

The Economic Assimilation of Second Generation Immigrants in the U.S.: A Longitudinal Study

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Abstract: The population of second generation Americans (U.S. born individuals born to foreign born parents) stood at 45 million in 2015. The labor market outcomes of this large segment of the population can provide useful insights into the long-run contribution of immigration to the US labor force and economy. This study uses a longitudinal data set and makes use of detailed personal and family characteristics to study the economic assimilation of second generation immigrants. The use of longitudinal data allows us to examine the relative wage evolution of second generation immigrants in the US. The trends show that second generation immigrant adolescents begin their careers with a wage advantage over natives (third and subsequent generations of immigrants), which reduces as they age. Overall, we find female second generation immigrants to have a wages advantage of about 8 percent over natives whereas male second generation immigrants have a small or no wages advantage over native males once personal and parental characteristics are controlled for.

Keywords: Second Generation Immigrants, Hispanic Immigrants, Relative Wage Assimilation, Longitudinal Study

JEL Classification: J10, J15, J61, J62

1. Introduction

The recent surge in immigration in the US has brought the issue of immigration back into the limelight and made it a topic of much debate in social, economic and political circles. From, an economic standpoint, it is well known that immigrants face a significant wage disadvantage as compared to natives (Perotti 1992; Phillips 1999; Borjas 2006). This wage disadvantage diminishes, but does not disappear, as they age in the US, acquire US-specific human capital and get acquainted with the US culture. Noting this enduring wage disadvantage, many studies (such as the study by Borjas, 2006) have taken a skeptical view of new immigration and concluded that, relative to natives, recent immigrants have a lower level of human capital than their earlier counterparts. Low skilled immigration is also found to have contributed to the income inequality in the US (Reed, 2001; Card, 2009). Many immigrants migrate to the US to invest in their children's future and expect them to attain high levels of human capital (Caponi, 2011). Any discussion of the merits of immigration is, therefore, incomplete without taking account of the economic performance of the children of immigrants. After all, these individuals are likely to live their whole life in the US, pay taxes and receive income support payments (Card, 2005).

The US population has grown by more than 130 million since 1965 and 72 million of this growth is linked to immigration (Pew Research Center, 2015). The center also forecasts that the US population will increase to 441 million by the year 2065. 88% of the growth is expected to be

through immigrants and their children. Over the recent decades, the number of second generation Americans (U.S.-born individuals born to foreign-born parents) has increased substantially to about 35 million (11.67% of the US population) (MPI, 2013). Out of these 35 million second generation immigrants 20 million are over the age of 18 and are mostly participating in the labor market (PEW Research Center, 2013). The education, employment and wages of this segment of second generation immigrants can provide useful insights about the long-run contribution of immigration to the US labor force and economy. Using the National Longitudinal Study of Youth (NLSY), which is a nationally representative longitudinal data set for individuals born between 1980 and 1984, this study analyzes the early labor market outcomes of second generation immigrants to provide insight into the economic assimilation of immigrants in the US economy.

The children of mid-twentieth century immigrants have managed to compete with natives on equal terms. However, these immigrants were primarily from European countries and were racially and culturally more similar to Americans than recent immigrants. Since the majority of recent immigrants are originating from less developed countries and are visibly different in race and culture, it has been argued that their children may not assimilate like the children of earlier immigrants (Alba and Farley, 2002). This study analyzes the wages of the children of immigrants from the 1960s, 1970s and early 1980s. These second generation immigrants were born in the early 1980s, which makes them the most recent cohort of second generation immigrants whose wages can be observed for a decade or longer.

The article makes several contributions to the literature. First, it studies the relative wage profile of second generation immigrants in comparison to natives (defined as the children of second and later generation immigrants). To the best of our knowledge, there is no other study that has presented this analysis. It makes our study the first to present the evolution of relative wages of second generation immigrants. The analysis of changes in wage disparities between second generation immigrants and natives over the course of their early career (18 to 30 years of age) highlights if and when immigrants gain a wage advantage over natives. Given the fact that the majority of second generation immigrants are Hispanics, the study also presents a separate analysis for Hispanics and discusses the patterns in relative wages of immigrant Hispanics and native Hispanics compared to the rest of the native population.

Other than the relative wage profile, we also examine the overall relative wage of second generation immigrant (SGIs, hereafter) adolescents. This analysis builds on previous studies¹ of economic assimilation of SGIs, but makes a couple of important innovations. First, we estimate the relative wages of SGIs that have recently joined the labor market. In doing so, we use many personal and family characteristics that are vital in isolating the effect of foreign parentage on wages. Second, we estimate numerous models to highlight the importance of various factors in determining the wage advantage/disadvantage of SGIs.

We find that SGIs enter the labor market with a wage advantage over natives, which is particularly pronounced for females. However, this wage advantage largely erodes by the time they are 30 years of age. Our pooled regression analysis finds an 8 percent wage advantage for female SGIs over native females.² SGI Hispanic males earn as much as natives, according to our results, while female Hispanic SGIs earn 6 to 10 percent higher wages than native females. Overall, our findings suggest that children of immigrants earn as much as natives or, in case of female SGIs, substantially more than natives. The impressive performance of SGIs should reduce, to some

degree, current concerns about the long run impact of low skilled immigration on the US labor force and economy.

The article is structured as follows. Section 2 presents the literature review and highlights the contributions of this article to the literature. Section 3 discusses the data. Section 4 outlines the empirical strategy. Section V presents the empirical results. Section VI concludes.

2. Literature Review and Motivation

The literature on the economic assimilation of SGIs is small compared to that on the economic assimilation of first generation immigrants. While the literature on the economic assimilation of first generation immigrants overwhelming finds that they experience a substantial wage disadvantage as compared to natives for much of their working life³, the literature on the economic assimilation of second generation immigrants is less clear.

