DISCUSSION PAPER SERIES

IZA DP No. 5420

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January 2011

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

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Discussion Paper No. 5420
January 2011

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IZA Discussion Paper No. 5420
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# ABSTRACT

## Negative and Positive Assimilation, Skill Transferability, and Linguistic Distance

There are two complementary models of immigrants' economic and social adjustment – the positive assimilation model of Chiswick (1978, 1979), and the negative assimilation model of Chiswick and Miller (2011). The negative assimilation model is applicable for immigrants from countries that are very similar in terms of the transferability of skills, culture, and labor market institutions to the host country, and has been tested previously primarily using migration among the English-speaking developed countries. This paper generalizes the negative/positive assimilation models through analyzing the post-arrival earnings profiles of immigrants in the US from non-English-speaking countries according to the linguistic distance of their mother tongue from English. Using data on adult male immigrants from the 2000 US Census, it is shown that all groups of immigrants from non-English-speaking countries are characterized by positive assimilation. Earnings in the immediate post-arrival period are lowest for the language groups furthest from English, and the increase in earnings with duration is steeper the further the immigrant's mother tongue is from English. The linguistic distance of the immigrants' mother tongue from the destination language appears, therefore, to play a crucial role in generating the inverse relationship between post-arrival earnings growth and the initial earnings disadvantage documented in most studies of immigrant earnings.

JEL Classification: J61, J31, F22

Keywords: immigrants, assimilation, skill transferability, earnings, linguistic distance

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## NEGATIVE AND POSITIVE ASSIMILATION, SKILL TRANSFERABILITY, AND LINGUISTIC DISTANCE

### I. Introduction

For the past three decades research on immigrants has focused on various aspects of labor market adjustment. This research has been based on a model that might be referred to as "positive assimilation" (Chiswick 1978, 1979). That is, immigrants move from a lower income to a higher income area, find that their pre-migration skills, including language skills, are not perfectly transferable, and engage in a process of investing in skills relevant for the destination, including destination-specific skills. These investments imply lower earnings in the investment period to be followed by increased earnings. Conceptually and empirically earnings increase, but at a decreasing rate, with duration in the destination. This model is consistent with data on immigrants for a wide range of destinations.

An alternative model of "negative assimilation" has recently been postulated (Chiswick and Miller 2011). This model assumes that the origin and destination have similar levels of earnings and the distribution of earnings, that the skills are perfectly transferable between the origin and the destination and, for simplicity, there are no investments in on-the-job-training. This model implies that migration is a two way street between the two countries, and that the earnings of immigrants decline with duration of residence. The negative assimilation model was tested by studying immigrants from the English-speaking developed countries (ESDC) in the US and Australia, and Nordic immigrants to Sweden. The hypothesized higher initial earnings than the native born, *ceteris paribus*, and the decline in earnings with duration of residence was found to be consistent with the data. Study of changes in the hours of work of immigrants with duration of residence generates similar supportive evidence (see Blau, Kahn, and Papps 2010).

In the positive assimilation model the rise in earnings with duration is attributable to skill and information acquisition. In the negative assimilation model the decline is attributable to the decline in the economic rent that stimulated the initial migration.

If both positive and negative assimilation can occur, at what point (or points) does positive assimilation turn into negative assimilation? If one had a measure of the transferability of skills between countries, what would be the skill transferability level that separated positive from negative assimilation? To address these questions, one clearly needs a measure of skill transferability, preferably a scalar measure.

What one would like to do, for example, is study the earnings assimilation of immigrants in the United States using an index of the transferability of skills from the origin to the US to test for the level or degree of skill transferability at which positive assimilation becomes negative assimilation. There is no obvious single measure, or even sets of measures, of the degree of skill transferability across countries. Among immigrants, proficiency in the destination language is an important skill. Investments are made by immigrants for whom it is not their mother tongue to acquire it, and it has a pay-off in terms of higher earnings and employment rates (Chiswick and Miller 2002). Indeed, the very high degree of linguistic transferability among the English-speaking developed countries, and, to a slightly lesser extent, among the Nordic countries, made these good test cases for the negative assimilation model.

