

The Decline in Earnings of Childhood Immigrants in the U.S.

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Abstract

Recent empirical work documenting a declining trend in immigrant earnings relative to natives has focused primarily on immigrants who arrive as adults. In this paper, I find a large decline in the earnings of childhood immigrants (who represent over one fifth of the working immigrant population in my sample) in the U.S. between 1990 and 2010, and in particular during the 1990s. This drop in earnings has occurred across all age at arrival groups, but has disproportionately impacted lower-educated immigrants. A large decline in English language proficiency can explain much of this trend. A concentration of source countries (largely, through not entirely, due to an increase in Mexican immigration) has also contributed, mainly through the negative impacts it has had on English language proficiency and education levels.

Keywords: Earnings, Immigration, Language Proficiency, Assimilation.

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1 Introduction

Recent work empirical work has shown a declining trend in both the earning upon arrival of adult immigrants to the U.S., as well as a decline in their rate of assimilation after arrival.¹ In this paper, I consider the economic performance, as measured by earnings, of immigrants in the U.S. who arrived as children, and whether any trend in this performance is present. Data is taken from the U.S. Census Integrated Public Use Microdata Series (Ruggels et al. 2010), and covers years 1990-2011. I find that, like adult immigrants, childhood immigrants have experienced a significant decline in their economic performance in the past few decades. In 1990, childhood immigrants had age-adjusted earnings that were 6.2% lower than natives; in 2000, the earnings gap had risen significantly to 15.9%, and by 2010 had risen further to 19.3%.

A number of papers have documented declining trends in the economic performance of immigrants across multiple countries. Borjas (1985), looking at U.S. immigrants, finds that the seemingly rapid rise in immigrant earnings following migration can largely be explained by declines in the quality of immigrants entering the U.S. Similarly, Borjas (1995) finds that the entry wages of immigrants in the U.S. declined by 9% in the 1970s and 6% in the 1980s.

The results from Baker and Benjamin (1994), which studies Canadian immigrants, mirrors the results found in the U.S. of permanent differences across immigrant cohorts, with an increase in dispersion in labor market outcomes for immigrants who arrived to Canada after 1970. In contrast with the U.S., they find small or negative assimilation rates. Ayedemir and Skuterud (2005), also using Canadian data, find a declining trend in earnings at entry between 1966 and 2000. They argue that a large reduction in the returns to labor market experience gained abroad can explain a large portion of this decline.

More recently, Borjas (2016) documents a declining trend in both the earnings at arrival of recent immigrants to the U.S., as well as a decline in the rate of assimilation of these recent cohorts. A decline in the rate at which immigrants are learning English can explain a portion of this trend, with an increase in the size of conational group a potential cause for the decline in English language

¹See Borjas (2016), discussed below.

learning. The theory is that higher concentrations of immigrants from the same source country may reduce the incentive to acquire English language proficiency, since interactions in the immigrant's native language becomes more feasible in more circumstances. Cassidy (2015) largely supports the findings in Borjas (2016), and finds that recent immigrant cohorts are working in occupations that utilize more manual tasks and lower analytical and interactive tasks than past cohorts, and that recent cohorts are not converging to the native occupational task usage as quickly as past cohorts.

The literature that investigates trends in the earnings of immigrants typically focuses on adult immigrants, i.e. those who arrive aged 18 or older, even though childhood immigrants account for approximately a fifth of working aged immigrants.^{2,3} There are a number of reasons to treat adult and childhood immigrants differently. Childhood immigrants are more likely than adult immigrants to be exposed to at least some schooling in their new country, providing opportunities for assimilation and acquisition of country-specific human capital to occur prior to entry into the labor market. Since childhood immigrants receive (nearly) all of their work experience in their destination country, a decline in the returns to foreign work experience, as found in Ayedemir and Skuterud (2005), should not be a factor in their economic performance as adults. Also, by focusing on immigrants who arrive as children, we can analyze whether there may be declining returns to earlier stages of education received abroad, whereas adult immigrants have a wider range of possible educational outcomes. Finally, the linguistic theory known as the *critical period hypothesis* states that language acquisition becomes more difficult with age, and thus younger immigrants to the U.S., all else being equal, will be able to learn English more easily.

Schaafsma and Sweetman (2001), which looks at Canadian immigrants, is one of the few studies that examines trends in childhood immigrant outcomes across time (though it is not the central focus of the paper). They find that foreign work experience yields near zero returns following migration, and that returns to education vary with age at migration. They also find a strong (negative)

²While Ayedemir and Skuterud (2005) do include immigrants who arrive before age 18, they do not perform their analysis separately for this group.