Farley and Alba (2002) use census data for the years 1998 and 2000 to analyze the assimilation of immigrants across first, second and subsequent generations of immigrants. With just age, education and marital status as the controls, they show that SGIs of ages between 25 and 39 have lower wages compared to natives for most ethnic groups.

Card (2005) uses census data from 1995 to 2002 to show that they enjoy a small wage (about 2%) advantage over natives, even after controlling for education and geographic location. Borjas (2006) studies the changes in relative inter-generational wages of immigrants using the census data from 1940, 1970 and 1995-2003. Using respondents from pooled Census data for the years 1995 and 2003, he finds that male SGIs enjoy a 2.9% wage advantage over native men; female SGIs have 5.7% higher weekly wages than native females. Sakamoto et al. (2010) use the Current Population Survey and the 2000 Census to study the wages and schooling of African American SGIs. They find that African American SGIs do as well as Whites in educational attainment. While wages of African American SGI females are at par with Whites, African American male SGIs face a 16 percent disadvantage in wages as compared to Whites.

Findings for other countries show that wages of SGIs are generally at par with natives. Deutsch et al. (2006) find that SGIs earn more than the first and the third generation immigrants in Israel. Ekberg et al. (2010) show that SGIs have a small wage advantage over natives in Sweden. Langevin et al. (2013) find relative wages of SGIs in France to vary by their parents' origin. They show that those originating from Northern Africa and Sub-Saharan Africa have lower wages than French natives, while Asian and European SGIs do not differ significantly from their French native counterparts.

We make several contributions to the existing literature. First, studies from Borjas and Friedberg (2009) and Borjas (2015) note a change in the characteristics of recent (1970s onward) cohorts of immigrants. These studies state that, unlike immigrants of the early and mid-twentieth century, immigrants of the late 20th century come from developing countries, are predominantly not white, and are culturally more different from the US population. We follow up on these results by studying the children of the immigrants of the 1960s, 1970s and early 1980s.

Second, previous studies that have explored the wage assimilation of US SGIs have used cross sectional data and, hence, could not identify the relative wage evolution of SGIs. We extend the literature on the assimilation of SGIs by using a longitudinal data set to provide the trends in the

relative wages of SGIs. We find that SGIs enter the labor market (18 years of age) with a wages advantage. But this advantage largely erodes by the time they are 30.

Third, previous studies have used pooled census data to determine the level of economic assimilation of SGIs. We present a comparable analysis by using a longitudinal data set, which makes it possible to control for parental characteristics, such as wages and education. This is an important contribution given that many studies have found education of parents to be a key determinant of a person's labor market success (Haveman and Wolfe, 1994; Mulligan, 1997). By controlling for these personal characteristics, we show that the wages of SGI males are at par with native males, while wages of female SGIs are significantly higher than those of native females. We also highlight the importance of controlling for differences in characteristics between natives and SGIs by estimating a number of models with different control variables.

Fourth, a large proportion of recent immigrants are Hispanics. Coupled with a high net birth rate, this influx of Hispanics has increased the US Hispanic population by more than four times since 1965 making them 18% of the total population of the US and, therefore, an important demographic group in the US (Brown, 2014; Zong and Batalova, 2015). Hispanics tend to be more attached to their culture and take longer to learn the English language and other US specific skills (Borjas 2015) than other immigrants. Given the importance of Hispanics, we show separately the patterns and levels of wage assimilation of recent Hispanic SGIs.

Last, but not least, our study more accurately identifies Hispanics. Duncan and Trejo (2011) note that almost all first generation immigrants from Spanish speaking countries identify themselves as Hispanics. However, the rate of Hispanic identification reduces to 83 percent for SGIs and 73 percent for third generation immigrants. They further state that this is likely to generate a selection problem if successful Hispanics from second and third generation do not identify themselves as Hispanics. Our study is largely immune from this problem as parents of young adolescents report their race in the data we use for this study. We also ensure that race of young adolescents is consistent with the race of their parents.

3. Data

We use the National Longitudinal Survey of Youth 1997 (NLSY97) data to study the economic assimilation of SGIs. The NLSY97 has information on a nationally representative sample of 9,000 individuals born between 1980 and 1984. The survey is administered by the Bureau of Labor Statistics (BLS). The first round of the survey took place in 1997, when individuals were between the ages of 12 and 16. Since then, the BLS has been conducting surveys on an annual basis. Hence, the survey has year by year information of an individual from the early teens (school age) to the ages of 26 to 30, as of 2010.⁴ The information includes education, labor market outcomes and demographic details, including family background information.

The data set is particularly useful for studying the economic assimilation of SGIs for a number of reasons. First, the longitudinal nature of the data allows us to examine the evolution of relative wages of SGIs over the course of 13 years. The detailed annual information on wages, education and location allows us to control for these characteristics in analyzing the question if and when immigrants assimilate with natives over the course of their early working life. Second, the data provide information on parental characteristics that are not available in the census data. These include the wages and education of parents. This information can play a vital role in isolating the effect of foreign parentage on the relative labor market outcomes of immigrants.

Tables 1 and 2 present summary statistics for males and females, respectively. The sample for males constitutes of 2,970 respondents of which 558 are SGIs. Out of these 558 SGIs, 395 are Hispanics. We only include the respondents who are at least 18 years of age and have worked for a wage.⁵ These restrictions imply that we can only use the survey rounds from 1999 to 2010. The number of observations for the years 1999 to 2001 are lower than those for the following years because many individuals are under the age of 18 during this period. The first two columns of Table 1 show the wages, education and parental characteristics of all SGIs and natives, while the third and fourth columns show this information for SGI and native Hispanics.

