# Changes in the Asian-White Wage Gap Over Time: An Analysis Using Parametric and Non-Parametric Methods

Kyle Weber
Department of Economics, Pomona College
Claremont, CA 91711
April 25th, 2013

## *I. Introduction*

Perceptions of Asians in American society are strongly influenced by the view that Asians are a "model minority," with one survey finding that Asian-Americans are viewed by the general public as having the highest readiness for higher education, the highest motivation, and the highest likelihood of future career success of all ethnic groups (Wong, Lai, Nagasawa, and Lin 1998). This perception of Asian-Americans is fueled by the high average earnings of Asian households, as the median income earned by Asian-American households is more than 26% higher than the median income earned by white households and more than double the median income earned by African-American households (Census 2012).

Evidence of the economic achievements of the Asian-American population has lead economists to sharply different conclusions about the existence of discrimination against Asian-Americans in the labor force. Some economists have suggested that labor market discrimination does not significantly depress the earnings of the Asian population, with Chiswick (1983) arguing that Chinese- and Japanese-Americans have the same earnings, likelihood of employment, and patterns of educational achievement as Caucasians with similar observable characteristics. Other sociologists and economists disagree, with Woo (1994) and Kim and Sakamoto (2010) arguing that Asian-Americans earn lower wages than white workers with identical observable characteristics and that racial bias prevents Asian-Americans from advancing to certain positions within industries.

One fact that is not disputed in the economic literature is the fact that the Asian-white wage gap has been falling over time, with studies identifying massive declines in the white wage premium over Asian workers over the last 50 years (Duleep and Regets 2012; Sakamoto, Wu, and Tzeng 2000). Since the white wage premium over Asian workers has not been constant over time, time variation in the Asian-white wage gap can be used to examine which factors have influenced the size of this wage gap over time. This paper uses this approach to analyze the intertemporal evolution of white and Asian wages.

More specifically, this paper uses a variety of different decomposition techniques to examine whether changes in the white wage premium over Asian workers are correlated with changes in the return to observable characteristics, changes in the observable characteristics of the Asian or white populations, or changes in the distribution of wages of the two racial groups. The goal of this portion of the paper is to identify whether changes in the Asian-white wage gap over time are linked to changes in individual characteristics, changes in how wages are determined, changes in overall inequality, or changes in the tendency of whites or Asians to earn more or less than their expected wage. In addition, this paper uses the reweighting technique introduced in Barsky et al. (2002) to estimate the size of the Asian-white wage gap under a number of different counterfactual scenarios. These same tests are repeated under a variety of different specifications to ensure the robustness of our empirical analysis.

Three primary conclusions are reached from this analysis. First, our results strongly support the

contention that the Asian-white wage gap is primarily due to differences in the expected wages of Asian and white immigrants, as this wage gap is not apparent in the wages paid to native-born Asian and white workers. Second, changes in the gap between the expected wages of Asian and white workers can largely be explained by changes in Asian and white characteristics and changes in the return on those characteristics over time. Third, changes in individual characteristics in the entire population have tended to decrease the wages of Asian immigrants relative to white immigrants and have increased the wages of Asian natives relative to white natives. Changes in the proportion of Hispanics in the American population have played a significant role in decreasing the Asian immigrant – white immigrant wage gap, while changes in the portion of immigrants in the population and educational achievement patterns appear to have played a role in closing the Asian immigrant – white immigrant wage gap. Similarly, changes in educational achievement patterns among the Asian and white native appear to have reduced Asian wages relative to white wages, while changes in regional employment distributions, patterns of industry employment, and changes in the portion of Hispanics in the population have all served to increase Asian wages relative to white wages. However, our robustness checks reveal that individual wages may not completely describe the economic status of Asian workers, as Asians tend to have greater probabilities of being employed and higher probabilities of falling under the poverty line conditional on their observable characteristics than whites do.

The general structure of this paper is as follows. Section II describes earlier research on the size of the Asian-white wage gap, how this wage gap has changed over time, and which demographic and economic characteristics have been linked to disparities in Asian and white earnings. In Section III, I lay out the methodology of this paper and describe the data sets that were used in my analysis. Section IV summarizes the results of this paper's empirical analysis and also reports the results of several robustness checks. Section V concludes.

## II. *Literature Review*

The existing economic literature has evidence that appeals to two views of the economic status of Asian-Americans: that Asians earn significantly less than white workers with the same observable characteristics and that Asians earn the same wages as similarly qualified white workers. The earliest wave of studies in the late 1970s and early 1980s almost uniformly found evidence of economically and statistically significant white-Asian pay differentials, with Jiobu (1976) and Wong (1982) both concluding that Asians earn significantly less than comparably qualified whites. Starting in the 1980s, studies began finding evidence that Asian-Americans did not earn less than whites with the same observable characteristics, with Chiswick (1983) and Sakamoto, Wu, and Tzeng (2000) finding that the difference between Asian and white wages was not statistically significant. In contrast, other studies from this time period argued for the existence of a significant white-Asian wage gap, with Barringer and Takeuchi (1990), Duleep and Sanders (1992), and Kim and Sakamoto (2010) finding that specific subsets of the Asian population earned significantly less than white workers with the same observable characteristics.

While the studies mentioned above used standard regression techniques to determine the factors influencing white and Asian wages, other authors have examined the issue using decomposition techniques. Black, Haviland, Sanders, and Taylor (2000) decompose differences in the wages earned by different ethnic groups using a variation of the Oaxaca-Blinder decomposition technique. While their primary focus is on the Black-white and the Hispanic-white wage gaps, they also examine differences in the wages earned by white and Asian workers. They find that the size of the Asian-white wage gap depends on the exact controls used for English fluency and educational attainment, noting that controlling for the use of English at home and one's field of study in school essentially eliminates the unexplained wage differential between the two groups. Arabsheibani and Wang (2010) use the Oaxaca-Blinder decomposition technique to examine differences in the wages earned by the first-generation population of different ethnic groups, concluding that first generation Asian immigrants earn lower wages than first generation white immigrants and that this difference cannot be explained by controlling for differences in observable characteristics. They also find evidence that native-born Asian and whites earn roughly equal amounts, which suggests that the Asian-white wage gap is largely attributable to differences in outcomes for white and Asian immigrants.

Three things are notable about these earlier studies of the white-Asian wage gap. First, while these studies reach different conclusions about the size of this gap, studies that have examined patterns in white and Asian wages over time have consistently found that the size of the Asian-white wage gap has fallen over time (Duleep 2012; Sakamoto, Wu, and Tzeng 2000). Second, authors have generally analyzed changes in the white-Asian wage gap using parametric methods that assume that individual characteristics have a specific linear effect on an individual's reported wage. Third, many of these studies found that the size of the white-Asian wage gap is highly dependent on the inclusion or exclusion of certain controls in the Mincerian wage regression. Thus, it is crucially important to examine the Asian-white wage differential using multiple sets of controls, as the size of this differential is highly sensitive to the control variables included in one's regressions.