³Bleakley and Chin (2004) report that approximately 35% of their sample of immigrants consists of childhood immigrants, which differ significantly from my value of approximately one fifth. The reason for this discrepancy is, in part, because they only consider workers up to age 38, while younger immigrants workers tend to disproportionately be childhood immigrants.

effect of higher age at migration and earnings, similar to the results found in Friedberg (1992). The estimation method used in my paper also closely mirrors Schaafsma and Sweetman (2001), who use an auxiliary regression to infer differences in an immigrant's actual and age-adjusted "predicted" wage, based on the age-earnings distribution of natives.

A few papers have specifically examined childhood immigrants, though they do not focus on any trends in their labor market outcomes as adults. Bleakley and Chin (2004) exploit variations in age at migration of childhood immigrants to construct an instrument to estimate the labor market returns to language proficiency.⁴ A few studies, including Gonzalez (2003) and Cortes (2006) in the U.S., Ohinata and van Ours (2010) in The Netherlands, and Schaafsma and Sweetman (2001) in Canada explore the importance of age at arrival of childhood immigrants and educational outcomes, and find significant effects.

I examine a number of factors that might help to explain the significant decline in earnings of childhood immigrants to the U.S. An important trend in immigration to the U.S. has been the concentration of source country. In my data, for example, 60% of 25-43 year old employed immigrant men in 1990 who arrived as children originated from one of the ten largest sending countries.⁵ By 2010, that fraction had risen to 73%. Immigrants from these larger sending countries perform significantly worse than those from smaller sending countries. I also find that, corresponding to this large increase in the earnings gap, there has been a large increase in the fraction of childhood immigrants who do not report proficiency in English, suggesting that English language ability may be an important channel through which the impact of country of origin size acts.

The results of this study point to a significant trend in immigrant performance in the U.S. While the declining performance of adult migrants has been noted for several years, in this paper I show that this declining trend extends to childhood immigrants as well, who form a substantial portion of the immigrant population. The concentration of country of origin of childhood immigrants and a decline in the English language ability of childhood immigrants can help explain a large portion

⁴Similarly, Bleakley and Chin (2010) use the same approach to explore the impact of language proficiency on marriage, fertility, and residential location.

⁵I refer to these as "large" sending countries, and they are: Mexico, El Salvador, Guatemala, Cuba, Dominican Republic, China, Korea, Philippines, Vietnam, and India.

of the declining trend in earnings, particularly during the 1990s. I also confirm a large, negative impact of age at migration on earnings, which acts primarily through the negative relationship between age at migration and English ability.

This paper is organized as following. In section 2, I describe the data used in my analysis. In section 3, I present and discuss the empirical results. Section 4 concludes.

2 Data and Variables

Data are taken from the U.S. Census Integrated Public Use Microdata Series (Ruggels et al. 2010).⁶ For 1990 and 2000, I use the 5% sample of decennial Census, while for 2010 I use the three-year pooled American Community Survey (ACS) which covers years 2009-2011.⁷ My sample includes employed males who report a positive earned income and who are not in the military.⁸

My primary sample of interest is working aged men who are childhood immigrants, defined as those who arrived to the U.S. at age 17 or earlier. A worker is coded as an immigrant if they are either a naturalized citizen or not a citizen, otherwise they are coded as native. I drop individuals in group quarters or who are still enrolled in school.

In 1990, year of immigration information is presented in intervals, while in later Census surveys the actual year of immigration is known. This presents some difficulties when examining childhood immigrants, since year of immigration is used to determine the age of arrival, and therefore whether an immigrant arrived as a child or an adult. To facilitate comparison across time, I convert the year of immigration in the 2000 and 2010 samples to have the same intervalled structure as the 1990 Census. This is done separately for each of the years within the ACS (2009, 2010, and 2011). For example, in the 1990 survey, one of the year of immigration ranges is 1970-1974. Converting this for the 2000 survey (10 years in the future) corresponds to a year of arrival range of 1980-

⁶Data are available for download at: <https://usa.ipums.org/usa/>.

⁷While it would be possible to also include the 1980 Census, which contains language proficiency (one of my variables of interest), the year of immigration coding scheme in that year would mean significantly narrowing the age range of my data, as I discuss below. Thus, I exclude 1980 from my analysis.

⁸The *inccarn* variable is used for earnings. Earnings are log of yearly earnings in 2011 dollars.

