

Comparing Assimilation & Success Rates of Legal First Generation Asian and Hispanic Immigrants in the United States

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Abstract

What factors and traits lead to an immigrant's success in the United States? While many studies focus on immigrants, those papers mainly compare the economic success of immigrants to the native populations rather than amongst various immigrant groups. Using basic statistical analysis and more advanced comparison methods like the Blinder-Oaxaca Decomposition, this study both proves a financial success difference between Asian and Hispanic immigrants to the United States as well as the reasons behind said difference.

I. Introduction

Despite representing less than 5 percent of the U.S. population compared to the near 17 percent Hispanic population (United States Census Bureau, 2014), Asian-Americans, generally looked upon as the “model minority,” have been almost completely left out of the diversity conversation. Some believe that due to their financial success, they are no longer looked at as minorities and thusly, are not given certain advantages that other minorities are afforded (Linshi, 2014).

The goal here is to isolate and analyze relatively new, very comprehensive data from the Princeton New Immigrant Survey (NIS) in order to find the apparent wage gap between legal first generation Hispanic and Asian immigrants from the past forty years and the reasons behind said income differences. Nevertheless, even after locating the wage difference and some reasons

* April 22, 2015

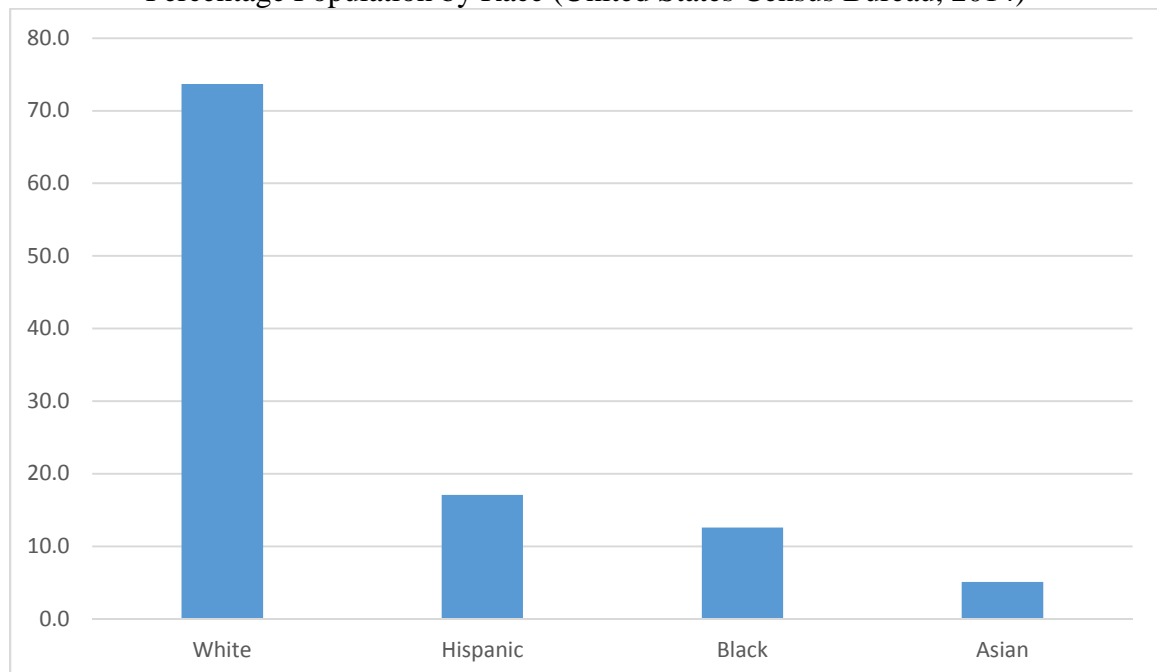
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I am grateful to Professor Jessica Pan and Ji Huang for useful comments and assistance.

behind it, many questions still remain: does one race's propensity to find more financial success in a new country justify programs like Affirmative Action? Or, conversely, since most of the Hispanic immigrants in the survey have resided in the United States for much longer (Princeton University, 2006), is it a failure of the United States' school system and evidence of overall discrimination?

Despite the very complex social and political issues, from an econometric standpoint, this paper's findings suggest that Asian immigrants not only earn more income, but, more importantly, they benefit from school much more than Hispanic immigrants. In fact, the data analysis shows that they earn about 6 percent more income than Hispanic immigrants per each additional year of education. Additionally, Asians also benefit much more than Hispanics from working more years in the United States. All clues point to a clear difference with a very complex explanation behind it, which makes for economic and policy questions worth exploring.