## III. *Methods & Data*

To expand the previous literature on the Asian-white pay gap, this paper uses a variety of decomposition techniques to examine whether changes in occupational distributions, residency patterns, educational attainment, or demographic characteristics are linked to shifts in the Asian-white wage gap. This paper uses Census and American Community Survey data from 1980 to 2006 to analyze differences in the earning patterns of Asian and white workers over time.[1] This analysis uses both the logarithm of weekly earnings and the logarithm of a measure of imputed hourly earnings as the dependent variable, and a standard set of controls is included in both sets of regressions (including occupation-level dummies, immigration status, educational achievement, English fluency, residency by Census region,

1 Census data before the 1980 Census are excluded owing to the impossibility of constructing detailed information about hours worked per year from pre-1980 Census data. ACS data after the 2006 ACS Survey is excluded in part owing to changes in the formulation of survey questions and the possibility that the 2008 financial crisis will skew comparisons with earlier periods.

and demographic information).[2] My sample in each regression is the pooled Asian-white population that is employed and that provided reasonable estimates for their earnings (for instance, individuals whose imputed hourly salaries are less than $2 in 2006 dollars were excluded from our regressions using hourly wage data).

A few points must be made about the definition of several of the variables appearing in these regressions. An individual's racial status is determined by their response to the Census question asking one to describe one's race. Multi-racial individuals are identified as Asian-Americans based on the Minnesota Population Center's *probapi* index, which describes the probability that an individual would have identified themselves as Asian-American when answering an earlier wording of the Census question (which did not include options for identifying oneself as multiracial). The wording of the Census question concerning educational achievement changed over time, which required me to make slight adjustments to how an observation's years of education were calculated. In general, this paper follows Jaeger (1997) and Isphording and Sinning's (2012) method of converting the responses of different educational attainment questions into a single measurement of educational achievement. In cases where verifying that an individual has completed their college education is impossible, the dummy variable indicating college graduate status is defined on the basis of having completed four or more years of college or graduate level education. A similar adjustment was made if I could not verify that an observation had received their high school diploma.

Occupation data from the four sample years was condensed into seven occupational categories: (1) managerial and professional employment, (2) technical, sales, and administrative support occupations, (3) service occupations, (4) farming, forestry, and fishing occupations, (5) precision production, craft, and repair occupations, (6) operators, fabricators, and laborers, and (7) military personnel. In addition, one of our robustness checks utilizes industry-level data, which was organized into another seven categories: (1) agriculture, mining, and energy, (2) manufacturing and construction, (3) non-professional services, (4) wholesale and retail trade, (5) business services and professional employment, (6) governmental employment, and (7) transportation and utilities. We include an interaction term between Asian and immigrant in order to examine the contention made by previous studies (including Arabsheibani and Wang (2010)) that Asian immigrants make significantly less than Caucasian immigrants. In addition, to examine whether there is any correlation between regional attitudes about Asian-Americans and the size of the Asian-white wage gap, an index of regional racial attitudes in 1990 and 2000 derived from the General Social Survey (GSS) is included in one of my robustness checks. This index was constructed by averaging an individual's responses to a series of questions on Asian-Americans in the GSS and then generating an index of racial attitudes (by Census division) based on these averages. Summary statistics for the relevant variables used in our regression are shown in Table 1, and definitions for these variables can be found in Appendix A.

---

2 The logarithm of the hourly real wages in these regressions is generated by dividing an individual's annual wage and salary income by the product of the number of hours that they reported working in an average week and the number of weeks that they reported working in the previous year.

Our analysis can be split into three principle parts. First, the size of the Asian-white wage disparity is estimated by including a dummy variable representing Asian-American heritage and running the regressions on the pooled white and Asian population in four sample years (1980, 1990, 2000, and 2006). Standard OLS regression is used in this stage with heteroscedasticity-robust standard errors. This regression takes the following form, where *t* represents the year corresponding to the sample over which estimation is performed, R represents a vector of dummy variables for each Census region, and O represents a vector of dummy variables for each occupational category:

$$w_i = \beta_{1,t} asian_i + \beta_{2,t} english_i + \beta_{3,t} immigrant_i + \beta_{4,t} female_i + \beta_{5,t} yearsed_i + \beta_{6,t} potexp_i + \beta_{7,t} potexp_i^2 + \beta_{8,t} immigrant\ x\ asian_i + \beta_{9,t} R_i + \beta_{9,t} O_i + \varepsilon_i$$

In addition, I use logit regression in this section to examine whether or not race plays a statistically significant role in determining the probability of falling under the poverty line or being employed after controlling for other observable characteristics. The goal in this section is to determine whether white and Asian workers experience different economic outcomes conditional on their observable characteristics and how the size of that differential varies over time.

In the second section, I use two different decomposition techniques to examine the relationship between changes in the size of the Asian-white differential over time and other observable characteristics of the Asian and white populations. The classic Oaxaca-Blinder decomposition is used to decompose differences in Asian and white wages into differences in observable characteristics and differences in the return on observable characteristics for white and Asian workers. Similarly, the Juhn, Murphy, and Pierce (1993) decomposition is used to examine what portion of the observed difference in economic outcomes is attributable to changes in observable characteristics, the return on observable characteristics, the distribution of residuals, or changes in the importance of the residual term in determining economic outcomes. These decomposition models are used to answer three questions: (a) To what extent are changes in white and Asian wages attributable to changes in the form of the wage function for white and Asian workers? (b) What differences in the return to observable characteristics are visible for white and Asian workers in the three sample years? (c) What role does the portion of wage variation not attributable to differences in observable characteristics play in determining the size of the white-Asian wage gap?

Finally, using a variation on the reweighing technique first introduced in DiNardo, Fortin, and Lemieux (1995), this paper will examine how the white-Asian wage differential would have changed in the sample years 1990, 2000, and 2006 had the relative proportion of the white and Asian population with specific characteristics remained at the same levels seen in the year 1980. The purpose of this statistical technique is two-fold. First, the DFL reweighting technique can capture non-linear changes in the relationship between Asian and white wages that cannot be determined using linear decomposition methods. Second, by using the DFL reweighting methodology to examine what the size of the wage gap would have been under different counterfactual scenarios, I provide quantitative estimates of how

changes in Asian and white characteristics over time may have affected the size of the Asian-white wage gap.

*IV. Results*

Examining the results of our traditional OLS regressions (presented in Tables 2 and 3) reveals an interesting pattern relating to the size of the Asian-white wage gap over time. In our first set of regressions, we can see that the coefficient associated with Asian racial status is not statistically significant in 1980 and 1990 and is slightly statistically significant and *positive* in 2000 and 2006. Turning our attention to hourly wage data, while the coefficient associated with Asian racial status is negative and statistically significant in 1990, it is positive in the other periods. Thus, we can conclude that there is not robust evidence that Asian natives earn less than similarly qualified white natives in our data set. Interestingly, the size of the positive coefficient associated with Asian racial status in 2006 is approximately .38, which implies that Asian natives earned an economically significant 3.8% more than white natives conditional on their other observable characteristics in this year. Our results are similar when imputed hourly wage data is used in the place of weekly earnings, with the primary difference being that the difference between the earnings of Asian and white natives was significantly larger in 1980, 2000, and 2006 when hourly wage data was used in the place of weekly wage data.