84. So in the 2000 sample, if an immigrant arrived in, for example 1982, I place them in the 1980-84 interval. Similarly, for the 2009 ACS sample, this year of immigration range is 1989-93. While this procedure causes me to lose information in the 2000 and 2010 samples, the focus of this paper is on the *trends* in the economic performance of childhood immigrants, and so accurate comparisons between samples is the primary concern.

I consider individuals who, in the 1990 sample, arrived after 1960, who arrived after 1970 for the 2000 sample, and after 1979-81 for the 2010 ACS sample, depending on the ACS year.⁹ In the 1990 sample, for instance, the oldest childhood immigrant possible would have arrived at age 17 in 1960, so would be 43 years old in 1990. As with Bleakley and Chin (2004), I use the maximum year of arrival when calculating the age at migration for immigrants, which will cause some older childhood immigrants to be mis-allocated as adult immigrants. However, this mis-allocation should be consistent across the survey years, thus should be of little concern when attempting to detect trends in earnings over time.

I include workers aged 25 and older. Given the year of immigration criteria just described, this leaves a sample of childhood immigrants between ages 25 and 43. I consider only immigrants from non-English speaking countries of origin, since their immigration experience can be expected to differ significantly from other immigrants.¹⁰

The comparison group, which I use to infer an immigrants' "predicted earnings", is native male workers, also between ages 25 and 43 who do not live in group quarters and are not enrolled in school. I infer predicted earnings for each childhood immigrant compared to native workers based on their age. This is done by running a Mincerian earnings regression for each survey year where the dependent variable is log of earnings, and I include age up to a third-order polynomial as independent variables.¹¹ This is the same approach to the one used in Schaafsma and Sweetman (2001).

⁹This is the same restriction imposed by Bleakley and Chin (2004).

¹⁰These include Canada, Bermuda, Belize-British Honduras, Jamaica, Antigua-Barbuda, Bahamas, Barbados, Dominica, Grenada, St. Kitts-Nevis, St. Vincent, Trinidad and Tobago, Guyana/British Guiana, the United Kingdom, Ireland, Northern Ireland, Liberia, South Africa, Australia, and New Zealand.

¹¹These regression results are not shown but are available upon request.

Descriptive statistics by survey year of my childhood immigrant sample and native comparison sample are shown in Table 1.¹² Childhood immigrants are on average around 2-3 years younger than natives, depending on the year. Note the large gap in average earnings between childhood immigrants and natives, which grew from 18% in 1990, to 25% in 2000, and finally to 28% in 2000. While 40% of childhood immigrants originated from a “small” sending country in 1990, this value was 27% in 2010, which is evidence of a concentration in source country of immigrants in the U.S. The large majority of the increased concentration in source country is due to the increase in Mexico immigration. There was an increase between 1990 and 2000 in the fraction of childhood immigrants who arrived at late teens, from 43% to 47%, which is consistent with the increase in the fraction of childhood immigrants from Mexico (from 35% in 1990 to 47% in 2000) and the fact that Mexican childhood immigrants are disproportionately older compared to childhood immigrants from other source countries.¹³

3 Results

While Table 1 shows a clear decline in the mean earnings of childhood immigrants relative to natives, it does not adjust for age. Instead, my analysis focuses on the difference between actual earnings and an immigrants’ age-adjusted “predicted earnings”, which I refer to as the “earnings gap”. Panel A of Table 2 shows the overall earnings gap by year. Columns (1)-(3) show the average earnings gaps for years 1990, 2000, and 2010, respectively, while columns (4) and (5) show the differences between 2000 and 1990, and between 2010 and 2000, respectively. There was a large increase in the earnings gap between 1990 and 2000, from 6.2% below native workers to 15.9%. From 2000 and 2010, a smaller (though still sizable) expansion occurred to 19.3%. Overall, from 1990 to 2010, the age-adjusted earnings gap has more than tripled in size.

What has been the source of this large expansion? A number of immigrant characteristics can have large effects on the earnings gap. These include age at migration, education, size of sending

¹²Survey weights are re-weighted by the number of weeks the immigrant reported working.

¹³These results are not shown here but are available upon request.

country, and English language proficiency. I investigate these immigrant characteristics by also showing the mean earnings gap in each survey separately by these various groupings. The results are shown in Panels B to E of Table 2.