Figure I
Percentage Population by Race (United States Census Bureau, 2014)



Unlike previous notable works, which focus primarily on comparing immigrant wages against the native white and black populations, this paper will focus solely on the comparison between the United States' main immigrant groups: Asians and Hispanics. Currently, there are no other important prior papers that concentrate exclusively on the economic impact and equality between Asian and Hispanic immigrants.

II. Literature Review

One of the first major papers regarding the earnings differences between immigrants and natives in the United States is Barry Chiswick's *The Effect of Americanization on the Earnings of Foreign-born Men* (1978). His influential work suggests the importance of both years resided and worked in the United States as major factors connected to the wage gap between natives and foreign-born. Ultimately, he asserts that the foreign-born labor force's average wage eventually catches up to the native one and even surpasses it in the long run (Chiswick, 1978). However, at the time of his study, foreign born United States residents and citizens made up only 5% of the total population, a number which has since been far overshadowed.

Building off of Chiswick's (1978) basics tenants is George J. Borjas' paper, *The Economics of Immigration* (1994). His paper introduces the proposed "aging effect," which is the rate at which earnings increase over a lifecycle. He claims that this effect is greater for the immigrant populations over native ones because it combines with Chiswick's (1978) assertion that the longer an immigrant has resided and worked in the US, the higher his or her wages become (Borjas, 1994). Similarly to Chiswick, Borjas studied these effects to compare them to the native White and Black populations and to make a contention about the effects of immigrants on those native populations (Borjas, 1994). Regardless of his intentions, his regressions on the immigrant wage gap go even further than Chiswick's, and these key variables that Chiswick

(1978) and Borjas (1994) identified and pioneered, such as age and years resided in the US, can help explain the difference between differing immigrant groups.

Since Chiswick (1978) and Borjas (1994) wrote about very broad categorizations of the wage gap, many economists and sociologists have published papers on the earnings gap between much more specific groups such as particular races, gender, immigrants, and more. Tienda and Lii (1987) investigated how the size of minority labor markets affects minority wages (separated by group) and white wages. Using data from 1979, they found that in labor markets with higher minority concentrations, whites earned more while all other minority groups' wages fell drastically from the mean. More importantly, in relation to this paper, they discovered that not only did Asians have much higher education and income levels compared to Hispanics, but they also out-earned their white counterparts with similar college-level educations (Tienda & Lii, 1987).

Expanding on these past research endeavors, this paper will seek to find out whether those economic and educational differences still exist amongst modern-day legal first generation Asian and Hispanic immigrants. The paper will also make use of the key economic characteristics pointed out by both Chiswick (1978) and Borjas (1994) to identify the reason behind any found differences between the two groups.

III. Data

As briefly mentioned, this paper primarily uses the Princeton New Immigrant Survey (NIS), which offers a comprehensive questionnaire that focuses exclusively on legal first generation immigrants. Though relatively new, the Princeton NIS (2003 and 2007) is, in fact, the first nationally representative survey of new immigrants and their children (Princeton University,

2006). This paper will focus on the NIS data that only covers adults and that took place from 2003 to early 2004 with a well distributed group of respondents who aimed to attain citizenship.

The main reason for using the NIS rather than the United States Census is the amount of detail and accuracy of the survey. Unlike the broad Census, which tends to suffer from non-response and potential inaccuracies in the responses, the NIS took place with carefully selected families from different locations around the US, and the focus of the data can make up for the much lower number of observations. Additionally, one would expect that if a significant difference were found between Asians and Hispanics in the NIS, which covers mainly middle class families across the board, there would be an even larger discrepancy in the broader Census.

Table I - Means of Key Productive Characteristics

	Asian	Hispanic	Other
Annual earnings	\$55,430 (775)	\$24,532 (835)	\$46,006 (947)
Years of education	14.5 (2186)	10.4 (2235)	15.0 (2153)
Age at time of immigration to the US	35 (2047)	30 (2092)	34 (1972)
Age at time of survey	38.7 (2191)	38.7 (2243)	37.3 (1952)
English comprehension on self-rated scale from 1-4 with 4 as the best	2.96 (2179)	2.35 (2128)	3.04 (1952)
English speaking on self-rated scale from 1-4 with 4 as the best	2.82 (2179)	2.13 (2127)	2.91 (1955)
Years resided in the US	3.44 (2034)	8.84 (2083)	3.25 (1966)
Years worked in the US	3.88 (1382)	9.39 (1577)	3.60 (1389)

Notes: This table presents summary statistics for various individuals from the Princeton NIS. The amount of responses is in the parentheses under the statistic value. Each data value represents an average for each immigrant group.