Table 1 shows that male SGIs have higher annual wages than native males. They earn about 16 dollars an hour on average, which is 1.72 dollars above the average hourly wage (\$14.27) of natives. This difference is similar to the difference in wages of Hispanic immigrant and Hispanic native males. The statistics on education are calculated using the responses to the latest available round of the survey. These statistics show the highest level of education ever attained by a respondent. Compared to natives, a larger proportion of second generation male immigrants, in particular Hispanics, do not have a high school diploma. The proportion of immigrants who have an associate's degree is higher than for natives. A larger proportion of native males have a bachelor's or advanced degree as compared to immigrants. The wages and education levels of parents (first generation immigrants) of SGIs are substantially lower than the parental wages and education levels of natives. Parents of male SGIs earn about \$10,000 less annually than parents of natives. In the case of Hispanic SGIs, the average years of schooling of parents is less than 10 years; the average years of schooling for native Hispanics is over 12 years.

Table 2 shows the descriptive statistics for females. The sample for females consists of 2,379 natives and 582 SGIs. Female SGIs earn \$1.33 an hour more than native females. Hispanic SGI females earn more than native Hispanic females. Similar to male SGIs, female SGIs are educated less than their native counterparts, but these differences are small compared to males. Annual parental wage income of SGI females are on average \$42,363; the annual parental wage income of natives stands at \$48,395. The parental wages of female Hispanic SGIs are lower than the parental wages of female native Hispanics. Parents of female SGIs are also less educated than the parents of female natives. Tables 1 and 2 suggest that, despite lower parental wages and education of SGIs, their wages are higher than those of natives. They also appear to earn more than natives despite their lower educational attainment.

It needs to be noted that this study is based on a survey of young individuals and it is likely that many natives may just be starting skilled employment, after they have attained higher education near 2010, beyond which we do not have data. Our empirical analysis accounts for this possibility.

4. Empirical Approach

The first part of the empirical analysis presents the trends in the relative wages of SGIs as they grow older. The following two models are estimated to obtain an estimate of relative wages of SGIs at each age level from 18 to 30,

$$\ln(\text{wage}_{ia}) = \beta_0 + \beta_1 I_{ia} + \epsilon_{ia} \quad \text{for } a = 18 \text{ to } 30 \quad (1)$$

$$\ln(\text{wage}_{ia}) = \beta_0 + \beta_1 I_{ia} + \gamma_1' \text{Race}_{ia} + \gamma_2' \text{Educ}_{ia} + \delta' \text{State}_{ia} + \zeta \text{MSA}_{ia} + \eta' \text{Year}_{ia} + \epsilon_{ia} \quad \text{for } a = 18 \text{ to } 30 \quad (2)$$

The dependent variable is the log of the hourly wage of individual i at age a . I is a dummy variable that equals 1 if an individual is an SGI. The equations are estimated separately for each age from 18 to 30. This gives us 13 measures of relative wages, one for each age, which we plot to present the relative wage evolution by age. We estimate the equations separately for males and females. $Race$ is a vector of four dummy variables which represent Blacks, Whites, Hispanics and a category for 'other races'. Given individuals in the data are observed from ages 18 to 30, many are enrolled in educational institutions over certain parts of this period. To account for the likelihood that employment while going to school may have different returns than regular full-time employment, education levels are specified by enrollment status. In particular, we use seven dummy variables to represent the education levels of young men who are not enrolled in a given year and four dummy variables to represent the education level of those who are attending school or college over the course of a year. $Educ$ is the vector of these 11 dummy variables.⁶ $State$ represents the vector of dummy variables for the state of residence and MSA is a dummy variable which equals 1 if a person lives in a metropolitan area and 0 otherwise; ε is the error term.

As Hispanics represent the largest immigrant group in the sample, we also estimate Equations 1 and 2 using samples that are restricted to Hispanic SGIs, Hispanic natives and all other natives (omitting immigrants from other ethnicities). For these estimations the immigrant dummy variable is replaced with two dummy variables - one for immigrant Hispanics and one for native Hispanics. The coefficients of these variables represent the earnings of immigrant and native Hispanics in comparison to non-native Hispanics. These variants of Equations 1 and 2 are presented by Equations 3 and 4,

$$\ln(wage_{ia}) = \beta_0 + \beta_1 IH_{ia} + \beta_2 NH_{ia} + \varepsilon_{ia} \quad \text{for } a = 18 \text{ to } 30 \quad (3)$$

$$\ln(wage_{ia}) = \beta_0 + \beta_1 IH_{ia} + \beta_2 NH_{ia} + \gamma_1' Race_{ia} + \gamma_2' Educ_{ia} + \delta' State_{ia} + \zeta MSA_{ia} + \eta' Year_{ia} + \varepsilon_{ia} \quad \text{for } a = 18 \text{ to } 30 \quad (4)$$

IH is a dummy variable that equals 1 if an individual is a Hispanic SGI and NH is a dummy variable that equals 1 if an individual is a native Hispanic. In Equation 4, $Race$ represents a vector with two indicator variables - one for Blacks and one for Whites.

The second part of the analysis aims to present the overall level of economic assimilation of SGIs. This is done using a pooled sample instead of samples by age. This analysis is more comparable to previous studies. The following model is estimated on samples of males and females,

$$\ln(wage_{it}) = \beta_0 + \beta_1 I_i + \gamma_0 Age_{it} + \gamma_1' Race_i + \gamma_2' Educ_{iy} + \delta' State_{it} + \zeta MSA_{it} + \eta' Year_{it} + \theta' Parent_i + \varepsilon_{it} \quad (5)$$

where t denotes the year. Equation 5 introduces controls for age and parental characteristics. Age is a continuous variable which represents the age of the respondent. $Parent$ represents a vector of covariates of parental income and education.⁷ These controls are considered to be key predictors of an individual's labor market outcomes. We estimate numerous variants of Equation 5 to highlight the importance of various controls in isolating the effect of foreign parentage on wages.

We also estimate a variant of Equation 5 that replaces immigrant dummy variable with two dummy variables, one for immigrant Hispanics and one for native Hispanics. This model is estimated using samples that are restricted to Hispanic SGIs, Hispanic natives and all other natives. Immigrants from other ethnicities are omitted. All models are estimated separately for males and females.