I start by breaking my sample down by age at migration group. Friedberg (1992), among others, have pointed to age at migration as an important determinant of the economic success of immigrants, with immigrants arriving at a younger age generally outperforming those who arrive at later age. I separate my sample into four groups, based on age at arrival: 1) 0-6 years old; 2) 7 to 10 years old; 3) 11 to 14 years old; and 4) 15 to 17 years old. The earnings gap by year and age at arrival group is shown in Panel B of Table 2. First, reading down columns (1)-(3), note that in each survey year, the earnings gap grows with age at migration group; for instance, in 1990, immigrants who arrived between ages 15 to 17 had 16.2% lower age-adjusted earnings than natives, while the youngest group who arrived between ages 0 and 6 actually had 5.5% higher age-adjusted earnings than natives. Second, reading across each row, we observe an expansion of the earnings gap in each age at migration group. For those who arrived between ages 7 and 11, their earnings gap declined from 3.7% above natives in 1990 to 7.9% below natives in 2010, for an overall change of 11.6 percentage points. For the oldest group, the increase in the earnings gap between 1990 and 2010 was 14.5 percentage point. While there was an increase in all groups, the largest increase occurred for the oldest group, and the smallest increase (at 9.7 percentage point) occurred for the youngest group.

I repeat the exercise just performed for age at migration group but where instead in separate my sample into five education groups: 1) less than high school; 2) high school; 3) some college; 4) college degree; and 5) post-graduate degree. The results are shown in Panel C of Table 2. As expected, given the strong relationship between education and earnings, the earnings gap is negative for lower-educated immigrants, and positive for more educated immigrants. However, as is evident by consulting columns (4) and (5), there has been an inconsistent relationship over time by education. The lower three education groups all experienced a decline in earnings in both the 1990s and 2000s. For immigrants with a college degree, there was an increase in the earnings

gap (i.e. the gap became more positive) between 1990 and 2000, but between 2000 and 2010 that trend almost exactly reversed itself, so the overall change from 1990 and 2010 was essentially zero. Immigrants with post-graduate degrees experienced an increase in their earnings relative to natives during both the 1990s and 2000s. These results are consistent with an expansion of the college premium during this time period.

Borjas (2016) points to a concentration in the country of origin of immigrants in recent years as a potentially important explanation for the decline in assimilation rates. With more conationals living in the U.S. compared to past cohorts, newer immigrants may have less incentive to invest in country-specific human capital, such as English proficiency, leading to a decline in earnings. I investigate this idea by separating my sample into three groups, based on their country of origin: 1) “small” sending countries; 2) “large” sending countries, excluding Mexico; and 3) Mexico. I define “large” sending countries as the ten biggest source of immigrants. While Mexico is obviously one of the “large” sending countries, given it’s particular importance with regards to U.S. immigration, I treat it separately. Recall that, as shown in Table 1, the fraction of immigrants originating from a “small” country fell from 40% in 1990 to 27% in 2000, and remained nearly constant between 2000 and 2010.

The results are shown in Panel D of Table 2. Overall, originating from a “large” sending country does reduce childhood immigrant earnings, leading to a larger earnings gaps compared to originating from a “small” sending country. The difference between “small” and “large” sending country (excluding Mexico) in 1990 was, however, quite modest at only 0.8 percentage points. By 2010, however, this “small” versus “large” (excluding Mexico) gap had risen significantly to 10.0 percentage points. As shown in columns (4) and (5), the earnings gap for those from “small” countries was nearly constant between 1990 and 2000, while the gap for “large” (excluding Mexico) group rose by 7.3 percentage points, and the gap for Mexicans rose by 6.6 percentage points. Recall that the overall change in the earnings gap from 1990 to 2000 was 9.6 percentage points, which no single country of origin group experienced; thus, a portion of the overall expansion in the earnings gap during the 1990s was due to a re-allocation away from the “small” toward the “large”

countries. From 2000 to 2010, both of the “large” groups continued to experience declines, with the “large” (excluding Mexico) group experiencing a decline of 6.2 percentage points, while immigrants from Mexico experiencing a relatively modest 2.9 percentage point decline; the “small” group, which saw little change during the 1990s, experienced a decline of 4.2 percentage points between 2000 and 2010. In short, it appears that during the 1990s, the large rise in the earnings gap occurred due both to a worsening gap for both of the “large” country of origin groups as well as a reallocation of immigrants toward these lower-performing groups, while during the 2000s (when little reallocation in country of origin group occurred), it was the worsening within-group outcomes that have been the driving force behind the expansion of the earnings gap.