This paper concentrates on a few major variables that are used in related literature on immigration; those variables include earnings, years of education, age at immigration to the US, language fluency in both speaking and comprehension, age at the time of survey, years resided in the US, and years worked in the US. All the variables from every table only include data for

immigrants between “working” ages of 25-60¹. These data are broken up between three major groups: Asian, Hispanic, and all other immigrants as a control.

Obviously a major gap between earnings can be seen between Asian and Hispanic immigrants in Table I. The data is further broken up by years of education within each group to see if Asians out-earned Hispanics within education-level categories.

Table II - Mean Earnings per Education Level			
	Asian	Hispanic	Other
Less than 12 years of education	\$20,042 (92)	\$20,035 (409)	\$21,194 (81)
Equal to 12 years of education	\$29,454 (58)	\$23,836 (131)	\$32,150 (129)
Greater than 12 years of education	\$63,139 (624)	\$30,978 (294)	\$51,227 (736)

Notes: This table presents summary statistics for various individuals from the Princeton NIS. The amount of responses is in the parentheses under the statistic value. Each data value represents an average for each immigrant group.

Again, in Table II, we see that the Asian population outpaces the Hispanic one at all levels of education and even their white counterparts at the highest level. However, it can be difficult to interpret the earnings of Asians and Others without high school degrees due to the low numbers of respondents in that category. Nevertheless, the amount of Asian immigrants with a higher education versus the number of Hispanic immigrants with only a high school diploma or less is astounding. As the paper moves forward with the regressions, more variables can be removed to further reduce the number of underlying factors and omitted variables.

IV. Methodology

The commonly accepted approach to wage gap questions between two or more groups involves multiple regressions with each removing more potential underlying variables to attempt

¹ Major outliers have been removed from the summary statistics and analysis.

to identify major contributing factors to differences in the dependent variable. Starting with the log of wage as the dependent variable, a dummy variable representing the two groups is crucial.

Continuing with this method, the first linear regression will be run normally and as an entity-fixed regression by state. Additionally, it will only take into account a dummy variable to distinguish the two groups as well as various demographic characteristics. It is a simple base-line to show the difference between the groups.

$$(1) \log w_{ij} = \beta_0 + \beta_1 Asian_{ij} + \beta_2 Age_{ij} + \beta_3 Age_{ij}^2 + \beta_4 [Y_{ij}] + \varepsilon_{ij}$$

where $\log w_{ij}$ is the log of earnings in dollars for immigrant i and state j , $Asian_i$ is a dummy variable which equals 1 if Asian and 0 if Hispanic, Age_i is the age, Age_i^2 is age squared since lifetime wage is quadratic, and Y_{ij} is a vector term, which represents the demographic data of each immigrant such as gender.

Next, the same regression will be modified and a vector of economic characteristics of immigrants will be added. After running the regression again both normally and state-fixed, β_1 from the regression (1) can be compared with β_1 from regression (2) to show the explained effects of the economic terms on the earnings gap.

$$(2) \log w_{ij} = \beta_0 + \beta_1 Asian_{ij} + \beta_2 Age_{ij} + \beta_3 Age_{ij}^2 + \beta_4 [Y_{ij}] + \beta_5 [X_{ij}] + \varepsilon_{ij}$$

where the variables are the same as regression (1) with the added vector term X_{ij} , which represents many of the productive characteristics from Table I and II such as years of education, English speaking ability, English comprehension, years resided in the United States, and years worked in the United States.

In the last simple regression, the all-important education variable will be pulled out of the economic characteristics vector, and the same normal and entity-fixed regressions will be run

while interacting the education and the Asian dummy variables. This will help further explain the wage gap by taking into account race given that immigrant i has a certain level of education.

$$(3) \log w_{ij} = \beta_0 + \beta_1 Asian_{ij} + \beta_2 Edu_i + \beta_3 Asian_{ij} \times Edu_{ij} + \beta_4 Age_{ij} + \beta_5 Age_{ij}^2 + \beta_6 [Y_{ij}] + \beta_7 [X_{ij}] + \varepsilon_{ij}$$