We also consider panel models to study the relative wages of SGIs. These models are useful in that they allow one to control for unobservable characteristics. In the context of the relative earnings of SGIs, unobservable characteristics, such as the extent of parental involvement and focus on the children's upbringing and labor market outcomes, may vary across SGI and natives. The existence and quality of networks of parents and young adolescents that may be helpful in securing employment are also likely to be different between children of immigrants and natives. A fixed effects model that differences out all time invariant characteristics, including the unobservable ones, cannot be implemented because of the time invariant nature of the variable of interest - the SGI status. The other option is a Random Effects panel model; it accounts for individual specific heterogeneity by including a random person-specific constant. However, the required assumption that the unobservable heterogeneity is purely random is probably incorrect. The unobservable characteristics of children of immigrant and children of natives are likely to be different in some non-random manner. We do, however, present the results of a random effects panel model (Equation 6) in the appendix.⁸

$$\ln(wage_{ia}) = \beta_0 + \beta_1 I_i + \gamma_0 Age_{it} + \gamma_1' Race_i + \gamma_2' Educ_{iy} + \delta' State_{it} + \zeta MSA_{it} + \eta' Year_{it} + \theta' Parent_i + v_i + \mu_{it} \quad (6)$$

This model accounts for individual specific heterogeneity by introducing a random person-specific constant in the form of v .

5. Results & Discussion

5.1 Relative Wage Profiles

Figure 1 summarizes the estimation results of Equations 1 and 3. Equation 1 regresses wages on immigrant status at each age level (18 to 30) to get an estimate of relative wages of SGIs. The coefficients of the relative wages are then plotted with age on the X-axis and relative wages on the Y-axis, while the statistical significance of the estimates is shown using bars around each coefficient based on 95 percent confidence intervals. Since the dependent variable is the log of hourly wages, the coefficient of immigrant status can be interpreted as an approximate percentage wage advantage or disadvantage of SGIs compared to natives.

The first plot of Figure 1 shows the relative wages of male SGIs in comparison to native males. The plot shows that SGIs enjoy about a 14 percent wage disadvantage over native at the age of 18; this declines to 0 at the age of 24, before increasing again. The second plot in Figure 1 shows the relative wages of female SGIs compared to native females. The plot shows that female SGIs have a substantial wage advantage (20 percent) over native females at the age of 18, which reduces as they age.

The remaining plots of Figure 1 are based on estimation results for Equation 3. This specification is estimated on a sample that excludes the SGIs who are not Hispanic. Some studies, such as the one by LaLonde and Topel (1992), have compared wages of native Hispanics to wages of immigrant Hispanics as both groups are likely to have similar unobservable characteristics. One

can compare the coefficients of the dummy variables for second generation immigrant Hispanics and native Hispanics to have a more meaningful analysis of economic assimilation of immigrant Hispanics. The third and fourth plot present the estimates of wages of male SGI Hispanics relative to male non-Hispanic natives. The fifth and sixth plot represent the estimates of the dummy variables for native Hispanics.

The plot of the relative wages of SGI Hispanic males (Plot 3) show that their wages are not statistically different from natives for much of their early career, except at the ages of 21 and 28 when their wages are higher than those of natives. The relative wages of SGI female Hispanics (Plot 4) are 20 percent higher than those of non-Hispanic female natives at the age of 18. But as they age, this advantage becomes negative and statistically insignificant. The wages of native Hispanic males are mostly statistically indistinguishable from those of native non-Hispanic males (Plot 5) and lower than those of SGI Hispanic males. The relative wages of female Native Hispanics to non-Hispanics (Plot 6) have a similar (downward) trend to the trend of SGI Hispanics. However, the relative wages of native Hispanics are mostly lower than those of SGI Hispanic females.

Figure 1 is based on Equations 1 and 3, which do not control for demographic, educational and locational characteristics in estimating the relationship of immigrant status with wages. Figure 2, which is based on Equations 2 and 4, presents the trends that take into account these confounding factors.

The first plot in Figure 2 shows wages for SGIs to be statistically similar to those of natives to age 26. For ages 28 to 30, SGI males earn about 10 percent more than native males. The relative wages of second generation female immigrants are mostly positive (Plot 2) and there is no downward trend as in Plot 2 of Figure 1.

The remaining plots of Figure 2 are based on the estimation results of Equation 4 and the sample that does not include any non-Hispanic SGIs. Plots 3 and 4 show the relative wages of male and female SGI Hispanics; Plots 5 and 6 present the relative wages of native Hispanics, again for males and females.

The plot of relative wages of male SGI Hispanics (Plot 3 of Figure 2) is based on coefficients that are all statistically insignificant and do not show an upward or downward trend the along age axis. The relative wages of native Hispanics (Plot 5) indicate a slight downward trend with negative relative wages from the age of 21. However, the relative wages shown on this plot are only statistically significant at the ages of 25 and 27. Hence, these plots fail to discern any substantial differences in relative wages of male SGIs and native Hispanics.

The plot for female SGI Hispanics in Figure 2 shows a less pronounced downward trend in wages as compared to the corresponding plot in Figure 1. Female SGI Hispanics have positive relative wages from ages of 18 to the age of 24. From age 24 onward their relative wages hover around zero with one negative spike at the age of 29. The estimates of wages of native Hispanic females are not statistically different from those of non-Hispanic native females, making them similar to those of SGI Hispanic females.

The relative wage profiles shown in Figure 1, which are based on Equations 1 and 3 and do not have control variables, suggest that SGIs earn more than natives as they enter their twenties, but that this advantage erodes as they age. The relative wage profiles shown in Figure 2, which are

based on Equations 2 and 4 and include control variables, do not show clear trends by age. The relative wages of SGIs tend to be positive, but mostly statistically insignificant, over the course of their late teens and twenties. The wages of Hispanic SGIs are not different from those of Hispanic and non-Hispanic natives.