In contrast, our hourly and weekly wage estimates suggest that Asian immigrants earned less per hour and per week than native-born Asian citizens in most of the periods examined even after controlling for occupation and English fluency. One complication in interpreting our results to this part is that one must consider the size of the coefficients of the Asian dummy, the immigrant dummy, and the Asian immigrant dummy to compare average wages for Asian immigrants and other types of workers. Our point estimates suggest that Asian immigrants earned 1-3% less than native-born Asians with similar observable characteristics in 1980 and 1990 (in both weekly and hourly terms. Asian immigrants still had lower expected hourly wages than native-born Asians in 2000 and 2006, but Asian immigrants earned 1-2% more in weekly wages than native-born Asians in those years (presumably due to differences in hours worked per week between the two groups). Asian immigrants consistently earned less than white immigrants over the entire sample period, with Asian immigrants earning from 3.0% to 5.0% less than white immigrants depending on the sample year and earnings dataset chosen. This information suggests that differences between Asian and white wages are primarily attributable to differences between the wages of Asian and native immigrants, which supports Arabsheibani and Wang's (2010) contention that differences between the wages of white and Asian workers are primarily attributable to differences in the wages of white and Asian immigrants.

To confront the possibility that our estimates of the Asian-white wage differential mask differences in the relative probability of adverse economic outcomes for the two groups, I perform logit regressions (not reported due to space constraints) with the same dependent variables and samples used in our main OLS regressions and with poverty status and employment status as the dependent variables. We find

strong evidence that native-born Asian individuals are more likely to fall into poverty than white individuals with the same observable characteristics in the first three sample periods, but the magnitude of the coefficient associated with Asian racial status declines over time. As a result, by 2006, the coefficient associated with Asian racial status is no longer statistically significant. Our logit regression results similarly suggest that Asian immigrants are less likely to fall into poverty than native-born Asian citizens in the first three sample periods, with this pattern reversing in 2006.

It is worth noting that this effect could be attributable to the fact that our sample in this regression is limited to observations that were reported as earning labor income, which might bias our estimates of the effect of Asian racial status on the probability of poverty downward. Our logit estimates using employment status as the dependent variable suggest that both native-born and immigrant Asians are less likely to work conditional on their observable characteristics than native-born and immigrant whites, as the coefficient associated with Asian racial status is statistically significant and negative at the 1% level in our 1990, 2000, and 2006 logit regressions. In addition, it is worth noting that poverty status is determined at the household-level, with the income earned by the other members of a household and the size of that household playing a role in determining whether an observation will fall under the poverty line.

The results of a Juhn, Murphy, and Pierce decomposition performed on the change in the difference between expected white and Asian wages over time is shown in Table 4 and Table 5. In brief, this decomposition methodology begins by assuming that the returns to observable skills for the two populations are identical in each period. Once this assumption is made, the residuals of each racial group's OLS regression equation no longer need to average to zero, and the size of this residual is assumed to be a function of the distribution of the residual term for the two groups and the relative size of the residual term. Using these assumptions, we can conclude that changes in the difference in expected wages for Asians and whites are attributable to one of four factors: changes in the (common) set of returns for observable characteristics over time, changes in the observable characteristics of Asians and whites over times, changes in the variance of residuals over time, and changes in the distribution of residuals over time.

We can use this information to interpret the information provided in Table 4 and Table 5. The second row of this table indicates the change in the Asian-white differential between the two periods analyzed. It is worth noting that the regression models that are compared in each pair of time periods does not contain an Asian immigrant interaction term, which means that the differentials that are compared in Table 4 incorporate both the gap between Asian natives and white natives and the gap between Asian immigrants and white immigrants. The positive sign of the change in the Asian-white differential between 1980 and 1990 indicates that the differential between Asian and white wages increased between these two periods, while the negative sign of the change in the Asian-white differential between 1980 and 2000 and 1980 and 2006 reveals that the differential between Asian and white wages decreased between each of these two sets of periods. These conclusions hold for both hourly and weekly wage

data. The results of the given JMP decomposition suggest that the size of the Asian-white weekly wage gap increased between 1980 and 1990 owing primarily to changes in the characteristics of the two groups. Changes in the distribution of the residual term between 1980 and 1990 also played a significant role in increasing the size of the Asian-white weekly wage differential between these two years,[3] and changes in the returns associated with personal characteristics between 1980 and 1990 also increased white wages relative to Asian weekly wages in these two years. The results of the JMP decomposition performed on imputed hourly wage data in 1980 and 1990 are somewhat different, with changes in the distribution of the residual term playing the largest role in explaining the increase in the hourly wage gap between the two years.

We can then turn our attention to the results of the JMP decomposition over the other two periods. There are some commonalities between the results of final two decompositions performed, and our results are broadly similar when using weekly and hourly wage data. In both sample periods, the majority of the decline in the Asian-white wage gap is attributable to changes in observable characteristics, and a relatively small portion of this decline is attributable to changes in the size of the residual (which implies that changes in the dispersion of the wage function did not play a significant role in accelerating the convergence of white and Asian wages).

However, even though our estimates of the change in the Asian-white wage gap between 1980 and 2000 and 1980 and 2006 are close in magnitude, the results of the decompositions of these convergences are different between the two sets of periods. Between 1980 and 2000, approximately 23% of the overall change in the overall white-Asian weekly wage gap was attributable to changes in the return on observable characteristics, and changes in the distribution of the residual term between these two years actually reduced the size of the decline in the Asian-white wage gap between these two years. However, between 1980 and 2006, only 17% of the overall change in the white-Asian wage gap was attributable to changes in the return on observable characteristics, and changes in the distribution of the residual term between these two years actually decreased the size of the Asian-white wage gap between these two years.

Three observations can be made using these results. First, changes in the characteristics of white and Asian workers and increases in the size of the residuals associated with expected whites and Asians wages (which may have been linked to increased income inequality) were correlated with a decline in the white wage premium between 1980 and 2006. Second, between 1980 and 2006, changes in the return on specific characteristics that favored Asians more than whites played a large role in causing the

---

3 To understand how an increase in the size of the residual term could increase the gap between the expected wages of the two groups, we must remember that the returns on characteristics for both groups must be the same in the JMP model. Since the two groups have different wages conditional on their observable characteristics, the JMP model attributes this systematic differences in the size of the residual term for the two groups. Thus, if white individuals tend to have positive residuals associated with their predicted wage, an increase in the size of the residual (associated with a general increase in wage inequality) could have the effect of increasing the size of the Asian-white wage gap between the two periods.