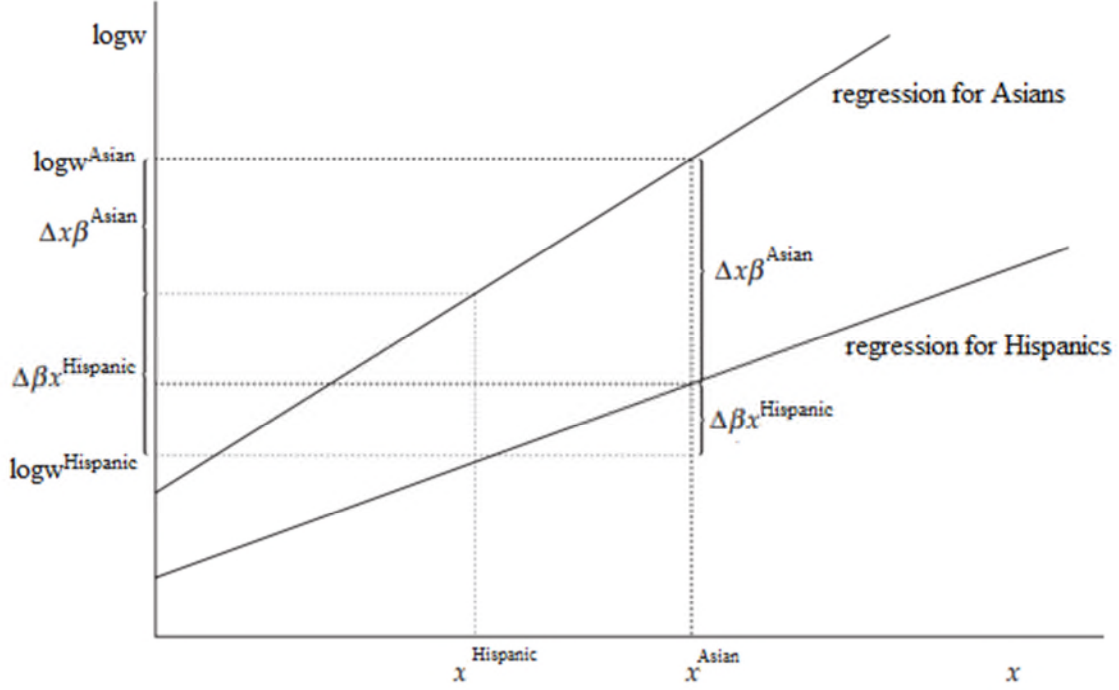
where the variables are the same as regression (2) with the added interaction variables between Asian and education, which is represented by Edu_i .

The final method used for analyzing the differences between groups is the Blinder-Oaxaca Decomposition. The core idea behind this universally used decomposition is “to explain the distribution of the outcome variable in question by a set of factors that vary systematically with socioeconomic status” (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007). In terms of this paper, the Oaxaca Decomposition examines the variations in the log of the wage and seeks to find the causal factors or variables that differ systematically based on race, either Asian or Hispanic. More specifically, the income gap between Asians and Hispanics is decomposed into two parts: 1) part that is due to measurable differences in variables, and 2) part that is due to the magnitude of the effect of those variables (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007). For example, the measurable, or explained, difference could be the visibly higher amount of education in Asian immigrants in comparison to Hispanic immigrants, while the immeasurable, or unexplained, difference could be a cultural trait for studying more and better work ethic. While the explained results can lead to concrete policy changes that could potentially lead to greater equality in wages, the unexplained results do not give a clear answer. However, knowing the magnitude of the effect for those variables can point policy in the right direction.

To visualize the decomposition, start with an even further simplified version of regression (1) where x_{ij} is a vector of explanatory variables similar to the previous regressions.

$$\log w_{ij} = \begin{cases} \beta^{Asian} x_{ij} + e_i^{Asian} & \text{if Asian} \\ \beta^{Hispanic} x_{ij} + e_i^{Hispanic} & \text{if Hispanic} \end{cases}$$

Figure II
Simplified regression translated into a graph.



As seen in the figure², the wage gap can be attributed to both the explained sample means of the x 's (or the endowments, E), the unexplained β 's (or the coefficients, C), and the interaction between the two (CE) (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007). In more general terms:

$$\begin{aligned} \log w_{ij}^{Asian} - \log w_{ij}^{Hispanic} &= \Delta x \beta_{ij}^{Hispanic} + \Delta \beta x_{ij}^{Hispanic} + \Delta x \Delta \beta \\ &= E + C + CE \end{aligned}$$

Which shows the specific individual parts for the explained endowments (E), unexplained coefficients (C), and the interaction between the two (CE). The Oaxaca Decomposition, again,

² Graph modified from (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007).

compares the two by combining the interaction term with either the explained or unexplained components (O'Donnell, van Doorslaer, Wagstaff, & Lindelow, 2007).

$$\log w_{ij}^{Asian} - \log w_{ij}^{Hispanic} = \Delta x \beta_{ij}^{Hispanic} + \Delta \beta x_{ij}^{Asian} = E + (CE + C)$$

$$\log w_{ij}^{Asian} - \log w_{ij}^{Hispanic} = \Delta x \beta_{ij}^{Asian} + \Delta \beta x_{ij}^{Hispanic} = (E + CE) + C$$

This gives the two equations different meanings. The first decomposition assumes that Hispanics are paid the correct level based on the vector, x , of characteristics while Asians are paid much more for some reason, all things equal. The second decomposition assumes the opposite: Asians get paid according to their characteristics, but Hispanics are discriminated against in the work place.