5.2 Relative Wages

This section provides an analysis of the average level of relative wages of SGIs. Numerous variants of Equation 5 are estimated using a pooled sample of NLSY respondents from the years 1999 to 2000. This analysis is comparable to the literature on the wages of SGIs that uses pooled census data from various years. Table 3 presents the results for all SGIs, Table 4 the results of SGI Hispanics and native Hispanics.

Panel A of Table 3 shows the results for males and Panel B the results for females. The results in column 1 are based on the specification that controls only for area of residence, year of observation and the age of respondents. Male SGIs are shown to have a small but statistically insignificant advantage over natives. Female SGIs are shown to have a statistically significant wage advantage of 4.1 percent. Once race is controlled for, the estimate of relative wages of SGI males gains statistical significance and increases to 4.6 percent. Female SGIs are estimated to have a 9.2 percent wage advantage over native females, once we control for race.

Adding control variables for education does not substantially change the relative wages of male or female SGIs. This observation should not be understood to mean that education has only a limited role in explaining the relative wages of SGIs. The key point to note here is that race and education are correlated and controlling for one of those absorbs much of the joint variation.⁹ The final column of Table 3 adds parental characteristics into the specification. This change does not generate a statistically significant relationship of wages and immigrant status for males. Female SGIs are still found to earn 7.4 percent more than native females, once we control for parental earnings and education.

Given the fact that the majority of SGIs in our sample are Hispanics, it may be useful to understand the extent to which the positive relative wages of SGIs are driven by Hispanics. Table 4 presents the estimation results of a model similar to that of Equation 5, but it replaces the immigrant dummy variable with two indicator variables, one for SGI Hispanics and the other for native Hispanics. The omitted category in this model consists of non-Hispanic natives. The sample used to estimate the results of Table 4 do not include non-Hispanic SGIs. Panel A of Table 4 gives the results for males, panel B those for females.

The first column of Table 4 presents the estimates when the controls are limited to those for area, year and age. The estimates show that male Hispanic SGIs have a wage disadvantage of 3.9 percent compared to non-Hispanic natives. The corresponding wage disadvantage of native male Hispanics is 4.1 percentage points higher. The estimate of the wage disadvantage is -0.041 for female Hispanic SGIs and -0.046 for native Hispanic females. Once race dummy variables are added into the specification, the wage disadvantage increases to 11 percent for male Hispanic SGIs and to 14.4 percent for male Hispanic natives. For females, the inclusion of race dummy variables results in the estimates of relative wages of Hispanic SGIs and natives to become statistically insignificant. The results in the third column of Panels A and B are based on specifications that include education dummy variables. In Panel A, the wage disadvantage of SGI and native Hispanics is substantially less than in the estimates of the previous column. This suggests that male

Hispanics have a significantly lower level of educational attainment than non-Hispanic natives. For females (Panel B), the inclusion of the education variables in the specification results in an increase in relative wages of female SGI Hispanics, giving them an advantage of 6.7 percent over non-native Hispanics.

The specification in the final column of Table 4 controls for the education and earnings of the parents of the respondents. The inclusion of these controls results in positive but statistically insignificant estimates of the relative wages of male SGIs and native Hispanics. The estimate of the relative wage of female SGI Hispanics increases to 10.2 percent as result of adding parental characteristics in the specification. By contrast, the estimate of the relative wage of native Hispanic females stays statistically insignificant.

An increase in the relative wage of Hispanic SGIs as a result of controlling for parental characteristics is consistent with the observation from the descriptive statistics that parents of Hispanic SGIs have lower levels of earnings and educations. The wage disadvantage of male SGI Hispanics is fully explained by the specification of the final column, which includes parental characteristics. Female SGI enjoy a large earnings advantage over natives after we account for parental characteristics. These findings contrast with the popular opinion about SGI Hispanics. Our results point towards substantial economic gains of Hispanics within one generation of migration into the US. These results undermine the fears, elaborated by Portes and Zhao (1995), and Portes (1996), that children of new immigrants may become a new urban underclass by failing to catch up with natives in the labor market. Instead, our results provide empirical support to the argument presented by Waters and Jimenez (2005), whose discussion concludes by acknowledging the successful socioeconomic assimilation of recent immigrants from Central and South America and their children in the US.

6. Conclusion

The foreign born population in the US has been rising since 1970. Unlike previous immigrants, the majority of the new immigrants have come from Latin America and Asia. These immigrants have lagged behind their native counterparts in the labor market. There has also been significant concern over the economic and social assimilation of the children of immigrants from Latin America (Borjas, 2006; Perreira et al., 2006). We use longitudinal data for individuals born between 1980 and 1984 to study the relative wages of children of immigrants (SGIs), the majority of which came to the US during the 1960s to 1980s.

We identify the relative wage evolution of SGIs with ages from 18 to 30. We also estimate the average level of the relative wages of SGIs, while controlling for many personal and parental characteristics. Given that the majority of new immigrants are Hispanic, we provide a separate analysis for Hispanic SGIs and show the patterns and levels of wage assimilation of recent Hispanic SGIs.

The raw estimates (without controls) of relative wage profiles indicate that SGIs have a wage advantage over natives at the beginning of their career. This advantage is over 10 percent for male SGIs and over 20 percent for female SGIs. However, these large wage advantages diminish over the course of their early working life. Our pooled regression models estimate a wage advantage of about 7 to 8 percent for female SGIs over native females. For male SGIs, the estimate of the wage advantage becomes insignificant once parental characteristics are controlled for. Our study does not share the pessimistic view about the labor market outcomes of Hispanic SGIs. We find that

Hispanic SGI males earn as much as natives, while female Hispanic SGIs have about 10 percent higher wages than native females. Our study supports the argument of Caponi (2011) who states that Mexican SGIs do not face the issues of lack of English language proficiency and social skills that their parents faced.