Following up on the use of language as a key aspect of skill transferability, this paper studies immigrants to the United States from a wide range of countries and linguistic origins, and uses a measure of "distance" from English of their mother tongue (i.e., language of the country of origin) as the index of skill transferability.

Section II, the concepts, briefly summarizes the positive and negative assimilation models, as well as the measure of "linguistic distance" from English of the mother tongues of immigrants. Section III describes the Census data and provides the empirical testing. It estimates the level of linguistic distance (skill transferability) where the positive assimilation of immigrants turns to negative assimilation. Section IV is the summary and conclusion.

## II. Concepts

This section briefly summarizes the models of positive assimilation (Chiswick 1978, 1979), negative assimilation (Chiswick and Miller 2011), and the measure of the distance from English of the immigrant languages (Chiswick and Miller 2005).

### (a) Positive Assimilation

Immigrants migrate from a low wage country to a high wage country. The migration is in one direction. The immigrants arrive with skills, including language skills, that are not perfectly transferable. On arrival the immigrants have lower earnings than the native born, other measured variables the same, for two reasons. One is the less than perfect transferability to the destination of the skills acquired in the origin that they bring with them. The other is that earnings are reduced as they make investments in the destination to increase the transferability of previously acquired skills and to acquire new skills (including language skills). With the passage of time, earnings increase because of implementation of the newer modified skills, and because the extent of investments decreases. That is, earnings increase at a decreasing rate with years since migration.

(b) Negative Assimilation

On the other hand, consider two countries with equal levels of income and the distribution of income and with perfect skill transferability between them. Given that there are costs of migration, migration takes place only if the worker gets a job offer (for random or systematic reasons) that provides economic rent. Two-way migration occurs. In the destination the migrants initially have higher earnings than the native born, other things being the same, because otherwise they would not have moved. With the passage of time the economic rents dissipate, that is, earnings undergo a relative decline or a regression to the mean (Chiswick and Miller 2011).

Some of the immigrants will return to their origin. Others, however, remain in the destination because their earnings are still higher than in the origin, or if lower than in the origin not sufficiently lower to encourage return migration. A factor inhibiting return migration is the acquisition of social ties and social capital in the destination. Marriage, children, and social networks in the destination all tend to discourage return migration. Among those who remain, a relative decline in earnings (regression to the mean) with duration in residence would be expected. It is not that skills dissipate, it is that the economic rent that stimulated the initial move declines.

(c) Skill Transferability: Linguistic Distance

The measure of skill transferability used in this study is the "linguistic distance" from English of the immigrants' language of origin. This is based on the assumption that language skills play a direct role in the labor market in the job investment process, the job search process, and on the job. It is further assumed that a language more distant from English represents a less

transferable skill. Chiswick and Miller (2005) developed a measure of linguistic distance based on the difficulty that Americans have learning the language.[1] It is assumed that if Americans have more difficultly learning a specific language, that native speakers of the language have more difficulty learning English.

Based on the tests given to Americans studying a limited range of foreign languages, linguistic scores (LS) were established that range from 1.0 for languages most distant from English (Japanese and Korean) to 3.0 for languages closest to English (Afrikaans, Norwegian, and Swedish) (Hart-Gonzalez and Lindermann 1993). Based on the closeness of languages, linguistic scores were established for nearly all of the remaining languages (other than native American Indian languages and a few languages of unknown origin) (see Chiswick and Miller 2005 and Grimes and Grimes 1993). The linguistic scores for the 43 most frequent languages are reported in Table A-1.[2]

## III. The Data and Empirical Analysis

The empirical testing of the model presented below is based on the 2000 US Census, one percent public use microdata sample for adult (age 25 to 64) foreign-born males with earnings. Earnings are the sum of wage, salary, and self-employment income in 1999. As is standard in research on immigrant earnings, the natural logarithm of annual earnings is regressed on: years of schooling, years since migration to the US and its square, years of potential labor market experience and its square, dichotomous variables for marital status (married spouse present,

[1] The linguistic distance measure was created for nearly all of the languages coded in the US 1990 and 2000 Censuses, except for the languages of the native peoples of the Americas and a few unique languages (e.g., Basque). Few of these speakers would be among the immigrants.