Asian-white wage gap to disappear (and even change its sign from negative to positive for Asian natives). Third, between 2000 and 2006, changes in the distribution of the residual term between ethnic groups played a role in the reduction of the white wage premium over Asian workers (with whites becoming less likely to earn more than their predicted wage and Asians becoming more likely to earn more than their predicted wage over this time period).

The results of the regression equations based on the DiNardo, Fortin, and Lemeiux reweighting scheme are presented in Tables 6 and 7. Several general trends can be noted in Table 6. First, the sign, statistical significance, and magnitude of both our Asian immigrant and Asian dummy variables depend on how we reweight our data. Reweighting data with the portion of the population that was Hispanic in 1980 reveals that increases in the Hispanic population between 1980 and 2000 tended to decrease the magnitude of the white-Asian wage gap for both immigrants and native-born workers. Changes in the distribution of employment by region and industry between these two years served to decrease the size of the Asian-white wage gap for native-born workers while increasing the size of the Asian-white wage gap for immigrant workers. While the change in the magnitude of Asian racial status in our educational reweighting model could be attributable to the decline in the sample size that occurs when this reweighting is performed (since the education questions in 1980 and 2000 differed slightly and did not allow all responses to be reweighted), the large change in the Asian-white wage gap associated with reweighing educational attainment data suggests that changes in educational achievement patterns between 1980 and 2000 played a large role in affecting the size of the Asian-white wage gap. Interestingly, the coefficients associated with our educational reweighting model suggest that changes in Asian and white educational patterns between 1980 and 2000 tended to depress Asian wages relative to white wages. In addition, the evidence presented here is also consistent with the possibility that changes in the relative proportion of the Asian and white populations that are immigrants played a substantial role in decreasing the Asian-white wage gap for native-born workers and increasing the size of the Asian-white wage gap for immigrant workers.

We can now turn our attention to the reweighting results shown in Table 7. Several conclusions can be reached by comparing this table to our initial wage regressions and our results in Table 6. First, changes in the pattern of educational achievement for white and Asian workers continue to increase white wages relative to Asian wages for both immigrants and native-born workers, and the size of this effect does not appear to have changed significantly from 2000 to 2006. The effect of reweighting Hispanic ethnicity on the measured Asian-white wage gap is smaller when comparing 2000 to 2006 data, with the end result that changes in the portion of the population that was Hispanic between these two years tended to increase the size of the Asian-white wage gap for both immigrants and native-born workers. Similarly, changes in industry employment no longer decreased the size of the wage gap when reweighting was done in 2006, which again suggests that changes between 2000 and 2006 in the distribution of employment by industry may have raised white wages relative to Asian wages for both native-born workers and immigrants. Finally, reweighting our observations using 1980 regional patterns of employment or immigration demographic has a larger effect on the gap between the wages of Asian and

white immigrants in 2006 than it did in 2000, which suggests that changes in regional patterns of employment and immigration demographics between 2000 and 2006 may have contributed to a decrease in the wage of Asian immigrants relative to white immigrants.

## *V. Conclusion* ***[Not Updated with Most Recent Results]***

From the results above, we can reach several conclusions about the relative size of the Asian-white wage gap in the four sample periods that were examined (1980, 1990, 2000, and 2006) and the factors influencing the Asian-white wage gap over time. In our initial OLS regression results, we find evidence that the size of the Asian-white wage gap has declined over time, as the expected wage for Asians was less than the expected wage for whites in 1980 and the reverse was true by 2000. Thus, our OLS regression supports the contention that the size of the Asian-white wage gap has declined over time. While Asian immigrants earned less than Asian natives in all four sample periods after controlling for potential work experience, industry, region, immigration status, and English fluency, the size of this effect was small enough that Asian immigrants earned more than *native* whites in 2006. Our logit estimates of the probability that an individual falls under the poverty line indicate that native-born Asians were more likely than native-born whites to fall under the poverty line for the first three sample periods, but the reverse was true in the last sample period. Interestingly, Asian immigrants are less likely than Asian natives to fall under the poverty line in all four periods, although it is not clear what portion of this effect is attributable to the exclusion from our sample of individuals who are not working.

Our JMP decomposition exercise helped provide context for the changes in the Asian-white wage gap over time. From 1980 and 1990 (a period over which the size of the Asian-white wage gap appeared to increase), the change in the Asian-white wage gap can be primarily attributed to changes in the characteristics of the white and Asian population and secondarily attributed to changes in the return on personal characteristics and changes in the variance of wages not attributable to observable characteristics. From 1990 to 2000 (a period over which the size of the Asian-white wage gap appeared to decline), the change in the Asian-white wage gap can be primarily attributed to changes in observable characteristics and changes in the economic return associated with personal characteristics. Both of these factors contributed to a relative increase in Asian wages and a relative decrease in white wages, causing the Asian-white wage gap to disappear by 2000. Finally, from 2000 to 2010, changes in the economic return associated with personal characteristics tended to decrease relative Asian wages and increase relative white wages, but this change was counteracted by changes in the distribution of residuals between Asians and whites (as Asians tended to become more likely to earn higher wages than anticipated by their observable characteristics over this period and whites tended to become more likely to earn lower wages than anticipated by their observable characteristics over this period).

***Table 1***

*The following table shows summary statistics (weighted using the sample weight data provided by the Minnesota Population Center) for the pooled white and Asian population for each of the four sample years.*