Starting with the 1980s Census, respondents were asked how well they speak English. Using this response, I separate my sample into five groups: 1) Does not speak; 2) Not Well; 3) Well; 4) Very Well; 5) Only English. I repeat the previous analyses based on these groupings, with the results shown in Panel E of Table 2. As with education, and as expected, we observe a large, positive effect of English language ability and earnings, with those who do not report speaking English having 63.3% lower earnings than natives in 1990, compared to those who speak only English, who have 15.1% higher earnings than natives. All groups experienced declines during the 1990s, though the declines were greatest for the middle and the highest group, with those who spoke only English suffering a 9.4 percentage point drop in relative earnings. As with country of origin, a large portion of the overall drop in earnings during the 1990s can be attributed to a reduction in the level of language proficiency. Between 2000 and 2010, it was immigrants in the middle of the language ability spectrum who suffered the largest decline; those at the very bottom saw little change, while those at the top actually saw an increase in relative earnings of 4.0 percentage points.

Considering adult immigrants, Borjas (2016) points to a reduction in the rate of English language acquisition as a potential explanation for the slowdown in immigrant assimilation. There are strong connections between several variables of interest and language ability that deserve discussion. In Table 3, I show the distribution of English language ability overall, as well as broken

down by age at migration group, education level, and country of origin group, where I show results from a pooled sample that includes all three survey years (1990, 2000, and 2010).

First, while I do not show the results here, childhood immigrants have significantly higher language proficiency levels than adult immigrants. Among adult immigrants from non-Anglo countries age 25-43 in years 1990, 2000, and 2010, 37% report speaking English either very well or speaking only English. For childhood immigrants, this value is 61%, which while higher than adult immigrants, nevertheless implies a large fraction of the childhood immigrant population lacks English fluency. Age at migration has a strong impact on English language proficiency; for immigrants who arrive before age 7, 84% report speaking English either very well or speaking only English. This value decline continuously with age at migration, dropping to 45% for immigrants who arrive between ages 15 and 17.

Education and English proficiency are strongly connected. Only 29% of childhood immigrants with less than a high school level of education report speaking English either very well or only speaking English; among childhood immigrants with either a BA or a GRAD degree, over 95% report speaking English at least well, with the large majority reporting speaking either very well or only English. Finally, originating from a “large” sending country, and especially originating from Mexico, is strongly (negatively) related to English ability. Only 41% of Mexican childhood immigrants report speaking English either very well or speaking only English, compared to 71% of those from other “large” sending countries (excluding Mexico), and 81% from “small” sending countries.

While each of the categories considered - age at migration, level of education, country of origin, and language proficiency - are shown to have large impacts on childhood immigrants’ earnings, there are obviously a number of potentially conflating effects: childhood immigrants who are more educated also tend to have higher levels of language proficiency; those who arrive at a later age tend to have lower education and lower levels of language proficiency, etc. To address the relative impacts of each of these immigrant characteristics on the earnings gap, and to try and explain the expansion of the earnings gap across time, I estimate a series of OLS regressions where the

dependent variable is the age-adjusted earnings gap of each immigrant.¹⁴ Results are shown in Table 4.¹⁵

Results from my baseline estimation, which includes controls for year and age at migration dummy variables, are shown in column (1). In columns (2) to (4), I add size of source country, education, and English ability to the baseline specification, respectively. Columns (5) and (6) both include size of source country, as well as education and English ability, respectively. Column (7) is the full specification which includes all independent variables.

As seen in column (1), there is a declining trend in the earnings gap between 1990 and 2010, with the largest drop (8.6 percentage points) between 1990 and 2000. There is also a strong age at arrival effect, with the earnings gap increasing steadily with age at migration group. Immigrants who arrive in their late teens have an earnings gap that is 24.7 percentage points more negative than those who arrive between 0 and 6 years old.

In column (2), I add controls for country of origin group. Consistent with the evidence above, childhood immigrants from “large” sending countries (excluding Mexico) experience an earnings gap that is 7.0 percentage points higher than those arriving from “small” sending countries. For immigrants from Mexico, the gap is substantially larger at 40.8 percentage points. Introducing country of origin controls has a large impact on the trend in the earnings gap over time; the coefficient on year 1990 is reduced by more than half from 8.6 percentage points to 3.9 percentage points, and this difference is statistically significant at the 0.1% level. This reduction is consistent with the large reallocation of source country in the 1990s, away from “small” toward “large” countries (especially Mexico), being an important driving force behind the expansion of the earnings gap. The coefficient on year 2010 actually expands (in absolute value) when size of country of origin is controlled for, implying changes in country of origin size cannot explain the expansion of the earnings gap during the 2000s.