[2] These linguistic scores have been used to study immigrant earnings as well as international trade patterns (Chiswick and Miller 2005 and Hutchinson 2005).

Married = 1), race (Black =1), and location (South =1, Metropolitan area = 1), and the natural logarithm of weeks worked (LnWW).

The language question in the 2000 Census asks if the person speaks at home a language other than English, other than just a few words. If the response is in the affirmative, the person is then asked to identify this language and to self-report how well this person speaks English – very well, well, not well, or not at all (or only for a few words). With those who speak only English at home this creates five English proficiency categories. In the regression analysis those who speak English very well, or who speak it well are combined into one category, as are those who speak English not well or not at all.

The self-reported non-English languages spoken at home are identified in the 2000 Census microdata file and code-book. Except for Native American languages, there is a measure of "linguistic distance" from English for nearly all of the other languages identified in the Census microdata language list (Chiswick and Miller 2005). The measure used here is referred to as the linguistic score.

Each immigrant who reports a non-English language is assigned the relevant value for the linguistic score. If the immigrant from a non-English speaking country reports that he speaks only English, the mean language score for immigrants who speak a language other than English from that country is assigned.

In the estimating equation, immigrants to the US from the English-Speaking Developed Countries (ESDC – Australia, Canada, Ireland, New Zealand, and the United Kingdom) are treated as a benchmark group and have a separate variable for years since migration (YSME). All other countries are first constrained to have the same partial effect of years since migration on earnings (YSMNE). This separate years since migration variable is then interacted with the

linguistic score. For immigrants from the ESDC, the post-migration earnings adjustment is given by: $\frac{\partial \text{LnY}}{\partial \text{YSME}} = \alpha^{\text{E}}$, which is hypothesized to be negative under the negative assimilation model. For immigrants from other countries, the post-migration growth in earnings is given by: $\frac{\partial \text{LnY}}{\partial \text{YSMNE}} = \alpha_1^{NE} + \alpha_2^{NE}(\text{LS})$, where $\alpha_1^{NE}$ is hypothesized to be positive and $\alpha_2^{NE}$ is hypothesized to be negative as LS is higher the closer the language is to English.

The main hypothesis investigated is whether immigrants from countries with languages close to English (high linguistic score) have a flatter or even negative profile for earnings with respect to the duration of residence. This framework can be used to determine the value of the linguistic score at which the post-immigration change in earnings for those from non-English speaking countries would be zero, representing neither positive nor negative assimilation. In other words, at what value, if any, of the linguistic score, LS, does: $\alpha_1^{NE} + \alpha_2^{NE}(\text{LS}) = 0$. This hypothetical is asking where the linguistic score would fall if a linear scale were to be used to assess the language for which there is neither positive nor negative assimilation.

Table 1 reports selected regression coefficients, with the full equation reported in Appendix B. [3] The samples in columns (i) and (ii) are for all immigrants. The next three columns are for immigrants partitioned according to the distance of their mother tongue from English (from most distant, iii, to intermediate values, iv, to closest to English, v), while the sixth column is for immigrants from the English-speaking developed countries.

[3] As is standard in native-born and immigrant earnings equations, in Table B-1 annual earnings increase with educational attainment, total labor market experience, weeks worked, not being racially black, being currently married, living in a metropolitan area, living outside the south, and compared to English-only speakers, being less proficient in English. As these are standard findings, they are not discussed further.