***ENTIRE SAMPLE***

| Variable | Observations | Mean | Standard Deviation | Min | Max |
|---|---|---|---|---|---|
| realhourlywage | 1.80E+07 | 20.29344 | 22.91609 | 4 | 500 |
| realweeklywage | 1.80E+07 | 798.6718 | 922.6687 | 4 | 48279.11 |
| english_fluency | 3.80E+07 | 0.8818421 | 0.322795 | 0 | 1 |
| asian | 3.80E+07 | 0.113959 | 0.3177615 | 0 | 1 |
| asian_immigrant | 3.80E+07 | 0.0324913 | 0.177301 | 0 | 1 |
| hispanic | 3.80E+07 | 0.0827864 | 0.2755591 | 0 | 1 |
| female | 3.80E+07 | 0.5112934 | 0.4998724 | 0 | 1 |
| immigrant | 3.80E+07 | 0.0928732 | 0.2902546 | 0 | 1 |
| yearsed | 3.60E+07 | 11.13011 | 4.460766 | 0 | 20 |
| highschooldiploma | 3.60E+07 | 0.6151354 | 0.4865633 | 0 | 1 |
| collegegrad | 3.60E+07 | 0.206617 | 0.4048783 | 0 | 1 |
| potexp | 3.60E+07 | 20.91496 | 19.93548 | 0 | 89 |
| potexp2 | 3.60E+07 | 834.859 | 1199.246 | 0 | 7921 |
| northeast | 1.40E+07 | 0.2004304 | 0.4003224 | 0 | 1 |
| west | 1.40E+07 | 0.2163921 | 0.4117846 | 0 | 1 |
| midwest | 1.40E+07 | 0.2492047 | 0.4325526 | 0 | 1 |
| south | 1.40E+07 | 0.324962 | 0.4683607 | 0 | 1 |
| primarysector | 2.20E+07 | 0.0335094 | 0.1799626 | 0 | 1 |
| manufacturingandconstruction | 2.20E+07 | 0.2303311 | 0.4210448 | 0 | 1 |
| non_professional_services | 2.20E+07 | 0.0498265 | 0.2175863 | 0 | 1 |
| wholesale_and_retail | 2.20E+07 | 0.2168727 | 0.4121152 | 0 | 1 |
| fire_business | 2.20E+07 | 0.3516515 | 0.4774858 | 0 | 1 |
| government | 2.20E+07 | 0.055784 | 0.2295041 | 0 | 1 |
| transport_utilities | 2.20E+07 | 0.0656233 | 0.2476224 | 0 | 1 |
| o_military | 2.20E+07 | 0.0093333 | 0.096157 | 0 | 1 |
| o_ofl | 2.20E+07 | 0.1471853 | 0.3542906 | 0 | 1 |
| o_ppcr | 2.20E+07 | 0.1082859 | 0.3107412 | 0 | 1 |
| o_fff | 2.20E+07 | 0.0270651 | 0.1622731 | 0 | 1 |
| o_service | 2.20E+07 | 0.142682 | 0.3497482 | 0 | 1 |
| o_technical | 2.20E+07 | 0.3093923 | 0.4622431 | 0 | 1 |
| o_mpso | 2.20E+07 | 0.2560561 | 0.4364532 | 0 | 1 |
| employed | 2.90E+07 | 0.6062217 | 0.4885867 | 0 | 1 |
| poverty_dummy | 3.70E+07 | 0.1127106 | 0.3162388 | 0 | 1 |
| asian_racial_status | 1.10E+07 | -0.0043331 | 0.0714584 | -0.1507311 | 0.1756248 |

## *EMPLOYED SAMPLE*

| Variable | Obs | Mean | Std.Dev. | Min | Max |
|---|---|---|---|---|---|
| realhourlywage | 1.50E+07 | 20.55995 | 21.73569 | 4 | 500 |
| realweeklywage | 1.50E+07 | 826.9706 | 904.437 | 4 | 47816.38 |
| english_fluency | 1.50E+07 | 0.9461886 | 0.2256453 | 0 | 1 |
| asian | 1.50E+07 | 0.0989594 | 0.2986075 | 0 | 1 |
| asian_immigrant | 1.50E+07 | 0.038586 | 0.1926061 | 0 | 1 |
| hispanic | 1.50E+07 | 0.0708028 | 0.2564952 | 0 | 1 |
| female | 1.50E+07 | 0.4511724 | 0.4976102 | 0 | 1 |
| immigrant | 1.50E+07 | 0.1033269 | 0.3043854 | 0 | 1 |
| yearsed | 1.50E+07 | 13.41574 | 2.733556 | 0 | 20 |
| highschooldiploma | 1.50E+07 | 0.8585219 | 0.3485141 | 0 | 1 |
| collegegrad | 1.50E+07 | 0.3316843 | 0.4708183 | 0 | 1 |
| potexp | 1.50E+07 | 19.66139 | 13.45 | 0 | 87 |
| potexp2 | 1.50E+07 | 567.4728 | 649.1327 | 0 | 7569 |
| northeast | 1.30E+07 | 0.2032563 | 0.4024217 | 0 | 1 |
| west | 1.30E+07 | 0.21382 | 0.4100012 | 0 | 1 |
| midwest | 1.30E+07 | 0.2501859 | 0.43312 | 0 | 1 |
| south | 1.30E+07 | 0.3239778 | 0.4679917 | 0 | 1 |
| primarysector | 1.50E+07 | 0.0227081 | 0.1489713 | 0 | 1 |
| manufacturing_and_construction | 1.50E+07 | 0.2384957 | 0.4261637 | 0 | 1 |
| non_professional_services | 1.50E+07 | 0.0385822 | 0.192597 | 0 | 1 |
| wholesale_and_retail | 1.50E+07 | 0.2021236 | 0.4015839 | 0 | 1 |
| fire_business | 1.50E+07 | 0.3654807 | 0.4815647 | 0 | 1 |
| government | 1.50E+07 | 0.0617915 | 0.2407764 | 0 | 1 |
| transport_utilities | 1.50E+07 | 0.0730485 | 0.2602161 | 0 | 1 |
| o_military | 1.50E+07 | 0.0116942 | 0.1075055 | 0 | 1 |
| o_ofl | 1.50E+07 | 0.142711 | 0.3497779 | 0 | 1 |
| o_ppcr | 1.50E+07 | 0.1095445 | 0.3123212 | 0 | 1 |
| o_fff | 1.50E+07 | 0.0150205 | 0.1216343 | 0 | 1 |
| o_service | 1.50E+07 | 0.1205837 | 0.3256429 | 0 | 1 |
| o_technical | 1.50E+07 | 0.314192 | 0.4641933 | 0 | 1 |
| o_mpso | 1.50E+07 | 0.286254 | 0.4520096 | 0 | 1 |
| poverty_dummy | 1.50E+07 | 0.036921 | 0.1885678 | 0 | 1 |
| asian_racial_status | 9.70E+06 | -0.004787 | 0.0709921 | -0.150731 | 0.1756248 |

***Table 2***

*The following table shows the results of regressing the logarithm of weekly wages (in 2006 dollars) for a pooled sample of employed white and Asian workers on a variety of explanatory variables. Heteroskedasticity-robust standard errors are used. Both an Asian dummy variable and an interaction term between the Asian dummy variable and the immigrant dummy variable are included in this regression.* ***Standard errors in parentheses.***

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| | Log(real weekly wage) in 1980 for pooled Asian-white sample | Log(real weekly wage) in 1990 for pooled Asian-white sample | Log(real weekly wage) in 2000 for pooled Asian-white sample | Log(real weekly wage) in 2006 for pooled Asian-white sample |
| english_fluency | 0.0405*** (0.00251) | 0.0556*** (0.00175) | 0.0899*** (0.00203) | 0.138*** (0.00431) |
| asian | 0.00191 (0.00135) | -0.00123 (0.000972) | 0.0158*** (0.00371) | 0.0382*** (0.00783) |
| asian_immigrant | -0.0378*** (0.00390) | -0.0441*** (0.00224) | -0.0308*** (0.00444) | -0.0349*** (0.00931) |
| hispanic | -0.0181*** (0.00197) | -0.00827*** (0.00132) | -0.00825*** (0.00166) | -0.0215*** (0.00355) |
| female | -0.519*** (0.000904) | -0.450*** (0.000669) | -0.433*** (0.000743) | -0.408*** (0.00171) |
| immigrant | 0.0138*** (0.00212) | 0.0408*** (0.00159) | 0.0581*** (0.00170) | 0.0477*** (0.00362) |
| yearsed | 0.0185*** (0.000320) | 0.0394*** (0.000222) | 0.0533*** (0.000284) | 0.0559*** (0.000657) |
| highschoolgrad | 0.175*** (0.00155) | 0.115*** (0.00116) | 0.117*** (0.00140) | 0.0882*** (0.00366) |
| collegegrad | 0.221*** (0.00176) | 0.206*** (0.000982) | 0.190*** (0.00117) | 0.194*** (0.00269) |
| potexp | 0.0489*** (0.000111) | 0.0556*** (0.0000879) | 0.0572*** (0.0000970) | 0.0621*** (0.000221) |
| potexp2 | -0.000822*** (0.00000250) | -0.000940*** (0.00000198) | -0.000991*** (0.00000219) | -0.00107*** (0.00000479) |
| Regional Dummies | Yes | Yes | Yes | Yes |
| Occupational Dummies | Yes | Yes | Yes | Yes |
| Constant | 5.396*** (0.00475) | 5.261*** (0.00348) | 5.076*** (0.00454) | 5.097*** (0.0110) |
| *N* | 1925014 | 4981502 | 4696525 | 1030066 |