Overall, these results are consistent with arguments made by Kao and Tienda (1995) and Goyette and Xie (1999a, 1999b), who argue that SGIs tend to attain high levels of socioeconomic status due to their effort, ambition, and motivation induced by their immigrant parents. These studies state that parents of SGIs put an increased focus on the education and career of their children and frequently remind their children of the sacrifices that they made in order to come to the US. Hence, we conclude that children of relatively recent immigrants do at least as well in the labor market as their native counterparts.

Endnotes

1. Section 2 details previous studies on economic assimilation on second generation immigrants.
2. The estimates of the wage advantage for male SGIs become statistically insignificant once parental characteristics are controlled for.
3. See, for example, Borjas (1985, 1995), Card (2005) and Lubotsky (2007).
4. At the time of our study, the Center for Human Resource Research, which distributes the NLSY data, has wage data available up to the year 2010. Therefore, the sample ends in 2010.
5. Only individuals who have worked for a wage for at least 100 hours in a year have been included in the sample.
6. Seven dummy variables are created for education levels: less than high school, GED, high school degree, some college, associate's degree, bachelor's degree and graduate degree. Four dummy variables are created for those enrolled in an educational institution: grades 1-12 and not a high school graduate; 2-year College; 4-year College; graduate school.
7. Parents' income and education levels are taken from the 1997 rounds of the survey and are time invariant.
8. We use Hausman as well as Breusch and Pagan tests to empirically test the suitability of random effects estimation (Equation 6). The Hausman test compares the coefficients of the fixed effects and random effects model to test for systematic differences in coefficients. With a test statistic of 125 and a p-value of 0.000, we reject the null hypothesis that the random effects model is appropriate. However, the Hausman test may not be an appropriate test as the fixed effects model could not calculate the coefficients of the time invariant characteristics, including our variable of interest - the dummy variable for immigrant status. The Breusch and Pagan test checks for zero variance in the individual random effects. Rejection of null hypothesis supports the existence of random effects. With a test statistic of 2343.05 and a p-value of 0.000, we reject the null hypothesis and, hence, fail to rule out the existence of random effects. The conflicting conclusions from the Hausman test and the Breusch and Pagan test calls for caution against the interpretation of the results from the random effects model that are presented in the appendix.
9. Hispanics and Blacks are on average less educated than Whites and 'Other/Mixed' races.

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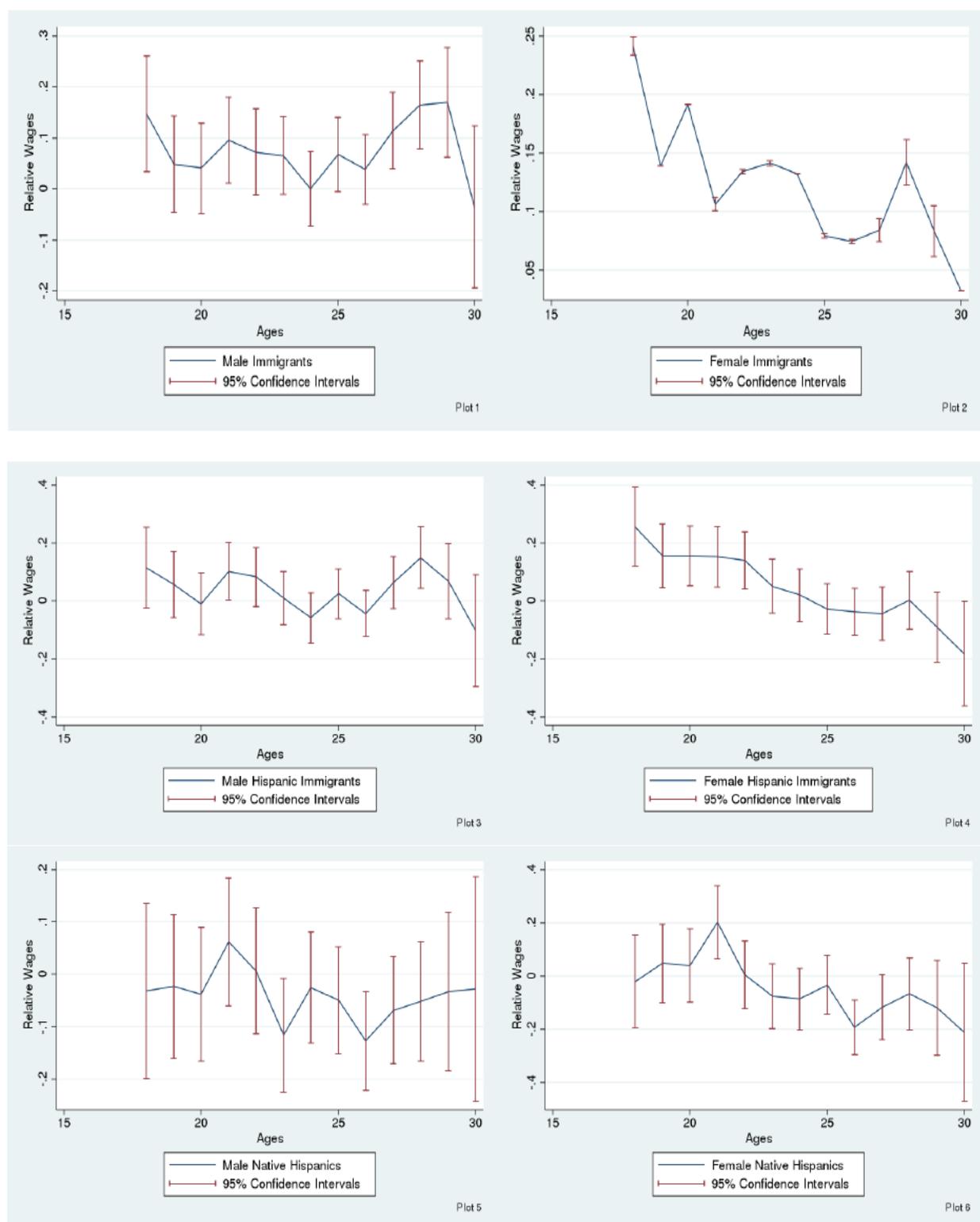
Figure 1: Trends without controls