Column (3) adds controls for educational attainment. As expected, higher levels of education

¹⁴Standard errors are clustered at the age at migration group and year level.

¹⁵The omitted categories are: year 2000, age at migration group 0-6, arrived from “small” sending country, less than high school education level, and does not speak English.

are associated with higher earnings (thus a most positive earnings gap). Adding controls for education results in a modest reduction in the year 1990 dummy variable, but an increase (in absolute value) in the year 2010 coefficient. Thus, trends in educational attainment do not seem to drive much of the declining trend in the earnings gap. Controlling for education does, however, have a large impact on the age at migration coefficients, reducing each in absolute value by almost half. This results is consistent with later immigrant arrival lowering educational attainment, a result also found in Schaafsma and Sweetman (2001).

I control for English language proficiency, measured in five categories, in column (4). Controlling for language proficiency causes a reduction in both year dummy variables, where the differences are statistically significant at the 0.1% level, suggesting that language proficiency may be an important determinant of the declining trend in the earnings gap. Language proficiency controls result in an even greater reduction (in absolute value) of the age at migration coefficients than education. This results is consistent with the *critical period hypothesis*, which states that the capacity to learn a new language declines with age, and with the fact that immigrants who arrive at a later age, all else equal, have a shorter time of exposure to English in their new country, and thus have less of an opportunity to acquire English proficiency.

The results from column (2) demonstrates the importance of size of sending country on immigrant earnings. I investigate the channel of this effect in columns (5) and (6). Column (5) adds education controls in addition to country of origin size controls. Compared to column (2), the coefficients on both the “large” country of origin (excluding Mexico) and Mexico are reduced in absolute value, where the reduction for the “large” (excluding Mexico) coefficient is significant at the 10% level, while for the Mexico dummy variable, the difference is significant at the 0.1% level. Thus, it appears that, especially for Mexican childhood immigrants, it is a lower educational attainment that is an important channel through which the earnings gap is increased. Controlling for education actually increases (in absolute value) the year dummy variables compared to column (2). Column (6) introduces English ability to the specification from column (2). A similar reduction is seen for the “large” (excluding Mexico) dummy variable, but while there is a reduction for the

Mexican dummy variable, it is much smaller than the reduction when controlling for education. Controlling for language ability in addition to country of origin causes a further reduction in the year 1990 dummy variable compared to either column (2) (only country of origin) or column (4) (only language ability), though the year 2010 dummy variable actually expands compared to when only English ability is controlled for, with both differences statistically significant at the 0.1% level. These results suggest that language ability played an especially important role in the change in the earnings gap between 1990 and 2000.

Finally, column (7) adds all of the independent variables as controls. The negative relationship between the earnings gap and age at migration is further reduced with the inclusion of both education, English ability, and country of origin size controls. The role of language ability, while still strong, is significantly lowered when educational controls are included. The dummy variable for Mexico is also further reduced in importance compared to when only education is included, suggesting that, in addition to education, language ability plays a role on the lower earnings of Mexican childhood immigrants. Consistent with columns (3) and (5), including educational controls actually increase (in absolute value) the year dummy variable compared to column (2), where only country of origin dummy variables are included. This result suggests that trends in education attainment of childhood immigrants may actually understate the trend in the earnings gap over time.

In summary, I find that a concentration in source country, in particular an increase in childhood immigrants from Mexico, can explain a large portion of the expansion of the earnings gap during the 1990s. Lower education level for immigrants from “large” countries, especially Mexico, can explain the large majority of the negative country of origin size-earnings gap relationship. However, a decline in English language ability during this time, and a negative relationship between language ability and size of source country, can account for a large portion of the country of origin size-earnings gap trend. I also find that the negative relationship between age at migration and earnings can be attributed mostly to lower English ability of childhood immigrants who arrive at an older age.

4 Conclusion

The economics literature has documented a decline in both the initial earnings of immigrants to the U.S as well as the rate of earnings assimilation for recent cohorts. These studies, however, tend to focus on adult immigrants, even though childhood immigrants comprise more than a fifth of the working immigrant population. In this paper, I investigate the trends in childhood immigrant earnings in the U.S. between years 1990 and 2010.