***Table 3***

*The following table shows the results of regressing the logarithm of imputed hourly wages (in 2006 dollars) for a pooled sample of employed white and Asian workers on a variety of explanatory variables. Heteroskedasticity-robust standard errors are used. Both an Asian dummy variable and an interaction term between the Asian dummy variable and the immigrant dummy variable are included in this regression.* ***Standard error in parentheses.***

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| | Log(real hourly wage) in 1980 for pooled Asian-white sample | Log(real hourly wage) in 1990 for pooled Asian-white sample | Log(real hourly wage) in 2000 for pooled Asian-white sample | Log(real hourly wage) in 2006 for pooled Asian-white sample |
| english_fluency | 0.0595*** (0.00245) | 0.0744*** (0.00156) | 0.103*** (0.00180) | 0.150*** (0.00379) |
| asian | 0.0176*** (0.00136) | -0.00603*** (0.000863) | 0.0481*** (0.00308) | 0.0532*** (0.00645) |
| asian_immigrant | -0.0543*** (0.00381) | -0.0342*** (0.00199) | -0.0484*** (0.00377) | -0.0464*** (0.00782) |
| hispanic | -0.0164*** (0.00193) | -0.0236*** (0.00117) | -0.0310*** (0.00147) | -0.0529*** (0.00303) |
| female | -0.354*** (0.000813) | -0.294*** (0.000571) | -0.275*** (0.000631) | -0.257*** (0.00144) |
| immigrant | 0.0164*** (0.00197) | 0.0283*** (0.00138) | 0.0393*** (0.00148) | 0.0306*** (0.00313) |
| yearsed | 0.0303*** (0.000304) | 0.0430*** (0.000194) | 0.0537*** (0.000241) | 0.0596*** (0.000551) |
| highschoolgrad | 0.0451*** (0.00142) | 0.0195*** (0.000992) | -0.000356 (0.00117) | -0.0390*** (0.00300) |
| collegegrad | 0.150*** (0.00161) | 0.163*** (0.000841) | 0.150*** (0.000986) | 0.143*** (0.00225) |
| potexp | 0.0314*** (0.0000952) | 0.0347*** (0.0000699) | 0.0335*** (0.0000749) | 0.0370*** (0.000169) |
| potexp2 | -0.000471*** (0.00000213) | -0.000514*** (0.00000156) | -0.000506*** (0.00000166) | -0.000567*** (0.00000361) |
| Regional Dummies | Yes | Yes | Yes | Yes |
| Occupational Dummies | Yes | Yes | Yes | Yes |
| Constant | 1.727*** (0.00491) | 1.635*** (0.00329) | 1.518*** (0.00431) | 1.480*** (0.0104) |
| *N* | 1925014 | 4981502 | 4696525 | 1030066 |

***Table 4***

*The following table shows the results of a JMP decomposition of the factors influencing the change in the Asian-white wage gap between 1980 and 1990, between 1980 and 2000, and between 1980 and 2005. The logarithm of weekly wage data is used as the dependent variable in this regression. Note that an Asian immigrant interaction term is not included in these models, so the differences measured include both the Asian native – white native wage gap and the Asian immigrant – white immigrant wage gap.*

| | **Change in Asian-white log(weekly wage) gap between 1980 and 1990** | **Change in Asian-white log(weekly wage) gap between 1980 and 2000** | **Change in Asian-white log(weekly wage) gap between 1980 and 2006** |
|---|---|---|---|
| *Change in Wage Gap Between Two Periods* | .0293 | -0.1637 | -0.2159 |
| *% of Change in Wage Gap Attributable to Changes in Characteristics* | 52.89% | 80.54% | 74.93% |
| *% of Change in Wage Gap Attributable to Changes in Return on Personal Characteristics* | 22.29% | 23.83% | 18.80% |
| *% of Change in Wage Gap Attributable to Changes in Distribution of Residual Term* | 17.40% | -5.38% | 4.72% |
| *% of Change in Wage Gap Attributable to Changes in Size of Residual Term* | 7.43% | 1.01% | 1.55% |

***Table 5***

*The following table shows the results of a JMP decomposition of the factors influencing the change in the Asian-white wage gap between 1980 and 1990, between 1980 and 2000, and between 1980 and 2005. The logarithm of weekly wage data is used as the dependent variable in this regression. Note that an Asian immigrant interaction term is not included in these models, so the differences measured include both the Asian native – white native wage gap and the Asian immigrant – white immigrant wage gap.*

| | **Change in Asian-white log(weekly wage) gap between 1980 and 1990** | **Change in Asian-white log(weekly wage) gap between 1980 and 2000** | **Change in Asian-white log(weekly wage) gap between 1980 and 2006** |
|---|---|---|---|
| *Change in Wage Gap Between Two Periods* | .0505 | -0.1443 | -0.1783 |
| *% of Change in Wage Gap Attributable to Changes in Characteristics* | 27.34% | 83.53% | 81.50% |
| *% of Change in Wage Gap Attributable to Changes in Return on Personal Characteristics* | 25.91% | 17.08% | 14.42% |
| *% of Change in Wage Gap Attributable to Changes in Distribution of Residual Term* | 43.03% | -1.77% | 2.53% |
| *% of Change in Wage Gap Attributable to Changes in Size of Residual Term* | 3.73% | 1.16% | 1.54% |