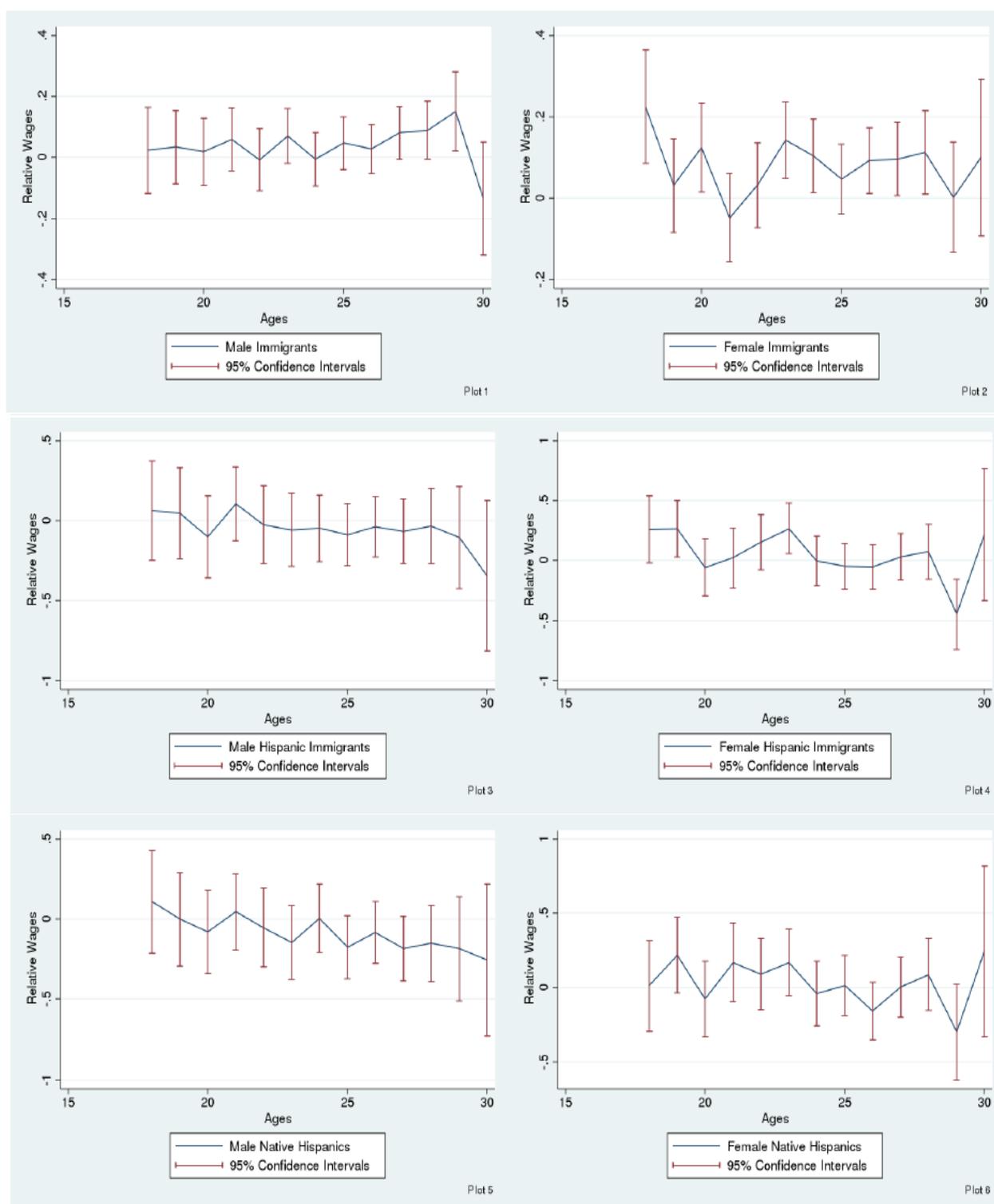
Figure 2: Trends with controls

Table 1: Descriptive Statistics (Males)

	All Immigrants*	All Natives**	Immigrant* Hispanics	Natives** Hispanics
<i>Personal Characteristics</i>				
Annual Wages	24,894 (19,371)	23,227 (19,201)	24,514 (17,177)	22,942 (17,753)
Hourly Wages	15.99 (20.29)	14.27 (15.12)	15.40 (19.72)	13.66 (11.82)
<High School	13.14%	8.45%	17.45%	10.81%
High School	58.95%	61.08%	62.83%	69.33%
Associate's	7.66%	5.97%	7.83%	3.56%
Bachelor's	16.25%	19.52%	9.93%	13.14%
Advanced	0.76%	1.03%	0.09%	0.56%
<i>Parental Characteristics</i>				
Annual wages of Parents	38,919 (37,940)	49,445 (42,410)	26,212 (21,443)	37,848 (31,890)
Father's Years of Schooling	10.99 (6.84)	12.99 (2.74)	9.32 (6.08)	12.16 (2.72)
Mother's Years of Schooling	11.08 (6.66)	12.96 (2.43)	9.43 (4.91)	12.15 (2.43)
Number of Respondents	558	2,412	395	276

Notes: * Second Generation Immigrants. **Third and subsequent generations of foreign born individuals. Standard errors are in parenthesis. Average incomes have been calculated using data from 12 rounds (years 1999-2010) of the survey. Household income is reported for year 1996 when all of the respondents were living with parents and were mostly under the age of 16.