Using Stata's Oaxaca ado-file, it is possible to run a Oaxaca Decomposition to see where the gaps come from and to help shed light on possible reasons (Jann, DECOMPOSE: Stata module to compute decompositions of wage differentials, 2005).

V. Results

Table III only covers the state-fixed regression data for increased accuracy and less potential survey bias. The outputs are very similar to the regular regressions, which mean that the survey data was sufficiently randomized and taken very well.

As seen in column (1) of Table III, under the simplest regression without any detailed productive characteristics controlled, being Asian accounts for a massive 51 percent increase in income and is statistically significant at the 1 percent level. Just as Tienda and Lii (1987) found in their research, Asian immigrants far outpace their immigrant counterparts in terms of income. In fact, all the basic demographic controls account for a statistically significant impact in the wage discrepancy. Clearly, there is more to earning a higher wage than just race and other demographic statistics as seen by the second regression in column (2) of Table III.

When the regression includes major productive characteristics, being Asian continues to account for a very high 35 percent increase in income and is still statistically significant at the 1 percent level. Unsurprisingly, English comprehension and speaking ability both contribute greatly to income as well. Though, one must keep in mind that those two data points were measured on a self-rated scale from one to four (with four being best). Since it's not a uniform rating system, it is possible for subjects to over- or underestimate their respective English skills; however, it is doubtful that one group would skew the results to a serious degree. Nevertheless, given that most of the Hispanic survey takers took the survey entirely in Spanish (Princeton University, 2006), it is possible that these two characteristics offer much greater insight into the productive advantage of Asians as opposed to Hispanics, which will be covered later.

Table III - The Effect of Various Control Variables on Log Wage

Dependent variable	Ln(wage)		
	(1)	(2)	(3)
Asian dummy variable	0.505*** (0.071)	0.353*** (0.070)	-0.515** (0.260)
Age	0.154*** (0.037)	0.083** (0.036)	0.083** (0.036)
Age ²	-0.002*** (0.0005)	-0.001** (0.0004)	-0.001** (0.036)
Gender dummy variable	0.546*** (0.067)	0.490*** (0.064)	0.486*** (0.065)
Years resided in the US		0.035*** (0.009)	0.031*** (0.009)
Years worked in the US		0.051*** (0.010)	0.048*** (0.010)
English comprehension skills		0.281*** (0.074)	0.275*** (0.010)
English speaking skills		0.184*** (0.071)	0.197*** (0.071)
Total years of education		0.063*** (0.009)	0.048*** (0.010)
Interaction variable between the Asian dummy and years of education			0.056*** (0.016)
Observations	2505	1927	1927
R ²	0.070	0.317	0.321

Notes: This table takes the results from the three original fixed-effects regressions to show the effects of the various controls on log wage. The values in the parentheses are the standard errors.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Beyond what the data suggests and onto a more intuitive interpretation, given the sheer amount of resources necessary to move half-way across the globe versus north on the same or connecting continent, it remains more than plausible that legal Asian immigrants had a better education growing up, which includes learning English before coming to the United States. Those differences are apparent in Table I. This would give them a significant leg up in terms of job opportunities and wages earned. Just as Chiswick and Borjas claim, the longer the immigrant population resides and works in the United States, the better off they become (Chiswick, 1978) (Borjas, 1994); simply put, Asians are multiple steps ahead of Hispanics due to greater initial education, English learning, and resources as well as the distinct possibility that the effects described by Chiswick and Borjas may even have a greater effect on the Asian immigrant population.

Additionally, this theory of better and greater previous education is reflected in the United States' immigration policies. Current, US policy allocates many more visas and permanent resident statuses to skilled workers, investors, and persons that hold advanced degrees (Immigration Policy Center, 2014). Since this study focuses on legal immigrants seeking citizenship and the Asian immigrants from the study have both resided in the United States for much less time and were older at the time of immigration (see Table I), it is not too farfetched to assume that those Asian immigrants are most likely skilled workers and more educated. They most likely have had careers and lives in their countries of origin, which will further help with finding jobs of equal stature and pay in the United States.