***Table 6***

*The following table compares estimates of the form of the Mincer wage equation that would have prevailed had the weighted average of specific characteristics of the white and Asian population in the sample year 2000 remained at the proportions seen in the 1980 Census. A reweighting methodology similar to the methodology used in DiNardo, Fortin, and Lemieux (1995) is used to generate the OLS estimates seen below.*

| | Log(Real Weekly Wage) Reweighed Using 1980 Regional Data | Log(Real Weekly Wage) Reweighed Using 1980 Industry Data | Log(Real Weekly Wage) Reweighed Using 1980 Immigration Data | Log(Real Weekly Wage) Reweighed Using 1980 Years of Education Data | Log(Real Weekly Wage) Reweighed Using Hispanic Ethnicity |
|---|---|---|---|---|---|
| english_fluency | 0.0961*** | 0.0893*** | 0.118*** | 0.156*** | 0.0875*** |
| | (0.00218) | (0.00206) | (0.00278) | (0.00310) | (0.0025 |
| asian | 0.00798* | 0.0127** | -0.0133* | 0.0639*** | 0.0143*** |
| | (0.00383) | (0.00392) | (0.00668) | (0.00490) | (0.00376) |
| asian_immigrant | -0.0206*** | -0.0223*** | 0.00622 | -0.0599*** | -0.0407*** |
| | (0.00458) | (0.00462) | (0.00708) | (0.00585) | (0.00460) |
| female | -0.404*** | -0.413*** | -0.392*** | -0.410*** | -0.415*** |
| | (0.000792) | (0.000790) | (0.00102) | (0.000997) | (0.000783) |
| immigrant | 0.0568*** | 0.0608*** | 0.0597*** | 0.0619*** | 0.0736*** |
| | (0.00165) | (0.00168) | (0.00175) | (0.00211) | (0.00199) |
| yearsed | 0.0536*** | 0.0572*** | 0.0459*** | 0.0749*** | 0.0619*** |
| | (0.000303) | (0.000294) | (0.000412) | (0.000332) | (0.000316) |
| highschoolgrad | 0.0965*** | 0.0904*** | 0.0897*** | -0.0226*** | 0.0957*** |
| | (0.00145) | (0.00145) | (0.00183) | (0.00169) | (0.00146) |
| collegegrad | 0.189*** | 0.184*** | 0.215*** | 0.121*** | 0.163*** |
| | (0.00123) | (0.00120) | (0.00160) | (0.00122) | (0.00124) |
| potexp | 0.0543*** | 0.0545*** | 0.0531*** | 0.0551*** | 0.0549*** |
| | (0.000102) | (0.0000996) | (0.000129) | (0.000127) | (0.0000998) |
| potexp2 | -0.000940*** | -0.000950*** | -0.000920*** | -0.00101*** | -0.000955*** |
| | (0.00000227) | (0.00000223) | (0.00000283) | (0.00000289) | (0.00000224) |
| Regional Dummies | Yes | Yes | Yes | Yes | Yes |
| Industry Dummies | Yes | Yes | Yes | Yes | Yes |
| Occupational Dummies | Yes | Yes | Yes | Yes | Yes |
| hispanic | | | | -0.00610** | 0.0265* |
| | | | | (0.00209) | (0.0106) |
| Constant | 4.952*** | 4.923*** | 5.027*** | 4.750*** | 4.840*** |
| | (0.00478) | (0.00468) | (0.00595) | (0.00596) | (0.00545) |
| *N* | 4653437 | 4696525 | 4696525 | 4644951 | 4442505 |

***Table 7***

*The following table compares estimates of the form of the Mincer wage equation that would have prevailed had the weighted average of specific characteristics of the white and Asian population in the sample year 2006 remained at the proportions seen in the 1980 Census. A reweighting methodology similar to the methodology used in DiNardo, Fortin, and Lemieux (1995) is used to generate the OLS estimates seen below.*

| | Log(Real Weekly Wage) Reweighed Using 1980 Regional Data | Log(Real Weekly Wage) Reweighed Using 1980 Industry Data | Log(Real Weekly Wage) Reweighed Using 1980 Immigration Data | Log(Real Weekly Wage) Reweighed Using 1980 Years of Education Data | Log(Real Weekly Wage) Reweighed Using Hispanic Ethnicity |
|---|---|---|---|---|---|
| English fluency | 0.146*** | 0.136*** | 0.167*** | 0.204*** | 0.137*** |
| | (0.00452) | (0.00442) | (0.00578) | (0.00678) | (0.00565) |
| asian | 0.0298*** | 0.0408*** | 0.00621 | 0.0853*** | 0.0391*** |
| | (0.00820) | (0.00836) | (0.0127) | (0.00956) | (0.00788) |
| Asian immigrant | -0.00454 | -0.0192* | 0.0202 | -0.0624*** | -0.0431*** |
| | (0.00967) | (0.00977) | (0.0137) | (0.0115) | (0.00965) |
| female | -0.381*** | -0.389*** | -0.366*** | -0.387*** | -0.393*** |
| | (0.00183) | (0.00183) | (0.00238) | (0.00235) | (0.00182) |
| immigrant | 0.0399*** | 0.0485*** | 0.0438*** | 0.0590*** | 0.0668*** |
| | (0.00349) | (0.00356) | (0.00385) | (0.00446) | (0.00430) |
| Yearsed | 0.0559*** | 0.0606*** | 0.0511*** | 0.0817*** | 0.0660*** |
| | (0.000690) | (0.000687) | (0.000911) | (0.000760) | (0.000750) |
| highschool grad | 0.0664*** | 0.0573*** | 0.0450*** | -0.128*** | 0.0807*** |
| | (0.00377) | (0.00385) | (0.00467) | (0.00478) | (0.00396) |
| college grad | 0.186*** | 0.183*** | 0.205*** | 0.113*** | 0.157*** |
| | (0.00281) | (0.00280) | (0.00367) | (0.00281) | (0.00291) |
| potexp | 0.0587*** | 0.0592*** | 0.0572*** | 0.0596*** | 0.0596*** |
| | (0.000229) | (0.000229) | (0.000294) | (0.000296) | (0.000231) |
| potexp2 | -0.00101*** | -0.00103*** | -0.000987*** | -0.00109*** | -0.00104*** |
| | (0.00000493) | (0.00000491) | (0.00000614) | (0.00000650) | (0.00000497) |
| Regional Dummies | Yes | Yes | Yes | Yes | Yes |
| Industry Dummies | Yes | Yes | Yes | Yes | Yes |
| Occupational Dummies | Yes | Yes | Yes | Yes | Yes |
| hispanic | | | | -0.0197*** | 0.00752 |
| | | | | (0.00440) | (0.0256) |
| Constant term | 4.832*** | 4.795*** | 4.886*** | 4.661*** | 4.668*** |
| | (0.0104) | (0.0104) | (0.0126) | (0.0133) | (0.0130) |
| *N* | 1020992 | 1030066 | 1030066 | 1021587 | 960176 |