I find that, as with adult immigrants, childhood immigrants have experienced a decline in age-adjusted earnings relative to natives. The large majority of the decline in earnings occurred between 1990 and 2000, with the period from 2000 to 2010 associated with a more mild downward trend. A large fraction of this decline can be attributed to a drop in English language proficiency among immigrants. This trend has been noted in adult immigrants, but appears to hold for childhood immigrants as well. Also, the concentration of immigrant source countries can partly explain this declining trend in earnings, where arriving from one of the “large” sending countries (especially Mexico) is associated with poorer English language ability, lower education levels, and lower earnings. These results suggest that a concentration in immigrant source countries has had negative effects not only on adult immigrants, as discussed in Borjas (2016), but on childhood immigrants as well.

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Table 1: Summary Statistics by Year and Native versus Immigrant

	1990		2000		2010	
	(1) Immigrants mean/sd	(2) Natives mean/sd	(3) Immigrants mean/sd	(4) Natives mean/sd	(5) Immigrants mean/sd	(6) Natives mean/sd
Age	30.66 (4.76)	34.02 (5.35)	31.38 (4.89)	34.78 (5.34)	31.87 (5.24)	34.29 (5.49)
Log Earned Income	10.49 (0.73)	10.67 (0.72)	10.44 (0.74)	10.69 (0.74)	10.32 (0.81)	10.60 (0.84)
Education						
Less than HS	0.29 (0.45)	0.08 (0.28)	0.32 (0.47)	0.07 (0.26)	0.28 (0.45)	0.05 (0.23)
High School	0.27 (0.44)	0.34 (0.47)	0.28 (0.45)	0.35 (0.48)	0.31 (0.46)	0.30 (0.46)
Some College	0.24 (0.43)	0.30 (0.46)	0.20 (0.40)	0.31 (0.46)	0.21 (0.41)	0.32 (0.46)
BA	0.14 (0.34)	0.19 (0.39)	0.14 (0.34)	0.20 (0.40)	0.15 (0.36)	0.24 (0.42)
GRAD	0.07 (0.25)	0.09 (0.28)	0.06 (0.23)	0.08 (0.27)	0.06 (0.24)	0.09 (0.29)
Age at Migration						
0-6	0.15 (0.36)		0.12 (0.32)		0.12 (0.33)	
7-10	0.17 (0.38)		0.16 (0.36)		0.16 (0.37)	
11-14	0.25 (0.43)		0.26 (0.44)		0.27 (0.44)	
15-17	0.43 (0.49)		0.47 (0.50)		0.45 (0.50)	
Source Country						
Small	0.40 (0.49)		0.27 (0.44)		0.27 (0.44)	
Large (excl. Mexico)	0.25 (0.43)		0.26 (0.44)		0.28 (0.45)	
Mexico	0.35 (0.48)		0.47 (0.50)		0.45 (0.50)	
English Ability						
Does not Speak	0.02 (0.15)		0.04 (0.18)		0.05 (0.21)	
Not Well	0.09 (0.29)		0.13 (0.34)		0.14 (0.35)	
Well	0.21 (0.40)		0.24 (0.43)		0.22 (0.42)	
Very Well	0.53 (0.50)		0.49 (0.50)		0.49 (0.50)	
Only English	0.15 (0.36)		0.10 (0.31)		0.10 (0.30)	
Observations	24930	1413222	48085	1341199	30248	647992

Source: 1990, 2000, and 2010 IPUMS Census.

Table 2: Mean Log Earnings Gap of Childhood Immigrants Over Time, by Groups

	1990	2000	2010	2000-1990	2010-2000
Panel A: Overall	-0.062	-0.159	-0.193	-0.096	-0.035
Panel B: Age at Migration					
0-6	0.054	-0.010	-0.042	-0.064	-0.033
7-10	0.037	-0.055	-0.079	-0.092	-0.024
11-14	-0.030	-0.118	-0.144	-0.088	-0.026
15-17	-0.162	-0.253	-0.306	-0.091	-0.053
Panel C: Education					
Less than HS	-0.405	-0.471	-0.531	-0.066	-0.060
HS	-0.128	-0.268	-0.337	-0.141	-0.069
Some College	0.060	-0.046	-0.121	-0.106	-0.075
BA	0.285	0.337	0.285	0.051	-0.052
GRAD	0.513	0.550	0.665	0.037	0.115
Panel D: Country of Origin					
Small	0.076	0.075	0.033	-0.001	-0.042
Large (excl. Mexico)	0.068	-0.005	-0.067	-0.072	-0.062
Mexico	-0.311	-0.376	-0.405	-0.066	-0.029
Panel E: English Ability					
Does not Speak	-0.633	-0.650	-0.638	-0.017	0.012
Not Well	-0.480	-0.509	-0.556	-0.029	-0.048
Well	-0.206	-0.277	-0.341	-0.071	-0.064
Very Well	0.033	-0.018	-0.035	-0.051	-0.018
Only English	0.151	0.056	0.096	-0.094	0.040

Source: 1990, 2000, and 2010 IPUMS Census.