This does not mean that all the study's Hispanic immigrants were not educated when they arrived; however, based on the data, Hispanic immigrants arrived at a much younger age, and even though they were legal and seeking citizenship at the time of the study, it says nothing

about the way they got here. Given the proximity and history of Hispanic immigration to the United States, there are most likely many more immigrants of Hispanic origin that came as children or early teenagers with little education and resources and sought legal status after the fact. Given that the average age at the time of the 2003 NIS was about 39 years old (see Table I), arriving illegally in the 1980s was much easier so legal status could have been sought between then and the time of survey.

More related to the analysis at hand in Table III, the effect of total years of education, though statistically significant at the 1 percent level, seems to be on the small side when compared to the effect of characteristics like race and gender. In hopes of finding how much greater of an effect more education has on the Asian immigrant population, it make sense to interact the Asian dummy variable with education as seen in the regression from Table III, column (3). The key here is the interaction variable between the Asian dummy variable and total years of education, which reveals that for each additional year of education, Asians gain a 6 percent increase in wage over Hispanics.

This could mean a few things: 1) education in Asian countries far exceeds that in Hispanic countries, 2) Asians, through some non-measurable characteristic such as work ethic, intelligence, or cultural or family pressure etc., get more out of school than Hispanics, or 3), as mentioned before, legal Asian immigrants have more resources than legal Hispanic ones in their home countries and thusly get a better and more effective education as well as learning study skills and gaining other non-measurable traits.

At this point, the greatest contributions to a higher wage for Asian immigrants (other than gender and age, which were used just as controls) are education related as seen by the coefficients on years of education and the interaction variables. In fact, as mentioned above, even

English skills can be attributed to a better and more rounded education. As of now, it is still hard to tell exactly why Asians get more out of education from these basic regressions, but the Blinder-Oaxaca Decomposition and analysis will reveal more about where exactly the gaps lie and how much is still unexplained.

In the first step of the Blinder-Oaxaca Decomposition, the Asian dummy variable is removed, and two separate models for each corresponding immigrant group are run. Unlike the simpler regressions from Table III, which included an Asian dummy variable, Table IV shows that much fewer of the variables are indeed statistically significant.

Table IV - The Effect of Various Controls for Single Race Groups Only

Dependent variable	Ln(wage)	
	Hispanic only model	Asian only model
	(1)	(2)
Age	0.036 (0.055)	0.071 (0.072)
Age ²	-0.001 (0.001)	-0.001 (0.001)
Gender dummy variable	0.620*** (0.099)	0.507*** (0.116)
Years resided in the US	0.035*** (0.011)	0.001 (0.022)
Years worked in the US	0.030*** (0.011)	0.098*** (0.024)
English comprehension skills	0.111 (0.103)	0.262** (0.144)
English speaking skills	0.142 (0.104)	0.171 (0.136)
Total years of education	0.045*** (0.013)	0.104*** (0.018)
Observations	692	611
R ²	0.219	0.381

Notes: This table takes the output from the first part of the Oaxaca Decomposition, which separates the two groups from each other. The values in the parentheses are the standard errors.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Table IV simply exists to point out the differences of each group independent of the other. It will then be used to compare the two groups to potentially find the exact cause. However, the table clearly shows a much larger return for each year of education that Asians receive. This could be the cause of either discrimination in US schools against Hispanics or bias in origin nations against the sorts of Hispanics that tend to emigrate to the United States or non-measurable traits that cause Asians to get much more use out of their education.

The one area in which Hispanic immigrants outpace Asians is years resided in the United States. Despite the data, it is important to keep in mind that, as seen in Table I, the average number of years resided and worked in the United States is more than double for Hispanic immigrants. Therefore, the statistically insignificant and quite small magnitude effect of the number of years resided in the US for the Asian model will most likely have drastically risen since the time of the survey according to Chiswick (1978) and Borjas (1994).

Additionally, despite the lower amount of time in the United States, the magnitude at which Asians wages increase per year worked in the US is more than threefold their Hispanic counterparts. Again, these results could suggest discrimination against Hispanics immigrants or advantages for Asians in terms of previous education. Such advantages like resources and a better school system, which were touched on before, would explain why Asians make more money per each additional year of school. A major clue that leans the evidence more in favor of better previous education and resources is that despite having lived in the United States for much less time, Asian survey takers' understanding of English is much greater than Hispanic immigrants. Again, it must be stressed that, even though the survey was offered in more than 19 languages, 73.1 percent of Hispanic respondents took the survey in Spanish (Princeton University, 2006).

This sets the stage, as discussed in the methodology, to combine and compare the two groups on equal terms. Running the second step of the decomposition will separate out the cumulative effects of the two groups and compare Asian wages as if they had the endowments and coefficients of Hispanics. This will reveal how much of the wage gap is explained by their respective endowments, coefficients, and the interaction between the two.

