0.292	-0.111	-0.112	-0.024	-0.024
	(4.17)	(4.20)	(4.33)	(4.38)	(1.22)	(1.21)
Rural[(a)]	-0.126	-0.131	-0.092	-0.092	-0.279	-0.280
	(1.34)	(1.39)	(3.37)	(3.36)	(4.43)	(4.44)
English Very	-0.153	-0.154	-0.035	-0.033	0.017	0.018
Well/Well	(2.62)	(2.62)	(1.30)	(1.25)	(0.74)	(0.77)
English Not	-0.028	-0.025	-0.031	-0.031	0.211	0.213
Well/Not at All	(0.23)	(0.20)	(0.27)	(0.27)	(1.90)	(1.91)
$\bar{R}^2$	0.3014	0.3014	0.2881	0.2878	0.2817	0.2817
Sample Size	1,733	1,733	7,956	7,956	9,581	9,581

Notes: (a) Definition of variable changes appreciable across data sets; (b) Variable not entered.
Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-7
Means and Standard Deviations of Variables in Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Australia or New Zealand, 1980, 1990 and 2000 US Censuses

Variable	1980	1990	2000
Log Earnings	9.663	10.265	10.770
	(0.94)	(1.29)	(1.08)
Educational Attainment	15.496	15.188	15.233
	(3.81)	(3.00)	(2.79)
Experience (EXP)	16.563	17.950	20.613
	(10.73)	(10.37)	(10.09)
Years Since Migration (YSM)	11.895	13.555	14.622
	(12.20)	(12.05)	(12.49)
Log Weeks Worked	3.843	3.799	3.820
	(0.28)	(0.45)	(0.41)
Married	0.688	0.637	0.664
	(0.47)	(0.48)	(0.47)
South	0.214	0.211	0.230
	(0.41)	(0.41)	(0.42)
Rural[(a)]	0.063	0.103	0.007
	(0.24)	(0.30)	(0.08)
English Very Well/Well	0.080	0.110	0.090
	(0.27)	(0.31)	(0.29)
English Not Well/Not at All	0.000	0.004	0.005
	(0.00)	(0.06)	(0.07)
Sample Size	112	794	1,250

Note: (a) Definition of variable changes appreciable across data sets.
Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-8
Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Australia or New Zealand, 1980, 1990 and 2000 US Censuses

Variable	1980		1990		2000	
Constant	3.411	3.388	4.715	4.715	4.708	4.769
	(3.24)	(3.11)	(5.04)	(5.04)	(9.67)	(9.60)
Educational	0.070	0.069	0.091	0.091	0.104	0.103
Attainment	(2.14)	(2.21)	(6.53)	(6.52)	(11.14)	(11.08)
Experience	0.032	0.031	0.042	0.043	0.062	0.057
(EXP)	(1.65)	(1.67)	(2.79)	(2.84)	(4.99)	(4.77)
$EXP^2/100$	-0.010	-0.009	-0.077	-0.077	-0.105	-0.095
	(0.30)	(0.24)	(2.10)	(2.15)	(3.50)	(3.29)
Years Since	-0.011	-0.003	-0.000	-0.000	-0.014	-0.004
Migration	(0.35)	(0.55)	(0.03)	(0.11)	(2.21)	(1.42)
(YSM)						
$YSM^2/100$	0.018	(b)	-0.000	(b)	0.026	(b)
	(0.25)		(0.02)		(1.71)	
Log Weeks	1.218	1.219	0.965	0.965	1.042	1.034
Worked	(4.87)	(4.94)	(4.13)	(4.14)	(11.44)	(11.37)
Married	0.080	0.088	0.223	0.223	0.213	0.211
	(0.43)	(0.48)	(2.51)	(2.51)	(4.30)	(4.25)
South	0.076	0.069	-0.113	-0.113	-0.036	-0.032
	(0.50)	(0.45)	(1.28)	(1.27)	(0.53)	(0.48)
Rural[(a)]	-0.014	-0.028	-0.217	-0.217	0.231	0.266
	(0.05)	(0.10)	(1.74)	(1.74)	(0.70)	(0.77)
English Very	0.090	0.089	-0.259	-0.259	-0.078	-0.090
Well/Well	(0.17)	(0.17)	(1.66)	(1.69)	(1.01)	(1.17)
English Not	(b)	(b)	0.421	0.421	-0.412	-0.367
Well/Not at All			(1.97)	(1.98)	(0.89)	(0.76)
$\bar{R}^2$	0.2117	0.2187	0.1864	0.1874	0.2668	0.2655
Sample Size	112	112	794	794	1,250	1,250

Notes: (a) Definition of variable changes appreciable across data sets; (b) Variable not entered or not relevant.

Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

Table B-9
Estimates of Immigrant Adjustment Earnings Function, 25-64 Year Old Male Immigrants from Developed English-Speaking Countries, Without Language Variables, 1980, 1990 and 2000 US Censuses

Variable	1980		1990		2000	
Constant	3.563 (13.28)	3.592 (13.37)	4.230 (33.71)	4.248 (33.91)	4.522 (35.74)	4.521 (35.71)
Educational Attainment	0.066 (12.79)	0.065 (12.85)	0.078 (29.17)	0.078 (29.19)	0.104 (42.36)	0.104 (42.42)
Experience (EXP)	0.058 (10.85)	0.059 (11.18)	0.047 (19.30)	0.048 (19.59)	0.048 (19.27)	0.048 (19.30)
$EXP^2/100$	-0.094 (9.11)	-0.096 (9.52)	-0.073 (14.44)	-0.074 (14.75)	-0.074 (14.90)	-0.074 (14.98)
Years Since Migration (YSM)	0.003 (0.54)	-0.003 (1.90)	-0.000 (0.28)	-0.004 (6.17)	-0.007 (4.36)	-0.007 (13.41)
$YSM^2/100$	-0.011 (1.15)	(b)	-0.007 (1.99)	(b)	0.001 (0.15)	(b)
Log Weeks Worked	1.152 (16.86)	1.155 (16.94)	1.130 (36.03)	1.131 (36.13)	0.975 (33.55)	0.975 (33.61)
Married	0.256 (6.48)	0.255 (6.46)	0.246 (16.72)	0.246 (16.66)	0.256 (19.44)	0.256 (19.45)
South	-0.173 (4.23)	-0.176 (4.29)	-0.134 (8.42)	-0.135 (8.46)	-0.069 (5.15)	-0.069 (5.16)
Rural[(a)]	-0.043 (0.69)	-0.045 (0.73)	-0.102 (5.24)	-0.102 (5.23)	-0.294 (6.14)	-0.294 (6.14)
Ireland	-0.095 (1.97)	-0.089 (1.86)	0.001 (0.04)	0.000 (0.00)	-0.004 (0.19)	-0.004 (0.19)
Canada	0.001 (0.03)	0.002 (0.07)	-0.019 (1.34)	-0.019 (1.31)	-0.010 (0.75)	-0.009 (0.74)
Australia & New Zealand	-0.076 (0.93)	-0.086 (1.06)	-0.065 (1.55)	-0.068 (1.62)	-0.007 (0.25)	-0.007 (0.25)
$\bar{R}^2$	0.3281	0.3280	0.3057	0.3056	0.2706	0.2707
Sample Size	3,480	3,480	18,046	18,046	21,777	21,777

Notes: (a) Definition of variable changes appreciable across data sets; (b) Variable not entered.
Sources: 1980 1 percent Public Use Microdata Sample (PUMS); 1990 Census 5 percent PUMS; 2000 Census 5 percent PUMS.

The Stockholm University Linnaeus Center
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