Columns (4) and (5) are differences between columns (2) and (1), and (3) and (2).

Table 3: English Language Ability, by Groups

	Does not Speak	Not Well	Well	Very Well	Only English
Panel A: Overall	3.86	12.97	22.60	49.61	10.96
Panel B: Age at Migration					
0-6	1.83	4.60	9.24	60.56	23.77
7-10	2.03	5.68	13.25	62.93	16.12
11-14	3.14	9.64	21.87	55.32	10.03
15-17	5.49	19.84	30.09	38.49	6.10
Panel C: Education					
Less than HS	10.08	30.06	30.78	24.86	4.23
HS	2.31	10.68	27.45	50.57	8.98
Some College	0.70	3.30	17.21	64.64	14.15
BA	0.36	1.69	10.47	68.27	19.22
GRAD	0.23	1.18	6.93	68.95	22.71
Panel D: Country of Origin					
Small	0.74	3.79	14.93	61.48	19.05
Large (excl. Mexico)	1.61	7.55	20.37	56.85	13.62
Mexico	7.27	22.30	29.00	37.41	4.02

Source: 1990, 2000, and 2010 IPUMS Census.
Numbers are percentages.

Table 4: OLS Regressions, Log Earnings Gap of Childhood Immigrants

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1990	0.086*** (0.007)	0.039*** (0.010)	0.070*** (0.006)	0.055*** (0.007)	0.056*** (0.007)	0.030*** (0.009)	0.050*** (0.006)
2010	-0.039*** (0.006)	-0.044*** (0.008)	-0.055*** (0.007)	-0.027*** (0.008)	-0.054*** (0.008)	-0.034*** (0.009)	-0.045*** (0.008)
Age at Migration							
7-10	-0.035*** (0.007)	-0.040*** (0.012)	-0.027** (0.010)	-0.012 (0.010)	-0.029** (0.010)	-0.022* (0.012)	-0.023* (0.011)
11-14	-0.100*** (0.007)	-0.090*** (0.013)	-0.049*** (0.010)	-0.023* (0.012)	-0.051*** (0.010)	-0.037** (0.014)	-0.032** (0.012)
15-17	-0.247*** (0.008)	-0.182*** (0.013)	-0.090*** (0.011)	-0.081*** (0.013)	-0.087*** (0.011)	-0.077*** (0.014)	-0.049*** (0.013)
Source Country							
Large (excl. Mexico)		-0.070** (0.028)			-0.041** (0.014)	-0.042* (0.022)	-0.030** (0.013)
Mexico		-0.408*** (0.022)			-0.129*** (0.016)	-0.288*** (0.015)	-0.095*** (0.014)
Education							
High School			0.197*** (0.010)		0.167*** (0.009)		0.112*** (0.009)
Some College			0.406*** (0.012)		0.353*** (0.014)		0.277*** (0.016)
BA			0.769*** (0.015)		0.696*** (0.017)		0.615*** (0.016)
GRAD			1.063*** (0.042)		0.984*** (0.043)		0.898*** (0.038)
English Ability							
Not Well				0.113*** (0.017)		0.093*** (0.017)	0.088*** (0.018)
Well				0.339*** (0.020)		0.269*** (0.018)	0.218*** (0.020)
Very Well				0.598*** (0.018)		0.467*** (0.015)	0.302*** (0.013)
Only English				0.697*** (0.033)		0.519*** (0.030)	0.326*** (0.021)
Constant	-0.012* (0.006)	0.167*** (0.021)	-0.404*** (0.014)	-0.575*** (0.024)	-0.299*** (0.018)	-0.322*** (0.028)	-0.541*** (0.026)
Observations	103235	103235	103235	103235	103235	103235	103235
R^2	0.021	0.081	0.186	0.088	0.190	0.115	0.200

Standard errors in parentheses, and are clustered at the age at migration group-year level.

Source: 1990, 2000, and 2010 IPUMS Census.

Omitted categories are: 2000; 0-6; small country; less than high school; and does not speak.