Table 2: Descriptive Statistics (Females)

	All Immigrants*	All Natives**	Immigrant* Hispanics	Natives** Hispanics
<i>Personal Characteristics</i>				
Annual Wage	20,278 (15,964)	18,440 (15,622)	18,936 (12,811)	16,905 (12,477)
Hourly Wage	13.99 (15.41)	12.66 (13.16)	13.34 (16.05)	12.29 (12.03)
<High School	9.28%	5.73%	12.42%	9.56%
High School	52.25%	51.05%	59.03%	61.98%
Associate's	8.54%	9.14%	8.76%	6.49%
Bachelor's	23.95%	25.51%	15.42%	17.57%
Advanced	1.30%	1.50%	0.75%	0.00%
<i>Parental Characteristics</i>				
Annual wages of Parents	42,363 (43,586)	48,395 (41,248)	29,178 (27,397)	37,080 (31,827)
Father's Years of Schooling	11.32 (5.57)	12.99 (2.60)	9.87 (5.89)	12.18 (2.57)
Mother's Years of Schooling	10.52 (4.12)	13.00 (2.93)	9.27 (3.94)	12.34 (5.94)
Number of Respondents	582	2,379	422	217

Notes: * Second Generation Immigrants. **Third and subsequent generations of foreign born individuals. Standard errors are in parenthesis. Average incomes have been calculated using data from 12 rounds (years 1999-2010) of the survey. Household income is reported for year 1996 when all youths were living with parents and were mostly under the age of 16.

Table 3: Relative Wages of Second Generation Immigrants

	(1)	(2)	(3)	(4)
<i>Panel A: Males</i>				
Immigrant	0.018 (0.014)	0.046*** (0.015)	0.040*** (0.015)	0.023 (0.019)
Observations	22,286	22,286	22,233	14,761
R ²	0.134	0.150	0.18	0.194
<i>Panel B: Females</i>				
Immigrant	0.041*** (0.013)	0.092*** (0.015)	0.081*** (0.015)	0.074*** (0.019)
Observations	21,551	21,551	21,505	14,171
R ²	0.152	0.161	0.215	0.231
Controls				
State Dummy Variables	X	X	X	X
MSA Status	X	X	X	X
Year Dummy Variables	X	X	X	X
Age	X	X	X	X
Race Dummy Variables		X	X	X
Education Dummy Variables			X	X
Parental Characteristics				X

Notes: Immigrant refers to second generation immigrant. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$. Dependent Variable: Log of hourly wages.

Table 4: Relative Wages of Second Generation Hispanic Immigrants

	(1)	(2)	(3)	(4)
<i>Panel A: Males</i>				
Immigrant Hispanics	-0.039** (0.017)	-0.110*** (0.035)	-0.029 (0.034)	0.026 (0.043)
Native Hispanics	-0.080*** (0.019)	-0.144*** (0.035)	-0.074** (0.035)	0.033 (0.042)
Observations	21,081	21,081	21,030	13,917
R ²	0.134	0.149	0.178	0.192
<i>Panel B: Females</i>				
Immigrant Hispanics	-0.041** (0.017)	-0.009 (0.034)	0.067** (0.033)	0.102** (0.040)
Native Hispanics	-0.046** (0.020)	-0.009 (0.036)	0.043 (0.035)	0.067 (0.041)
Observations	20,353	20,353	20,307	13,273
R ²	0.146	0.155	0.209	0.226
Controls				
State Dummy Variables	X	X	X	X
MSA Status	X	X	X	X
Year Dummy Variables	X	X	X	X
Age	X	X	X	X
Race Dummy Variables		X	X	X
Education Dummy Variables			X	X
Parental Characteristics				X

Notes: Immigrant refers to second generation immigrants and native refer to third and subsequent generation of foreign born individuals. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Dependent Variable: Log of hourly wages.

Appendices

Appendix 1: Relative Wages of Second Generation Immigrants (Random Effects Model)

	(1)	(2)	(3)	(4)
<i>Panel A: Males</i>				
Immigrant	0.021 (0.025)	0.050* (0.027)	0.043 (0.027)	0.008 (0.035)
Observations	22,286	22,286	22,233	14,761
<i>Panel B: Females</i>				
Immigrant	0.063*** (0.024)	0.105*** (0.027)	0.091*** (0.025)	0.079** (0.032)
Observations	21,551	21,551	21,505	14,171
Controls				
State Dummy Variables	X	X	X	X
MSA Status	X	X	X	X
Year Dummy Variables	X	X	X	X
Age	X	X	X	X
Race Dummy Variables		X	X	X
Education Dummy Variables			X	X
Parental Characteristics				X

Notes: Immigrant refers to second generation immigrant. Standard errors in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.01$. Dependent Variable: Log of hourly wages.

**Appendix 2: Relative Wages of Second Generation Hispanic Immigrants
(Random Effects Model)**

	(1)	(2)	(3)	(4)
<i>Panel A: Males</i>				
Immigrant Hispanics	-0.033 (0.031)	-0.106 (0.065)	-0.009 (0.064)	0.030 (0.079)
Native Hispanics	-0.058* (0.035)	-0.140** (0.067)	-0.056 (0.066)	0.048 (0.077)
Observations	21,081	21,081	21,030	13,917
<i>Panel B: Females</i>				
Immigrant Hispanics	-0.019 (0.029)	-0.002 (0.06)	0.070 (0.057)	0.105 (0.069)
Native Hispanics	-0.045 (0.036)	-0.008 (0.064)	0.038 (0.06)	0.065 (0.069)
Observations	20,353	20,353	20,307	13,273
Controls				
State Dummy Variables	X	X	X	X
MSA Status	X	X	X	X
Year Dummy Variables	X	X	X	X
Age	X	X	X	X
Race Dummy Variables		X	X	X
Education Dummy Variables			X	X
Parental Characteristics				X

Notes: Immigrant refers to second generation immigrants and native refer to third and subsequent generation of foreign born individuals. Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Dependent Variable: Log of hourly wages.