**Appendix A**

The following table defines each of the variables used in the three parts of our analysis:

| Variable Name | Variable Description |
|---|---|
| *Female* | Observation is female |
| *English_fluency* | Based on observation's description of English fluency. Dummy variable assigned a value of 1 if individual reports only speaking English or speaking English "very well." |
| *Asian* | Dummy variable indicating Asian racial status. See Section II for in depth explanation of how this is calculated. |
| *immigrant* | Dummy variable indicating that observation identified birthplace as being outside continental United States, Hawaii, and Alaska. |
| *Asian-immigrant* | Interaction term between Asian and immigrant dummy variable. |
| *yearsed* | Measurement of the number of years of education of an observation based on Jaeger (1997) and Isphording and Sinning's (2012) procedure for converting Census question responses to an estimate of an individual's years of education. |
| *highschoolgrad* | Dummy variable indicating that an individual has completed high school (or that individual has completed twelve years of education when high school completion status cannot be verified). |
| *collegegrad* | Dummy variable indicating that an individual has a college degree (or that individual has completed sixteen years of education when high school completion status cannot be verified). |
| *potexp* | Calculated by taking an observation's age, subtracting their estimated years of education, and then subtracting six. This is bounded so that it cannot be lower than 0. |
| *potexp2* | Square of *potexp* variable described above. |
| *northeast* | A dummy variable indicating that an individual works in the Northeast region of the United States (as defined the US Census) |
| *south* | A dummy variable indicating that an individual works in the Southern region of the United States (as defined the US Census) |
| *west* | A dummy variable indicating that an individual works in the Western region of the United States (as defined the US Census) |

| | |
|---|---|
| *midwest* | A dummy variable indicating that an individual works in the Midwestern region of the United States (as defined the US Census) |
| *primary_sector* | A dummy variable indicating that an individual works in the agriculture, forestry, fishery, or mining sector. |
| *manufacturing_and_construction* | A dummy variable indicating that an individual works in construction or manufacturing. |
| *non_professional_services* | A dummy variable indicating that an individual works in the non-professional service sector excluding retail (as defined by the Census) |
| *wholesale_and_retail* | A dummy variable indicating that an individual works in retail or wholesale trade (as defined by the Census). |
| *fire_business_services* | A dummy variable indicating that an individual works in the so-called FIRE sector or in the "professional and related services sector" (as defined by the Census) |
| *government* | A dummy variable indicating that an individual works for the government. |
| *transport_and_utilities* | A dummy variable indicating that an individual works in the transportation, communications, or public utilities sector. |
| *o_military* | Indicates that an individual is in a military occupation (as defined by the Census). |
| *o_ofl* | Indicates that an individual is an "operator, fabricator, or laborer" as defined by the Census. |
| *o_ppcr* | Indicates that an individual is in a "precision production, craft, or repair occupation" as defined by the Census. |
| *o_fff* | Indicates that an individual is in a "farming, forestry, or fishing occupation" as defined by the Census. |
| *o_service* | Indicates that an individual is in a "service occupation" as defined by the Census. |
| *o_technical* | Indicates that an individual is in a technical, sales, or administrative support occupation as defined by the Census. |
| *o_mpso* | Indicates that an individual is in a managerial or professional specialty occupation (as defined by the Census). |
| *racial_index* | Measure of average racial attitudes toward Asian-Americans in an observation's Census district. Based on General Social Survey. |

**Works Cited**

[1] Arabsheibani, G. Reza, and Jie Wang. "Asian-white male wage differentials in the United States." *Applied Economics Letters* 17.1 (2009): 37-43.

[2] Barringer, Herbert R., David T. Takeuchi, and Peter Xenos. "Education, Occupational Prestige, and Income of Asian Americans." *Sociology of Education* 63, no. 1 (January 1990): 27. doi:10.2307/2112895.

[3] Barsky, Robert, John Bound, Kerwin Ko' Charles, and Joseph P. Lupton. "Accounting for the Black-White Wealth Gap: A Nonparametric Approach." *Journal of the American Statistical Association* 97.459 (2002): 663-73. *JSTOR*. Web. 27 Apr. 2013.

[4] Black, Dan, et al. "Why do minority men earn less? A study of wage differentials among the highly educated." *The Review of Economics and Statistics* 88.2 (2006): 300-313.

[5] Census 2009. http://www.census.gov/compendia/statab/2012/tables/12s0691.pdf

[6] Chiswick, Barry R. "An analysis of the earnings and employment of Asian-American men." *Journal of Labor Economics* (1983): 197-214.

[7] DiNardo, John, Nicole M. Fortin, and Thomas Lemieux. *Labor market institutions and the distribution of wages, 1973-1992: A semiparametric approach*. No. w5093. National Bureau of Economic Research, 1995.

[8] Duleep, Harriet Orcutt, and Seth Sanders. "Discrimination at the Top: American-Born Asian and White Men." Industrial Relations 31, no. 3 (September 1992): 416–432.

[9] Duleep, Harriet Orcutt and Regets, Mark C., The Civil Rights Act and the Earnings of Lower Income Hispanic Men in the 1960's. IZA Discussion Paper No. 6638. Available at SSRN: http://ssrn.com/abstract=2089667

[10] Fortin, Nicole M., and Thomas Lemieux. "Decomposition Methods in Economics." *Handbook of Labor Economics*. By Orley Ashenfelter and David Card. Amsterdam: Elsevier, 2011. N. pag. Rimini Centre of Economic Analysis. Web. 27 Apr. 2013.

[11] Jiobu, Robert M. "Earnings Differentials Between Whites and Ethnic Minorities: The Cases of Asian Americans, Blacks, and Chicanos." *Sociology and Social Research* 61.1 (1976): 24-38.

[12] Juhn, Chinhui, Kevin M. Murphy, and Brooks Pierce. "Wage inequality and the rise in returns to skill." *Journal of political Economy* (1993): 410-442.

[13] Kim, C., and A. Sakamoto. “Have Asian American Men Achieved Labor Market Parity with White Men?” *American Sociological Review* 75, no. 6 (December 13, 2010): 934–957. doi:10.1177/0003122410388501.

[14] Sakamoto, Arthur, Huei-Hsia Wu, and Jessie M. Tzeng. “The Declining Significance of Race Among American Men During the Latter Half of the Twentieth Century.” *Demography* 37, no. 1 (February 2000): 41. doi:10.2307/2648095.

[15] Wong, Morrison G. “The Cost of Being Chinese, Japanese, and Filipino in the United States 1960, 1970, 1976.” *The Pacific Sociological Review* 25, no. 1 (January 1982): 59–78. doi:10.2307/1388887.

[16] Wong, Paul, Chienping Faith Lai, Richard Nagasawa, and Tieming Lin. “Asian Americans as a Model Minority: Self-Perceptions and Perceptions by Other Racial Groups.” *Sociological Perspectives* 41, no. 1 (January 1998): 95–118. doi:10.2307/1389355.

[17] Woo, Deborah. *The Glass Ceiling and Asian Americans*. Rep. N.p.: n.p., 1994. *The Glass Ceiling and Asian Americans*. US Glass Ceiling Commission. Web. 27 Apr. 2013.

[18] Zeng, Zhen, and Yu Xie. “Asian Americans’ Earnings Disadvantage Reexamined: The Role of Place of Education.” *American Journal of Sociology* 109, no. 5 (March 2004): 1075–1108. doi:10.1086/381914.