In Table 1, column (i) there is a dichotomous variable for English-speaking developed countries and a variable for the effects of duration in the US for immigrants from these countries (YSME). *Ceteris paribus*, earnings are substantially higher for these immigrants (coefficient 0.53, t-ratio = 12.4). Consistent with Chiswick and Miller (2011), earnings decrease among these immigrants by about one-half of a percentage point per year since migration (coefficient –0.005, t-ratio = 4.75). Among immigrants from other countries, however, earnings increase with duration in the US (YSMNE). The positive effect of duration becomes smaller the larger is the linguistic score, that is, the closer the origin language is to English. But how close does the linguistic score have to be for there to be neither positive nor negative assimilation? The regression analysis in Table 1 (full equation Table B-1) implies a score of 5.5. [4] Yet, this is outside the range of the data as the highest linguistic score is 3.0 (primarily Swedish and Norwegian speaking immigrants), the languages closest to English.

In Table 1, column (ii) the linguistic score term and its interaction with duration is replaced by dichotomous linguistic score variables for languages far from English (LS1), intermediate distance from English (LS2), and close to English (LS3). Earnings are lower for the LS1 and LS2 languages than for the languages closest to English (LS3).[5] While the negative effect of the linguistic score for these languages diminishes with duration in the United States, the effect never disappears.

In Table 1, columns (iii), (iv), and (v), separate equations are computed for the three non-English linguistic groups. The partial effect of duration on earnings is most positive for the

[4] Evaluating $\frac{\partial \mathrm{LnY}}{\partial \mathrm{YSMNE}}$ the term 0.0148-0.0027 (LS) becomes zero at approximately LS = 5.5. The linguistic score range is from 1.0 to 3.0.

[5] The relatively low earnings of LS2 speakers may be due to the inclusion of Spanish, as Hispanics tend to have lower earnings than other immigrants, other variables being the same.

languages (L1) most distant from English (coefficient 0.013, t = 19.1), followed by the intermediate languages (coefficient 0.009, t-ratio = 20.9), with the languages closest to English having a smaller by still highly significant positive effect of duration on earnings (coefficient 0.005, t-ratio = 5.3). It is only in Table 1, column (vi), where the analysis is limited to immigrants from the ESDC, that the effect of duration is negative and statistically significant (coefficient – 0.005, t-ratio = 4.8).

Figure 1 depicts the contrasting post-arrival pattern of earnings adjustment for immigrants from the ESDC and for immigrants from other countries. The figure shows the much higher initial earnings of the ESDC immigrants, other variables the same, and the narrowing of the gap as time in the US increases. Earnings decrease with duration for ESDC immigrants and increase with duration for other immigrants.

Figure 2 shows the pattern of earnings with respect to duration for immigrants from the ESDC and the three separate linguistic groups among other immigrants. Initial earnings are lowest for the language groups furthest from English, but the increase with duration is steeper the further the language is from English. This demonstrates the by now familiar pattern of post-arrival earnings growth varying inversely with the initial post-arrival earnings. This analysis shows the crucial role played by the linguistic distance of the immigrants' mother tongue from English in generating this pattern.

## V. Summary and Conclusion

The conceptual framework used in the study of immigrants' social and economic adjustment was broadened in Chiswick and Miller's (2011) recent paper, where a process of negative assimilation in the post-arrival earnings was proposed to sit alongside the conventional positive assimilation model. Negative assimilation was developed and tested in the context of

immigrants from countries that are very similar in terms of the transferability of skills, culture, and labor market institutions to the host country. Specifically, the analyses were primarily based on immigrants migrating from English-speaking developed countries to another English-speaking developed country in response to a favorable draw from the earnings distribution in the destination country.

In the positive assimilation model earnings increase with duration of residence because of the accumulation of skills, including knowledge, relevant for the destination labor market. In the negative assimilation model earnings decrease with duration because the economic rent that stimulated the migration decreases over time.

The current study has generalized the conceptual framework behind the negative assimilation hypothesis to immigrants in the US through analyzing the post-arrival earnings profiles of immigrants according to the linguistic distance of their mother tongue from English. The findings show that immigrants from non-English-speaking countries are characterized by positive assimilation. The extent of this positive assimilation varies, however, with the linguistic distance of their mother tongue from English. The positive earnings effect associated with duration of residence in the US is less intense for immigrants with a mother tongue closer to English than it is for immigrants with a mother tongue more distant from English. This pattern of effects was established using various alternative specifications of the estimating equation, namely a model with a linear linguistic distance variable interacted with the years-since-migration variable, and a model based on three dichotomous variables formed for separate groups of immigrants based on their value on the linguistic distance measure.