Column (1) of Table V shows the overall effect of all the factors on both groups. There is a clear difference between the cumulative effects of the two groups, which is statistically significant at the 1 percent level. In other words, when the endowments, coefficients, and interaction terms of Hispanics are applied to Asians, there is a statistically significant decrease of 59.5 percent in Asian wages. According to the overall effect given in column (1), the effect of replacing the coefficients with Hispanic ones accounts for a decline of 49.7 percent in Asian wages and is more statistically significant than the effect of changing the endowment values, which decreases Asian wages by 34 percent. On the other hand, the interaction term, which is the simultaneous effect of applying Hispanic endowments and coefficients to Asians, is the only one that favors Hispanic wages. More specifically, it says that if Hispanic endowments and coefficients were simultaneously applied to Asians, Asian wage would actually rise by 24.2 percent. However, the interaction term is not statistically significant so it can be ignored for the most part. Even if parts of the interaction effect are significant, those parts have been countered by the insignificance of a majority of the other variables.

Next, and most importantly in the Oaxaca Decomposition, columns (2), (3), and (4) show the breakdown of each individual variable's contribution to the effects of the endowments, the coefficients, and the interaction. These values provide further insight into whether it's actually

the explained measured data, the unexplained non-measurable traits, or a combination of both that's makes up the main force behind the wage gap.

Table V - The Varying Effects of Endowments & Coefficients from the Blinder-Oaxaca Decomposition

Dependent variable	Ln(wage)			
	Overall effect	Endowments effect	Coefficients effect	Interaction effect
	(1)	(2)	(3)	(4)
Age		0.127 (0.133)	-1.247 (3.295)	0.300*** (0.114)
Age ²		-0.140 (0.132)	0.575 (1.541)	-0.062 (0.164)
Gender dummy variable		-0.019 (0.014)	0.072 (0.097)	0.059 (0.160)
Years resided in the US		0.006 (0.131)	0.160 (0.117)	-0.004 (0.006)
Years worked in the US		0.565*** (0.143)	-0.276** (0.109)	0.200 (0.146)
English comprehension skills		-0.199* (0.110)	-0.500 (0.585)	-0.391** (0.155)
English speaking skills		-0.147 (0.117)	-0.092 (0.541)	0.115 (0.135)
Total years of education		-0.532*** (0.094)	-0.924*** (0.349)	0.025 (0.147)
Cumulative effect of Hispanic immigrants	9.473*** (0.054)			
Cumulative effect of Asian immigrants	10.068*** (0.069)			
Difference in effect between groups	-0.595*** (0.087)			
Endowments' contribution to difference	-0.340** (0.144)			
Coefficients' contribution to difference	-0.497*** (0.099)			
Interaction's contribution to difference	0.242 (0.150)			
Observations	1303	1303	1303	1303

Notes: This table takes the output from the end results of the Oaxaca Decomposition. It dictates how much of the wage gap between Asians and Hispanics can be explained by endowments, coefficients, and their interaction. The values in the parentheses are the standard errors.

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

Starting with endowments, or measured data, in column (2), the statistically significant variables are years worked in the US, English comprehension, and total years of education. The data for the number of years worked in the US shows a large effect in favor of the Hispanic immigrant income. Specifically, the decomposition states that if Asians had been working in the United States as long as Hispanics have, their income would increase by 56.5 percent. Intuitively, this result makes perfect sense. According to the analysis presented in both this paper and the works of Chiswick (1978) and Borjas (1994), the longer an immigrant resides and works in the United States, the more wages he or she will earn. Looking back at Table I, it is clear that Hispanics have both resided and worked in the US for more than twice as long as their Asian counterparts so that particular data would favor Hispanic wages by quite a bit.

Despite that advantage, Asian income still far outperforms that of the Hispanics. This means that there are even stronger forces working either against Hispanics in the form of discrimination or in favor of the Asian immigrant population in the form of better work ethic, greater prior resources, or some other data not measured in the survey or a mix of the two.

Though only significant at the 10 percent level, English comprehension favors Asian wages by nearly 20 percent. The decomposition shows that if Asians immigrants from the survey understood English as well as the Hispanic respondents, they would earn 20 percent less. This is further proof of potential greater and better education and resources from the Asian survey takers' country of origin. Despite living and working in the US for much shorter periods of time, they understand much better English. Although not statistically significant, the decomposition shows that they also speak better English too.

By far the most important factor is total years of education, which is significant at the 1 percent level. The measured endowment effect is strongly in favor of Asian immigrant wages. If

Asians had the same number of years of education as the Hispanic respondents, their wages would drop by a massive 53.2 percent. As seen in Table I, Asians average 4.1 years more of education than Hispanics, which is the difference between a college or trade school graduate and a high school diploma or less. Nevertheless, despite the huge educational disparity, there is still no hard evidence of discrimination. Both bias against Hispanics and better prior education of Asians or some intangible traits could be the root cause.