Immigrants' post-arrival earnings growth varies according to the similarity of their background characteristics to those of the native born in the host country. Among immigrants,

earnings in the immediate post-arrival period are higher for those with a mother tongue closer to English, and higher still for immigrants from the English-speaking developed countries. Post-arrival growth in earnings is, however, greater for the group with a mother tongue more distant from English. It is more modest for groups with a non-English mother tongue that is closer to English, and negative for the limiting case of immigrants from the ESDC.

The analysis of the earnings of immigrants can be used to compute the value of the linguistic score that would result in neither negative nor positive assimilation, that is, no effect of duration on earnings. This value is beyond the range of the linguistic scores for the non-English languages. Even the language groups closest to English – but not English – exhibit positive assimilation.

Estimates of models of immigrant assimilation which eschew information on immigrants' heterogeneity with respect to their mother tongue will therefore hide important aspects of the initial level and post-arrival growth in earnings. Whether these patterns hold for other indices of across-country differences (*e.g.*, in institutions or workplace cultures) is a topic for further research.

**Table 1**

**Selected Regression Results from Analysis of Immigrant Earnings with Linguistic Distance Variable, Adult Males, 2000 US Census**

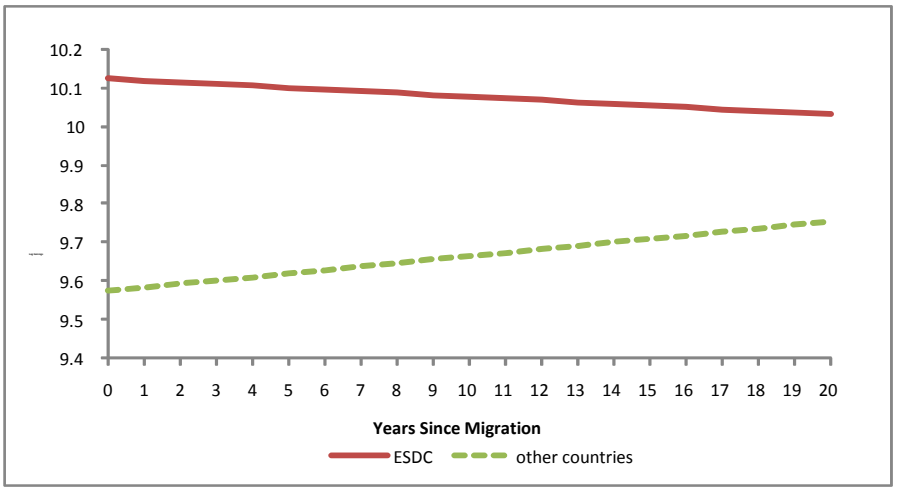
| Variable | Model (i) | Model (ii) | Model (iii) | Model (iv) | Model (v) | Model (vi) |
|---|---|---|---|---|---|---|
| English-Speaking Countries | 0.534 (12.37) | (a) | (a) | (a) | (a) | (a) |
| YSME (English-Speaking) | -0.0046 (4.75) | -0.0044 (4.54) | (a) | (a) | (a) | -0.0052 (4.76) |
| YSMNE (non-English-Speaking) | 0.0148 (8.21) | (a) | 0.0130 (19.06) | 0.0085 (20.86) | 0.0052 (5.31) | (a) |
| Linguistic Score | -0.0095 (0.57) | (a) | (a) | (a) | (a) | (a) |
| YSMNE*Linguistic Score | -0.0027 (3.22) | (a) | (a) | (a) | (a) | (a) |
| LS1 (far from English) | (a) | -0.578 (21.65) | (a) | (a) | (a) | (a) |
| LS2 (intermediate) | (a) | -0.610 (23.85) | (a) | (a) | (a) | (a) |
| LS3 (close to English) | (a) | -0.401 (13.17) | (a) | (a) | (a) | (a) |
| LS1*YSMNE | (a) | 0.012 (20.71) | (a) | (a) | (a) | (a) |
| LS2*YSMNE | (a) | 0.009 (22.14) | (a) | (a) | (a) | (a) |
| LS3*YSMNE | (a) | 0.007 (8.86) | (a) | (a) | (a) | (a) |
| Adjusted $R^2$ | 0.363 | 0.366 | 0.325 | 0.349 | 0.351 | 0.266 |
| Sample Size | 84,052 | 84,052 | 23,896 | 48,009 | 7,802 | 4,345 |

*Notes*: Heteroskedasticity-consistent 't' statistics in parentheses; (a) = variable not included. Columns (i) and (ii) are for entire sample; columns (iii), (iv), and (v) are for linguistic score groups LS1, LS2, and LS3; column (vi) is for immigrants from the English-Speaking Developed Countries (ESDC).

*Source*: Extracted from Table B-1 based on 2000 US Census 1% Public Use Microdata Sample.

## Figure 1

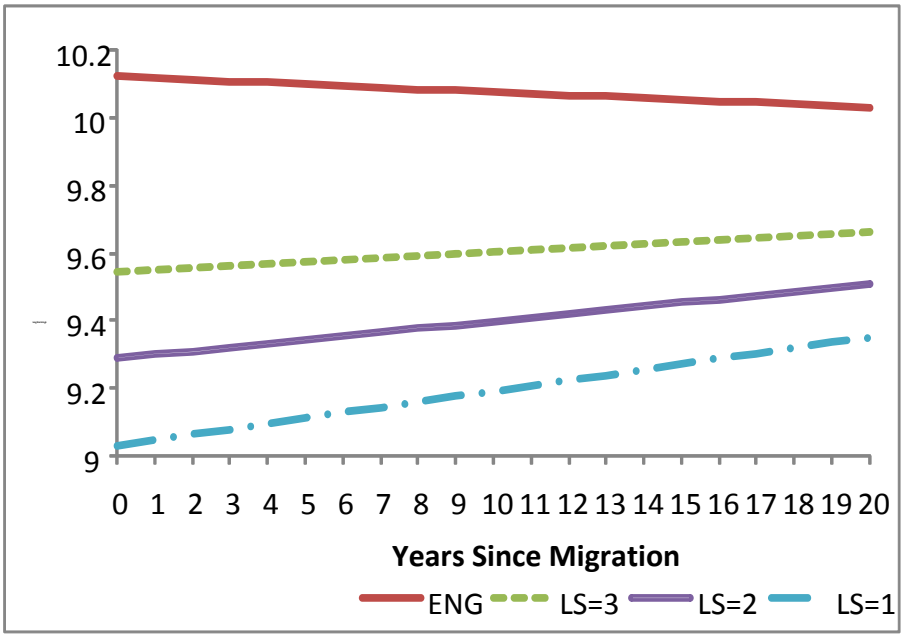
## Patterns of Post-Arrival Earnings Adjustment for Immigrants in the US by Region of Origin




*Source*: Authors' calculations from column (i) of Table 1.

## Figure 2

## Patterns of Post-Arrival Earnings Adjustment for Immigrants in the US by Region of Origin and Linguistic Distance from English




*Source:* Authors' calculations from column (ii) of Table 1.

## APPENDIX A

## DEFINITIONS OF VARIABLES

The variables used in the statistical analyses are defined below.