Beyond the two major control variables of age and gender, the other insignificant variables are years resided in the US and English speaking skills. While years resided is very closely related to years worked in the US, it is intuitive that one would have to be working and gaining experience to earn a higher income. Residency itself is not a major factor. In terms of English speaking skills, although very closely associated with English comprehension, the differences between the Hispanics' and Asians' ability to speak does not make a statistically significant impact on wages.

Now in column (3), which describes the unexplained terms, or the magnitude of each variable's effect, the statistically significant variables are years worked in the United States and total years of education. Significant at the 5 percent level, the decomposition shows that if Asians got the same out of each year worked in the US as Hispanics, their income would decrease by 27.6 percent. Here, it appears that Asians have much better returns to their income for each year they spend working in the US. The effects that Chiswick (1978) and Borjas (1994) proposed seem to have a much larger effect on the Asian immigrant population.

Though not statistically significant, the coefficient value on the number of years resided in the United States intuitively favors Hispanics. Since they have resided in the US for much longer than Asian immigrants from the survey, they have been able to settle, find jobs, and work

their way up for longer. Due to this stability, it makes sense for the Hispanic coefficient on years resided to improve Asian wages. Nevertheless, as mentioned above, analyzing the 2007 NIS to see the values from the decomposition could prove the current decomposition inaccurate in terms of years resided.

The major significant variable concerns education. When the Hispanic coefficient, how much they get out of each year of school, is applied to Asians, Asian wages decrease by a whopping 92.4 percent significant at the 1 percent level. Just as the endowments show that the relatively low amount of education Hispanic immigrants receive hurts their wages, so the coefficients convey that the overall quality of said education does not compare to that of the Asians. Again, this does not say exactly why Hispanics get much less effectiveness out of each year of education, but it does clearly nudge the conclusion in the general direction of education.

It seems that once again, there are a couple clear possibilities. One could fairly assume that the reason Asians get more effect out of each year worked is due to better and more effective education, and they subsequently benefit more from each year of education due to either a better school system or other intangible traits such as work ethic. The other possibility is discrimination against these Hispanic immigrants in the US and in the country of origin. In reality, it is most likely a mix of the two factors.

The last component of the difference is from column (4), the interaction effect. Even though variables within the effect are significant, the overall effect is not statistically significant. Because of the lack of significance, it is difficult to say how the combination of the endowments and coefficients applied to the Asian immigrants actually affects the wage gap and can be ignored for the most part.

The results are where the lack of observations hurts this data set and its analysis. Having a larger data set or comparing this decomposition using the 2007 NIS could provide more insight into whether the endowment effect of years worked in the US and other values are accurate. By conducting an even more recent survey, most likely the values of the decomposition would decrease or even become negative in favor of Asian wages because both groups have been in the United States for a sufficient amount of time. Another strategy would be to take US Census data to re-run the Oaxaca Decomposition. While it would no longer cover only legal immigrants, it may give a more accurate intuition into how years worked in the US affects the two groups, even if one might expect the wage disparity to be even more in favor of Asians.

Ideally, a careful study specifically focused on the education of immigrants, old and new, would need to be done. The survey must focus on years of education in the country of origin, years of education in the United States, school district within the US, time devoted to education in the home, attention from parents concerning education, evidence of bullying and discrimination at school in both the country of origin and the US, and more along those lines. With those data points in line, it would be possible to more accurately figure out where and why Asians immigrants benefit so much more from the education they receive.

VI. Conclusion

After identifying clear differences between the Asian and Hispanic first generation immigrants from the Princeton NIS, careful statistical analysis and a Blinder-Oaxaca Decomposition were performed to identify the causes behind the discovered wage gap.

In summary, the evidence and analysis discovered that the wage gap can be attributed to the Asian immigrant's larger amount of education as well as greater return from their years in school. However, these conclusions do not point to any concrete policy changes because the

source of the Asian population's success in school cannot be statistically identified as either discrimination against Hispanics or non-measurable traits that improve Asian school performance and, subsequently, wages.

Though this is a start, more surveys and investigation must occur in greater detail focusing on education specifically. With newly researched data, the question can be re-analyzed and beyond just answers to the statistical questions, policy changes would follow. Rather than giving certain advantages to minority groups or filling quotas through Affirmative Action and guess work, the United States can help fix the education system and, in the process, bolster the work force and the lives of its citizens and future citizens.

VII. References³

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