### 1. United States:

**Data Source:** 2000 Census of Population, Public Use Microdata Sample, 1 percent sample.

**Definition of Population:** 25-64 year old foreign-born males with positive earnings in 1999 from wages and salaries or self-employment.

| **Dependent Variable** | **Description** |
|---|---|
| *Earnings in 1999* | Natural logarithm of the annual earnings in 1999 from wages and salaries and self-employment income. |
| **Explanatory Variables** | |
| *Educational Attainment* | 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); ttended 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). |
| *Experience* | Age – Years of Education – 6. |
| *Weeks Worked* | This variable is the natural logarithm of the weeks worked in 1999. |
| *Black* | This is a dichotomous variable that distinguishes immigrants of self-reported black racial origin from all other racial origins. |
| *Marital Status* | This is a dicotomous variable that distinguishes individuals who are married, spouse present (equal to 1) from all other marital states. |
| *Location* | The two dichotomous location variables record residence in a metropolitan area or of a Southern State. |

| | |
|---|---|
| *English Proficiency* | There are two dichotomous variables for self-reported English proficiency. The first distinguishes individuals who speak only English at home or who speak another language and speak English either Very Well or Well. The second is for individuals who speak a language other than English at home and either speak English Not Well or Not at All. |
| *Years Since Migration* | This is computed from the year the foreign-born person came to the United States to stay. |
| *Linguistic Distance:* See Table A-1, explained in Chiswick and Miller 2005. | LS1, LS2, and LS3 refer to languages: |
| LS1 – | Far from English, LS 2.0 or below |
| LS2 – | Intermediate distance, LS greater than 2.0 and less than or equal to 2.25 |
| LS3 – | Close to English, LS values over 2.25 |

**Table A-1**

**Linguistic Score: Index of Difficulty of Learning English by Mother Tongue**

| Language | | Language Score | Language | | Language Score |
|---|---|---|---|---|---|
| Afrikaans | | 3.00 | Hungarian | | 2.00 |
| Norwegian | | 3.00 | Indonesian | | 2.00 |
| Rumanian | | 3.00 | Mongolia | | 2.00 |
| Swedish | | 3.00 | Polish | | 2.00 |
| Dutch | L3 | 2.75 | Serbo-Croatian | | 2.00 |
| Malay | | 2.75 | Tagalog | | 2.00 |
| Swahili | | 2.75 | Thai | | 2.00 |
| French | | 2.50 | Turkish | | 2.00 |
| Italian | | 2.50 | Bengali | | 1.75 |
| Portuguese | | 2.50 | Burmese | L1 | 1.75 |
| Danish | | 2.25 | Greek | | 1.75 |
| German | L2 | 2.25 | Hindi | | 1.75 |
| Russian | | 2.25 | Nepali | | 1.75 |
| Spanish | | 2.25 | Sinhala | | 1.75 |
| Amharic | | 2.00 | Arabic | | 1.50 |
| Bulgarian | | 2.00 | Lao | | 1.50 |
| Cambodian | | 2.00 | Mandarin | | 1.50 |
| Czech | L1 | 2.00 | Vietnamese | | 1.50 |
| Dari | | 2.00 | Cantonese | | 1.25 |
| Farsi | | 2.00 | Japanese | | 1.00 |
| Finnish | | 2.00 | Korean | | 1.00 |
| Hebrew | | 2.00 | | | |

*Notes*: A higher score means less difficulty in learning English.
LS1: Far from English, Linguistic Score 2.0 or below
LS2: Intermediate distance, Linguistic Score greater than 2.0 and Less than or equal to 2.25
LS3: Close to English, Linguistic Score greater than 2.25

*Source*: Chiswick and Miller (2005), Table 1.

## Appendix Table B-1

### Regression Results from Analysis of Immigrant Earnings with Linguistic Distance Variable, Adult Males, 2000 US Census

| Variable | Model (i) | Model (ii) | Model (iii) | Model (iv) | Model (v) | Model (vi) |
|---|---|---|---|---|---|---|
| Constant | 5.775 | 6.369 | 5.340 | 5.986 | 5.421 | 4.374 |
| | (87.69) | (106.55) | (43.48) | (92.71) | (28.54) | (13.81) |
| Educational | 0.053 | 0.050 | 0.074 | 0.040 | 0.055 | 0.111 |
| Attainment | (67.54) | (62.38) | (37.51) | (42.74) | (17.69) | (19.62) |
| Experience | 0.010 | 0.010 | 0.010 | 0.008 | 0.011 | 0.049 |
| (EXPER) | (9.31) | (9.14) | (4.79) | (5.98) | (3.35) | (9.19) |
| EXPER | -0.015 | -0.016 | -0.023 | -0.012 | -0.018 | -0.082 |
| Squared/100 | (7.78) | (8.30) | (5.42) | (4.75) | (2.95) | (7.61) |
| Log Weeks Worked | 0.875 | 0.874 | 0.920 | 0.830 | 1.004 | 0.992 |
| | (73.19) | (73.02) | (37.13) | (56.68) | (24.21) | (15.01) |
| Married | 0.211 | 0.211 | 0.190 | 0.211 | 0.235 | 0.251 |
| | (35.56) | (35.47) | (14.64) | (29.54) | (11.89) | (8.22) |
| Black | -0.115 | -0.179 | -0.272 | 0.007 | -0.299 | -0.169 |
| | (10.54) | (14.92) | (5.87) | (0.42) | (14.42) | (2.54) |
| South | -0.069 | -0.062 | -0.059 | -0.054 | -0.123 | -0.069 |
| | (11.37) | (10.17) | (4.39) | (7.42) | (6.04) | (2.24) |
| Metropolitan | 0.137 | 0.130 | 0.148 | 0.124 | 0.183 | 0.279 |
| | (5.10) | (4.85) | (2.03) | (4.58) | (2.05) | (1.57) |
| Speaks English | -0.060 | -0.039 | -0.086 | 0.003 | -0.045 | -0.024 |
| Very Well/Well | (6.25) | (4.06) | (4.11) | (0.18) | (2.25) | (0.64) |
| Speaks English Not | -0.251 | -0.216 | -0.256 | -0.186 | -0.122 | -0.133 |
| Well/Not at All | (22.44) | (19.07) | (9.44) | (12.55) | (2.91) | (0.87) |
| English-Speaking | 0.534 | (a) | (a) | (a) | (a) | (a) |
| Countries | (12.37) | | | | | |
| YSME (English- | -0.0046 | -0.0044 | (a) | (a) | (a) | -0.0052 |
| Speaking) | (4.75) | (4.54) | | | | (4.76) |
| YSMNE (non- | 0.0148 | (a) | 0.0130 | 0.0085 | 0.0052 | (a) |
| English-Speaking) | (8.21) | | (19.06) | (20.86) | (5.31) | |
| Linguistic Score | -0.0095 | (a) | (a) | (a) | (a) | (a) |
| | (0.57) | | | | | |
| YSMNE*Linguistic | -0.0027 | (a) | (a) | (a) | (a) | (a) |
| Score | (3.22) | | | | | |
| LS1 (far from | (a) | -0.578 | (a) | (a) | (a) | (a) |
| English) | | (21.65) | | | | |
| LS2 (intermediate) | (a) | -0.610 | (a) | (a) | (a) | (a) |
| | | (23.85) | | | | |
| LS3 (close to | (a) | -0.401 | (a) | (a) | (a) | (a) |
| English) | | (13.17) | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| LS1*YSMNE | (a) | 0.012<br>(20.71) | (a) | (a) | (a) | (a) |
| LS2*YSMNE | (a) | 0.009<br>(22.14) | (a) | (a) | (a) | (a) |
| LS3*YSMNE | (a) | 0.007<br>(8.86) | (a) | (a) | (a) | (a) |
| Adjusted $R^2$ | 0.363 | 0.366 | 0.325 | 0.349 | 0.351 | 0.266 |
| Sample Size | 84,052 | 84,052 | 23,896 | 48,009 | 7,802 | 4,345 |

*Notes*: Heteroskedasticity-consistent 't' statistics in parentheses; (a) = variable not included. Columns (i) and (ii) are for entire sample; columns (iii), (iv), and (v) are for linguistic score groups LS1, LS2, and LS3; column (iv) is for immigrants from the English-Speaking Developed Countries (ESDC).

*Source*: 2000 US Census 1% Public Use Microdata Sample.

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